4.10 NOISE

4.10.1 Introduction

This section includes a description of acoustic fundamentals, existing ambient noise conditions, and an analysis of potential noise impacts associated with implementation of the proposed project.

No comments related to noise and/or vibration were received in response to the Notice of Preparation.

4.10.2 Environmental Setting

BACKGROUND ON ENVIRONMENTAL NOISE AND VIBRATION

Fundamentals of Environmental Sound and Noise

Acoustics is the scientific study that evaluates perception and properties of sound waves. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Common sources of environmental noise and associated noise levels are presented in Table 4.10-1.

Table 4.10-1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, Dishwasher in next room
Quiet urban nighttime	40	Theater, Large conference room (background)
Quiet suburban nighttime	30	Library, Bedroom at night, Concert hall (background)
Quiet rural nighttime	20	Broadcast/Recording Studio
Threshold of Human Hearing	0	Threshold of Human Hearing

Notes: dB=decibels; mph=miles per hour

Source: California Department of Transportation (Caltrans) 2013a:2-20

Sound Properties

Sound levels are measured using the decibel scale, developed to relate to the range of human hearing. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65-decibel (dB) source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy.

The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed, identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels. For this reason, the A-weighted sound levels are used to predict community response to noise from the environment, including noise from transportation and stationary sources, and are expressed as A-weighted decibels. All sound levels discussed in this section are A-weighted decibels unless otherwise noted.

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes and stationary sources such as activity at construction sites, machinery, and commercial and industrial operations. As sounds travels through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers. Noise generated from mobile sources generally attenuate at a rate of 4.5 dB per doubling of distance from the source. Noise from stationary sources generally attenuates at a rate of 6 to 7.5 dB per doubling of distance from the source.

Atmospheric conditions such as wind speed, wind direction, turbulence, temperature gradients, and humidity also alter the propagation of noise and affect levels at a receiver. Furthermore, the presence of a barrier (e.g., topographic feature, intervening building, and dense vegetation) between the source and the receptor can provide substantial attenuation of noise levels at the receiver. Both natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may function as noise barriers.

All buildings provide some exterior-to-interior noise reduction. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dB with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dB or more. It should be noted the neighborhoods adjacent to the proposed project contain predominantly newer residential development, including both single family homes and multi-family apartments.

Common Noise Descriptors

The intensity of environmental noise fluctuates over time, and several different descriptors of time-averaged noise levels are used. The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of both the noise source and the environment. The noise descriptors most often used to characterize environmental noise are defined below (Caltrans 2013a:2-48).

- Equivalent Noise Level (L_{eq}): The average noise level during a specified time period; that is, the equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level).
- Maximum Noise Level (L_{max}): The highest instantaneous noise level during a specified time period.
- Minimum Noise Level (L_{min}): The lowest instantaneous noise level during a specified time period.
- Day-Night Noise Level (L_{dn}): The 24-hour L_{eq} with a 10-dB penalty applied during the noise-sensitive hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping.
- Community Noise Equivalent Level (CNEL): Similar to the L_{dn} described above with an additional 5-dB penalty applied during the noise-sensitive hours from 7 p.m. to 10 p.m., which are typically reserved for evening relaxation activities.
- Single Event Noise Levels (SEL): Sounds that occur in an irregular or non-repetitive manner, which makes them difficult to anticipate; these are usually measured by L_{max} noise levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. The L_{eq}, or average noise level over a given period of time, is the foundation of composite noise descriptors such as L_{dn} and CNEL, which effectively indicate community response to ambient noise levels.

Effects of Noise on Humans

Excessive and chronic (long-term) exposure to elevated noise levels can result in auditory and non-auditory effects on humans. Auditory effects of noise on people are those related to temporary or permanent hearing loss caused by loud noises. Non-auditory effects of exposure to elevated noise levels are those related to behavior and physiology. The non-auditory behavioral effects of noise on humans are primarily subjective effects such as annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans have been the subject of considerable research into possible correlations between exposure to elevated noise levels and health problems, such as hypertension and cardiovascular disease. The mass of research implies that noise-related health issues are predominantly the result of behavioral stressors and not a direct noise-induced response. The extent to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

With respect to how humans perceive and react to changes in noise levels, a 1-dB increase is imperceptible, a 3-dB increase is barely perceptible, a 6-dB increase is clearly noticeable, and a 10-dB increase is subjectively perceived as approximately twice as loud (Egan 2007: 21). These subjective reactions to changes in noise levels were developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dB, because this is the usual range of voice and interior noise levels. For these reasons, a noise level increase of 3 dB or more is a typical threshold of significance for degradation of the existing noise environment.

Negative effects of noise exposure include physical damage to the human auditory system, interference with daily activities, sleep disturbance, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may be permanent. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal (for example) may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise and the exposure time (Caltrans 2013a:2-59, 2-61).

Fundamentals of Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of ground vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, and landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, and construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root mean square (RMS) vibration velocity. Peak particle velocity is defined as the maximum instantaneous positive or negative peak of a vibration signal. Peak particle velocity is typically used in the monitoring of transient and impact vibration and has been found to correlate well with the stresses experienced by buildings (Federal Transit Administration [FTA] 2006:7-3; Caltrans 2013b:6). PPV and RMS vibration velocity are normally described in inches per second (in/sec).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with

airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006:7-3). This is based on a reference value of 1 micro (μ) in/sec.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006). Table 4.10-2 describes the general human response to different levels of ground vibration-velocity levels.

Table 4.10-2 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2006:7-8

NOISE SOURCES

The existing ambient noise environment in the project vicinity is defined primarily by vehicular traffic on Interstate 80 (I-80), major arterials and local roadways, and to a lesser extent by occasional aircraft over-flights and trains in the vicinity. Major arterials within the project area include Riverside Avenue, Rocky Ridge Drive, Sunrise Avenue, Cirby Way, and South Cirby Way. The project site is located approximately eight miles northeast of McClellan Airport and approximately 15 or more miles east of Sacramento International Airport; aircraft flyovers are infrequent. The Union Pacific Railroad and the Roseville rail yards are located approximately one mile or more to the west of the proposed project. Although railroad activity and aircraft over-flights are audible at the project site, distance from source to receptor and, in the case of railroad noise, shielding by intervening buildings, diminishes the perceived level of noise from these sources at the project site.

Most of the project area could be considered “quiet urban” with an expected background daytime ambient noise level of approximately 50 dB and nighttime ambient levels of approximately of 40 dB (Table 4.10-1). Locations along the trail alignment located more distant from roadways, such as the Sierra Gardens area and areas east of Rocky Ridge, may experience quieter ambient noise levels. Areas along the proposed trail alignment located closer to I-80, major arterials, and/or commercial areas, such as near Sunrise Avenue, are likely to experience higher background sound levels ranging from 60 dB to 70 dB, depending on daily activities.

SENSITIVE LAND USES

Noise-sensitive land uses generally include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship, and other similar places where low interior noise levels are of great importance are also considered noise-sensitive. Noise-sensitive land uses are also considered to be vibration-sensitive. Specifically, commercial and industrial buildings where ground vibration (including

vibration levels that may be well below those associated with human annoyance) could interfere with operations within the building would be most sensitive to ground vibration (e.g., hospitals, laboratories).

The project site is located within a natural creek corridor and is surrounded by a variety of developed urban land uses, including single-family and multi-family residential dwellings, retail and commercial businesses, medical offices, a senior assisted-living facility, parks, and schools. Residential back yards are adjacent to the project site along much of the alignment. As mentioned in the project description, the proposed trail would be aligned through, or adjacent to the Cherry Glen, Cirby Side, Cresthaven, Hillcrest, Maidu, Meadow Oaks, Sierra Gardens, and South Cirby neighborhoods.

The proposed paved trail and bridges would be located between 10 and over 200 feet from nearby residences and as close as two feet from existing commercial development and medical offices located at 720 and 729 Sunrise Avenue. The proposed construction staging areas for the project would include all proposed trail areas, driveways of some commercial and multi-family land uses, and vacant or undisturbed lots. The boundaries of the staging areas may be as close as 5 feet from existing structures.

4.10.3 Regulatory Setting

FEDERAL

Federal Noise Control Act of 1972

The basic motivating legislation for noise control in the United States was the Federal Noise Control Act (1972), which addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 1974). In summary, EPA findings were that sleep, speech, and other types of essential activity interference could be avoided in residential areas if the L_{dn} did not exceed 55 dB outdoors and 45 dB indoors. The EPA intent was not that these findings necessarily be considered as mandatory standards, criteria, or regulatory goals, but as advisory exposure levels below which there is no reason to suspect that the general population would be at risk from any of the identified health or welfare effects of noise. The EPA Levels report also identified 5 dB as an adequate margin of safety before an increase in noise level would produce a significant increase in the severity of community reaction (i.e., increased complaint frequency, annoyance percentages) provided that the existing baseline noise exposure did not exceed 55 dB L_{dn}.

LOCAL

City of Roseville General Plan

The Noise Element in the City of Roseville General Plan outlines policies and implementation measures to achieve the City of Roseville's (City) goals of protecting Roseville residents from the harmful and annoying effects of exposure to excessive noise and establishes separate acceptable noise level criteria for land uses affected by either fixed noise sources or transportation-related noise sources.

The following goals, policies and implementation programs of the Noise Element would apply to the proposed project:

GOAL 1: Protect City residents from the harmful and annoying effects of exposure to excessive noise.

- **Policy 10:** Regulate construction-related noise to reduce impacts on adjacent uses consistent with the City's Noise Ordinance.

City of Roseville Municipal Code

The City of Roseville has a Noise Ordinance (Chapter 9.24 of the City Code) that is designed to prohibit unnecessary, excessive, and annoying sound levels from all sources. Key provisions of the ordinance that may be applicable to the proposed project include:

- Section 9.24.030 provides exemptions for certain activities, including but not limited to: sound sources typically associated with residential uses (e.g., children at play, air conditioning and similar equipment, but not including barking dogs); property maintenance activities between the hours of 8:00 a.m. and 9:00 p.m.; and private construction between the hours of 7:00 a.m. and 7:00 p.m. Monday-Friday, and between 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays, provided that all construction equipment is fitted with factory installed muffling devices and maintained in good working order (City of Roseville 2014).
- Section 9.24.100 establishes specific sound level standards by which exposure of sensitive receptors to noise is regulated for area-wide sources, including fixed sources, non-transportation sources, and amplified music. Hourly sound levels are limited to 50 dB L_{eq} in the daytime (7:00 a.m. to 10:00 p.m.) and 45 dB L_{eq} at nighttime (10:00 p.m. to 7:00 a.m.). Maximum sound levels are limited to 70 dB L_{max} in the daytime (7:00 a.m. to 10:00 p.m.) and 65 dB L_{max} at nighttime (10:00 p.m. to 7:00 a.m.).
- Section 9.24.140 exempts City operations and activities from the provisions of Chapter 9.24.

4.10.4 Impacts

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed project was determined to result in a significant noise impact if it would result in any of the following:

- exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or
- for a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

The proposed project is not located within an airport land use planning area and is not within the vicinity of a private airstrip. Thus, potential impacts associated with exposure to aircraft noise are not discussed further.

IMPACT ANALYSIS

Impact 4.10-1	Short-term construction-related noise.
Applicable Policies and Regulations	Caltrans Standard Specifications City of Roseville General Plan 2035, Noise Element City of Roseville Municipal Code, Chapter 9.24 (Noise)
Significance with Policies and Regulations	Proposed Project: Potentially significant Alignment Option 1A: Potentially significant Alignment Option 1C: Potentially significant Alignment Option 5A: Potentially significant
Mitigation Measures	Mitigation Measures 4.10-1 (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Significant and unavoidable (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Caltrans Standard Specifications state that noise levels generated during construction shall comply with applicable local, state, and federal regulations, and that all equipment shall be fitted with adequate mufflers according to manufacturer specifications. Additionally, the City's noise ordinance exempts private construction noise from its standards during certain hours and exempts city operations and activities, including construction, altogether (see subsection 4.10.3).

Construction noise associated with the proposed project would be temporary and intermittent, and noise levels would vary depending on the type of construction activity. Construction activity would include site preparation (e.g., excavation, grading, and vegetation clearing), material delivery, worker commute vehicle travel to and from the site, trenching and asphalt paving, bridge construction, retaining wall construction and other related activities. Noise levels associated with anticipated project construction equipment are shown below in Table 4.10-3.

Table 4.10-3 Representative Ground Vibration and Noise Levels for Construction Equipment

Equipment	dBA L_{max} at 50 feet[1]
Backhoe	78
Chain Saw	85
Concrete Mixing Truck	79
Crane	81
Dozer	82
Drill Rig	84
Excavator	81
Grader	85
Jack Hammer	89
Loader	79
Off-Highway Trucks	76
Paver	77
Pump	81
Vibratory Roller	80

Notes: dBA L_{max}= maximum noise level

1. All equipment reference noise levels obtained from FHWA 2006 except the chainsaw which was obtained from Berger 2010.

Source: FHWA 2006, Berger 2010

Construction noise can be characterized based on the type of activity and associated equipment needed and, in this analysis, is evaluated by considering noise levels associated with site preparation (clearing/grubbing/grading), trail construction, bridge construction, and retaining wall construction. Based on anticipated equipment needed for each activity, a likely combination of simultaneous equipment use was modeled for each construction activity. Further, it is anticipated that bridge construction could occur at the same time as retaining wall construction. This represents the likely loudest construction noise scenario that could occur over the entire length of the proposed trail alignment. Modeled noise levels for each activity are shown below in Table 4.10-4.

Table 4.10-4 Noise Levels from Construction Activity

Construction Activity	Construction Noise (dBA) at 50 feet (L_{eq}/L_{max})	Construction Noise (dBA) at 100 feet (L_{eq}/L_{max})	Construction Noise (dBA) at 300 feet (L_{eq}/L_{max})
Site Preparation (Clearing/Grubbing/Grading)	84.6/90.2	78.6/84.1	69.0/74.6
Trail Construction	83.3/89.2	77.3/83.2	67.7/73.7
Bridge Construction (Darling Way)	86.0/90.5	80.0/84.5	70.5/74.9
Prefabricated Bridge Construction	82.8/87.7	76.8/81.6	67.3/72.1
Retaining Wall	82.0/86.2	76.0/80.2	66.4/70.6
Bridge and Retaining Wall simultaneously	87.5/91.9	81.4/85.9	71.9/76.3

Source: Modeled by Ascent Environmental. Inc, 2018

As shown in Table 4.10-4, the typical construction noise for each activity type would range from approximately 82 dBA L_{eq}/86 dBA L_{max} to 86 dBA L_{eq}/ 91 dBA L_{max} and the loudest construction noise levels could be approximately 88 dBA L_{eq}/ 92 dBA L_{max} at 50 feet. Further, as shown in Table 4.10-4, noise levels would decrease with increasing distance from the construction site.

The location and distance of residences and other sensitive receptors in relationship to the project site would vary considerably. In some cases, the rear property lines of residences would be several hundred feet or more from the proposed trail. In other cases, they could be within 50 feet or less. Backyards of residential homes would likely be areas most affected by construction activities. Noise from trail construction activities would also occur as close as 10 feet to commercial land uses directly north of the trail alignment between Sunrise Avenue and Oakridge Drive.

The majority of construction activities would be on the lower end of the expected ranges of noise levels, because the expected construction activities for the paved trail (the main project component) would not require extensive combined use of heavy (i.e., the noisiest) equipment in close proximity to each other. Further, construction activity along the 4.25-mile trail alignment would be temporary at any one location. Construction of the trail would occur in separate phases along each segment of the trail over a period of several years, such that construction would not take place along all segments of the 4.25-mile length of the proposed project simultaneously. While the majority of trail construction would be intermittent and transient, construction locations that include bridges and retaining walls would be more site specific and prolonged. Nevertheless, the highest construction noise at these locations is expected to be generated during the bridge construction phase, which includes the use of a jackhammer, resulting in 86 dBA L_{eq}/ 90.5 dBA L_{max} at 50 feet. If bridge construction were to combine with the retaining wall construction, noise levels would be up to 87.5 dBA L_{eq}/91.9 dBA L_{max}. Although City activities including construction are exempt from the regulations of the Noise Ordinance, construction activities for City projects typically occur within the daytime and early evening timeframes established by the Noise Ordinance for private construction (7:00 a.m. – 7:00 p.m. Monday-Friday and 8:00 a.m. – 8:00 p.m. Saturday and Sunday). Construction times may be adjusted when determined necessary by the City to reduce traffic

congestion or minimize construction noise impacts on sensitive receptors (including residential at various locations and the office buildings west of Sunrise Avenue).

Despite the exemption of public construction activities under the City's noise ordinance, project construction would temporarily increase ambient noise levels in the project's vicinity. The impact of construction noise at residences, businesses, and structures would depend on the existing outdoor noise levels, the distance from the noise source to the receptor, the type of construction, window treatments, and the presence or absence of insulation. As discussed above, background noise levels along the proposed trail alignment vary depending on distance from major transportation noise sources and intervening structures (such as fences and buildings) and topography. The proposed project could result in sudden increases of outdoor noise levels during construction, depending on the proximity of construction activities to existing receptors and the existing ambient noise levels. In some cases, existing receptors are as close as 10 feet from the proposed construction activity (i.e., commercial land uses north of the trail alignment between Sunrise Avenue and Oakridge Drive). Therefore, it is likely that construction noise could result in an increase in 10 dBA or more, which represents noise levels shown to be subjectively perceived as twice as loud as existing noise levels (Egan 2007:21). Thus, noise from project construction would be noticeable, although temporary, and construction of the proposed project would result in substantial temporary increases in noise levels in the project vicinity.

Conclusion

Implementation of the proposed project would create temporary substantial construction noise in close proximity to residences and commercial land uses that would be perceptible and potentially disturb residents and business operations. Construction during the typical daytime and early evening hours may lessen impacts to residents, but daytime construction could result in disturbances to normal business operations. Despite the exemption of public construction activities under the City's noise ordinance, the proximity of project construction to nearby residences and businesses would result in substantial temporary increases in noise levels at those locations. Thus, noise impacts from construction of the proposed project would be **potentially significant**.

Alignment Option 1A

Construction activities for Option 1A would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. The location of construction activities under Option 1A would vary slightly based on differences in the alignment of the northernmost section of the trail south of Darling Way and east of Riverside Avenue. The multi-use trail would shift to the south side of Cirby Creek and would be closer to existing commercial land uses and further away from residential land uses located north of Cirby Creek. Additionally, the total number of bridges under Option 1A would be less than the number of bridges constructed under the Proposed Trail Alignment, which would result in less noise overall from bridge construction activities. Furthermore, Bridge #3 would be located further away from existing residential land uses located north of Cirby Creek than Bridges #2 and #4 under the Proposed Trail Alignment. For all other sections of the trail, both the trail alignment and bridge locations would be the same as the Proposed Trail Alignment. While there would be some differences in the locations of the trail and changes in proximity to sensitive receptors would occur, the magnitude, frequency, and duration of construction activities and associated noise would be similar to those identified in Table 4.10-4 and would not be substantially different under Option 1A compared to the Proposed Trail Alignment. This impact would be **potentially significant**.

Alignment Option 1C

Construction activities for Option 1C would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. The location of construction activities under Option 1C would vary somewhat based on differences in the alignment of the northernmost section of trail near Darling Way and east of Riverside Avenue. The location of the multi-use trail under Option 1C would shift to the east side of Dry Creek and would be within 50 feet or less of existing residential land uses. Option 1C would not require the widening of the Darling Way bridge; therefore, the total number of bridges requiring construction under Option 1C in the areas near Darling Way and east of Riverside

Avenue would be less than the number of bridges constructed under the Proposed Trail Alignment, which would result in less noise overall from bridge construction activities; however, a series of retaining walls would be constructed under Option 1C along the trail alignment both north and south of Darling Way and north of Bridge #2. For all other sections of the trail, both the trail alignment and bridge locations would be the same as the Proposed Trail Alignment. The construction of retaining walls would result in construction activity occurring closer to residences under Option 1C than under the Proposed Trail Alignment. Apart from the construction of retaining walls, some other differences in the locations of the trail and changes in proximity to sensitive receptors would also occur. Thus, although the magnitude, frequency, and duration of construction activities under Option 1C would be similar compared to the Proposed Trail Alignment, the activities may occur closer to residences under Option 1C compared to the Proposed Trail Alignment. This impact would be **potentially significant**.

Alignment Option 5A

Construction activities for Option 5A would be the same type and general magnitude of activities that would occur under the Proposed Trail Alignment. The location of construction activities under Option 5A would vary from the Proposed Trail Alignment because of differences in the alignment of the trail near Sunrise Avenue along Linda Creek. The location of the multi-use trail under Option 5A would shift to the south side of Linda Creek, which would result in trail paving and construction activities located further away from existing residential land uses on the north side of Linda Creek. The alignment under Option 5A would be closer to existing commercial uses and some existing residential uses south of Linda Creek based on a trail spur that would connect to an existing path at Meadow Gate Drive. A series of retaining walls would be constructed under Option 5A along the trail alignment on both sides of Sunrise Avenue, compared to only on the north side of Linda Creek under the Proposed Trail Alignment. Option 5A would also require the construction of Bridge #14 over Linda Creek east of Sunrise Avenue, rather than Bridge #13 west of Sunrise Avenue. Thus, although the magnitude, frequency, and duration of construction activities under Option 5A would be similar to those identified in Table 4.10-4, the activities may occur closer to residences under Option 5A compared to the Proposed Trail Alignment. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 4.10-1: Employ Noise-Reducing Construction Practices

This mitigation will apply to the Proposed Trail Alignment and Alignment Options 1A, 1C, and 5A.

Feasible measures that can be used to limit construction noise include the following:

- Locate stationary noise generating construction equipment as far as feasible from noise-sensitive uses.
- Do not idle inactive construction equipment for prolonged periods (i.e., more than 5 minutes).
- Prohibit unmuffled engine exhaust systems. All construction equipment powered by gasoline or diesel engines shall have factory-installed sound control devices, or sound control devices that are at least as effective as those originally provided by the manufacturer, and all equipment shall be operated and maintained in good working order to minimize noise generation pursuant to Section 9.24.030 of the Noise Ordinance.
- The contractor shall provide advance written notification to owners and renters of buildings located within 50 feet of construction activities. The notice shall explain when construction is expected. The notice shall include contact information for the project manager.
- When construction occurs outside of the typical daytime and early evening hours (7:00 a.m. – 7:00 p.m. Monday-Friday and 8:00 a.m. – 8:00 p.m. Saturday and Sunday) or within 50 feet of noise sensitive commercial or office buildings, the use of noise-generating construction equipment will be avoided to the extent feasible. When not feasible, construction contractors will specify proposed noise-reducing construction practices or alternative schedules that will be employed to reduce construction noise. Measures specified by the contractors will be reviewed and approved by the

City prior to construction activities. In these situations, feasible noise reduction measures include the following:

- Alternative construction schedule to minimize disturbance to normal office operations; and/or
- Use temporary noise-reducing barriers positioned between noise-generating equipment (including hand operated jack hammers) and the sensitive receptor building. Such barriers may include commercially manufactured noise-insulating blankets/quilts or as equal materials with similar noise reduction performance as approved by the resident engineer. When temporary barrier units are joined together, the mating surfaces shall be flush with each other with no gaps.

Significance after Mitigation

Implementation of this mitigation measure would reduce impacts associated with construction activities; however, even with a reduction in construction noise through the above mitigation measure, disturbances could occur and project construction would still result in substantial temporary or periodic increases in ambient noise levels in the project vicinity above existing levels, and this impact would remain **significant and unavoidable**.

Impact 4.10-2	Long-term increases in use-related noise.
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise Element City of Roseville Municipal Code, Chapter 9.24 (Noise)
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None required (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

The proposed project would introduce new pedestrian and bicycle activities on a new paved multi-use trail. These are non-motorized activities that would not result in a substantial increase in noise levels above ambient noise conditions. The sound of people talking while using the trail could be audible at nearby residential uses or other sensitive receptors; however, such activities would be consistent with the level of noise typically experienced in residential neighborhoods where children may be playing or where neighbors may converse with one another.

Events such as fun runs may occur along the trail. Per City practices, these events occur during daytime hours and further meet the noise generation standards of section 9.24.130 of the Noise Ordinance.

No motorized vehicles would be permitted to use the trail with the exception of occasional City or other public agency vehicles or equipment for maintenance or inspection purposes. Any noise generated by City vehicles or maintenance equipment would be temporary in nature and is considered exempt under Chapter 9.24 of the Roseville Municipal Code.

The Proposed Trail Alignment is located in existing creek corridors in an urbanized area and passes beneath several existing roadways. Some of these roadways are major arterials, including I-80 where existing ambient sound levels associated with roadway noise are likely to be higher than along other portions of the alignment, such as adjacent to residential areas. However, any exposure of trail users to existing roadway noise while traveling underneath such roadways would be temporary in nature and thus would not result in adverse effects.

Conclusion

Long-term uses associated with the proposed project would be predominantly non-motorized activities and would not expose persons to or generate use-related noise levels in excess of adopted standards. This impact would be **less than significant**.

Alignment Option 1A

Use of Option 1A would result in activities and noise characteristics similar to those described under the Proposed Trail Alignment above. Therefore, use-related impacts under Option 1A would be **less than significant**.

Alignment Option 1C

Use of Option 1C would result in activities and noise characteristics similar to those described under the Proposed Trail Alignment above. Therefore, use-related impacts under Option 1C would be **less than significant**.

Alignment Option 5A

Use of Option 5A would result in activities and noise characteristics similar to those described under the Proposed Trail Alignment above. Therefore, use-related impacts under Option 5A would be **less than significant**.

Mitigation Measures

None required.

Impact 4.10-3	Exposure to construction-related groundborne vibrations.
Applicable Policies and Regulations	City of Roseville Municipal Code, Chapter 9.24 (Noise)
Significance with Policies and Regulations	Proposed Project: Potentially significant Alignment Option 1A: Potentially significant Alignment Option 1C: Potentially significant Alignment Option 5A: Potentially significant
Mitigation Measures	Mitigation Measure 4.10-3 (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C) Significant and unavoidable (Option 5A)

Proposed Trail Alignment

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. The effects of ground vibration may be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and high levels of vibration can cause sleep disturbance in places where people normally sleep or annoyance in buildings that are primarily used for daytime functions and sleeping.

The project would not include the development of any new permanent stationary sources of ground vibration or permanent transportation infrastructure that would also result in ground vibration from passing heavy duty vehicles and; therefore, this analysis focusses on construction-induced vibration. Depending on the specific construction equipment used and activities involved, such activities may result in varying degrees of temporary ground vibration and noise during construction.

Caisson drilling, the drilling of shafts for piers, would be required for bridge pier column installation for all proposed bridges. No pile driving would occur at any of the proposed bridges. In addition, other heavy-duty equipment (i.e., small dozers) would be used for construction activities and at bridge construction sites. Therefore, it is assumed that caisson drilling would occur as close as 88 feet from a sensitive receptor – between the easternmost pile of the proposed widening on Darling Way Bridge and a single-family home at the southwest corner of Darling Way and Hernandez Lane. Construction and drilling of other proposed bridges would occur no closer than 100 feet from existing structures.

Construction of the trail would result in activities with less intense vibration than drilling. Typical equipment could include small dozers and, in some instances, jack hammers for site preparation, and loaded trucks for materials delivery. Trail construction activity would mostly be located at least 15 feet away or more from nearby structures, but could in some instances occur within 15 feet of existing noise-sensitive receptors.

Staging areas (including construction access routes) would accommodate movement of loaded trucks carrying materials and equipment to and from the proposed trail alignment. Loaded truck activity could result in groundborne vibrations similar to drilling anywhere within the staging areas. Staging areas would be located at various locations along the alignment including near private driveways and in vacant lots. Some of these areas border neighboring residences and can be as close as 5 feet from an existing residential structure (such as the staging area on Oakridge Drive). Staging areas/construction access routes near/along private driveways at 720 Sunrise Avenue and 729 Sunrise Avenue could be located as close as 20 feet from noise-sensitive receptors such as medical offices and clinics.

Ground vibration and noise levels associated with various types of construction equipment and activities are summarized in Table 4.10-5.

Table 4.10-5 Representative Ground Vibration and Noise Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)[1]	Approximate L_v (VdB) at 25 feet
Impact Pile Driver	1.518	112
Blasting	1.13	109
Sonic Pile Driver	0.734	104
Large Dozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Rock Breaker	0.059	83
Jackhammer	0.035	79
Small Dozer	0.003	58

PPV = peak particle velocity; L_V = the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4

Source: FTA 2006:p.12-6,12-8

Recommended standards from the FTA are used to determine if the project's construction activities would result in significant exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This impact would be significant if it would result in vibration levels that exceed FTA's recommended standard of 0.2 in/sec PPV with respect to the prevention of structural damage for non-engineered timber and masonry buildings or FTA's maximum acceptable level of 80 VdB with respect to human response for residential uses [i.e., annoyance] at nearby existing vibration-sensitive land uses. Table 4.10-6 shows the distances between equipment operation and receptors within which FTA thresholds would be exceeded. The selected equipment types represent what would most likely be used for construction of this project.

Table 4.10-6 Distance Standards between Vibratory Construction Equipment and Receptors

Equipment	Structural Damage Standard Minimum Distance to Reach 0.2 in/sec PPV (feet)	Human Disturbance Standard Minimum Distance to Reach 80 L_v (VdB) (feet)
Caisson Drilling/Large Dozer	15	43
Loaded Trucks	13	40
Jackhammer	8	23
Small Dozer	2	5

Note: Locating equipment operations within the distances above from a receptor would increase the structural damage standards above 0.2 in/sec PPV and the human disturbance threshold of 80 VdB at that receptor.

PPV = peak particle velocity; L_V = the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4

Source: FTA 2006:p.12-6,12-8

FTA's vibratory structural damage and human disturbance standards would be exceeded if the minimum setback distances for the types of equipment listed in Table 4.10-6 cannot be maintained during construction. As described above, drilling would occur no closer than 88 feet away from an existing residence. Thus, drilling activities would occur within the distances described above that would not result in an exceedance of FTA's recommended threshold for human disturbance (i.e., 80 VdB) and/or structural damage (i.e., 0.2 in/sec PPV) and is not discussed further.

Structural Effects

According to Table 4.10-6, structural damage could occur when large construction equipment is operated within the following minimum setbacks from existing structures: large dozers and drilling 15 feet, loaded trucks 13 feet, Jackhammer 8 feet, and small dozer 2 feet. A review of the proposed trail alignment (Exhibits 3-5 through 3-12) indicates that construction activity within staging areas, along access routes, and along the trail alignment could exceed these set back requirements. For example, within the Oakridge Drive Staging Area, loaded trucks could operate within slightly greater than 5 feet of an existing adjacent residence and construction access routes located west of Sundown Way and east and west of Sunrise Avenue could result in loaded trucks operating within 20 feet of existing structures. Furthermore, trail construction could require use of jackhammers and small dozers within 5 feet of office buildings on the north side of Linda Creek at Sunrise Avenue. Thus, trail construction, and use of staging areas and access routes could, depending on the type of building materials and construction techniques, result in exceedances of FTA's structural damage thresholds when the minimum setback distances shown in Table 4.10-6 cannot be met.

Human Disturbance

According to Table 4.10-6, human disturbance could occur when large construction equipment is operated within the following minimum setbacks from existing occupied structures: large dozers and drilling 43 feet, loaded trucks 40 feet, Jackhammer 23 feet, and small dozer 5 feet. A review of the proposed trail alignment (Exhibits 3-5 through 3-12) indicates that at certain locations construction activity within staging areas, along access routes, and along the trail alignment could exceed these set back requirements. For example, within the Oakridge Drive Staging Area loaded trucks could operate within slightly greater than 5 feet of an existing adjacent residence and construction access routes located west of Sundown Way and east and west of Sunrise Avenue could result in loaded trucks operating within 20 feet of existing structures. Furthermore, jackhammers and small dozers may operate within 5 feet of office buildings. Thus, trail construction, and use of staging areas and access routes could, depending on the type of building materials and construction techniques, result in exceedances of FTA's human disturbance thresholds when the minimum setback distances shown in Table 4.10-6 cannot be met.

Conclusion

Construction activities would typically be during daytime hours, so the potential for human disturbance at residences would not occur when inhabitants are most likely to be sleeping. However, ground borne vibrations and noise levels could disturb residents who are home during the day and people present at nearby noise-sensitive receptors that operate during weekday business hours. Therefore, the proposed project would potentially expose persons and structures to generation of excessive ground borne vibration or ground borne noise levels for temporary periods of time during project construction. This impact would be **potentially significant**.

Alignment Option 1A

Construction of Option 1A would result in activities and vibration characteristics similar to those described under the Proposed Trail Alignment above, except Under Alignment Option 1A, Bridge #3 would be located closer to commercial uses on Riverside Avenue and farther away from the residential uses in the Hillcrest neighborhood (compared to the Proposed Trail Alignment Bridges #2 and #4) as shown on Exhibit 3-13 in Chapter 3, "Project Description." Construction activity for Bridge #3 would occur no closer than 85 feet from the nearest structure, a commercial land use, outside of the project boundary and no closer than 180 feet from the nearest residence. However, Option 1A would still include the same staging areas and other trails areas as the Proposed Trail Alignment. Therefore, impacts under Option 1A would be **potentially significant**.

Alignment Option 1C

Construction of Option 1C would result in activities and vibration characteristics similar to those described under the Proposed Trail Alignment, above, and would include both Bridge #2 and #4 in the same locations as the Proposed Trail Alignment (see Exhibit 3-14 in Chapter 3, "Project Description"). Construction activity at Bridge #4 would occur no closer than 85 feet from the nearest structure, a commercial land use, outside of the project boundary and no closer than 120 feet from the nearest residence. However, Option 1C would still include the same staging areas and other trails areas as the Proposed Trail Alignment. Therefore, impacts under Option 1C would be **potentially significant**.

Alignment Option 5A

Construction of Option 5A would result in activities and vibration characteristics similar to those described under the Proposed Trail Alignment above, except that the trail alignment along Linda Creek near Sunrise Avenue would travel along the south side of the creek instead of the north side (see Exhibit 3-15 in Chapter 3, "Project Description"). This option would move trail construction activities approximately 90 feet further south from the dental clinic at 720 Sunrise Avenue, but closer to other commercial uses along Sundown Way west of Sunrise Avenue and commercial and residential uses east of Sunrise Avenue. Construction would be located further away from existing residential land uses on the north side of Linda Creek, but it would be closer to existing commercial uses and some existing residential uses south of Linda Creek. A series of retaining walls would be constructed under Option 5A along the trail alignment on both sides of Sunrise Avenue, compared to only on the north side of Linda Creek under the Proposed Trail Alignment. Option 5A would also require the construction of Bridge #14 over Linda Creek east of Sunrise Avenue, rather than Bridge #13 west of Sunrise Avenue. Thus, although the magnitude, frequency, and duration of construction activities under Option 5A would be similar compared to the Proposed Trail Alignment, the activities may occur closer to residences under Option 5A compared to the Proposed Trail Alignment. The construction footprint for Bridge #14 would be no closer than 35 to 45 feet from the nearest residential structure (near homes along Meadow Gate Drive). This may be within the 43 foot range for human disturbance for caisson drilling. Therefore, impacts under Option 5A would be **potentially significant**.

Mitigation Measures

Mitigation Measure 4.10-3: Reduce exposure to construction-generated ground vibration.

This mitigation will apply to the Proposed Trail Alignment and Alignment Options 1A, 1C, and 5A.

Construction documents shall specify construction practices that reduce the adverse effects of ground vibration associated with project construction activities. Measures specified by the design engineer will be reviewed and approved by the City prior to approval of the plans and specifications and may include, but are not limited to, the measures listed below.

- Implement Mitigation Measure 4.10-1.
- All construction equipment on construction sites shall be operated as far away from vibration- and noise-sensitive sites as reasonably feasible.
- Earthmoving, dozing, and ground-impacting operations shall be phased so as not to occur simultaneously in areas close to offsite sensitive receptors, to the extent feasible. The total vibration level produced could be significantly less when each vibration source is operated at separate times.
- As part of final design, project engineers shall identify areas on the project plans where work may be constrained due to proximity of structures. The designs shall specify requirements that during project construction on the trail alignment, no heavy vibratory equipment (i.e., the types of equipment listed in Table 4.10-5), shall be operated within 13 feet of off-site building structures unless otherwise approved in writing by the City Engineer. Non-vibratory equipment, such as hand tools, and handheld vibratory compactors and rollers may be used. Use of different material types including slurry cement and concrete paving approved by the Engineer, may be used to reduce or eliminate the need for vibratory equipment. Those portions of the project site located within 13 feet of an off-site building structure shall be identified on construction documents and demarcated with stakes, flags, rope and/or markings on the ground.
- For Option 5A, locate caisson drilling for Bridge 14 forty-three (43) feet or greater from existing occupied structures, if feasible.
- Staging areas shall be adjusted and temporary fencing shall be installed to ensure that loaded trucks shall not operate within 13 feet of existing structures.

Significance after Mitigation

Implementation of Mitigation Measure 4.10-3 would reduce project-generated on-site groundborne vibration and noise levels during construction activities below FTA recommendations for preventing structural damage to off-site buildings and limit annoyance of area residents and noise- and vibration-sensitive businesses. As a result, this impact would be reduced to a **less-than-significant** level. Under Alignment Option 5A, if the caisson drilling for Bridge #14 cannot feasibly be located greater than 43 feet from occupied structures, vibration human disturbance impacts would be **significant and unavoidable** for Alignment Option 5A.

4.11 PUBLIC SERVICES

4.11.1 Introduction

This section describes existing public services and evaluates potential effects related to implementation of the Dry Creek Greenway East Trail. The public services discussed in this section include law enforcement, fire and emergency services, and schools. The project's effects on recreational facilities are addressed in Section 4.12, "Recreation."

No comments pertaining to public services were received in response to the Notice of Preparation (NOP); however, issues related to safety on the trail were discussed at the Public Scoping Meeting and at the Stakeholders Meetings before the NOP was published. Five major concerns include: (1) transient activity; (2) property owner safety and security (vandalism, graffiti, theft, and crimes against persons); (3) nuisance activity (noise, loss of privacy loitering, unauthorized motor vehicle use of the trail); (4) risk of wildfire; and (5) trail user safety.

These are all important issues for consideration by the City of Roseville (City) when evaluating the merits of the proposed project. With the exception of risk of wildfire, which is addressed in Section 4.7, "Hazards and Hazardous Materials," the topics are not within the purview of CEQA analysis. Potential direct and indirect effects on police protection service is discussed in this chapter under Impact 4.11-2.

4.11.2 Environmental Setting

FIRE AND EMERGENCY SERVICES

The City of Roseville Fire Department (RFD) provides primary fire protection services within the City limits (approximately 43 square miles). The RFD operates from eight fire stations and staffs eight engine companies, two ladder companies, and one battalion chief. These personnel cross staff three brush engines, two grass engines, one hazmat company, and one rescue company (City of Roseville 2015:21). RFD provides: fire suppression, emergency medical services (EMS), hazardous materials emergency response, technical rescue, public assistance and education, community risk reduction, tactical EMS paramedics supporting RPD SWAT team, and a paramedic bike team. The proposed project is located primarily in RFD Station According to the City of Roseville 2015 Standards of Cover, the RFD established six response performance measures, along with a benchmark time (goal to reach). The benchmark times range from 7.12 minutes for emergency medical services to 11.3 minutes for an effective response force ("building fires") (City of Roseville 2015:6). The benchmark goals are used as best-case scenarios and as a measurement to identify how the Fire Department can strive to improve in each area of response.

LAW ENFORCEMENT

The City of Roseville Police Department (RPD), headquartered at 1051 Junction Boulevard, provides primary law and traffic enforcement services within the City. In 2016, the RPD was authorized to staff up to over 129 sworn officers (Smithson, pers. comm., 2016). Emergency and non-emergency calls from the public are prioritized by dispatchers to determine the need for assistance from police, fire, or other related services (City of Roseville 2016). The RPD is responsible for patrol duty within the City limits, including parks and open space areas, responding to and investigating crimes and other calls for service, providing animal control services, and traffic safety (i.e., enforcing the Vehicle Code and responding to traffic collision or traffic hazard calls). Cooperation with the Union Pacific Railroad's

private police department provides back-up services within the UP railyard, as needed. The RPD employs Animal Control officers who respond to emergency and routine calls regarding animals and shelters stray, owner-relinquished, or impounded animals through a contract with the Placer County Society for the Prevention of Cruelty to Animals.

SCHOOLS

The City of Roseville contains one high school district and three elementary districts under one unified district to serve the needs of the student population. These include the Roseville Joint Union High, Eureka Union, Dry Creek Joint, Roseville City School, and Center Unified Districts. A total of six high schools, nine middle schools, and 28 elementary schools, and eight pre-school/kindergarten schools provide public education to the City of Roseville. The closest schools to the project include: Roseville Joint Union High School District, George Sargeant Elementary School, Warren T. Eich Middle School, and George Cirby Elementary School.

4.11.3 Regulatory Setting

Public services are protected and/or regulated by a variety of federal, state, and local laws and policies. Key regulatory and conservation planning regulations applicable to the proposed project are discussed below.

FEDERAL

There are no federal plans or policies addressing public services that pertain to the project.

STATE

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 “Fire Prevention” and 6773 “Fire Protection and Fire Equipment,” the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

Office of Emergency Services

Title 19, Chapters 1 through 6, of the California Code of Regulations establishes regulations related to emergency response and preparedness under the California Governor’s Office of Emergency Services (OES). The OES serves as the lead state agency for emergency management. The OES coordinates the State response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the State through the Statewide Mutual Aid System. In California, the Standardized Emergency Management System provides the mechanism by which local government requests assistance. The OES is the lead agency for mobilizing and obtaining State and federal resources, overseeing the mutual aid system, and, during an emergency, coordinating response efforts. In addition, during an emergency, the OES is responsible for collecting, verifying, and evaluating information about the emergency, facilitating communication with local government and providing affected jurisdictions with additional resources when necessary. If necessary, OES may task State agencies to perform work outside their day-to-day and statutory responsibilities.

California Public Resources Code

The California Public Resources Code includes provisions that address fire prevention and minimum fire safety standards related to defensible space for industrial operations and other land uses in State Responsibility Area (California Public Resources Code Part 2, Chapters 1 and 2). Applicable fire safe regulations address road standards for fire equipment access, standards for signage, minimum water supply requirements for emergency fire use, and fuel breaks and greenbelts, among others.

LOCAL

City of Roseville General Plan

Police Services

GOAL: Maintain a professional law enforcement agency that proactively prevents crime; controls crime that the community cannot prevent; and, reduces fear and enhances the security of the community.

- **Policy 7:** Design parks to facilitate surveillance by adjoining residents, security services, and police.

Fire Protection

GOAL 1: Protect against the loss of life, property, and the environment by appropriate prevention, education, and suppression measures.

GOAL 2: Provide emergency services in a well-planned, cost-effective, and professional manner through the best utilization of equipment, facilities, and training available.

- **Policy 2:** Strive to achieve the following service levels:

  Urban Areas:
  - Four-minute response time for all emergency calls
  - ISO rating of 3 or better
  - 500 gallons of water per minute within 10 minutes of an alarm

Chapter 10.53 of the Municipal Code (Spray Paint and Graffiti) prohibits the intentional placement of graffiti upon public property, and the authority to remove graffiti discovered within the City.

4.11.4 Impacts

METHODS OF ANALYSIS

Potential impacts on public services resulting from project construction and use were identified by comparing existing service capacity against future demand associated with project implementation. Evaluations of potential public service impacts are based on a review of documents pertaining to the project area, including the City of Roseville General Plan.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed project was determined to result in a significant impact to public services if it would:

- result in substantial adverse physical impacts associated with the provision of or 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:

- fire protection,
- police protection, and
- schools.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

Impacts to Schools

The proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. No new schools would be required to support construction and use of the proposed project. Thus, this topic is not discussed further.

IMPACT ANALYSIS

Impact 4.11-1	Effects on fire protection and emergency services.
Applicable Policies and Regulations	City of Roseville General Plan Safety Element California Public Resources Code Part 2, Chapters 1 and 2
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None required (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

As stated above, the proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. Therefore, the project would not generate an increased demand for fire protection or emergency services related to an increase in permanent population in Roseville. While construction of the multi-use trail could increase the short-term risk of fire (see Impact 4.7-5 in Chapter 4.7, “Hazards and Hazardous Materials”), the trail would enhance access to the Dry Creek, Cirby Creek, and Linda Creek open space areas for public recreational and educational opportunities, utility maintenance, open space maintenance, and emergency response access. Per the Design/Construction standards, the desired vertical clearance at undercrossings is 13 feet, 6 inches feet to allow for passage of fire vehicle access. In constrained areas or where fire vehicle access would not be needed, the minimum vertical clearance at undercrossings would be 9 feet. The proposed trail would, to the extent feasible, be designed to provide maintenance and emergency access for the City Environmental Utilities Department, open space and storm water maintenance crews, and the RFD. To the extent that additional fire response access is provided by the proposed, paved trail, it would be a benefit to fire service. It also would provide a route for walkers, joggers, cyclists, wheelchair users, and others traveling on non-motorized vehicles to access parks and other paths.

Visitors along Cirby Creek include neighbors and transitory users. Visitors could pose an increased risk of fire because of activities such as smoking or the setting of or use of small fires. While improved access along the creek corridor could lead to an increase number of people in the area, the trail would be designed to facilitate emergency vehicle access, including fire apparatuses. In addition, the multi-use trail would improve access of maintenances crews to clear fuels as necessary. The RFD has also stated that without the trail, their ability to respond to a fire in the open space is hampered (City of Roseville 2010:106-108).

Conclusion

The proposed project would be designed to facilitate emergency vehicle access and improve access of maintenances crews to clear fuels as necessary. Thus, this impact would be **less than significant**.

Alignment Option 1A

Effects on fire protection and emergency services under Alignment Option 1A would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. Alignment Option 1A would begin north of Darling Way and would travel on the west side of Dry Creek. At the confluence of Dry Creek and Cirby Creek, this option would cross to the south side of Dry Creek and travel along the south side of Cirby Creek as the trail heads upstream. For the reasons described above for the Proposed Trail Alignment, this option would not substantially affect fire protection and emergency services and the impact would be **less than significant**.

Alignment Option 1C

Effects on fire protection and emergency services under Alignment Option 1C would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. Alignment Option 1C would begin north of Darling Way and would travel on the east side of Dry Creek before crossing to the south side of Cirby Creek upstream of the confluence with Cirby Creek. For the reasons described above for the Proposed Trail Alignment, this option would not substantially affect fire protection and emergency services and the impact would be **less than significant**.

Alignment Option 5A

Effects on fire protection and emergency services under Alignment Option 5A would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. East of Eastwood Park, Alignment Option 5A would remain on the south side of Linda Creek until east of Sunrise Avenue before crossing to the north side of the creek, and Bridge #13 would not be included. For the reasons described above for the Proposed Trail Alignment, this option would not substantially affect fire protection and emergency services and the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 4.11-2	Effects on police protection services.
Applicable Policies and Regulations	City of Roseville General Plan Safety Element City of Roseville Municipal Code Chapter 10.53
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None required (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

As stated above, the proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. Therefore, the project would not generate an increased demand for police protection services related to an increase in permanent population in Roseville. Property owners and residents commonly express concern regarding the potential for increased vandalism and illegal activities in areas where trails are

constructed. Public access exists for much of the proposed project corridor through public streets and cul-de-sacs, as well as segments of existing paths and trails that are not built to current City and California Department of Transportation (Caltrans) design standards. Community members have reported people being present in the creek corridors under existing conditions. Bike trails are patrolled by police officers on an as-needed basis (CRPOA 2010). Police personnel state that graffiti is commonly seen along bike trails (City of Roseville 2010:106-108). However, in accordance with the City's graffiti abatement program, graffiti on public property is abated within 10 days of notifications to the City.

During the feasibility study phase of this project, public outreach was conducted and residents of adjacent neighborhoods expressed concern related to safety issues. The RPD and RFD have not identified any trends in crime or significant safety or security concerns along Roseville's existing paths or trails. While no studies have been conducted to explore the potential safety effects that could occur from construction and use of the trail, studies and surveys completed in multiple contexts found that multi-use paths can benefit communities by providing exercise and recreation opportunities, transportation choices, a sense of community, increased property values, and lower crime. For instance, a 1998 study of 372 trails found that crimes rates are lower in trail networks than the overall crime rate for the region in which they are located (i.e., urban, suburban, or rural) (Tracey and Morris 1998). Similar results were found for studies that evaluated trail systems in the Seattle metropolitan area (Zarker and Bourey 1987) and Santa Rosa California (Murphy 1992), Generally, these studies reflect the observation made by the RPD and RFD that open space trails do not result in increased safety and security problems, and that trails are safe places to be on and live near. It would provide a safe route for walkers, joggers, cyclists, wheelchair users, and others traveling on non-motorized vehicles to access parks and other paths.

Furthermore, with respect to the recently-constructed Miners Ravine Trail, the RPD has found that having more responsible trail users present in the open space has helped provide observers that deter illegal activities. Also, the RPD has indicated that the trail users and enhanced patrol access assist police efforts to reduce loitering or illegal camping in the open space (City of Roseville 2010:106-108). It is expected that a trail designed to current City and Caltrans standards would improve public safety conditions, compared to the existing conditions, because it would provide enhanced police access to open space areas.

Conclusion

Construction of the proposed project is not expected to generate a significant increase in service calls leading to the need for new facilities to accommodate additional police protection services, and therefore there would be no associated environmental effects. Therefore, potential impacts related to police services would be **less than significant**.

Alignment Option 1A

Effects on police protection services under Alignment Option 1A would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. Alignment Option 1A would begin north of Darling Way and would travel on the west side of Dry Creek. At the confluence of Dry Creek and Cirby Creek, this option would cross to the south side of Dry Creek and travel along the south side of Cirby Creek as the trail heads upstream. For the reasons described above for the Proposed Trail Alignment, this option would not adversely affect public safety and the impact would be **less than significant**.

Alignment Option 1C

Effects on police protection services under Alignment Option 1C would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. Alignment Option 1C would begin north of Darling Way and would travel on the east side of Dry Creek before crossing to the south side of Cirby Creek upstream of the confluence with Cirby Creek. For the reasons described above for the

Proposed Trail Alignment, this option would not adversely affect public safety and the impact would be **less than significant**.

Alignment Option 5A

Effects on police protection services under Alignment Option 5A would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. East of Eastwood Park, Alignment Option 5A would remain on the south side of Linda Creek until east of Sunrise Avenue before crossing to the north side of the creek, and Bridge #13 would not be included. For the reasons described above for the Proposed Trail Alignment, this option would not adversely affect public safety and the impact would be **less than significant**.

Mitigation Measures

None required.

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4.12 RECREATION

4.12.1 Introduction

This section describes existing recreational facilities in the project vicinity and presents a discussion of potential effects to such facilities, as well as the creation of new outdoor recreation opportunities resulting from implementation of the proposed trail. In addition, a discussion of the regulatory environment specific to recreation is provided below.

No comments received on the Notice of Preparation pertained to recreation.

4.12.2 Environmental Setting

REGIONAL SETTING

Roseville's park and recreation facilities are operated by the City of Roseville (City) Parks and Recreation Department. The Department is responsible for the development and maintenance of the City's various recreational facilities including parks, public golf courses, and open space areas. In addition, the Department manages a full range of recreation programs for the residents of the community.

The City has defined "park lands" to include public developed parks, recreational open space and joint-use park-school facilities. Based on the current General Plan land use allocation at buildout, Roseville has secured approximately 9 acres of park land per 1,000 residents (as of 2010). Table 4.12-1 provides 2015 park and open space acreage within the City (City of Roseville 2016).

Table 4.12-1 2015 Parks and Open Space Acreage

Use	Acres
Developed Parks	1,065
Golf Courses	678
Open Space/Park Preserve	4,569
Undeveloped Parks	515
Roadway Landscape Areas	266
Greenway/Paseos	70

Notes: * Roadway landscape areas consist of landscape corridors and medians only. This figure is comprised of existing Landscape and Lighting District maintained areas plus an estimate for the WRSP, SVSP/Westbrook and Creekview based on similar population from other plan areas.

** Greenways/Paseos consist of the paseos in the WRSP, SVSP/Westbrook and Creekview areas as well as the one existing greenway along the Sunrise Corridor.

Source: City of Roseville 2016

PARK DEFINITIONS

The City of Roseville defines several types of park facilities. These are described below.

Neighborhood Park

A neighborhood park can be generally defined as a landscaped park designed to serve a concentrated population or neighborhood. They are often developed as a recreation facility with a balance of passive

and active recreation areas serving all ages. Typical improvements are play areas, picnic tables (covered or uncovered), athletic fields, multi-use turf, hard courts, natural areas, pathways, security lighting and in some cases, unique or single-purpose amenities. Athletic fields in neighborhood parks will be without lights. The typical size range is 0.5 acres up to 8 acres.

Neighborhood/School Park

School park areas are facilities developed on or adjacent to school land and available for joint City and school use. Facilities would focus on clustering active ball fields whenever possible to alleviate demands on neighborhood parks and to provide more cost-effective maintenance practices. The facilities may be jointly owned, and/or developed. They are often developed as an active recreation facility serving all ages. Typical facilities may include play areas, athletic fields, picnic areas, hard courts, game courts, joint off-street parking, pathways, and security lighting. For larger sites, facilities may include turfed ball fields for organized sports that may have sports lights, swimming pools, gymnasiums, hard courts, sports courts, specialty elements and Adventure Clubs. Restrooms may be included, but are not required. The facilities could be subject to use restriction and/or maintenance agreements defined in a specific joint-use agreement between the school and the City. The multi-use of school and park facilities is also addressed in the school component of the Public Facilities Element. The typical size range of these joint use areas is 5.5 acres up to 20 acres.

Community/City-Wide Park

Community/city-wide parks are designed to accommodate a wider variety and higher intensity of recreational uses than neighborhood parks and are frequently identified as unique recreational centers serving the entire Roseville population. These facilities are designed to “cluster” active sport elements to accommodate city-wide or regional needs, such as tournaments, special events and or tourism to provide more cost-effective maintenance practices. These parks may include specialized recreational amenities, such as plazas, town centers, large specialty recreation facilities, swimming pools, libraries, community centers, outdoor areas, competitive sports complexes, tennis courts, sports courts and sports lighting, concessions, nature centers, large children’s play areas, large group picnic facilities, trail systems, transit stops, outdoor amphitheaters, water-oriented facilities for boating, swimming and fishing, restrooms, and park and ride within parking lots. Community/city-wide facilities may be stand alone or located adjacent to schools. The typical size range of these areas is 4 acres to over 200 acres.

Landscape Areas

Landscape areas are generally defined as linear public corridors (i.e., roadway landscaping and corridors, and other landscape frontages) that provide visual relief along major roadways and are important connections within the City between parks, schools, neighborhoods, businesses, and shopping areas. Typical components are usually sidewalks, trees, turf, shrubs, and ground covers designed by using berms and slopes. Landscape areas may also include benches, street furnishings, walls/fencing, city boundary markers, monuments, lighting, and signs.

Paseos

Paseos are provided to promote walking and biking by establishing connectivity between residences, parks, schools, local businesses, trail systems, and/or other connections. They may include similar landscaping components, such as sidewalks, plant materials, and bike/pedestrian trails. Paseos vary in width between 15 to 100 feet, depending on the intended use and location. Paseos are open to the surrounding neighborhood by maintaining a street frontage to one side so that paseos are not hidden. This allows visibility by residents and City personnel for security access.

Greenways

Greenways are defined as wide, usually linear, landscape corridors. They usually consist of simple landscaping features, such as turf, trees, shrubs, or no landscaping at all, and usually include sidewalks, and/or bike and pedestrian trails. They typically link streets together to provide passive

recreation opportunities, such as walking or biking, and they may be an important component of a Class I bike path system. They differ from paseos in that they can be undeveloped, may support transportation and mobility, and usually have greater widths and lengths. While containing some characteristics of open space areas, they may also contain formal landscaping features and irrigation.

BIKEWAYS

Bikeways are defined as specific routes and classes that meet minimum design standards for bicycle or multi-use purposes. Roseville generally follows Caltrans' design standards for the following classes of bikeways:

- Class I Bike Paths that provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized. Class I paths often follow natural amenities such as creeks, drainage, or utility line easements, and are used by both commuter and recreational riders.
- Class II Bike Lanes that provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted. Class II lanes are generally developed within the right-of-way of collector streets and arterials.
- Class III Bike Routes that provide a right-of-way designated by signs or permanent markings and shared with motorists. Class III routes are generally located on local streets within residential neighborhoods.

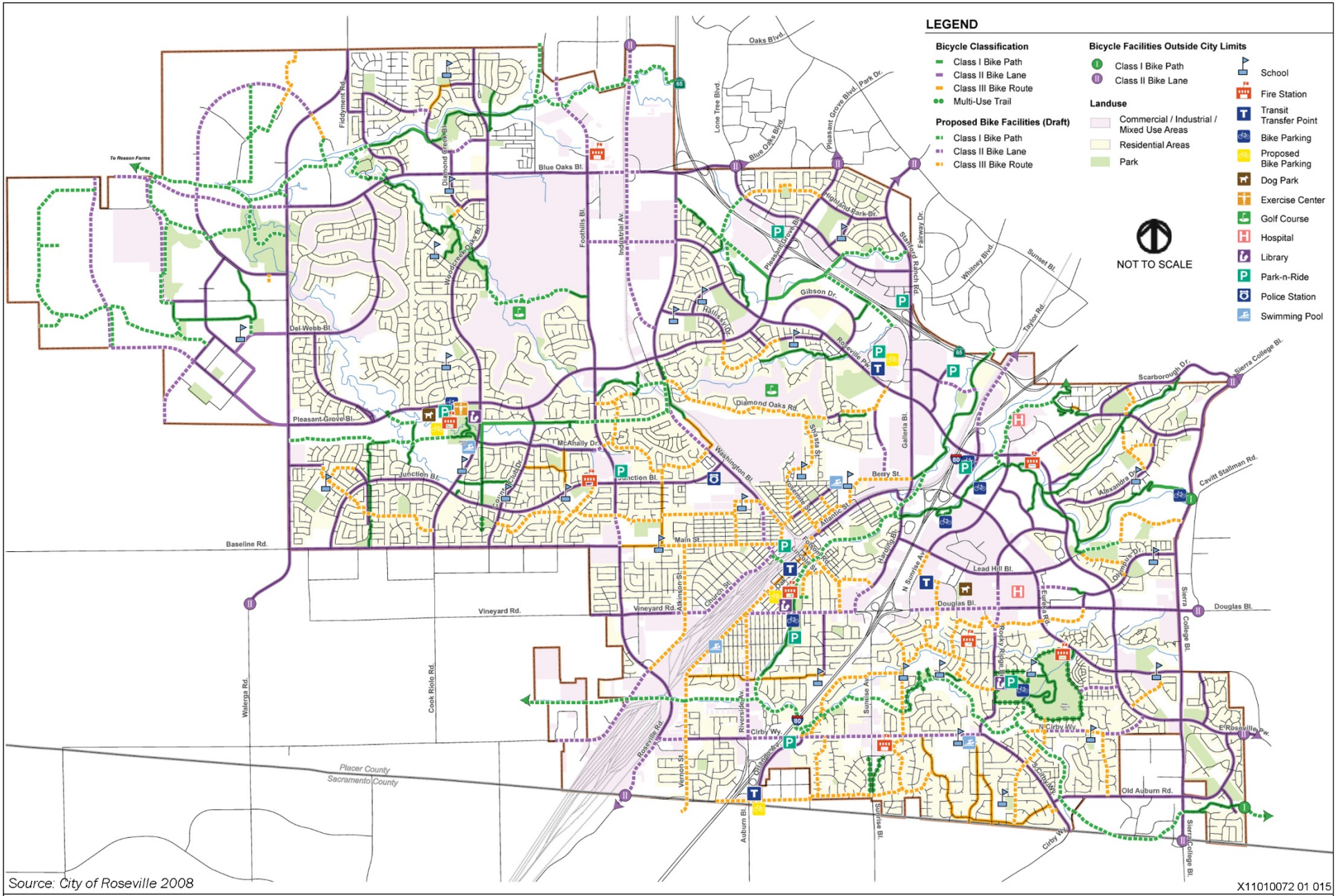
Roseville also has an additional classification for bikeways:

- Class IA Bike Paths are paths that have been developed as parallel, widened (8-12 feet wide) sidewalk routes along major roadways and are separated from the roadway by a landscape strip. These paths are for the use of pedestrians and casual bicyclists. Caltrans does not consider sidewalk facilities to be Class I facilities and does not recommend that they be signed as bike routes. However, the Class IA facilities are still desirable for casual bicyclists such as children, as well as others who are hesitant to utilize on-street routes. Class IA bike paths are intended to supplement, not replace on-street bike Roseville General Plan III-47 Circulation Element lanes, but there may be occasions where they are used in lieu of on-street bike lanes.

Exhibit 4.12-1 shows the existing bikeways within the Roseville City limits by facility class. It shows that bikeway connections are currently limited in the City, especially in the older infill areas. Most of the existing bikeways are located in recently developed areas, associated with the City's 14 specific plans.

PARKS AND RECREATIONAL FACILITIES

The proposed trail would be located in close proximity to several parks, including Maidu Regional Park, Eastwood Park, and Willard Dietrich Park as shown on Exhibit 4.12-2. An existing multi-use trail along the east side of Rocky Ridge Drive, as well as on-street bike lanes on Rocky Ridge Drive currently provide connections from the proposed trail to Maidu Regional Park.



Source: City of Roseville 2008

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Exhibit 4.12-1

Existing and Proposed Bike Network

ASCENT ENVIRONMENTAL

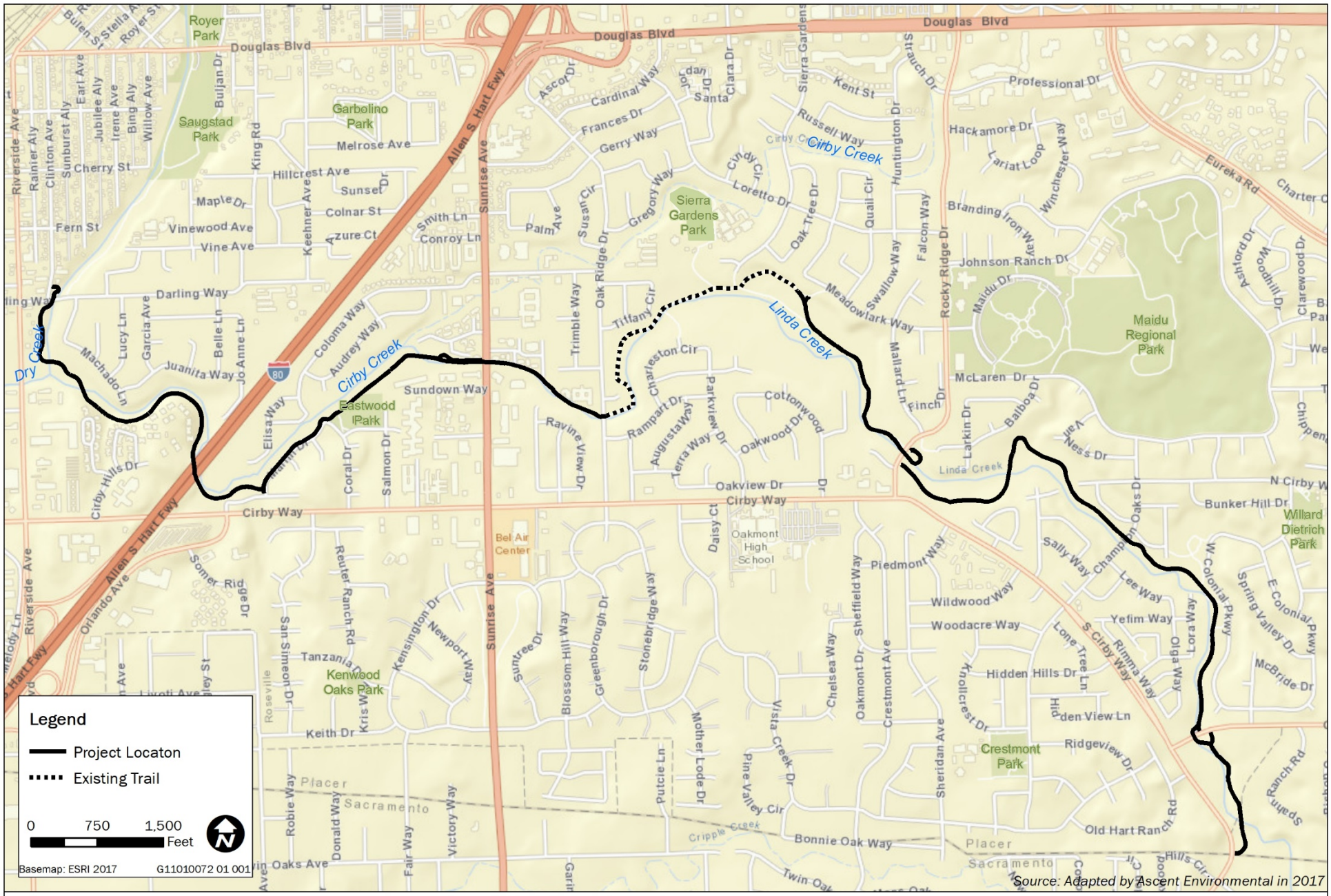

Exhibit 4.12-2

Park Facilities

Maidu Regional Park – Located at 1550 Maidu Drive, this is a 152-acre regional park. The developed area of the park (54 acres) includes the Maidu Community Center, Maidu Branch Library, Veteran's Memorial Rose Garden and Maidu Museum & Historic Site. Other features of the park include a four-diamond lighted softball complex, a five-field lighted soccer complex, a six station batting cage, a regulation size lighted covered soccer arena, a skate park, one full basketball court, a pedestrian and bike path, numerous picnic areas and children's play equipment.

Eastwood Park – Located at 950 Madden Lane, this 4-acre neighborhood park features a school-aged play area, covered picnic area, baseball/softball field, multi-use field, and a basketball court.

Sierra Gardens Park – Adjacent to Eich Middle School located at 1509 Sierra Gardens Drive, this is a school field with running track, basketball courts, and soccer fields. The City of Roseville Parks and Places website updates field conditions at Sierra Gardens.

Willard Dietrich Park – Located at 1201 Stoney Point Drive, this 4.6-acre neighborhood park features pre-school and school-aged play areas, barbeques, covered picnic area, and multi-use turf.

Parks in the project area also include Saugstad Park at 100 Buljan Drive, Royer Park at 190 Park Drive, Crestmont Park at 1500 Champion Oaks Drive, Kenwood Oaks Park at 1022 Tanzania Drive, and Garbolino Park at 1015 Camelia Avenue.

4.12.3 Regulatory Setting

Recreation resources are protected and/or regulated by a variety of federal, state, and local laws and policies. Key regulatory and conservation planning issues applicable to the proposed project are discussed below.

FEDERAL AND STATE

No federal or state regulations pertaining to recreation are applicable to the proposed project.

LOCAL

The City of Roseville has an adopted standard of nine acres of park land per 1,000 residents. The nine-acre requirement is divided into three acres each for neighborhood, citywide, and open space areas. This requirement has historically been met through the dedication of park land by developers. Credits are granted against the 9-acre per 1,000 population standard and has varied dependent upon the recreational value of the land to City residents.

City of Roseville General Plan

Parks and Recreation

GOAL 2: Provide residents with both active and passive recreation opportunities by maximizing the use of dedicated park lands and open space areas.

- **Policy 5:** Cooperate with other jurisdictions to provide regional recreation facilities, where appropriate
- **Policy 7:** Plan for safe and secure parks and recreation areas.
- **Policy 12:** Ensure that new public parks and recreation facilities, open space, paseos, landscape areas and greenways provide adequate funding for initial development, as well as ongoing maintenance and operation.

Circulation Element
GOAL 1: Increase the percentage of all trips made by bicycles in Roseville.

GOAL 2: Establish and maintain a safe, comprehensive and integrated bikeway and trail system that encourage the use of bikes and walking for commuting, recreational and other trips.

- **Policy 1:** Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.
- **Policy 2:** Coordinate Roseville's bikeway and trail system with those of neighboring jurisdictions to provide both local and regional connections.

City of Roseville Bicycle Master Plan

The Bicycle Master Plan is intended to guide and influence bikeway policies, programs and development standards to make bicycling in Roseville more safe, comfortable, convenient and enjoyable for all bicyclists. The ultimate goal of this effort is to increase the number of persons who bicycle in Roseville for transportation to work, school, and errands, and for recreation. The Bicycle Master Plan is developed in context of the Circulation Element of the Roseville General Plan (GP), which includes goals and policies to develop a balanced transportation system for automobiles, transit, bicycles and pedestrians. The Bicycle Master Plan contains goals and policies associated with its implementation. Those that are applicable to the proposed project are provided as follows.

GOAL 2: Establish a safe, comfortable, convenient and highly-connected bikeway system that meets the transportation and recreation needs of avid, regular, youth and beginning bike riders, while balancing the needs of other transportation types including automobiles, train, transit and pedestrians.

- **Policy 4:** Promote development patterns that enhance connectivity for transportation and recreation use and lessen distance of bicycle and pedestrian travel between uses.
- **Policy 6:** Class I Off-Street bike paths are preferred when they result in bikeway continuity, safe and preferably separated crossings of major roads, and minimal traffic cross-flow.
- **Policy 13:** Bicycle crossings should be located at appropriate intervals along new roadways as determined by the Public Works Director/City Engineer. The City will consider opportunities for grade-separated crossings where feasible and warranted based upon demand to improve bikeway safety, comfort and continuity. The City should work with Caltrans to provide safe, convenient and comfortable crossings of State highways and freeways at regular intervals.
- **Policy 16:** Work with Public Works, Planning and Parks & Recreation Department staff to provide continuity in the design & construction of bikeway facilities.

Encouragement
GOAL: Increase transportation and recreation bicycle riding to work, school, play and other destinations by 50 percent by 2020, and gain acceptance of bicycle commuting as a mainstream activity through incentive and encouragement efforts.

- **Policy 4:** Support recreational bikeway facilities, programs and events as an important part of the effort to cultivate acceptance of bicycling among the general populace.

4.12.4 Impacts

METHODS OF ANALYSIS

Potential impacts on recreation resources resulting from project construction were determined by comparing the existing conditions against implementation of the proposed project. The thresholds of

significance, described below, were used to determine if the project would result in an environmental effect associated with recreation. The proposed project is a recreation facility that would be used by pedestrians and bicyclists. The multi-use trail would meet Class I off-street bike path specifications, consisting of a paved, all-weather access for City maintenance crews. The potential environmental effects associated with construction and use of this project are described throughout this Draft EIR.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed project was determined to result in a significant impact to recreation resources if it would:

- 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, or
- include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

IMPACT ANALYSIS

Impact 4.12-1	Increased use of existing neighborhood and regional parks.
Applicable Policies and Regulations	City of Roseville General Plan Open Space and Circulation Elements City of Roseville Bicycle Master Plan
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None required (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

Under existing conditions, the bike path alignment contains some portions that could be accessible by pedestrians or cyclists; however, walking or biking the entire length from one end to the other is not possible. Implementation of the project would generally consist of a 10-foot wide paved trail with two-foot shoulders on each side (one composed of decomposed granite and one of aggregate base), for a total width of 14 feet (see Exhibit 3-3, Typical Trail Cross Section, in Chapter 3, “Project Description”). The trail may also include drainage swales on one or both shoulders, as needed.

The proposed project would not result in any new permanent residents and would therefore not directly generate new users. Improving the trail could attract additional recreationists for activities such as bicycling, walking, running, and dog-walking. In addition, it would create new access opportunities to nearby parks, in particular Maidu, Saugstad and Eastwood parks. The trail could also be used by commuting cyclists in lieu of vehicle trips. An increase in the use of a recreational facility could increase the rate of degradation and require improvements at a faster rate than originally designed. However, while access to existing parks would be altered, and potentially increased, user groups of the trails are anticipated to be existing members of the surrounding community. Entry onto nearby regional parks via the proposed trail would not be substantially incentivized through development of the multi-use trail, and the path would be used as an alternative route to arrive at City parks. In addition, much of the current path is already used by pedestrians and cyclists. Paving would reduce degradation of the dirt path and improve longevity of the alignment. Furthermore, the proposed project is listed in the Bicycle Master Plan and is, therefore, consistent with future recreation planning within the City.

Conclusion
The project is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. This impact would be **less than significant**.

Alignment Option 1A
Access to recreational facilities under Alignment Option 1A would be the same type and magnitude as the Proposed Trail Alignment. Alignment Option 1A would begin north of Darling Way and would travel on the west side of Dry Creek. At the confluence of Dry Creek and Cirby Creek, this option would cross to the south side of Dry Creek and travel along the south side of Cirby Creek as the trail heads upstream.

As discussed above under the Proposed Trail Alignment, the project is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. Thus, this impact would be **less than significant**.

Alignment Option 1C
Access to recreational facilities under Alignment Option 1C would be the same type and magnitude as the Proposed Trail Alignment. Alignment Option 1C would begin north of Darling Way and would travel on the east side of Dry Creek before crossing to the south side of Cirby Creek upstream of the confluence with Cirby Creek.

As discussed above under the Proposed Trail Alignment, the project is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. Thus, this impact would be **less than significant**.

Alignment Option 5A
Access to recreational facilities under Alignment Option 5A would be the same type and magnitude as the Proposed Trail Alignment. East of Eastwood Park, Alignment Option 5A would remain on the south side of Linda Creek until east of Sunrise Avenue before crossing to the north side of the creek.

As discussed above under the Proposed Trail Alignment, the project is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. Thus, this impact would be **less than significant**.

Mitigation Measures
None required.

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4.13 TRANSPORTATION AND CIRCULATION

4.13.1 Introduction

This section describes the existing transportation setting in the project area, including current levels of service, bicycle facilities, and transit services, and evaluates potential transportation effects related to implementation of the Dry Creek Greenway East Trail.

No comments pertaining to transportation and circulation were received in response to the Notice of Preparation. One comment addresses potential conflicts between skateboarders or cyclists and pedestrians.

4.13.2 Environmental Setting

PROJECT AREA ROADWAYS

The primary function of arterial roadways is to move large volumes of traffic through the City of Roseville (City) to other sections and beyond. The City has sixteen subareas that have been planned for urban development. These include the Infill area, the North Industrial area, and fourteen specific plan areas. The proposed project is located within the City's designated "Infill" area. In the specific plan areas, the right-of-way (ROW) for arterials varies from 76 feet to 100 feet and generally incorporates four to six travel lanes, bicycle lanes, and a landscaped median. Outside the City's specific plan areas, which includes the proposed project, some roadways function as arterials because of the current high traffic volumes and their key linkages between one section of the City and another. For these roadways, current ROW widths vary, but most contain more than two traffic lanes. Collector streets generally link local residential streets and the commercial and office parking areas to the arterials. According to the City's general plan, the project area consists of the following arterials and collectors (Table 4.13-1).

Table 4.13-1 Arterials and Collectors Within the Proposed Project Area

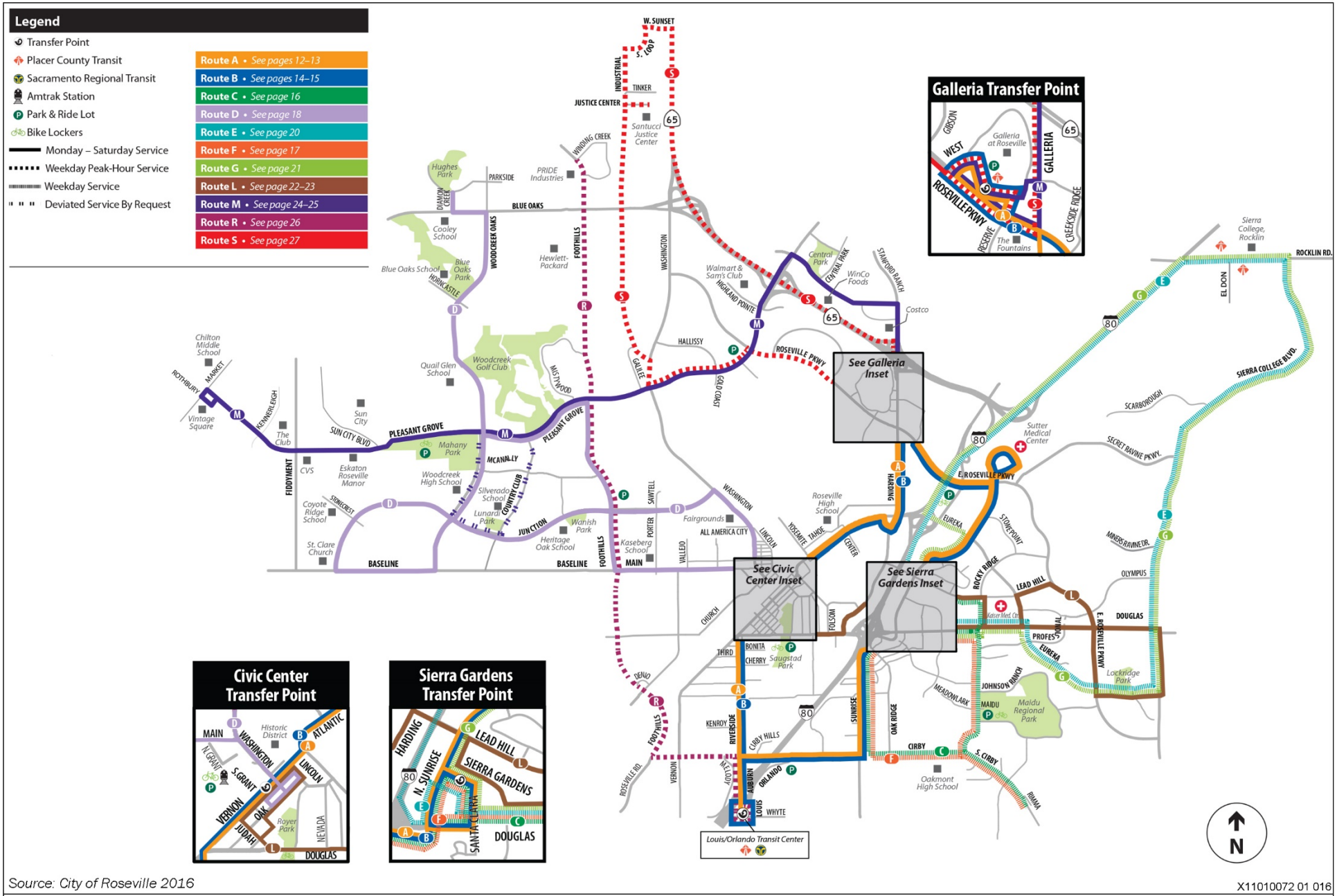
Arterials	Collectors
Cirby Way	Oak Ridge Drive
Riverside Avenue	Old Auburn Road (South Cirby to Sacramento County line)
Rocky Ridge Drive (south of Douglas Boulevard)	McLaren Drive
Sunrise Avenue	North Cirby Way

Source: Compiled by Ascent 2017.

TRANSIT FACILITIES

The City of Roseville operates Roseville Transit, which has a local fixed route service, a peak hour commuter service, and a dial-a-ride service. Roseville Transit provides approximately 435,000 trips annually (City of Roseville 2016:4.3-8). Roseville Transit routes are shown on Exhibit 4.13-1. Routes in the project area include A, B, C, and F.

Roseville Transit Commuter Service (commute service) is a fixed route weekday commute period service between Roseville and downtown Sacramento. Roseville Transit operates ten routes between Roseville and downtown Sacramento.



Source: City of Roseville 2016

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Exhibit 4.13-1

Roseville Transit Routes

ASCENT ENVIRONMENTAL

Roseville Transit Local Service (fixed route service) has 11 scheduled routes, most of which operate Monday through Friday from 5:45 a.m. to 10:00 p.m. and on Saturdays from 8:00 a.m. to 5:00 p.m. There are four transfer points where connections between buses can be made: Sierra Gardens, Galleria Mall, Civic Center, and Louis/Orlando. The Roseville Transit system connects to both Placer County Transit (at Galleria Mall and Louis/Orlando transfer points) and Sacramento Regional Transit (at Louis/Orlando transfer point).

Roseville Transit ADA Paratransit Service is an appointment service required by the Americans with Disabilities Act (ADA) for persons with disabilities preventing them from using Local Service. ADA Paratransit Service operates within a three-quarter mile radius of Local Service routes during Local Service hours.

Roseville Transit Dial-a-Ride (DAR) Service provides curb to curb appointment bus service within the City of Roseville for the general public, seven days a week. Roseville Transit dial-a-ride services operate Monday through Friday from 5:45 a.m. to 10:00 p.m. and on weekends from 8:00 a.m. to 5:00 p.m. (City of Roseville 2016:4.3-8).

PEDESTRIAN FACILITIES AND ON-STREET PARKING

The City of Roseville has an extensive network of pedestrian facilities. Most residential streets contain improved sidewalk facilities and crosswalks at intersections. Arterial roadways adjacent to existing residential development have wide sidewalks, often flanked by landscaping corridors.

The neighborhood streets surrounding the project site provide on-street parallel parking. The majority of the residential on-street parking is unrestricted, while adjacent commercial and office parking areas are restricted to customer and employee use.

BICYCLE FACILITIES

The City's existing bikeways are shown in Exhibit 4.13-2. Designated bikeways are specific routes that meet minimum local and state design standards. Roseville generally follows California Department of Transportation's (Caltrans) design standards for the following classes of bikeways:

- Class I bikeways are located within a completely separated ROW designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized. Class I bikeways are a minimum of 10 feet wide. A 2-foot graded area should parallel the bikeway on both sides, and the bikeway should be a minimum of 5 feet from an adjacent roadway.
- Class II bikeways are frequently referred to as on-street bike lanes. Class II bikeways consist of a restricted ROW designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with cross-flows by pedestrians and motorists permitted. Class II bikeways are typically 4–6 feet wide in Roseville and separated from vehicle traffic by a solid white stripe.
- Class III bikeways consist of on-street right-of-way designated by signs or permanent markings that is shared with motorists.

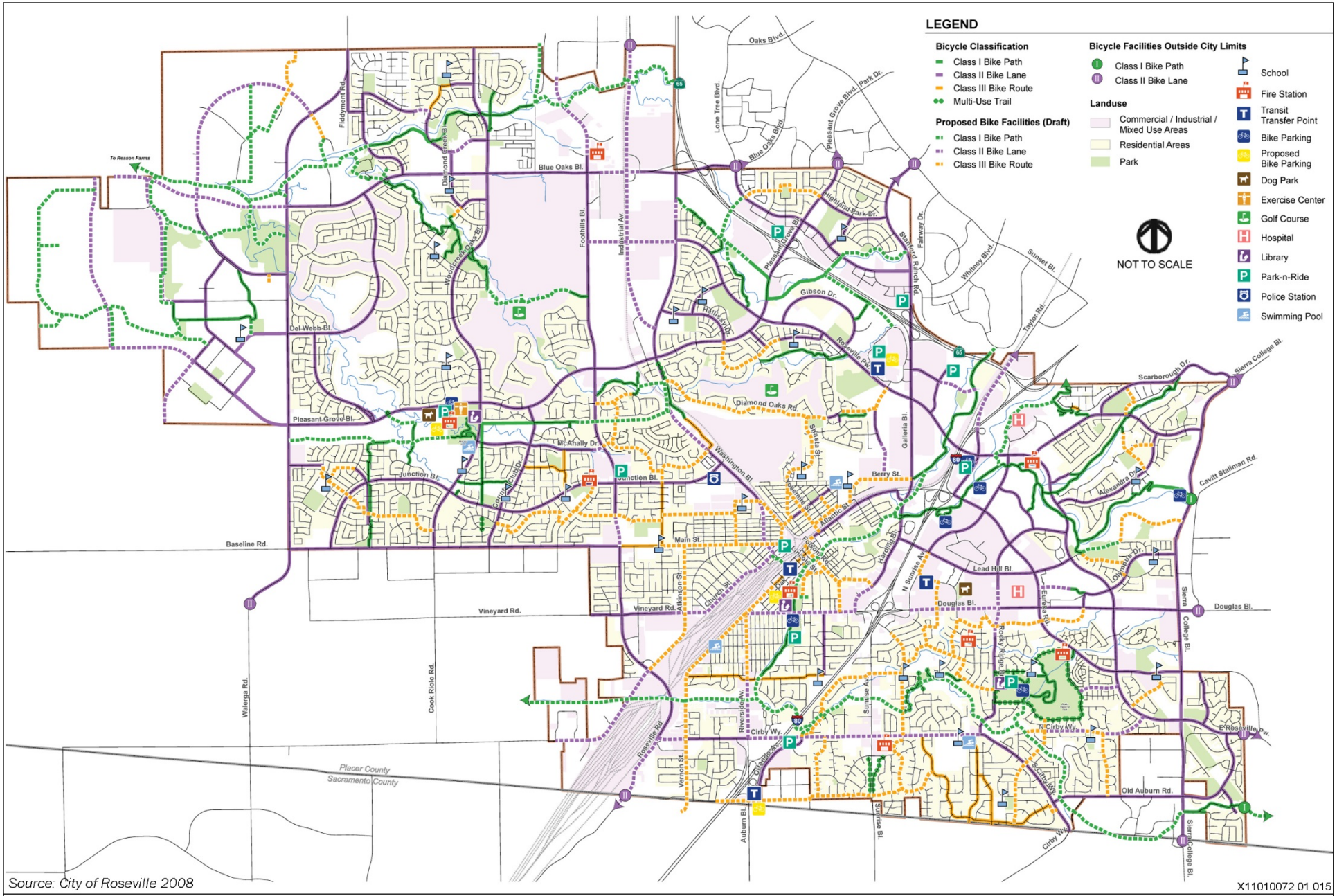

Exhibit 4.13-2

Existing and Proposed Bike Network

4.13.3 Regulatory Setting

FEDERAL AND STATE

There are no federal or state plans or policies addressing transportation and circulation that pertain to the project.

LOCAL

City of Roseville General Plan

Circulation Element - Bikeways and Trails
GOAL 1: Increase the percentage of all trips made by bicycles in Roseville.

GOAL 2: Establish and maintain a safe, comprehensive and integrated bikeway and trail system that encourages the use of bikes and walking for commuting, recreational and other trips.

GOAL 3: Establish education, encouragement and enforcement programs that increase bicyclist and motorist awareness of the rights and responsibilities of bicyclists in order to foster a climate of acceptance for bike riding.

GOAL 4: Obtain the Bicycle Friendly Community Designation from the League of American Bicyclists.

- **Policy 1:** Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.
- **Policy 2:** Coordinate Roseville's bikeway and trail system with those of neighboring jurisdictions to provide both local and regional connections.

Parks and Recreation Element
GOAL 2: Provide residents with both active and passive recreation opportunities by maximizing the use of dedicated park lands and open space areas.

- **Policy 12:** Ensure that new public parks and recreation facilities, open space, paseos, landscape areas and greenways provide adequate funding for initial development, as well as ongoing maintenance and operation.

Open Space and Conservation Element – Open Space System
GOAL 1: Establish a comprehensive system of public and private open space, including interconnected open space corridors that should include oak woodlands, riparian areas, grasslands, wetlands, and other open space resources.

GOAL 2: Utilize the open space system to connect neighborhoods and separate development areas within the City.

GOAL 3: Provide access to public open space areas through the establishment of a series of public linkages that will be adequately managed and protected.

GOAL 4: Integrate, where feasible, passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas

- **Policy 1:** Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.
- **Policy 2:** Provide interconnected open space corridors between open space and habitat resources, recreation areas, schools, employment, commercial service and residential areas.

Design and Construction Standards

The 2016 Design and Construction Standards (as amended in January 2017) require that roadway improvements within the City of Roseville conform to a set of standard plans that detail City standards for pavement width, lighting, drainage, sewer, and other roadside facilities.

Bicycle Master Plan

The Bicycle Master Plan (BMP) calls for the development of a comprehensive bikeway system that would provide connections between the City's major employment and housing areas and between existing and planned bikeways. The BMP was updated in 2008. It provides guidelines for the development of a city-wide network of bicycle facilities and design standards for new bicycle facilities in Roseville. The City periodically updates the BMP. The next planned update to the BMP will begin in 2018.

Bikeway Route Development Goal 1: Achieve a balanced transportation system that, consistent with the Roseville General Plan Circulation Element and Smart Choices for Roseville's Future: Implementation Strategies to Achieve Blueprint Project Objectives, provides Roseville residents a variety of transportation choices, including automobile, transit, bicycle, and pedestrian options.

Bikeway Route Development Goal 2: Establish a safe, comfortable, convenient and highly-connected bikeway system that meets the transportation and recreation needs of avid, regular, youth and beginning bike riders, while balancing the needs of other transportation types including automobiles, train, transit and pedestrians.

- **Policy 1:** To meet needs of the various bike rider types, each area of the City should include a range of bikeway types, including bike lanes on arterial streets, bike lanes on collector streets, bike routes on selected low volume/low speed streets and off-street bike paths.
- **Policy 2:** The bikeway system should provide convenient and comfortable connections between residential areas, schools, parks, public transit stops, shopping centers, employment centers and other uses.
- **Policy 3:** The City should cooperatively pursue connections to neighboring jurisdictions to ensure regional bicycle accessibility.

Environmental Goal 1: Reduce traffic, improve air quality, and reduce emissions that contribute to climate change by providing a viable commute alternative to the automobile.

Environmental Goal 2: Enhance public access to open space and natural areas while, to the extent feasible, minimizing the environmental impacts of off-street bike path projects.

- **Policy 3:** Coordinate and where feasible and beneficial partner bike trail projects with stream bank restoration, native habitat restoration, flood control projects and other related open space projects.
- **Policy 4:** Bike trails through open space may, where appropriate and feasible, include interpretive signs informing the public of the environmental resources present and directing users to behave in a manner that reduces impacts on the open space.
- **Policy 5:** Bike path planning, construction and maintenance should be consistent with the Roseville Creek & Riparian Management Plan and open space preserve management plans.
- **Policy 6:** Comply with applicable local, State and federal environmental regulations.
- **Policy 7:** Bike trail projects, to the extent feasible, should minimize environmental impacts.

Pedestrian Master Plan

The City of Roseville Pedestrian Master Plan was adopted by the City Council in 2011 to establish policies, projects, and programs that improve the pedestrian system in Roseville and increase walking for transportation, recreation, and health. The Pedestrian Master Plan includes goals, policies, and implementation measures for pedestrian improvements and programs; a recommended pedestrian network; and a Capital Improvement Program that establishes a 20-year framework for improvements to the pedestrian environment.

GOAL 1: Achieve a balanced transportation system that, consistent with the Roseville General Plan Circulation Element and Smart Choices for Roseville's Future: Implementation Strategies to Achieve Blueprint Project Objectives, provides Roseville residents a variety of transportation choices, including automobile, transit, bicycle, and pedestrian options.

- **Policy 1:** Provide continuous and direct pedestrian connections between residential areas, schools, shopping areas, public services, employment centers, parks, and public transit stops.

4.13.4 Impacts

METHODS OF ANALYSIS

Impacts associated with construction and use of the multi-use trail are evaluated by assessing the potential for addition of users under the proposed project to affect the level of service at those facilities and/or result in conflicts with vehicles. This analysis also determines whether use of the proposed multi-use trail could affect emergency access and whether addition of user types under the proposed project could conflict with alternative transportation policies, plans, or programs.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the project would result in a significant adverse effect related to transportation and circulation if it would:

- conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- conflict with an applicable congestion management program, including, but not limited to level of service (LOS) standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access; or
- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

Air Traffic Patterns

McClellan Airfield is the closest airport to the project site and is located approximately 7 miles southwest of the project's proposed trailhead. Lincoln Regional Airport is located approximately 12 miles to the north of the project's proposed trailhead. The project would not result in a change in air traffic patterns or contribute to an increase in demand for air travel. As a result, the issue is not evaluated further in this Draft EIR.

Level of Service

The proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. Therefore, the project, as a multi-use trail, would not add general vehicle trips to the project area.

It is possible that the proposed project could result in vehicle trips to the proposed trailhead parking area on Riverside Avenue, or to other available public parking areas near the project area such as on-street parking or Maidu Park. The trailhead and other public parking areas are easily accessed by the arterial and collector road network, and operational impacts to existing roadway's LOS is unlikely to be substantial. The timing of greatest trail use does not occur during the peak hours of traffic; trails tend to experience peak use during weekends (California State Parks 2012:4.15-5). Roadways and intersections, on the other hand, tend to experience peak congestion during morning and evening rush hours on weekdays. Therefore, the peak trail use periods would occur outside the peak traffic periods. Peak traffic hours typically provide the basis for the LOS standards.

While it cannot be known with certainty how many motor vehicle trips or vehicle miles traveled could be reduced by increased use of the proposed trail by bicyclists and pedestrians (in lieu of vehicle trips), over the long term it is expected that trail use would contribute to decreased motor vehicle travel.

IMPACT ANALYSIS

Impact 4.13-1	Safety-related traffic impacts.
Applicable Policies and Regulations	City of Roseville Design and Construction Standards and Community Design Guidelines Caltrans Highway Design Manual
Significance with Policies and Regulations	Proposed Project: Potentially significant Alignment Option 1A: Potentially significant Alignment Option 1C: Potentially significant Alignment Option 5A: Potentially significant
Mitigation Measures	Mitigation Measure 4.13-1 (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

Construction Impacts

Implementation of the proposed project would result in temporary construction traffic near the specific location where the trial is being built. During construction of the multi-use trail, there would be a temporary increase in construction-related traffic from deliveries of materials, import and export of fill material, and construction workers traveling to and from the project site. The level of construction activity would vary over the multi-year construction period and would start and stop at intervals within the specific trail segment under development. Construction activities would occur between June 15 and October 15,

because of California Department of Fish and Wildlife restrictions regarding work within creek banks and channel beds during the low-flow period.

The maximum number of workers commuting to the project construction site any given time would be approximately 15, which would be infrequent and of short duration. Additionally, approximately five truck trips per day would access the site for materials delivered or exporting fill material. The increase in construction worker commute trips and deliveries would be in addition to ongoing daily trips generated by recreational users. As noted in the alignment descriptions and shown on the eight plan sheets in Chapter 3, "Project Description," the proposed project would include construction staging areas where equipment would be temporarily stored during project construction. Construction and related truck traffic could temporarily interfere with travel by motorists, bicyclists, pedestrians, or transit riders, such as the need to pause and be attentive to construction vehicles entering or leaving a project site or staging area. The most likely outcome would be potential inconvenience, but the possibility of a traffic safety or operational effect would exist.

Use-related Impacts

The proposed project would include a trailhead with accompanying parking lot at the western end of the trail, off Riverside Avenue just south of Darling Way. The parking lot would include approximately 35 parking spaces. This would be the only parking lot developed in connection with the project. This section of Riverside Avenue is a commercial area where parking lots of similar sizes are common. The parking lot size would be typical for the area and designed consistent with City code for ease of entry and exit, thereby not affecting the flow of traffic on Riverside Avenue or increasing congestion.

An important consideration in safe driveway operations is sight distance. In California, the *Caltrans Highway Design Manual* is the primary reference used to determine sight distance requirements. This section of Riverside Avenue is a straight, flat roadway and at the entrance to the proposed lower parking area, sight distance would be more than 450 feet for all applicable turning movements. The new entrance driveway would be constructed in accordance with the *Caltrans Highway Design Manual*. Any roadway or parking improvements constructed as part of the proposed project would be subject to the City's Design and Construction Standards and Community Design Guidelines and would be reviewed by the City Engineering Division. Construction of a driveway in accordance with applicable design standards for adequate lines of sight would ensure the entrance to the trailhead parking lot would not alter traffic safety conditions due to a design feature.

Conclusion

The design of the trailhead parking lot and driveway entrance would conform to applicable standards and be consistent with traffic safety and operational requirements, so no significant traffic effects would occur from use of the trail and parking lot after completion of the trail and trailhead improvements. Construction activity with its related truck and worker traffic could temporarily interfere with travel by motorists, bicyclists, pedestrians, or transit riders. Although the primary consequence would be inconvenience, to require preparation of a traffic management plan for protection from temporary, adverse construction traffic safety or operational impacts, the transportation effects of construction traffic would be considered **potentially significant**.

Alignment Option 1A

Alignment Option 1A would begin north of Darling Way and would travel on the west side of Dry Creek. At the confluence of Dry Creek and Cirby Creek, this option would cross to the south side of Dry Creek and travel along the south side of Cirby Creek as the trail heads upstream. Construction-related traffic impacts under Alignment Option 1A would be slightly less than under the Proposed Trail Alignment because Bridge #4 would not need to be constructed, and therefore construction staging would not be required southwest of Machado Lane. The impact would be **potentially significant** for the same reasons discussed above for the Proposed Trail Alignment.

Alignment Option 1C
Alignment Option 1C would begin north of Darling Way and would travel on the east side of Dry Creek before crossing to the south side of Cirby Creek upstream of the confluence with Cirby Creek. Construction-related traffic impacts under Alignment Option 1C would be slightly less than under the Proposed Trail Alignment because Darling Bridge would not be widening, therefore a construction staging area north of Darling Way would not be required. The impact would be **potentially significant** for the same reasons discussed above for the Proposed Trail Alignment.

Alignment Option 5A
East of Eastwood Park, Alignment Option 5A would remain on the south side of Linda Creek until east of Sunrise Avenue before crossing to the north side of the creek, and Bridge #13 would not be included. Construction-related traffic impacts under Alignment Option 5A would be the same as under the Proposed Trail Alignment because the option would be located in the same general location and contain the same design elements as the Proposed Trail Alignment. The impact would be **potentially significant** for the same reasons discussed above for the Proposed Trail Alignment.

Mitigation Measures

Mitigation Measure 4.13-1: Prepare traffic management plan.
This mitigation would apply for the Proposed Trail Alignment, Alignment Options 1A, 1C, and 5A.

The City shall require the construction contractor to prepare for city approval and implement a traffic management plan before construction activities begin.

Before the beginning of construction on the project site, the contractor shall prepare a detailed traffic management plan that will be subject to review and approval by the City Department of Public Works. The plan shall ensure maintenance of safe and acceptable operating conditions for local roadways, bicycle and pedestrian facilities, and transit routes. The Traffic Management Plan shall regulate maintenance of traffic during each construction season and comply with agency standards to promote safe and efficient travel for the public and construction workers through the work zones. The plan shall include provisions for regular inspections to assess contractor compliance, signage to direct traffic, and public noticing, as appropriate. Methods in the plan may include (but are not limited to):

- appropriately sequencing activities (e.g., segment phasing, timing of grading, hours of construction) to minimize conflicts with traffic on affected roadways;
- maintaining traffic flow in the project area to the extent feasible;
- maintaining bicycle and pedestrian access along Riverside Avenue; and
- using flaggers to direct traffic, as needed, for ingress or egress of large trucks and other vehicles.

Significance after Mitigation
The Traffic Management Plan will include measures to ensure local traffic, including bicycle traffic and pedestrian use, is accommodated during construction and that traffic safety is maintained. This plan would include methods by which construction activities will be managed to minimize risk of traffic hazards related to large trucks. Therefore, implementation of Mitigation Measure 4.13-1 would reduce potentially significant impacts related to construction traffic to a **less-than-significant** level.

Impact 4.13-2	Conflict with an applicable plan, ordinance or policy which establishes measures of effectiveness for the performance of the circulation system or with an alternative transportation plan.
Applicable Policies and Regulations	City of Roseville 2008 Bicycle Master Plan City of Roseville Pedestrian Master Plan City of Roseville General Plan
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None required (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

As described in Chapter 3, "Project Description," the Purpose and Need Statement for the project states that "The Dry Creek Greenway trail is a vital component of the City of Roseville Bikeway and Trail system because it will provide a safe, comfortable, convenient, and highly connected bike route as an alternative to using City streets in an area of the City that is underserved by bicycle facilities." The City's 2008 BMP includes a plan for development of over 28 miles of Class I trails in Roseville, including the Dry Creek Greenway East Trail. The proposed project is identified as a priority project in the BMP, because of its potential to provide a safe, comfortable, and convenient bicycle route in an area of the City with limited existing options for bicyclists.

The proposed project has a number of opportunities for connections to the community and existing and proposed transportation facilities. Connections to other multi-use trails, on-street bikeways, neighborhoods, business districts and transit would increase trail access and promote trail use. Table 4.13-2 contains a list of existing connection and possibilities for future trail connections.

Table 4.13-2 Potential Circulation System Connections

Point of Connection	Facility Type	Purpose
Darling Way	Class III (e)	Connection to Riverside Avenue business district, Roseville Transit Routes A & B, and Hillcrest, Cherry Glen and Los Cerritos neighborhoods
Saugstad/Royer/ Miners Ravine Trails	Class I (e)	Connection to Miners Ravine Trail and Downtown Roseville, including Downtown transit stations, offering transportation and looped recreation opportunities
Riverside Avenue	Class I (p) & Class II (p)	Future trail connection to Atkinson Street, Morgan Creek, Dry Creek Parkway Ueda Parkway and Sacramento Northern Trails (part of regional looped trail system) Roseville Transit routes A & B
Hernandez/Machado Way	Class I (e)	Neighborhood connection to Hillcrest area
Cirby Hills Townhomes	Class I (p)	Neighborhood connection to residential community
Windscape Apartments	Class I (p)	Neighborhood connection to residential community
Marlin Drive	Class I/II (e)	Connection to Eastwood Park, Cirby Side neighborhood and Class II bike lane on Orlando Avenue, which connects to the Louis/Orlando transit station
Tina Way	Footbridge (e)	Connection to residential areas along Coloma Way
Sunrise Avenue	Class I (p)	Potential connection to Sunrise Avenue business district and Roseville Transit routes A, B & C
Meadow Gate Drive	Class I/III (p)	Potential connection to residential neighborhood

Table 4.13-2 Potential Circulation System Connections

Point of Connection	Facility Type	Purpose
Oakridge	Class III (e)	Connection to Meadow Oaks, Sierra Gardens and Cirby Ranch areas
Woodlake Lane	Class I (e)	Connections to Sierra Gardens Elementary School and Meadow Oaks area
Eich/Sierra Gardens Drive	Class I (e)	Connection to middle school and Sierra Gardens neighborhood
Meadowlark Lane	Class I (e)	Connection to Maidu Park and Sierra Gardens neighborhood
Rocky Ridge Drive	Class I/II	On-street and off-street connection to Maidu Park, including park-n-ride lot, Roseville Transit Route C, and Maidu/South Cirby neighborhoods
Champion Oaks/N. Cirby	Class III (e)	On-street connection to Maidu Park and Maidu/South Cirby areas
W. Colonial Parkway	Class III (p)	On-street connection to Maidu/South Cirby areas
Old Auburn Way	Class I/II (p)	Class III connection to Citrus Heights & future Class I regional connection to American River Parkway at Beals Point (part of regional looped trail system)

Note: (p) = proposed; (e) = existing

Class I = Off-Street Bike Paths, located in a separate right of way, for the exclusive use of bicycles and pedestrians, with minimal cross flow by motor vehicles.

Class II = On-Street Bike Lanes, areas within paved streets that are identified by striping and signs for preferential (semi-exclusive) bicycle use.

Class III = On-Street Bike Route, on-street routes where bikes share the road with cars.

Source: City of Roseville 2008

In addition, use of the multi-use trail project would be consistent with adopted policies and implementation measures in the City of Roseville General Plan and Sustainability Action Plan (see Section 4.6, "Greenhouse Gas Emissions and Climate Change") designed to reduce greenhouse emissions from mobile sources. Key policies and measures include:

- expanding the capacity of the system for alternate modes (General Plan, Air Quality and Climate Change Goal 4);
- providing adequate pedestrian and bikeway facilities for present and future transportation needs (General Plan, Air Quality and Climate Change Goal 5);
- encouraging alternative modes of transportation including pedestrian, bicycle, and transit usage (General Plan, Air Quality and Climate Change Policy 7);
- implementing the Bicycle Master Plan and Long-Range Transit Plan as specified in the Circulation Element (General Plan, Air Quality and Climate Change Element Implementation Measures, 7. Mitigation Strategies – Motor Vehicle Alternatives);
- providing safe pathways that link residential areas to schools, parks, services, and employment areas and transit facilities (General Plan, Air Quality and Climate Change Element Implementation Measures, 7. Mitigation Strategies – Motor Vehicle Alternatives); and
- various Bike and Pedestrian measures contained in the City's Sustainability Action Plan.

Conclusion

Generally, any increase in bicycle use would be consistent with the overarching goals and objectives of an alternative transportation plan, including the City BMP. The proposed project is identified as a priority project in the BMP. Therefore, the proposed project would be consistent with the City's alternative transportation plans, and this impact would be **less than significant**.

Alignment Option 1A

Alternative transportation plan impacts under Alignment Option 1A would be the same as under the Proposed Trail Alignment because the multi-use trail would be located in the same location and contain

the same design elements as the Proposed Trail Alignment. For the reasons described above for the Proposed Trail Alignment, this option would not a result in conflicts with alternative transportation plans and this impact would be **less than significant**.

Alignment Option 1C

Alternative transportation plan impacts under Alignment Option 1C would be the same as under the Proposed Trail Alignment because the multi-use trail would be located in the same location and contain the same design elements as the Proposed Trail Alignment. For the reasons described above for the Proposed Trail Alignment, this option would not a result in conflicts with alternative transportation plans and this impact would be **less than significant**.

Alignment Option 5A

Alternative transportation plan impacts under Alignment Option 5A would be the same as under the Proposed Trail Alignment because the multi-use trail would be located in the same location and contain the same design elements as the Proposed Trail Alignment. For the reasons described above for the Proposed Trail Alignment, this option would not a result in conflicts with alternative transportation plans and this impact would be **less than significant**.

Mitigation Measures

None required.

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4.14 UTILITIES

4.14.1 Introduction

This section describes the existing utilities and service systems that serve the project site and evaluates the proposed project's potential effect on these utilities.

No comments related to public utilities were received during public review of the Notice of Preparation.

4.14.2 Environmental Setting

REGIONAL AND LOCAL SETTING

The City of Roseville provides most of its own utilities, including: water, wastewater, reclaimed/recycled water, stormwater, electricity, and solid waste collection. Public utility providers in the City of Roseville are summarized in Table 4.14-1, below.

Table 4.14-1 Public Utility Providers in the City of Roseville

Service	Provider
Water services	City of Roseville San Juan Water District Placer County Water Agency
Wastewater services	City of Roseville
Flood control and drainage	City of Roseville
Solid waste	City of Roseville[1]
Electricity	City of Roseville (Roseville Electric Utility)
Natural gas	Pacific Gas and Electric
Street lighting and maintenance	City of Roseville
Cable television	Comcast, Consolidated Communications
Telephone	Consolidated Communications (formerly SureWest Communications)

1: Solid waste management services are provided by the Western Placer Waste Management Authority, of which the City is a partner.

Source: Roseville 2013

Water

The City obtains its water from Folsom Lake, which is part of the Central Valley Project operated by the U. S. Bureau of Reclamation. Water from Folsom Lake is treated at a plant east of the city limits and delivered to customers. Retail water demand for potable and raw water in the City's service area was 22,881 acre-feet in 2015 (Roseville 2016:4-3). Other contracts with the Placer County Water Agency and the San Juan Water District allocate an additional 34,000 acre-feet per year of water to the City for municipal and industrial purposes, and are relied upon to meet needs in excess of the water allocation through the Central Valley Project (Roseville 2013:VII-31). The City also maintains supplemental water supplies in a combination of groundwater wells, reservoirs, and interagency connections.

The water distribution system consists of water mains ranging in size from 4 to 66 inches in diameter. Pump stations provide sufficient water pressure to the higher elevations of the City and lift water into storage reservoirs. The system is designed to deliver an adequate supply of water throughout the community at an acceptable pressure level for domestic and fire flow purposes (Roseville 2013:VII-31). An existing water lines is located on the Darling Way Bridge and Sunrise Avenue Bridge.

Wastewater

The city's wastewater collection system is primarily a gravity flow system. Wastewater flows downhill in collector and trunk lines measuring up to 78 inches in diameter to the City's two regional treatment plants. Following treatment at the facilities, wastewater is either used as recycled water supply or discharged from the treatment plants into Dry Creek or Pleasant Grove Creek. The residual solids are transported to the Western Regional Sanitary Landfill located at the southwest corner of Athens Road and Fiddyment Road for disposal or are transported by a City-approved vendor for offsite land application.

Wastewater mains cross the project site in approximately 10 locations. Mains also roughly parallel the creeks within the project site along Cirby Creek north of Eastwood Park, along Linda Creek between approximately Eich Intermediate School and Rocky Ridge Drive, and at the eastern end of the project site from south of Champion Oaks Drive to Old Auburn Road (Exhibit 4.14-1). The existing improved and unimproved portions of the trail are used for infrastructure maintenance access for the City Environmental Utilities Department.

Stormwater

Stormwater in Roseville is directed via drain inlets into a series of underground pipes within roadways and other public parcels. These pipes outfall into the City creek system, at which point the water flows downstream. The amount of stormwater that enters the creek system increases as undeveloped ground is replaced by impervious surfaces. Linda Creek, Cirby Creek, and Dry Creek are part of the City's stormwater system. Stormwater mains enter the project site in over 20 locations from the adjoining neighborhoods and empty into the creeks.

Solid Waste

Collection of solid waste is conducted by the City of Roseville's Environmental Utilities Department. Following collection, waste is disposed of at the Western Regional Sanitary Landfill. The landfill is managed by the Western Placer Waste Management Authority, which was formed by the City of Roseville, the City of Lincoln, the City of Rocklin, and Placer County to provide solid waste management. The 231-acre landfill for non-hazardous (Class II and Class III) solid waste has capacity to accept solid waste through 2058 (CalRecycle 2016). The Solid Waste Facility Permit is reviewed every five years and is scheduled to next be reviewed in December, 2017 by Placer County Environmental Health. Hazardous materials are transported to Class I landfills outside of Placer County (Roseville 2013).

Electricity, Natural Gas, and Communications

Roseville Electric, the City's electric utility, obtains power from a variety of sources, including the Western Area Power Administration and the City's two natural gas generating facilities. The New Services section is responsible for the design and construction of the City of Roseville's 12kilovolt (kV) underground distribution system. This includes the coordination, design, and inspection of all new residential and commercial projects, 12kV mainline infrastructure, and roadway and pathway lighting. In 2009 Roseville Electric forecasted that electricity demand in 2018 would reach 1,635,476 megawatt hours (Roseville 2013:VII-24).

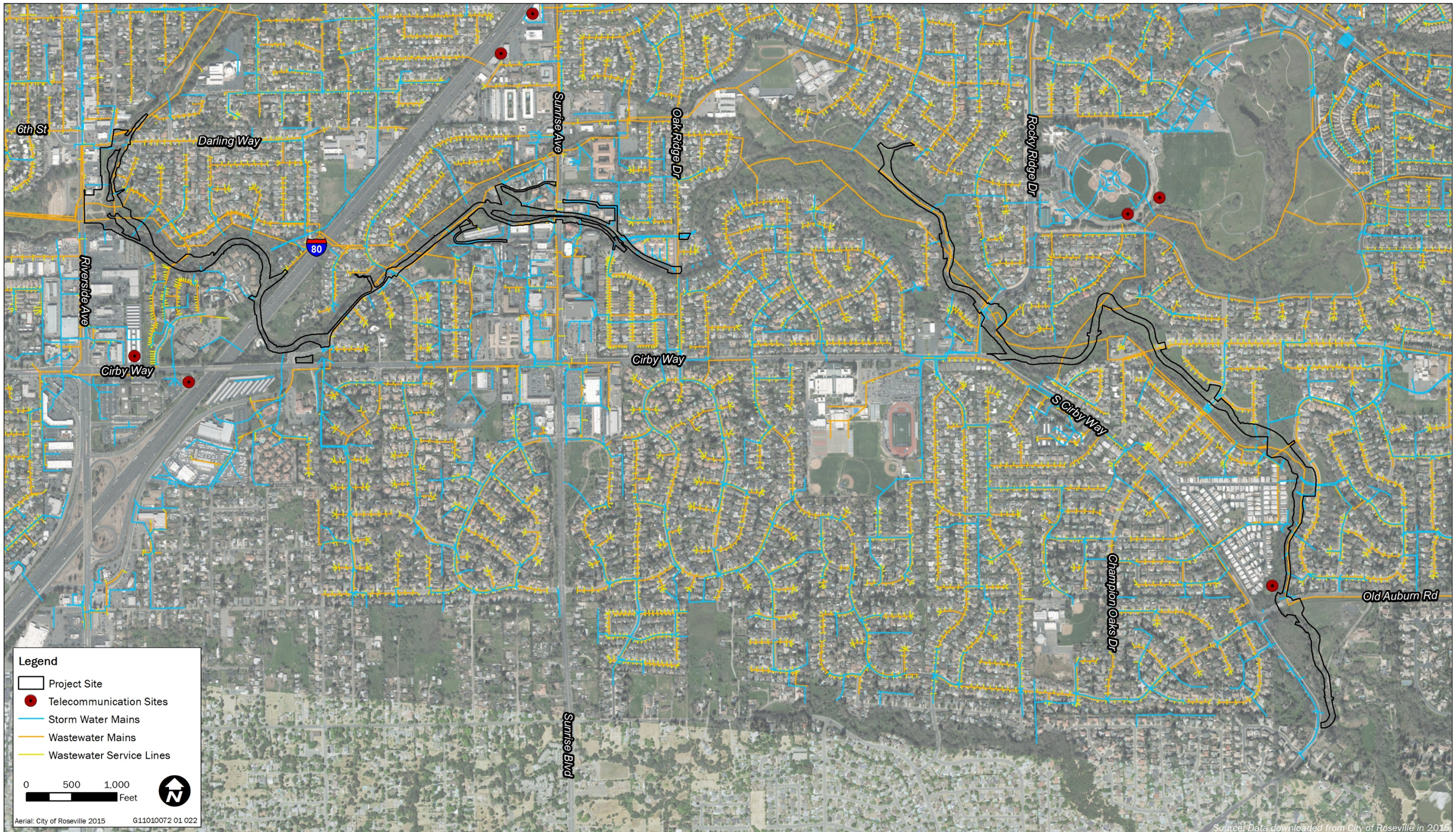

Exhibit 4.14-1

Utilities

ASCENT ENVIRONMENTAL

Pacific Gas and Electric provides natural gas to over 70,000 square miles of central and northern California. The Sacramento-Sierra Division serves over 1.3 million residents in Sacramento, Yolo, Solano, Colusa, Yuba, Sutter, Sierra, Nevada, Placer and El Dorado counties. There are no Pacific Gas and Electric gas transmission lines within the project site (PG&E 2016).

Consolidated Communications is a cable television, business and broadband communications provider serving customers across an 11-state service area (Consolidated Communications 2016). Comcast provides cable television to the area. Any number of alternative providers provide supplemental telephone, cellular, internet, and television service.

4.14.3 Regulatory Setting

FEDERAL

There are no federal regulations that pertain to public utilities that are applicable to the project.

STATE

Government Code Section 4216

California Government Code Section 4216 regulates excavations potentially affecting underground utilities including notification requirements by excavators, operator response requirements, and excavation practices. In accordance with Section 4216.1 every operator of a subsurface installation –such as water lines, gas lines, and sewer lines– must become a member of, participate in, and share in, the costs of a regional notification center. Underground Service Alert Northern California provides services to the study area. Any person planning to conduct an excavation must contact the regional notification center prior to commencing excavation (Section 4216.2). The operator of the utility must respond by locating and field marking the utility that may be affected by excavation (Section 4216.3). Section 4216.4 requires that the excavator determine the location of subsurface installations before using power driven equipment for excavating or boring, and requires the excavator to notify the operator or emergency services, as appropriate, in the event damage is discovered or caused by the excavator. Compliance with Section 4216 is required before commencement of excavation.

LOCAL

City of Roseville General Plan

The Roseville General Plan Public Facilities Element establishes standards for utility services within the City, including the following policies that relate to the proposed multi-use trail project:

Public Facilities Element – Water System

GOAL 1: Maintain a water system that adequately serves the existing community and planned growth levels, ensuring the ability to meet projected water demand and to provide needed improvements, repairs, and replacements in a timely manner

GOAL 2: Provide water services to all existing and future Roseville water utility customers. The provision of services by another provider may be considered where it is determined that such service is beneficial to the City and its utility customers or the provisions of City services is not feasible.

- **Policy 1:** Secure sufficient sources of water to meet the needs of the existing community and planned growth.
- **Policy 2:** Provide sufficient water treatment capacity and infrastructure to meet projected water demand.

- **Policy 3:** Initiate, upon 75 percent of treatment capacity, expansion studies to determine necessary improvements to meet projected water demand.

City of Roseville Municipal Code

14.08.130 Use of water for construction purposes
It is unlawful for any person to use the water service of another for construction purposes without first obtaining a permit from the environmental utilities director and the consent of the other person. All water service for construction purposes shall be metered as provided by Section 14.08.090, unless the environmental utilities director approves alternate measuring methods. All persons doing work on the public streets, public easements or rights-of-way, existing or proposed, shall apply for and be issued a permit prior to drawing water or obtaining service for construction purposes such as for the settling of earth, rock, gravel or dust.

City of Roseville Design/Construction Standards

The City of Roseville created Design and Construction Standards to provide the design engineers and contractors a reference to the City's requirements for the design and construction of civil improvement projects within the City of Roseville. It is the responsibility of the design engineers and contractors to be familiar with these standards. The Design Standards (which were last updated in January 2016) include specifications for grading, drainage, and bikeway design.

4.14.4 Impacts

METHODS OF ANALYSIS

The following analysis is primarily qualitative in nature because of the limited potential for trail construction or use to result in substantial utility usage and based on the conclusion in Section 5.2, "Growth Inducing Impacts," that the project would not induce growth that would increase utility demand.

The analysis assumes that there would not be restrooms at the trailhead or along the trail. Although there would be a drinking water fountain and shade trees at the trailhead, which would be irrigated with water supplied by the City, there would not be widespread irrigation for revegetation establishment. Therefore, the project would result in limited demand for water and would not generate wastewater.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the proposed project was determined to result in a significant impact to utilities and service systems if it would:

- not meet the wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects;
- require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- have insufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded resources are needed;
- result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

- be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- not comply with federal, state, and local statutes and regulations related to solid waste.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

Wastewater Capacity and Treatment

The project would not generate wastewater during construction or use either directly (through use of water) or indirectly (by increasing population in the project vicinity). There would be no additional wastewater flows as a result of project development. Portable restrooms provided for construction crews during the construction period would be serviced by a contractor and wastewater would be taken offsite. Thus, no impacts would occur related to wastewater treatment capacity, meeting wastewater treatment requirements, or construction of new water or wastewater treatment facilities or expansion of existing facilities.

Natural Gas and Communications Demand

The project would not include elements that would result in demand for natural gas or communications facilities. These issues are not discussed further.

IMPACT ANALYSIS

Impact 4.14-1	Insufficient water supplies available to serve the project from existing entitlements and resources, or result in the construction of new water treatment facilities.
Applicable Policies and Regulations	General Plan Roseville Municipal Code (14.08.130)
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

Construction activities would use water to prepare concrete, to increase the water content of soil to optimize compaction, to control dust, and to re-seed disturbed areas. Water would be obtained from existing hydrants in public rights-of-way or trucked into areas not served by public water lines. Water used for compaction and dust control would be provided via water truck from offsite sources. Minimal water would be required following project construction to establish and maintain landscape trees at the trailhead, and provide drinking water fountains at the trailhead. The proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. Therefore, the project would not generate an increased demand for water or water treatment related to use of the trail. The project would not result in the need for new or expanded water supplies or construction of new water treatment facilities.

Conclusion

Existing entitlements and resources would have sufficient capacity to support construction and use of the trail. This impact would be **less than significant**.

Alignment Option 1A
The modified trail alignment proposed under Option 1A would not alter the quantity of water required by the project. For the reasons described above for the Proposed Trail Alignment, existing entitlements and resources would have sufficient capacity to support construction and use of the trail. This impact would be **less than significant**.

Alignment Option 1C
The modified trail alignment proposed under Option 1C would not alter the quantity of water required by the project. For the reasons described above for the Proposed Trail Alignment, existing entitlements and resources would have sufficient capacity to support construction and use of the trail. This impact would be **less than significant**.

Alignment Option 5A
The modified trail alignment proposed under Option 5A would not alter the quantity of water required by the project. For the reasons described above for the Proposed Trail Alignment, existing entitlements and resources would have sufficient capacity to support construction and use of the trail. This impact would be **less than significant**.

Mitigation Measures

None required.

Impact 4.14-2	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
Applicable Policies and Regulations	Design/Construction Standards
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment
As discussed further in Section 4.8, “Hydrology and Water Quality,” the proposed project would increase the amount of impervious surface within the project site; reducing the amount of infiltration and increasing runoff volume. The impervious surface of the proposed trail would be a narrow linear feature surrounded by a natural area having soils with high to moderate infiltration rates. Stormwater from the proposed trail would runoff as sheet flow into the adjacent natural areas and infiltrate into the soil. The project would be required to install and maintain permanent post-construction water quality best management practices (BMPs), such as revegetation and stabilization of disturbed areas and contouring to mimic natural drainage patterns, in accordance with the Stormwater Pollution Prevention Plan (SWPPP) prepared in compliance with the City of Roseville Grading Permit and the State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) permit.

Construction Impacts
Construction of the multi-use trail would not result in the need for the construction of new stormwater drainage facilities or the expansion of existing facilities. As described in Section 4.8, “Hydrology and Water Quality,” both the City of Roseville Grading Permit and the NPDES permit require the preparation of a SWPPP, which although intended mainly to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges, would

also result in the implementation of measures to manage temporary stormwater discharges during the construction process. The SWPPP would be submitted to the City of Roseville and the Central Valley Regional Water Quality Control Board in conjunction with submission of the Improvement and Grading Plans and National Pollutant Discharge Elimination System permit. City staff would review the SWPPP to ensure that it meets the requirements of the City's municipal stormwater permit and the City's Urban Stormwater Quality Management and Discharge Control Ordinance (see Section 4.8, "Hydrology and Water Quality"). During construction, City staff would conduct regular inspections of the site to verify that effective stormwater BMPs and implemented and maintained.

Use-related Impacts

The rate and volume of stormwater leaving the project site would slightly increase from the existing condition as result of constructing the trail, which would involve expanded areas of impervious surface. The project would result in the permanent disturbance of 10.86 acres (see Impact 4.5-2 in Section 4.5, "Geology and Soils"), approximately 5.75 acres of which would replace existing surfaces with impervious surfaces. Because the new impervious surface area would be small in proportion to the Dry Creek watershed, and because most of the runoff from the trail would tend to infiltrate into the adjoining soil, there would be no need for the construction or expansion of new offsite stormwater infrastructure. Within the project site, the proposed trails may result in the need for new, and in some cases modified, drainage facilities. These would primarily be drainage swales with underground pipes spaced at intervals to convey surface water from the uphill side of the trail to the downhill side. These facilities are included in the description of the project and analyzed throughout this EIR.

Further, the Design/Construction Standards include Best Manage Practices to address the environmental effects associated with storm water drainage. The City's adopted Findings for Mitigating Policies and Standards include a determination that the requirements of the Design/Construction Standards would mitigate this potential impact to a less-than-significant level (City of Roseville 2003). In addition, the proposed trail would also serve as a paved, all-weather access for City maintenance crews to remove blockages within the stream channel, which would have the beneficial effect of facilitating the City's ability to maintain conveyance of stormwater.

Conclusion

Prior to construction a SWPPP would be prepared and City staff would conduct regular inspections of the site to verify that effective stormwater BMPs are implemented and maintained. The proposed project would not alter existing drainage patterns except for the installation of drainage swales where needed to ensure slope stability, as required by City of Roseville Design Standards. Therefore, the proposed project would have a **less-than-significant** impact on stormwater drainage.

Alignment Option 1A

Alignment Option 1A would be subject to the same requirements for preparation of a SWPPP to manage stormwater during construction and use as the Proposed Trail Alignment. Further, as described above for the Proposed Trail Alignment, the new impervious surface area would be small in proportion to the Dry Creek watershed. And, because most of the runoff from the trail would tend to infiltrate into the adjoining soil, there would be no need for the construction or expansion of new offsite stormwater infrastructure. For the reasons described above for the Proposed Trail Alignment, this option would not result in the construction of new stormwater drainage facilities or expansion of existing facilities, and the impact would be **less than significant**.

Alignment Option 1C

Alignment Option 1C would be subject to the same requirements for preparation of a SWPPP to manage stormwater during construction and use as the Proposed Trail Alignment. Further, as described above for the Proposed Trail Alignment, the new impervious surface area would be small in proportion to the Dry Creek watershed. And, because most of the runoff from the trail would tend to infiltrate into the adjoining soil, there would be no need for the construction or expansion of new offsite stormwater infrastructure. For the reasons described above for the Proposed Trail Alignment, this

option would not result in the construction of new stormwater drainage facilities or expansion of existing facilities, and the impact would be **less than significant**.

Alignment Option 5A

Alignment Option 5A would be subject to the same requirements for preparation of a SWPPP to manage stormwater during construction and use as the Proposed Trail Alignment. Further, as described above for the Proposed Trail Alignment, the new impervious surface area would be small in proportion to the Dry Creek watershed. And, because most of the runoff from the trail would tend to infiltrate into the adjoining soil, there would be no need for the construction or expansion of new offsite stormwater infrastructure. For the reasons described above for the Proposed Trail Alignment, this option would not result in the construction of new stormwater drainage facilities or expansion of existing facilities, and the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 4.14-3	Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs or fail to comply with federal, state, and local statutes and regulations related to solid waste.
Applicable Policies and Regulations	City of Roseville Design/Construction Standards
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

Construction Impacts

Clearing vegetation and removal of existing asphalt and gravel during construction would generate small amounts of solid waste, but this would not measurably affect landfill capacity because the amounts would not be substantial and would occur over a short period of time. Solid waste would be disposed of at the Western Regional Sanitary Landfill, which complies with all federal, state, and local regulations. As specified in the City's Design/Construction Standards for solid waste (Section 151), the City would ensure that its contractor meets with the designated Roseville Environmental Utilities inspector prior to beginning work to ensure that an approved plan is in place to store and dispose of all construction debris, according to relevant federal, state, and local statutes.

Use-related Impacts

As stated above, the proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. Therefore, the project would not generate an increased demand for solid waste disposal related to a new population. Trash receptacles would be located at the trailhead. The amount of trash collected would be minimal and would not substantially reduce the lifespan of the Western Regional Sanitary Landfill.

Conclusion

Solid waste generated by construction and use of the multi-use trail would be minimal. This impact would be **less than significant**.

Alignment Option 1A
Option 1A would not substantially alter the potential for construction of the trail to produce construction debris and would have no effect on the availability of trash receptacles at the trailhead. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Alignment Option 1C
Option 1C would not substantially alter the potential for construction of the trail to produce construction debris and would have no effect on the availability of trash receptacles at the trailhead. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Alignment Option 5A
Option 5A would not substantially alter the potential for construction of the trail to produce construction debris and would have no effect on the availability of trash receptacles at the trailhead. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Mitigation Measures

None required.

Impact 4.14-4	Result in a substantial increase in electrical demand.
Applicable Policies and Regulations	None
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment
Lighting would be installed where the trail passes under roadways and would be covered for a substantial span, such as the Interstate 80 and Rocky Ridge Drive undercrossings. Lights could also be installed on the bridges, at at-grade road crossings (Oakridge Drive, N. Cirby Way, Champion Oaks Drive), and in the trailhead parking lot. Conventional high-pressure sodium streetlights typically draw between 70 and 200 watts apiece for an average of 11 hours per day. If high-efficiency light-emitting diodes (LED) models are used, energy savings of 56 to 62 percent could be expected compared to high-pressure sodium streetlights (Sunnyvale et al. 2009). New lighting would connect to existing infrastructure. If required, conduit would be extended during grading for trail construction and would be placed under the trail shoulders.

In California, the household average daily energy consumption used for lighting is 3,804 watt-hours (U.S. Department of Energy 2012). Conservatively assuming a maximum of eight lights at the trailhead parking lot, four lights at the two identified undercrossings and at each of the eight bridges and three at-grade crossings, there would be 60 lights drawing a maximum of 12,000 watt-hours daily. If LED lights are used, this demand could be reduced to 5,280 watt-hours. Therefore, use of the project would result in a similar energy demand for lighting as between 1.4 to 3.2 residences.

Conclusion
The amount of electricity needed for the proposed lights would not have a substantial effect on electricity demand. This impact would be **less than significant**.

Alignment Option 1A
Option 1A would not substantially alter the electrical demand of the trail, although this option would require one less bridge, which would result in a nominal decrease in electricity demand because of fewer lights. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Alignment Option 1C
Option 1C would not substantially alter the electrical demand of the trail. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Alignment Option 5A
Option 5A would not substantially alter the electrical demand of the trail. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Mitigation Measures
None required.

Impact 4.14-5	Disrupt existing utility service.
Applicable Policies and Regulations	PRC 4216
Significance with Policies and Regulations	Proposed Project: Less than significant Alignment Option 1A: Less than significant Alignment Option 1C: Less than significant Alignment Option 5A: Less than significant
Mitigation Measures	None (Proposed Project, Option 1A, Option 1C, Option 5A)
Significance after Mitigation	Less than significant (Proposed Project, Option 1A, Option 1C, Option 5A)

Proposed Trail Alignment

Construction Impacts
Effects on utilities during construction could include lack of access to existing utilities, accidental disruption or utility rupture, and planned outages and relocations. No high priority utilities, as described in California Government Code, Section 4216 and adopted in the California Department of Transportation *Project Development Procedures Manual* (2016), including high-pressure natural gas lines, petroleum pipelines, pressurized sanitary sewer pipelines, electric supply lines over 60 kV, and hazardous materials pipelines that are potentially harmful to workers or the public if damaged, have been identified on the project site. Where utility lines are located within the project site, construction activities could temporarily interfere with the ability of City Public Works Department staff to perform maintenance activities. However, the project would be required to follow the City's project processing guidelines, which includes early consultation with all City service providers related to potential temporary obstruction of access.

Constructing the Dry Creek Greenway East Trail Project could result in scheduled and accidental interruptions of utility services. The City would positively locate public utilities within the potential impact area (by probing, potholing, electronic detection, as-built designs, or to other means) prior to construction, in compliance with state law (i.e., California Government Code 4216). The potential for disruption of utility systems during construction is low because of the established practices of utility identification.

Utilities along the corridor that would require relocation or modifications during construction include an existing sewer trunk line. Where the Proposed Trail Alignment crosses or parallels the sewer line, adjustments to the grade of the trail or manholes may be needed, or the trail alignment would be shifted slightly to avoid the manholes. Other facilities including water, telecommunications, and gas lines may also require relocation and/or adjustments of valves and manholes to grade.

Existing gas and water lines at the Darling Way Bridge and Sunrise Avenue Bridge would need to be relocated. Standard, mandatory construction techniques have been established to identify and avoid conflict with, or disruption of, existing utilities. Identification of utilities in this manner is a standard condition of construction approvals. Therefore, although the project would require the relocation of existing utility facilities and would occur in an area that includes underground utilities, because the exact location of all utility lines within project boundaries would be required to be identified before grading or earthmoving activities, contractors would avoid conflicts with these utilities. Relocations would occur in coordination with the resource provider to limit the potential for temporary service disruptions to the greatest extent possible.

Use-related Impacts

Utilities within the permanent project footprint would be either relocated or modified so that there is no damage or impairment to the use of these utilities. During use, the project would limit the potential for lengthy outages. Since Class I trails are designed to facilitate maintenance vehicle access to open space per the City's Design/Construction Standards, establishing trails in proximity to utility lines would benefit maintenance and emergency access to the lines.

Conclusion

Although the project would require the relocation of existing utility facilities, relocations would occur in coordination with the resource provider to limit the potential for temporary service disruptions to the greatest extent possible. The project would also be designed to facilitate maintenance vehicle access to benefit maintenance and emergency access to the lines. This impact would be **less than significant**.

Alignment Option 1A

Option 1A would not substantially alter the potential for the trail to conflict with existing utilities. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Alignment Option 1C

Option 1C would not substantially alter the potential for the trail to conflict with existing utilities. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Alignment Option 5A

Option 5A would not substantially alter the potential for the trail to conflict with existing utilities. The impact would be **less than significant** for the same reasons discussed above from the Proposed Trail Alignment.

Mitigation Measures

None required.

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5 OTHER CEQA CONSIDERATIONS

5.1 CUMULATIVE IMPACTS

The State CEQA Guidelines (Section 15130) requires that an environmental impact report (EIR) discuss cumulative impacts of a project and determine whether the project's incremental effect is "cumulatively considerable." The definition of cumulatively considerable is provided in Section 15065(a)(3):

> "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to the State CEQA Guidelines (Section 15130[b])

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this EIR, the project would have a significant cumulative effect if it meets either one of the following criteria:

- The cumulative effects of related projects (past, current, and probable future projects) without the project are not significant but the project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- The cumulative effects of related projects (past, current, and probable future projects) without the project are already significant and the project represents a considerable contribution to the already significant effect. The standards used herein to determine "considerable contribution" are that the impact either must be substantial or must exceed an established threshold of significance.

Mitigation measures are to be developed, where feasible, that reduce the project's contribution to cumulative effects to less than considerable.

5.1.1 Geographic Scope of the Cumulative Analysis

The analysis of cumulative environmental impacts associated with development of the proposed project addresses the potential incremental impacts of the project in combination with those of other past, present, and probable future projects and land use changes. The geographic area that could be affected by development of the proposed project varies depending on the type of environmental resource being considered. The general geographic area associated with various environmental effects of construction and operation of the proposed project defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Table 5-1 presents the general geographic areas associated with the different resources addressed in this Draft EIR and evaluated for this cumulative analysis.

Table 5-1 Geographic Scope of Cumulative Impacts

Resource Issue	Geographic Area
Aesthetics	Local (immediate project vicinity)
Air Quality	Regional (Sacramento Valley Air Basin —pollutant emissions that have regional effects) Local (immediate project vicinity—pollutant emissions that are highly localized)
Biological Resources	Regional (Central Valley)
Cultural Resources	Regional (Central Valley)
Geology and Soils	Local (immediate project vicinity)
Greenhouse Gas Emissions and Climate Change	Global
Hazards and Hazardous Materials	Local (immediate project vicinity)
Hydrology and Water Quality	Local (immediate project vicinity—local watershed)
Land Use and Planning	Local (City of Roseville)
Noise	Local (immediate project vicinity)
Public Services	Local (City of Roseville)
Recreation	Local (City of Roseville)
Utilities	Regional (regional utility area)

Source: Data compiled by Ascent Environmental in 2015

5.1.2 Analysis of Cumulative Impacts

Aesthetics

Cumulative Impact 4.1-1: Substantially degrade the visual character or quality of the site and its surroundings.

Aesthetic and visual resources impacts are project-specific and highly localized. The proposed project would be aligned within the creek corridors of developed neighborhoods and business districts in the City of Roseville. With the exception of a few scattered parcels, the properties surrounding the creek corridors are fully developed. The properties adjacent to the proposed trail corridor include a mix of residential, commercial, parks, open space and public/quasi-public uses. Because of the project site's topography and vegetation, future projects outside of the immediate project vicinity, which is largely developed, would not be visible in combination with the proposed project. Therefore, the proposed project and alignment alternatives would not result in a considerable contribution to the cumulative degradation of the visual character or quality of the site. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.1-2: Create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

The project may include lit undercrossings in locations where the trail passes under roadways, including Darling Way east of Riverside Avenue, Interstate 80 (I-80) north of Cirby Way, Sunrise Avenue south of Coloma Way, Rocky Ridge Drive north of Cirby Way, and Old Auburn Road north of South Cirby Way. Bridges may also be illuminated and would have a weathered steel finish to blend into the natural environment and not cause glare. Lighting may also be installed at the trailhead parking lot and at-grade roadway crossings to enhance visibility of bicyclists and pedestrians to motorists. Lighting of the complete trail alignment is not proposed. In adherence with adopted City standards, all

proposed lighting would be limited to the amount required to safely illuminate roadways and sidewalks. Therefore, project lighting would be localized and would not contribute considerably to cumulative increases in light or glare. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Air Quality

Cumulative Impact 4.2-1: Short-term construction-generated emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Ozone impacts are the result of cumulative emissions from numerous sources in the region and transported from outside the region. Ozone is formed in chemical reactions involving oxides of nitrogen (NO_X), reactive organic gases (ROG), and sunlight. All but the largest individual sources emit NO_X and ROG in amounts too small to have a measurable effect on ambient ozone concentrations by themselves. However, when all sources throughout the region are combined, they can result in ambient concentration of ozone that exceed the national and state standards. PM_{10} and $PM_{2.5}$ have a similar cumulative regional emphasis when particulates are entrained into the atmosphere and build to unhealthful concentrations over time. PM_{10} and $PM_{2.5}$ also have the potential to cause local impacts during periods of dry conditions accompanied by high winds and during periods of heavy earth disturbing activities. PM_{10} and $PM_{2.5}$ may have cumulative local impacts if, for example, several unrelated grading or earth moving activities are underway simultaneously at nearby sites. Operational-related PM_{10} and $PM_{2.5}$ are less likely to result in local cumulative impacts as operational sources of PM_{10} and $PM_{2.5}$ tend to be spread throughout the region (i.e., vehicles traveling on roads), not affecting any one receptor. Therefore, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ from cumulative development are significant in the air basin; the discussion below addresses whether the project's contribution of these criteria air pollutants and precursors are considerable.

Table 4.2-3 summarizes the daily emissions of ROG and NOx from project construction estimated for each year of construction activity. Emissions generated by construction would be below Placer County Air Pollution Control District's (PCAPCD) recommended CEQA project-level significance thresholds of 82 lbs/day of ROG and 82 lbs/day of PM_{10}. However, construction emissions would exceed PCAPCD's recommended CEQA project-level significance threshold of 82 lbs/day of NO_x. Implementation of Mitigation Measure 4.2-1 would reduce the magnitude of this impact to a less-than-significant level. Because the area surrounding the proposed project and alternate alignments is mostly built out and because construction emissions would be temporary, the short-term construction-generated emissions would not result in a considerable contribution to a cumulative impact. This cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.2-2: Long-term use-related emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Over the long term, the proposed multi-use trail with accompanying parking lot is expected to decrease motor vehicle travel. Emissions generated by trail use would be below PCAPCD's project-level significance thresholds, and the project would not substantially contribute to air pollutant concentrations that exceed the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS). Therefore, the proposed project and alignment alternatives would not contribute to a cumulative increase in emissions, and this cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.2-3: Generation of local mobile-source CO emissions.

Concentrations of carbon monoxide (CO), which are examined under Impact 4.2-3, are pollutants of localized concern because CO disperses rapidly with distance from the source under normal meteorological conditions. Thus, it is unlikely that the concentration of CO at a single receptor would be the result of more than one source of CO, unless multiple sources of CO are located close together. The analysis under Impact 4.2-3 examines whether changes in vehicle trips generated under the

proposed project could result in localized CO concentrations that exceed the NAAQS and CAAQS for CO. The analysis determined that, over the long term, it is expected that trail use would contribute to decreased motor vehicle travel. Therefore, the proposed project would not result in a considerable contribution to a cumulative impact. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.2-4: Exposure of sensitive receptors to toxic air contaminant (TAC) emissions.

Toxic air contaminants (TACs), which are examined under Impact 4.2-4, are also pollutants of localized concern. Diesel particulate matter emissions are the primary TAC of concern regarding the construction and operation of new urban land uses and infrastructure. The project would not be a substantial source of TAC emissions. However, a portion of the proposed trail improvements would be located near or directly adjacent to the I-80 freeway, which could result in the exposure of trail users to mobile source TAC emissions. The exposure period of trails users would be relatively short and temporary in nature. Therefore, the proposed project would not result in a considerable contribution to a cumulative impact. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Biological Resources

Generally, the geographic extent of cumulative impacts on biological resources consists of the City of Roseville, western Placer County and the Central Valley region of California that supports similar biological resource values and functions to those of the project area. Past and present actions by humans have substantially altered biological resources in the Central Valley region of California. Past, present, and foreseeable future urbanization in Roseville and western Placer County has contributed substantially to the loss of grassland, wetland, and agricultural habitats that are important to many species in the region.

Cumulative Impact 4.3-1: Disturbance and loss of waters of the United States, waters of the state, and riparian habitat.

Executive Order 11990, Protection of Wetlands (1997), calls for no net loss of habitats referred to as wetlands and established a policy to avoid adverse effects on wetlands wherever there is a practicable alternative. Permanent impacts to jurisdictional wetlands would be mitigated with implementation of Mitigation Measure 4.3-1 to comply with the Clean Water Act and the standard of no net loss of wetlands. Additionally, impacts to wetlands and other waters and associated riparian habitat have been minimized during project design and is limited to bridge footings and stream bank stabilization/restoration measures intended to increase habitat function over the long term. The project would not isolate or fragment any wetlands or other waters, or change the function of the urban creek corridor. As a result of the mitigation to achieve no net loss of wetlands, and project design to ensure minimal wetlands impacts, the project contribution to the cumulative loss of wetlands and Waters would not be cumulatively considerable, and this cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.3-2: Interfere substantially with the movement of Central Valley steelhead and Central Valley fall-run Chinook salmon.

With avoidance and implementation of minimization measures, the proposed project would not substantially affect the distribution, population viability, or the regional population of Central Valley Steelhead, or Central Valley fall-run Chinook salmon; or cause a change in species diversity locally or regionally. Construction-related effects would be temporary and would be minimized with implementation of Mitigation Measure 4.3-2. Therefore, the project's contribution to the cumulative impact would not be cumulatively considerable, and this cumulative impact would be less than significant with mitigation for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.3-3: Disturbance or loss of Valley Elderberry Longhorn Beetle or its habitat.

With avoidance and implementation of Mitigation Measure 4.3-3, the proposed project would not substantially affect the distribution, population viability, or the regional population of valley elderberry longhorn beetle; or cause a change in species diversity locally or regionally. Therefore, the project's contribution to the cumulative impact would not be cumulatively considerable, and this cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.3-4: Disturbance or loss of Swainson's hawk, white-tailed kite, and other nesting raptors; Cumulative Impact 4.3-5: Disturbances to special-status song birds; Cumulative Impact 4.3-6: Disturbance or loss of Western pond turtle; and **Cumulative Impact 4.3-7: Disturbance or loss of special-status bats – pallid bat and silver-haired bat.**

The proposed project would result in the construction and operation of a multi-use trail in areas that provide suitable habitat for special-status wildlife, as addressed in the project-specific impact in Section 4.3. If special-status wildlife are present in those areas, project construction could cause the disturbance or loss of those species. Implementation of the proposed project and the cumulative projects in the region would result in conversion and fragmentation of habitat, introduction of additional non-motorized and pedestrian traffic, sources of noise, and other effects that could disturb the foraging and movement patterns of individuals, affect breeding activities and reproductive success, cause direct mortality or injury, and disturb or remove suitable habitat for some special-status wildlife species. When combined with the cumulative projects with similar biological effects, implementation of the proposed project without mitigation could have an adverse cumulative effect on special-status wildlife species. However, Mitigation Measures 4.3-4, 4.3-5, 4.3-6, and 4.3-7 require conducting focused preconstruction surveys for special-status wildlife and, if needed, limiting construction operations during the sensitive breeding periods. Implementation of these measures would avoid the potential disturbance or loss of individuals, nests, and roost sites of these species during construction of the proposed project. Furthermore, implementation of Mitigation Measures 4.3-1, 4.3-2, and 4.3-8 requires that sensitive habitats (i.e., wetlands, riverine, riparian, valley oak woodland) are avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored following construction, or if the habitat cannot be restored, that the City compensates for unavoidable losses. With recommended mitigation measures, the project would not substantially affect the distribution, breeding productivity, population viability, or the regional population of any special-status species; nor would it cause a change in species diversity locally or regionally, either directly through loss of individuals or indirectly through habitat modification. Therefore, with implementation of project-specific mitigation measures, the project's contribution to the cumulative impacts on special-status species would not be cumulatively considerable, and these cumulative impacts would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.3-8: Cumulative disturbance or loss of City protected trees, Valley Oak Woodland and other Sensitive Vegetation Alliances and Associations; and **Cumulative Impact 4.3-9: Cumulative Disturbance or loss of special-status plants – Sanford's arrowhead.**

Construction of the proposed trail in combination with other cumulative development in the region could result in permanent loss or temporary disturbance of wetland, perennial stream, riparian, and oak woodland habitats. These potential impacts would be cumulatively significant. Construction activities for the proposed project and other cumulative projects would be required to comply with existing federal, state, and local regulations and permitting requirements that protect wetland, riparian, and other sensitive habitats through avoidance, restoration, enhancement, and other means such that sensitive habitat values are maintained. For the proposed project, implementation of Mitigation Measures 4.3-1, 4.3-2, and 4.3-8 requires that sensitive habitats (i.e., wetlands, riverine, riparian, valley oak woodland) are avoided to the extent feasible and that sensitive habitats that cannot be avoided are restored

following construction, or if the habitat cannot be restored, that the City compensates for unavoidable losses. Mitigation Measure 4.3-9 would require the City to identify and avoid Sanford's arrowhead plants or provide compensation for loss of Sanford's arrowhead plants through enhancement of existing populations, creation, conservation easements and management of offsite populations. Because the project would implement the protective provisions of existing regulations as well as project-specific design features and mitigation measures, the project's contribution to these cumulative impacts would not be cumulatively considerable, and these cumulative impacts would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.3-10: Impacts on movement of native resident or migratory fish or wildlife species or migratory wildlife corridors or impede the use of native wildlife nursery sites.

All trail maintenance activities would be conducted consistent with the City's Open Space Preserve Overarching Management Plan and related US Fish and Wildlife Service Biological Opinion and the City's California Department of Fish and Wildlife Streambed Alteration Agreement for Routine Maintenance. The Overarching Plan and Routine Maintenance Agreement include requirements for worker training and pre-maintenance nesting surveys as well as monitoring and reporting when nests are found. In addition, the creation of impervious surfaces associated with the Proposed Trail Alignment could result in indirect impacts to Dry, Linda, and Cirby Creeks and other downstream waters as a consequence of runoff that could affect Central Valley steelhead and Central Valley fall-run Chinook salmon. Therefore, impacts on terrestrial wildlife movement corridors and/or terrestrial wildlife nursery sites would be less than significant. The project would have to secure permits from federal and state agencies (i.e. Sections 401, 404, and 1602 permits) that would restrict work windows to those when these species are not expected to be within the stream corridor and would require the City to mitigate for the loss of aquatic and riparian habitat, it would not result in substantial effects migratory fish movement or to their breeding or nursery sites. Therefore, with implementation of project-specific Mitigation Measures 4.3-1 and 4.3-2, the project's contribution to cumulative impacts on special-status species would not be cumulatively considerable, and this cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cultural Resources

The cumulative context for the cultural resources analysis considers a broad regional system of which the resources are a part. The cumulative context for archaeological resources and human remains is the Nisenan territory. Nisenan territory comprised the drainages of the Yuba, Bear, and American rivers, and the lower drainages of the Feather River.

Cumulative Impact 4.4-1: Cumulatively disturb archaeological resources, including tribal cultural resources.

Because all significant archaeological resources are unique and nonrenewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. The loss of any one archaeological site affects all others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The boundaries of an archaeologically important site extend beyond the site boundaries. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources, rather than on project or parcel boundaries. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. The proposed project, in combination with other development in the region, could cause a substantial adverse change in the significance of an historical resource or unique archaeological resource. Project-related earth-disturbing activities could potentially damage archaeological resources; however, implementation of Mitigation Measure 4.4-1 would ensure that the proposed project would not contribute to a cumulative effect on cultural resources because it would require the performance of professionally accepted and legally compliant procedures for the discovery of previously undocumented significant archaeological resources. Thus, the project's contribution to cumulative impacts on archaeological resources would not

be considerable, and this cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.4-2: Cumulative accidental discovery of human remains.

Although no evidence suggests that any prehistoric- or historic-era, marked or unmarked human interments are present within or in the immediate vicinity of the proposed multi-use trail alignment, the proposed project, in combination with other development in the region, could contribute to the disturbance of human remains because of project-related construction activities. However, compliance with California Health and Safety Code Sections 7050.5 and 7052 and Public Resources Code (PRC) Section 5097 and Mitigation Measure 4.4-2 would ensure that the treatment and disposition of the remains occur in a manner consistent with Native American Heritage Commission guidance. Thus, the project's contribution to cumulative impacts on human remains would not be considerable, and this cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Geology and Soils

Geology, soils, and paleontological resource impacts are project specific and highly dependent on localized geologic and soil conditions. Therefore, the geographic extent for considering cumulative impacts for these resources is project sites within the vicinity of the proposed trail alignment.

Cumulative Impact 4.5-1: Cumulatively expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides; and **Cumulative Impact 4.5-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially cumulatively result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.**

With the adoption of construction practices consistent with the City's Design and Construction Standards, and the incorporation of design features to prevent localized creep, slumping, and small landslides, the potential effects of localized ground failure would be less than significant. Seismic risk in the City is low and the project would not increase the number of people living or working in the region who would be exposed to seismic hazards. Therefore, the proposed project would not result in a considerable contribution to a cumulative impact. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.5-2: Cumulatively result in substantial soil erosion or the loss of topsoil; and **Cumulative Impact 4.5-4: Be located on expansive soil, creating a cumulatively substantial risk to life or property.**

The project, like all projects that would disturb more than 1 acre, would be required to adhere to the erosion control requirements of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. The permit requires construction projects to implement best management practices (BMPs) to control earthwork activities and prevent erosion. For this reason, the City and adjacent cities have generally found geologic hazards not to be substantial issues in the project vicinity. The project, as well as other current and future projects, would implement BMPs and would adhere to the NPDES Phase II MS4 drainage control requirements during the operational phases. Through these actions, the overall contribution to erosion and loss of topsoil would not be substantial and there would be no significant cumulative impact. Therefore, the proposed project would not result in a considerable contribution to a cumulative impact. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.5-5: Cumulatively destroy a unique paleontological resource.

Paleontological resources have been discovered in the region, and some regional geologic units are considered to have a high paleontological sensitivity. Unique paleontological resources are a nonrenewable resource. Destruction or loss of these resources during construction would contribute to a regional cumulative loss because paleontological resources are finite and contribute to our scientific repository of knowledge regarding the region. As described under Impact 4.5-5, the types of soil formations that underlay the project site have a low sensitivity for important paleontological resources, and there is no evidence to suggest that the proposed project, in combination with past, present, and reasonably foreseeable future projects, would result in a significant cumulative impact on paleontological resources. Therefore, the project's contribution to a cumulative impact on paleontological resources would not be cumulatively considerable, and this cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Greenhouse Gas Emissions and Climate Change

Cumulative Impact 4.6-1: Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

The quantity of greenhouse gas (GHG) emissions required to induce climate change is not precisely known; however, it is clear that the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climate. Therefore, from the standpoint of CEQA, the contributions of any single project's GHG emissions to global climate change are inherently cumulative. Accordingly, the project-level impact analysis in Section 4.6 addresses whether the project's contribution of GHG emissions to global climate change is cumulatively considerable. As noted, the project's GHG emissions would not exceed the mass emission thresholds. In addition, the project would be consistent with adopted long-range plans and policies designed to reduce communitywide GHG emissions, consistent with Assembly Bill 32 and other local and State policies. Therefore, the project would not result in a cumulatively considerable contribution to a significant cumulative impact related to global climate change.

Hydrology and Water Quality

Cumulative Impact 4.8-1: Cumulative potential to violate any water quality standards or waste discharge requirements, or to otherwise degrade water quality.

Implementing the proposed project would result in construction activity and ground disturbance that would increase the potential for pollution of waterways. However, because the proposed project and all other foreseeable development and infrastructure projects in the region would be required to comply with applicable protective regulations, the potential for construction-related adverse water quality impacts would not be cumulatively considerable. Runoff from urban development can carry pollutants that can degrade water quality. However, because State Water Resources Control Board (SWRCB), Central Valley Regional Water Quality Control Board (CVRWQCB), and City of Roseville regulations are in place to minimize erosion and transport of sediment and other pollutants during construction, and appropriate project-specific measures would be defined to secure necessary permits and approvals, construction-related impacts would be minimized and would not result in substantial adverse effect on water quality. Additionally, water quality effects from long-term use and maintenance of the trail would be minimized through compliance with the existing California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement for the City of Roseville Routine Maintenance of Streams and Drainage Facilities project (Agreement). This Agreement covers routine activities, such as trail maintenance, channel alignment maintenance, debris removal, facilities repair or replacement, vegetation control in channels, minor erosion control work, and bridge washing and painting. Development projects in the area would be required to comply with low-impact development (LID) measures in Roseville and western Placer County (including in the Placer County LID Manual and the *West Placer Storm Water Quality Design Manual*) that implement the CVRWQCB municipal NPDES

permits. Because the proposed project and other foreseeable projects within the region would be required to comply with water quality measures for construction and operation, the proposed project would not make a considerable contribution to a significant cumulative impact related to water quality. This cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.8-2: Cumulative potential to substantially alter existing drainage patterns or to create runoff volume that would exceed the capacity of drainage systems or result in erosion, siltation, or flooding; and **Cumulative Impact 4.8-3: Cumulatively alter or redirect 100-year flood flows, or expose people or structures to risk of injury or damage by flood waters.**

The cumulative context for hydrologic impacts is the Dry Creek Watershed. The Dry Creek Watershed has experienced significant degradation as urban development has increased (Placer County 2003). Many stream channels have been modified or straightened and much of the native vegetation has been removed. As urban development has spread through the watershed, impervious surfaces have increased resulting in a corresponding increase in peak stormwater flows and bank erosion. This has resulted in an existing cumulative adverse condition. Open space preservation, prohibitions against development within floodways, and stream restoration projects, have begun to improve hydrologic conditions within the watershed. The development of multi-use trails within the 100-year flood plain was identified by the Dry Creek Watershed Resources Management Plan (Placer County 2003) as a potential opportunity to improve existing conditions through long-term management.

Federal, State, and Local protections for water bodies and flood plains have strengthened over the years. The proposed project would be required to comply with stormwater runoff controls and water quality objectives during construction and use of the proposed multi-use trail through compliance with SWRCB NPDES and City of Roseville Permit Conditions. These permits also require that the potential increase in stormwater runoff generated by the trails impervious surfaces be infiltrated by the adjacent natural area and through the installation of permanent BMPs. Finally, the trail would comply with the City of Roseville Design Standards for Bikeways in Floodplains and would not create a significant increase in base flood elevations. For these reason, the proposed project would not contribute to the existing cumulative adverse hydrologic condition within the Dry Creek Watershed. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and this cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Land Use

Cumulative Impact 4.9-1: Consistency with applicable land use plans.

The City of Roseville General Plan provides goals and policies related to land use in the City. The Zoning Ordinance implements the City's General Plan and Specific Plans, and establishes regulations governing the use, placement, spacing and size of land and buildings. The Zoning Ordinance also describes various permits available through the Planning Division, when they are needed, and the process for obtaining permits. The City's Bicycle Master Plan includes a plan for development of over 28 miles of Class I trails in Roseville, including the Dry Creek Greenway East Trail. The General Plan, Zoning Ordinance, and Bicycle Master Plan are long-term planning documents, therefore buildout under these plans is inherently cumulative in nature. In the course of environmental review, permitting, and approval, projects proposed in the City are reviewed for consistency with adopted land use guidance documents. Land use compatibility was considered for most of the facilities proposed in the Bicycle Master Plan during the adoption of the 2035 General Plan, and the City's various specific plans. The Bicycle Master Plan proposed several new Class I bike trails, including the proposed project, that were not previously included within any of these documents. The new Class I bike trails included in the 2008 Bicycle Master Plan were proposed within open space and park parcels. Class I bike trails are considered primary uses of open space areas and are principally permitted as within open space, parks and most other land uses as part of the Resource Related Recreation use type. The designation of new

bike trails within open space and parks and recreation areas would not result in a conflict with any adopted land use plan, policy or regulation, and the proposed project would be consistent with the intent of the City of Roseville General Plan, Zoning Ordinance, and Bicycle Master Plan. Therefore, **no cumulative impact** related to conflicts with any relevant land use plans, policies, designations, or zoning would occur under the proposed project, Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.9-2: Physically divide an established community.

As discussed under the project-specific impact, although constructing the multi-use trail would create a linear travel corridor, the corridor would provide linkages through, rather than divide, the community. In addition, the project would not involve any change in access to the parcels requiring right-of-way acquisition or construction easements, and this was identified as a beneficial impact. Because no significant impact to the established community would occur on a project-specific basis, the project would not contribute to any potential cumulative land use impacts. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and this cumulative impact would be less than significant for the proposed project and Option 1A, Option 1C, and Option 5A.

Noise

Cumulative Impact 4.10-1: Cumulative short-term construction-related noise.

Noise dissipates rapidly from its source. For construction impacts, only the immediate area around the project site would be included in the cumulative context. For example, construction impacts related to noise dissipate/attenuate quickly as the distance between the construction site and the receptor increases. As a result, only those construction projects located within a distance of no more than 1,000 feet would be considered within the cumulative context of construction noise. Cumulative impacts from construction-generated noise could result if construction activities of other planned projects were to take place at the same time in close proximity to the proposed project such that noise effects would cumulatively combine. The project area is predominately built out and no large-scale development and specific plan-type projects are planned for the surrounding area during the same construction timeline as the proposed project. As a result, the potential for the project construction noise to combine with other offsite construction activities at nearby receptors is considered unlikely. Implementation of Mitigation Measure 4.10-1 would reduce the magnitude of the project-specific noise impact, but not to a less-than-significant level. Recognizing the significant unavoidable project noise impact during the construction period, even though a combining of the project's construction noise with other temporary activities or substantial noise sources would be unlikely, for CEQA purposes the potential cannot be dismissed for a contribution by the significant project noise to other nearby noise generation, Therefore, this would remain a **potentially significant and unavoidable cumulative impact**.

Cumulative Impact 4.10-2: Cumulative long-term increases in use-related noise.

Long-term uses associated with the proposed project would be non-motorized activities and would not expose persons to or generate use-related noise levels in excess of adopted standards. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and the cumulative noise impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.10-3: Exposure to construction-related groundborne vibrations.

Cumulative impacts from construction-generated vibration could result if other future planned construction activities were to take place very close to other construction activities and cumulatively combine with construction vibration from the project. Vibration associated with construction activities is of primary concern within proximity (e.g., 550 feet) of sensitive land uses. At increasing distances from the source, vibration levels dissipate rapidly and have less potential to cause disturbance to people or damage to structures. In addition, vibration generated from construction is typically associated with foundation

construction activities that only occur during discrete phases of construction and for intermittent and brief periods at a time. For these reasons, and because of the unlikelihood of construction activities to combine during the proposed project timeframe, vibration impacts would remain local and would not combine with vibration source from other construction activities. Project-generated vibration levels would be mitigated with implementation of Mitigation Measure 4.10-3 for the proposed project and Option 1A and 1C. The impact would remain significant and unavoidable under Option 5A. However, because vibration levels would be limited to the vicinity of construction activities and would be minimized to the extent feasible, the cumulative short-term construction-generated vibration impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Public Services

Cumulative Impact 4.11-1: Effects on fire protection and emergency services; and Cumulative Impact 4.11-2: Effects on police protection services.

The cumulative context for police protection, fire protection, and emergency services is the city of Roseville, which is the service area for both the City of Roseville Fire Department and Police Department. As described in Section 4.11, Public Services, the City of Roseville is currently capable of meeting public service needs, including law enforcement and fire protection. As described in Impacts 4.11-1 and 4.11-2, construction and operation of the Dry Creek Greenway East Trail Project would not increase the risks to public safety associated with fire and public safety issues. Thus, implementation of the project would not contribute to a cumulative impact in these areas because the project site is already served by these agencies and the project would not increase the service area or add additional population that would require service. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and the cumulative public services impacts would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Recreation

Cumulative Impact 4.12-1: Increased use of existing neighborhood and regional parks.

The cumulative context for recreation is the City of Roseville. Roseville maintains approximately 12 acres of park land per 1,000 residents. The City of Roseville Department of Parks and Recreation strives to ensure new public parks and recreation facilities, open space, paseos, landscape areas and greenways are provided with adequate funding for initial development, as well as ongoing maintenance and operation. Thus, there is not an existing cumulative effect related to degradation of neighborhood and regional parks related to increased use. As discussed in Section 4.12, "Recreation," the proposed project would not result in any new permanent residents and would therefore not directly generate new recreation users such that new facilities would need to be built to accommodate increased use. On-going maintenance and funding for operation would continue for the foreseeable future. In addition, ratios related to acreage of park per resident would not be increased due to implementation of the project. Thus, the project would not combine with other reasonably foreseeable projects such that a significant cumulative effect would occur related to increased used of neighborhood and regional parks. The project's contribution to a cumulative impact would not be cumulatively considerable, and the cumulative recreation impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Transportation and Circulation

Cumulative Impact 4.13-1: **Safety-related traffic impacts.**

Design and operation of the proposed project would conform to applicable standards and be consistent with traffic safety and operational requirements, and no significant safety-related traffic effects would occur from use of the trail and parking lot after completion of the trail and trailhead improvements. Construction activity with its related truck and worker traffic could result in a significant construction-related safety impact. Implementation of Mitigation Measure 4.13-1 would require the preparation and

implementation of a traffic management plan. The traffic management plan would be specific to the portion of the project alignment under construction and would take into account existing conditions at the time and require regular inspections to assess contractor compliance. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and the cumulative impact would be **less than significant with mitigation** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.13-2: Conflict with an applicable plan, ordinance or policy which establishes measures of effectiveness for the performance of the circulation system or with an alternative transportation plan.

Generally, any increase in bicycle use would be consistent with the overarching goals and objectives of an alternative transportation plan, including the City Bicycle Master Plan. As explained above under "Land Use," the Bicycle Master Plan is a long-term planning document, therefore buildout under this plan is inherently cumulative in nature. The designation of new bike trails within open space and parks and recreation areas would not result in a conflict with any adopted land use plan, policy or regulation, and the proposed project would be consistent with the intent of the City of Roseville's alternative transportation plans and Bicycle Master Plan. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and the cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Utilities

Cumulative Impact 4.14-1: Insufficient water supplies available to serve the project from existing entitlements and resources, or result in the construction of new water treatment facilities; Cumulative Impact 4.14-3: Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs or fail to comply with federal, state, and local statutes and regulations related to solid waste; Cumulative Impact 4.14-4: Result in a substantial increase in electrical demand; and **Cumulative Impact 4.14-5: Disrupt existing utility service.**

As discussed in Section 4.14, "Utilities," the proposed project would not result in the construction of new housing or other project elements that would increase the permanent resident population in the City. Therefore, the project would not generate a substantial increased demand for electricity, solid waste disposal, water, or water treatment related to use of the trail. The project could require small amounts of electricity for bridge and undercrossing lighting and water to establish new plantings and maintain landscaping. The project would not result in the need for new or expanded water supplies or construction of new water treatment facilities. Thus, implementation of the project would not contribute to a cumulative impact in these areas because the project site is already served by providers with adequate capacity to serve the project and the project would not increase the service area or add additional population that would require service. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and the cumulative utilities impacts would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

Cumulative Impact 4.14-2: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

As explained above under Cumulative Impact 4.8-2, as urban development has spread through the Dry Creek watershed, impervious surfaces have increased resulting in a corresponding increase in peak stormwater flows. This has resulted in an existing cumulative adverse condition. Open space preservation, prohibitions against development within floodways, and stream restoration projects, have begun to improve hydrologic conditions within the watershed. The development of multi-use trails within the 100-year flood plain was identified by the Dry Creek Watershed Resources Management Plan (Placer County 2003) as a potential opportunity to improve existing conditions through long-term

management. The proposed project would be required to comply with stormwater runoff controls during construction and use of the proposed multi-use trail through compliance with SWRCB NPDES and City of Roseville Permit Conditions. These permits also require that the potential increase in stormwater runoff generated by the trails impervious surfaces be infiltrated by the adjacent natural area and through the installation of permanent BMPs. Finally, the trail would comply with the City of Roseville Design Standards for Bikeways in Floodplains and would not create a significant increase in base flood elevations. For these reason, the proposed project would not contribute to the existing cumulative adverse hydrologic condition within the Dry Creek Watershed. Therefore, the project's contribution to a cumulative impact would not be cumulatively considerable, and this cumulative impact would be **less than significant** for the proposed project and Option 1A, Option 1C, and Option 5A.

5.2 GROWTH-INDUCING IMPACTS

CEQA specifies that growth-inducing impacts of a project must be addressed in an EIR (PRC Section 21100[b][5]). Specifically, the State CEQA Guidelines (Section 15126.2[d]) states that the EIR shall discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this analysis are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, the EIR should discuss the characteristics of the project which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

The State CEQA Guidelines do not distinguish between planned and unplanned growth for purposes of considering whether a project would foster additional growth. Therefore, for purposes of this EIR, to reach the conclusion that a project is growth-inducing as defined by CEQA, the EIR must find that the project would foster (i.e., promote or encourage) additional growth in economic activity, population, or housing, regardless of whether the growth is already approved by and consistent with local plans. The conclusion does not determine that induced growth is beneficial or detrimental, consistent with the State CEQA Guidelines (Section 15126.2[d]).

If the analysis conducted for the EIR results in a determination that a project is growth-inducing, the next question is whether that growth may cause adverse effects on the environment. Environmental effects resulting from induced growth fit the CEQA definition of "indirect" effects in the State CEQA Guidelines (Section 15358[a][2]). These indirect or secondary effects of growth may result in significant environmental impacts. CEQA does not require that the EIR speculate unduly about the precise location and site-specific characteristics of significant, indirect effects caused by induced growth, but a good-faith effort is required to disclose what is feasible to assess. Potential secondary effects of growth

could include consequences – such as conversion of open space to developed uses, increased demand on community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, or degradation or loss of plant and wildlife habitat – that are the result of growth fostered by the project.

The decision to allow those projects that result from induced growth is the subject of separate discretionary processes by the lead agency(ies) responsible for considering such projects. Because the decision to allow growth is subject to separate discretionary decision making, and such decision making is itself subject to CEQA, the analysis of growth-inducing effects is not intended to determine site-specific environmental impacts and specific mitigation for the potentially induced growth. Rather, the discussion is intended to disclose the potential for environmental effects to occur more generally, such that decision makers are aware that additional environmental effects are a possibility if growth-inducing projects are approved. The decision of whether impacts do occur, their extent, and the ability to mitigate them is appropriately left to consideration by the agency responsible for approving such projects at such times as complete applications for development are submitted.

5.2.1 Growth-Inducing Impacts

Mechanisms by which a project may directly induce growth may include creating jobs that attract economic or population growth to the area, promoting the construction of homes that would bring new residents to the area, or removing an obstacle that impedes growth in the area. The proposed project does not include the construction of new homes and, therefore, would not directly bring new residents into the project area.

As described in Chapter 3, “Project Description,” construction of the project would occur in phases and a phasing plan would be developed to provide a logical sequence of implementation for each of the future phases. The project could be constructed over a total of up to four construction seasons. The project workforce would vary according to construction phase and type of design element being constructed; however, the number of construction workers at any given time would not be large. The maximum number of workers commuting to the project construction site any given time would be approximately 15 (see Section 4.13, “Transportation and Circulation”). Workers would come from the regional labor pool already available in the City and region. No substantial relocation of workers would occur, and no new demand for housing and public services would result. Therefore, project construction would not be growth inducing.

Post-project maintenance would be conducted by existing City employees and would not require additional employees. Therefore, long-term operation of the proposed project would not result in workers relocating to the area and would not be growth inducing.

The project site is located along the creek corridors of developed neighborhoods and business districts in the City of Roseville and would not result in an expansion of urban services or the pressure to expand beyond the City’s existing Sphere of Influence. It would not open additional undeveloped land to future growth or provide expanded utility capacity to serve future development.

Because construction and operation of the project would not create jobs that would fuel economic or population growth, promote the construction of homes that would bring new residents to the area, or remove an obstacle that impedes growth, the proposed project would not be growth inducing.

5.3 SIGNIFICANT ENVIRONMENTAL EFFECTS

Chapter 2, "Summary," and Sections 4.1 through 4.14 of this Draft EIR provide a comprehensive identification of the proposed project's environmental effects, including the level of significance both before and after mitigation. Project impacts found to be significant and requiring mitigation are listed below.

4.2-1 Short-term construction-generated and long-term use-related emissions of ROG, NO_X, $PM_{10,}$ and $PM_{2.5}$.

4.3-1 Disturbance and loss of waters of the United States, waters of the state and riparian habitat.

4.3-2 Central Valley steelhead and Central Valley fall/late fall-run Chinook salmon.

4.3-3 Disturbance or loss of valley elderberry longhorn beetle or its habitat.

4.3-4 Disturbance or loss of Swainson's hawk, white-tailed kite, and other nesting raptors.

4.3-5 Disturbances to special-status song birds.

4.3-6 Disturbance or loss of Western pond turtle.

4.3-7 Disturbance or loss of special-status bats – pallid bat and silver-haired bat.

4.3-8 Disturbance or loss of City protected trees, oak woodlands and other sensitive vegetation alliances and associations.

4.3-9 Disturbance or loss of special-status plants – Sanford's arrowhead.

4.3-10 Impacts on movement of native resident or migratory fish or wildlife species or migratory wildlife corridors or impede the use of native wildlife nursery sites.

4.4-1 Disturb archaeological resources, including tribal cultural resources.

4.4-2 Accidental discovery of human remains.

4.7-5 Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are located adjacent to urbanized areas or where residences are intermixed with wildlands.

4.10-3 Exposure to construction-related groundborne vibrations. (proposed project, Option 1A, Option 1C)

4.13-1 Safety-related traffic impacts during construction.

5.3.1 Significant and Unavoidable Impacts

Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Chapter 4, "Environmental Setting, Impacts, and Mitigation Measures," provides a detailed analysis of all potentially significant, direct and indirect, environmental impacts of the proposed project; identifies feasible mitigation measures that could reduce or avoid the project's significant impacts; and describes whether these mitigation measures would reduce these impacts to less-than-significant levels. The

proposed project's significant cumulative impacts are discussed at the beginning of this chapter. If a specific impact cannot be reduced to a less-than-significant level, it is considered a significant and unavoidable impact.

As discussed under "Cumulative Impacts" above and in the technical sections of this Draft EIR, all but one potentially significant impact would be reduced to a less-than-significant level with mitigation:

4.10-1 Short-term construction-related noise.

4.10-3 Exposure to construction-related groundborne vibrations. (Option 5C only)

5.3.2 Significant and Irreversible Environmental Effects

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

> Use of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- the primary and secondary impacts would generally commit future generations to similar uses;
- the project would involve a large commitment of nonrenewable resources;
- the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy); or
- the project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project.

The Dry Creek Greenway East Trail project is a 4.25-mile multi-use trail that would follow creek corridors along portions of Dry, Cirby, and Linda Creeks. The multi-use trail would consist of a 10-foot wide paved trail with two-foot wide shoulders. The project would also include the construction of up to eight bridges to provide creek crossings along with areas of bank stabilization and retaining walls. Implementation would require the removal of aquatic, riparian, and oak woodland habitat, and the loss or disturbance of elderberry shrubs within the disturbance area (see Section 4.3, "Biological Resources"). This loss of habitat would be permanent as a result of paving and other necessary construction components. Uses of nonrenewable resources during construction of the project may be irreversible because a large commitment of such resources makes removal or reuse thereafter unlikely. Implementation of the project would result in permanent changes to the existing environment that have been described throughout this Draft EIR. Construction activities associated with the project would result in the irreversible consumption of nonrenewable resources. The irreversible commitment of limited resources is inherent in any construction project. Resources anticipated to be irreversibly committed would include: sand, gravel, concrete, petrochemicals, construction materials, and water. The project would also require the consumption of fossil fuels to meet energy demands associated with construction vehicles.

Implementation of the proposed project would result in the consumption of energy and materials. Fossil fuels would be required for construction of the project, as well as maintenance. Construction associated with the new bridges, the paved trail, and the areas of bank stabilization and retaining walls would require the manufacture of new materials (e.g., asphalt, concrete, rebar, paint, prefabricated steel). The

raw materials and energy required for the manufacture of the materials would result in an irretrievable commitment of natural resources.

The project does not provide for an appreciable increase in use of hazardous materials relative to existing conditions and would transport, use, and generate only small volumes of hazardous materials associated with construction. The construction contractor would prepare relevant hazardous materials management plans, including a Hazardous Materials Contingency Plan. With continued compliance with existing federal, state, and local laws and regulations related to hazardous materials, the proposed project would not be expected to result in environmental accidents that have the potential to cause irreversible damage to the natural or human environment (see Section 4.7, “Hazards and Hazardous Materials”).

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6 ALTERNATIVES

6.1 INTRODUCTION

The California Code of Regulations (CCR) Section 15126.6(a) (State CEQA Guidelines) requires EIRs to describe "… a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis is as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Dry Creek Greenway Multi-Use Trail. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CCR Section 15126.6[d]).

The State CEQA Guidelines further require that the "no project" alternative be considered (CCR Section 15126.6[e]). The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the no project alternative is the environmentally superior alternative, CEQA requires that the EIR "…shall also identify an environmentally superior alternative among the other alternatives." (CCR Section 15126[e][2]).

In defining "feasibility" (e.g., "… feasibly attain most of the basic objectives of the project …"), CCR Section 15126.6(f) (1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project's significant effects, and unique project considerations. These

factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the City of Roseville City Council. (See PRC Sections 21081.5, 21081[a] [3].)

6.2 CONSIDERATIONS FOR SELECTION OF ALTERNATIVES

The purpose of the alternatives analysis is to determine whether or not a variation of the Dry Creek Greenway Multi-Use Trail Project would reduce or eliminate significant project impacts, while attaining most of the project's basic objectives.

6.2.1 Project Purpose and Objectives

One of the key factors in considering alternatives is whether they can feasibly attain most of the basic objectives of the project. As described in Chapter 3, "Project Description" of this Draft EIR, during development of the 2009 Dry Creek Greenway Planning and Feasibility Study the following Purpose and Need Statement was drafted by the Stakeholder Representative Group (SRG) and accepted by the City Council:

> "The Dry Creek Greenway multi-use trail is envisioned as a paved, off-street trail along Dry, Cirby, and Linda Creeks that will provide residents a place for bicycling, walking, running, and dog-walking, for fun, education, recreation, health, and transportation.
>
> The Dry Creek Greenway trail is a vital component of the City of Roseville Bikeway and Trail system because it will provide a safe, comfortable, convenient, and highly connected bike route as an alternative to using City streets in an area of the City that is underserved by bicycle facilities. The Dry Creek Greenway trail will connect schools and businesses to residential neighborhoods. The trail will also provide important regional connections as it is part of a series of existing and planned paths that will form a loop around the greater South Placer/Sacramento area."

The objectives for the Dry Creek Greenway Multi-Use Trail are to:

- Develop a safe and continuous trail alignment that maximizes opportunities for bicycle and pedestrian travel separate from roadway vehicle traffic by connecting neighborhoods, shopping and employment, schools, parks, transit, and other existing and planned trails, bikeways and walkways.
- Enhance access to the Dry Creek, Cirby Creek, and Linda Creek open space areas for public recreational and educational opportunities, utility maintenance, open space maintenance, and emergency response.
- Protect the natural habitat and special-status wildlife species of the Dry Creek, Cirby Creek, and Linda Creek open space areas, minimize the potential for loss of life and property due to flooding, enhance compatibility with private properties, and reduce the need for right-of-way acquisition.
- Seek the most effective and efficient balance of capital cost, operational and maintenance costs, environmental and community impacts, and public benefits.
- Direct consideration of cost is not required under CEQA. However, efforts to attain this objective are part of the design process employed by the City in meeting its health, welfare and economic obligations to the citizens of Roseville.

6.2.2 Significant Effects of the Dry Creek Greenway Multi-Use Trail

Impacts associated with implementation of the proposed project are evaluated in Chapters 4 and 5 of this Draft EIR. As identified in Table 2-1, "Summary of Impacts and Mitigation Measures," construction and/or use of the proposed project would have the potential to cause the following significant but mitigable environmental impacts:

4.2-1 Short-term construction-generated and long-term use-related emissions of ROG, NO_X, $PM_{10,}$ and $PM_{2.5}$.

4.3-1 Disturbance and loss of waters of the United States, waters of the state and riparian habitat.

4.3-2 Central Valley steelhead and Central Valley fall/late fall-run Chinook salmon.

4.3-3 Disturbance or loss of valley elderberry longhorn beetle or its habitat.

4.3-4 Disturbance or loss of Swainson's hawk, white-tailed kite, and other nesting raptors.

4.3-5 Disturbances to special-status song birds.

4.3-6 Disturbance or loss of Western pond turtle.

4.3-7 Disturbance or loss of special-status bats – pallid bat and silver-haired bat.

4.3-8 Disturbance or loss of City protected trees, oak woodlands and other sensitive vegetation alliances and associations.

4.3-9 Disturbance or loss of special-status plants – Sanford's arrowhead.

4.3-10 Impacts on movement of native resident or migratory fish or wildlife species or migratory wildlife corridors or impede the use of native wildlife nursery sites.

4.4-1 Disturb archaeological resources, including tribal cultural resources.

4.4-2 Accidental discovery of human remains.

4.7-5 Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are located adjacent to urbanized areas or where residences are intermixed with wildlands.

4.10-3 Exposure to construction-related groundborne vibrations.

4.13-1 Safety-related traffic impacts during construction.

As discussed in the technical sections of this Draft EIR, all but one potentially significant impact would be reduced to a less-than-significant level with mitigation under the proposed project:

4.10-1 Short-term construction-related noise.

6.3 ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER EVALUATION

The State CEQA Guidelines state that an EIR should identify alternatives that were initially considered by the lead agency, but were rejected as infeasible and explain the reasons for the determination (Section 15126.6[c]). As described in Chapter 3, "Project Description" of this Draft EIR, the City has conducted an extensive planning process and consideration of alternatives for the proposed project, as reported in the 2009 Dry Creek Greenway Planning and Feasibility Study. For planning purposes, the path alignment was initially divided into twelve segments, numbered from west to east. Connections were considered to Hillcrest, Cirby Side, Sierra Gardens, Meadow Oaks, and Maidu neighborhoods, Eich Intermediate and Sierra Gardens Elementary Schools, and to Maidu Regional Park. The alternatives analysis considered 30 different creek crossing alternatives and in the end, eliminated 12 creek crossings from consideration. The 18 remaining creek crossings were carried forward to the next stage of project planning. Of these, 3 were existing bridges. Four areas along the path were recommended as trailhead access points: 1) Riverside Avenue; 2) Rocky Ridge Drive; 3) Eastwood Park; and 4) Old Auburn Road (north and south).

The study outlined the existing conditions, opportunities and constraints, alignment options, evaluation criteria, and a recommended alignment for a paved multi-use trail from Riverside Avenue and Darling Way to the City limits just south of Old Auburn Road. The SRG selected a preferred alignment based on criteria that included consideration of property owners, path users, public safety, environmental concerns, and municipal operations. There were two segments of the trail where the SRG did not reach a consensus on a recommended alignment. These were referred to as Segment 1 – Hillcrest and Segment 5 – Sunrise Avenue in the feasibility study. Segment 1 is the first portion of the proposed trail between the end of the Saugstad/Royer Trail at Darling Way to the area south of Machado Lane, west of the I-80 underpass. Segment 5 is located in the Cirby Side neighborhood to the east and west of Sunrise Avenue. Segment 5 begins near the Cirby Creek/Linda Creek confluence west of Sunrise Avenue to just east of the Sunrise Avenue bridge near the Meadow Gate connection. Four alignment options were identified for Segment 1 (1A, 1B, 1C, and 1D) and three alignment options were identified for Segment 5 (5A, 5B, and 5C).

The City then conducted an Alternatives Analysis in 2012 and 2013 to provide further information regarding alternative trail alignment options. Each of the alignment options were evaluated using criteria developed during for the 2009 Planning and Feasibility Study, in conjunction with the SRG, and based on the ability of each option to meet the project goals and objectives, as well as the feasibility criteria. A matrix was used to compare benefits, constraints, advantages, and disadvantages of each option. During this process, two of the options, Alternative 1D and Alternative 5C, were dismissed from further evaluation. The remainder of the alternative trail alignment options were carried forward. Options 1B and 5B were incorporated into the Proposed Trail Alignment and are part of the proposed project; Options 1A, 1C, and 5A are referred to as alignment options in this EIR and are described below and analyzed in each technical section of this EIR.

6.3.1 Alternative 1D

This alignment option would begin just before the existing terminus of the Saugstad/Royer trail, travel under the bridge on the east side of Dry Creek and continue south for approximately 700 ft. The trail alignment would continue along the east side of Dry Creek and Cirby Creek for approximately 500 feet before crossing Cirby Creek via Bridge #4 to the southern bank of Cirby Creek, and continue within the floodplain along the south side of Cirby Creek toward the I-80 underpass. Access to the proposed trailhead parking would be via Riverside Avenue. Ultimately access to the trailhead parking and future trail extension to lower Vernon Street, would be provided via Bridge #2.

As a result of limited access and no direct connection to the trail head parking, Alternative 1D ranked poorly in terms of the potential to create additional traffic and parking in the neighborhood and trail accessibility and connectivity. Costs associated with this alternative and minimal right-of-way requirements resulted in good ranking for these criteria. It was recommended that this option not be considered by City staff for recommendation to the City Council and Transportation Commission.

6.3.2 Alternative 5C

The alignment option would begin just south of the confluence of Cirby Creek and Linda Creek and cross Linda Creek via Bridge #13 and follow the northern bank of Linda Creek within the City owned property. The trail would tie into the existing maintenance path in front of the floodwalls on the north side of Linda Creek and travel eastward under Sunrise Boulevard overcrossing. The alignment would continue east, using the existing maintenance ramp in the vicinity of the existing drainage outfall structure, before continuing further east toward Oak Ridge Drive. No direct access would be provided to Sunrise Boulevard.

Alternative 5C ranked poorly in terms of accessibility and providing connectivity to surface streets compared to the Alternatives 5A and 5B. It also ranked lower than the proposed alignment and other alternatives related to visibility and emergency access to the trail. Visual impacts to adjacent property owners were considered low for this alternative. This alternative ranked well in terms of constructability using an existing bench on north side of Linda Creek; however, the elevation of this bench at the 2-year water surface elevation (WSE) would mean the trail would be unusable for storms greater than the 2-year event. This alternative would require minimal right-of-way acquisition. It was recommended that this option not be considered by City staff for recommendation to the City Council and Transportation Commission.

6.3.3 Additional On-street Portions of the Path

The City also previously considered an alternative design that would include more on-street bikeways. This alternative would create areas within paved streets identified by striping and signs for preferential (semi-exclusive) bicycle use (Class II bike paths). Proposed retaining walls in areas susceptible to slumping would not be constructed. Areas currently subject to localized creep, slumping, and small landslides on over-steepened slopes, along incised drainages, and during periods of water saturation would continue to be subject to localized ground failure. While this alternative could reduce the proposed project's effects to biological resources and construction-related noise impacts because construction along the creek corridors would be reduced, it would not implement the City's Bicycle Master Plan by providing a Class I off-site trail. Therefore, this alternative would not meet the proposed project objectives for the Dry Creek Greenway Multi-Use Trail. For these reasons, an alternative design with additional on-street portions of the trail was dismissed from further analysis in this EIR.

6.4 ALTERNATIVES CONSIDERED FOR DETAILED EVALUATION

As discussed above, during the 2013 Alternatives Analysis Options 1B and 5B were incorporated into the Proposed Trail Alignment and are part of the proposed project; Options 1A, 1C, and 5A are referred to as alignment options in this EIR and analyzed in each technical section.

6.4.1 No Project Alternative

Under the No Project Alternative, the Dry Creek Greenway Multi-Use Trail would not be constructed. The creek corridors along portions of Dry, Cirby, and Linda creeks would continue to contain segments of existing unimproved, natural-surface paths and paved multi-use paths, some of which do not meet current City design standards. Proposed retaining walls in areas susceptible to slumping would not be constructed, other bank stabilization elements would not be constructed, and access to the creek corridor for utility maintenance, open space maintenance, and emergency response would not be enhanced.

Aesthetics

Under the No Project Alternative, there would be no alteration of the visual quality or character of the project site. Views of the project site from surrounding vantage points would not change, and no new sources of light and glare would be created. This alternative would not introduce new pavement, structures, and recreational users into new areas. The No Project Alternative would avoid the less-than-significant impacts associated with the visual character of the site and sources of new light and glare, and Impacts 4.1-1 and 4.1-2 would not occur. Overall, impacts under this alternative would be less than those that would occur with the proposed project.

Air Quality

Under the No Project Alternative, no earthwork or ground-disturbing activities would occur, nor would any associated vehicle trips related to trial construction or maintenance, and this alternative would not result in the exposure of sensitive receptors to TAC levels. The less-than-significant construction and operation-related impacts identified for the proposed project would not occur. Air quality impacts under this alternative would be less than those that would occur with the proposed project.

Biological Resources

Under the No Project Alternative, no earthwork or ground-disturbing activities would occur. There would be no potential for construction-related disturbance of special-status plant or animal species or their habitat or disturbance or loss of oak woodlands, and disturbance or loss of wetlands or other waters of the U.S. would not occur. This alternative would avoid the project's potentially significant impacts to these resources, and no mitigation would be required under this alternative.

Cultural Resources

Under the No Project Alternative, no earthwork or ground-disturbing activities would occur. There would be no potential for disturbance to undiscovered human remains or archaeological resources. Therefore, no impacts related to cultural resources would occur and Mitigation Measures 4.4-1 and 4.4-2 would not be required. Cultural resource impacts under this alternative would be less than those that would occur with the project.

Geology and Soils

Because no development would occur under the No Project Alternative, there would be no construction requiring excavation in an area with steep banks and loose, granular soils that could be susceptible to localized areas of slope failure. Proposed retaining walls in areas susceptible to slumping would not be constructed. Areas currently subject to localized creep, slumping, and small landslides on over-steepened slopes, along incised drainages, and during periods of water saturation would continue to be subject to localized ground failure and no bank stabilization elements would be constructed. Future soil and streambank erosion could continue to occur, creating adverse environmental effects. Overall, impacts under this alternative would be slightly greater than those that would occur with the proposed project.

Greenhouse Gas Emissions and Climate Change

Under the No Project Alternative, the project site would remain undeveloped land. Because no construction would occur, this alternative would not increase emissions of greenhouse gases (GHG). Under the No Project Alternative, vehicle miles traveled would not be reduced because it is unlikely that vehicle commuters would commute by bicycle instead of motor vehicles without a contiguous paved path. Implementation of the No Project Alternative would generate slightly fewer emissions overall; therefore, overall impacts under this alternative would be less than those that would occur with the project.

Hazards and Hazardous Materials

Under the No Project Alternative, there would be no use of hazardous materials onsite for construction or operation, because the site would remain undeveloped land. This alternative would avoid exposing people or structures to wildland fire during construction activities that could ignite the dry grasses on, and adjacent to, the project site. This alternative would not result in a potentially significant impact related to public health and safety related to hazardous materials or hazards, and Mitigation Measure 4.7-5 would not be required. Overall, hazards and hazardous materials impacts under this alternative would be less than those that would occur with the project.

Hydrology and Water Quality

Under the No Project Alternative, no construction or soil disturbance would occur; therefore, there would be no construction-related water quality impacts and no potential to introduce oil, grease, litter, and chemical pollutants into Dry, Linda, and Cirby Creeks during long term maintenance and repair of the multi-use path. Additionally, there would be no encroachments within the regulated floodway. As discussed above under Geology and Soils, future soil and streambank erosion could continue to occur because retaining walls in areas susceptible to slumping would not be constructed and bank stabilization elements would not be constructed. Overall, impacts under this alternative would be slightly greater than those that would occur with the proposed project.

Land Use and Planning

The No Project Alternative would not construct the proposed multi-use trail. While this alternative would not require the acquisition of right-of-way from the 38 parcels, it would also not create a linear travel corridor that would provide linkages through the community. This alternative would not implement the City's Bicycle Master Plan, which includes a plan for development of Class I trails in Roseville. This alternative would not result in the beneficial impact associated with the proposed project related to the provision of linkages through the existing community. Overall, the No Project Alternative would result in less-than-significant impacts related to land use and planning that would be slightly greater than with the proposed project.

Noise

Under the No Project Alternative, no construction activities would take place, and there would be no increases in short-term construction-related noise or vibration. No increase in operational noise would occur, and this alternative would not expose persons to, or generate, operational noise levels in excess of adopted standards. The No Project Alternative would avoid the less-than-significant impacts associated with construction and operational noise impacts. It would also avoid the potentially significant vibration impact related to construction. Overall, impacts under this alternative would be less than those that would occur with the project, and Mitigation Measures 4.10-1a, 4.10-1b, 4.10-1c, and 4.10-3 would not be required.

Public Services

Under the No Project Alternative, the project site would remain undeveloped land and would not generate additional visitors along the creek, including neighbors and transitory users. This alternative would not facilitate utility or open space maintenance access, or emergency vehicle access, including fire apparatuses along the creek corridor. The RFD has stated that without the trail, their ability to

respond to a fire in the open space is hampered. Similarly, the RPD has indicated that the trail assists police efforts to reduce loitering or illegal camping in the open space. The No Project Alternative would result in less-than-significant impacts related to public services that would be slightly greater than with the proposed project.

Recreation

Unlike the proposed project, the No Project Alternative includes no new recreation facilities and would not include connections to local or regional tails or other recreation facilities. The proposed project results in less-than-significant impacts related to recreation. No recreation-related impacts would occur under the No Project Alternative.

Utilities

Under the No Project Alternative, the project site would remain undeveloped and there would be no need for preparation of a SWPPP to manage stormwater during construction and use as with the Proposed Trail Alignment. However, under this alternative the proposed trail would not be available to provide maintenance and emergency access for the City Environmental Utilities Department, open space and storm water maintenance crews, and the Roseville Fire Department. Overall, impacts under this alternative would be less than those that would occur with the project.

ABILITY TO ACHIEVE PROJECT OBJECTIVES

The No Project Alternative would not meet the project's basic objectives. Access to the Dry Creek, Cirby Creek, and Linda Creek open space areas would not be enhanced for public recreational and educational opportunities, utility maintenance, open space maintenance, and emergency response. Effects to the natural habitat and special-status wildlife species of the Dry Creek, Cirby Creek, and Linda Creek open space areas would not occur; therefore, they would continue to be protected in the same manner as under existing conditions. The No Project Alternative would not meet the objective to develop a continuous trail alignment that maximizes opportunities for bicycle and pedestrian travel separate from roadway vehicle traffic by connecting neighborhoods, shopping and employment, schools, parks, transit, and other existing and planned trails, bikeways and walkways. In addition, the proposed retaining walls in areas susceptible to slumping would not be constructed. Areas currently subject to localized creep, slumping, and small landslides on over-steepened slopes, along incised drainages, and during periods of water saturation would continue to be subject to localized ground failure.

6.4.2 Option 1A Alternative Alignment

Option 1A Alternative Alignment would begin at the existing terminus of the Saugstad/Royer trail, travel across Darling Way bridge (potentially requiring widening of the bridge) and loop under the bridge on the west side of Dry Creek. The alternative would continue south for approximately 900 feet, crossing Dry Creek via Bridge #3 to the southern bank of Cirby Creek, from where it would traverse the existing steep slope down to the existing bench located above the 2-year water surface elevation, and continue within the floodplain along the south side of Cirby Creek toward the I-80 undercrossing. This alternative would require a retaining wall on the south side of Cirby Creek, east of the confluence with Dry Creek. Prior to Bridge #3 (on the north side of Dry Creek), access would be provided to the proposed trail-head parking area at Riverside Avenue and to the future trail extension to Vernon Street. Option 1A Alternative Alignment would require Bridge #3, but would eliminate the need for Bridge #2 and Bridge #4. See Chapter 3, "Project Description," for a description of this alternative, including Exhibit 3-13 of the proposed Option 1A alignment.

As explained on page 4-3 of this Draft EIR, this alternative is analyzed in Chapter 4, and each technical section includes a discussion of the substantial evidence supporting the impact significance conclusion for the Option 1A Alternative Alignment. The discussion that follows is a summary of the technical

analyses for this alternative to explain how this alternative compares to the proposed project. For a full evaluation, please see the appropriate resource section in Chapter 4, "Environmental Setting, Impacts, and Mitigation Measures." See Table 6-1 at the end of this chapter for a summary comparison of impacts between the Option 1A Alternative Alignment and the proposed project.

Aesthetics

The Option 1A Alternative Alignment would cross under Darling Way as described for the Proposed Trail Alignment, but would remain on the south side of the creek, closer to the commercial uses on Riverside Avenue and further from the residences that front Machado Lane. The Option 1A Alternative Alignment would also cross Dry Creek with one bridge (Bridge #3) rather than the two bridges (Bridges #2 and #4) required for the Proposed Trail Alignment. The retaining wall for this option would be located on the south side of Dry Creek, closer to the commercial uses. For these reasons, the trail may be less visible to existing residents under this alternative than with the Proposed Trail Alignment. As with the Proposed Trail Alignment, the actual visual change due to implementation of the Option 1A Alternative Alignment would be relatively low. As discussed for the Proposed Trail Alignment, there would not be light and glare impacts associated with the construction of this alternative. Because there would be one fewer bridge with associated lighting, and the bridge would be further from residences, which have more potential to be light sensitive than commercial land uses, there would be less potential for the Option 1A Alternative Alignment to have adverse effects related to light and glare, and this would remain a less-than-significant impact (see Section 4.1, "Aesthetics").

Air Quality

Although the Option 1A Alternative Alignment would require an additional 765 linear feet of retaining walls or streambank stabilization when compared to the Proposed Trail Alignment, the total number of bridges constructed under the Option 1A Alternative Alignment would be fewer. Construction emissions would be less than under the Proposed Trail Alignment, because emissions from the type of equipment needed to construct these elements would be less than emissions for the heavy equipment needed for bridge construction. This would result in fewer emissions associated with construction activities. However, the Option 1A Alternative Alignment could still potentially exceed PCAPCD's recommended CEQA-level project significance threshold of 82 lbs/day of NO_x during construction; Mitigation Measure 4.2-1 would be required, and the impact would be less than significant after mitigation (see Section 4.2, "Air Quality").

Biological Resources

The Option 1A Alternative Alignment would permanently affect up to 0.75 acre of riparian forest (0.05 acre more than the Proposed Trail Alignment). Option 1A Alternative Alignment would permanently affect up to 4.10 acres of valley oak riparian woodland (0.2 acre less than the Proposed Trail Alignment). Although the Option 1A Alternative Alignment would affect less acreage of valley oak riparian woodland than the Proposed Trail Alignment, it would result in permanent loss and temporary disturbance of wetlands and other waters of the United States, waters of the state, and associated riparian habitat.

Because this option does not require the construction of Bridge #2 or Bridge #4, the total permanent impacts to salmonid aquatic habitat (i.e., aquatic habitat) is 0.01 acres less than the Proposed Trail Alignment (or 0.25 acres). Similarly, temporary impacts to aquatic habitat is 0.03 acres less than the Proposed Trail Alignment (or 0.55 acres). The Option 1A Alternative Alignment would permanently impact 0.023 acre of SRA habitat (or 0.017 acre less than the Proposed Trail Alignment) and would temporarily impact 0.034 acre SRA habitat (or 0.109 acre more than the Proposed Trail Alignment).

Under the Option 1A Alternative Alignment, a total of 12 elderberry shrubs (as compared to 15 elderberry shrubs under the Proposed Trail Alignment) could be adversely impacted through direct removal of elderberry shrubs, ground-disturbing construction (cut/fill) within the root zone of the shrubs, or permanent removal of riparian habitat within 165 feet of elderberry shrubs. It is anticipated that implementation of this

alternative would result in the removal of a total of 0.89 acres (as compared to 1.22 acres under the Proposed Trail Alignment) of suitable riparian habitat within 165 feet of elderberry shrubs.

Because this option does not require the construction of Bridge #2 or Bridge #4, the total permanent impacts to Sanford's arrowhead habitat is 0.01 acre less than the Proposed Trail Alignment (or 0.25 acres). Similarly, temporary impacts to Sanford's arrowhead habitat is 0.03 acres less than the Proposed Trail Alignment (or 0.55 acres).

The Option 1A Alternative Alignment would result in similar impacts to nesting raptors, nesting special-status birds, western pond turtle, roosting special-status bats, migratory fish, and similar impacts to sensitive habitats as would occur with the Proposed Trail Alignment.

On balance, the Option 1A Alternative Alignment would have slightly less impact on biological resources than the Proposed Trail Alignment; however, all mitigation measures identified for the Proposed Trail Alignment would be required (see Section 4.3, "Biological Resources").

Cultural Resources

The Option 1A Alternative Alignment would cross Dry Creek via Bridge #3. By remaining on the south bank of Cirby Creek, this alternative would not require the construction of Bridge# 2 or Bridge #4. The total number of bridges constructed under the Option 1A Alternative Alignment would be fewer than the number of bridges constructed under the Proposed Trail Alignment, which would reduce the area of construction for ground-disturbing activities that could damage or destroy as yet undiscovered archaeological resources or human remains as compared to the Proposed Trail Alignment. Mitigation Measures 4.4-1 and 4.4-2 would be required, and these impacts would be less than significant after mitigation (see Section 4.4, "Cultural Resources").

Geology and Soils

The Option 1A Alternative Alignment would reduce the area of temporary and permanent impacts by 0.40 acre and 0.29 acre, respectively. There would be a corresponding 0.72 acre reduction in construction in the area mapped as slight erosion hazard when used for roads and trail, and a 0.03 acre construction increase in areas not rated. There would be no change in the bank erosion severity along this alternative compared to the Proposed Trail Alignment. Overall, impacts under this alternative would be less than significant but to a lesser degree than those that would occur with the proposed project (see Section 4.5, "Geology and Soils").

Greenhouse Gas Emissions and Climate Change

The total number of bridges constructed under the Option 1A Alternative Alignment would be fewer than the number of bridges constructed under the Proposed Trail Alignment, which would result in fewer GHG emissions associated with bridge construction activities. Construction emissions would be less than under the Proposed Trail Alignment, because emissions from the lighter duty-type of equipment needed to construct these elements would be less than emissions for the heavy equipment needed for bridge construction. Thus, construction activities under Option 1A Alternative Alignment would be less than estimated emissions for the Proposed Trail Alignment and would also be a less-than-significant impact (see Section 4.6, "Greenhouse Gas Emissions and Climate Change").

Hazards and Hazardous Materials

The Option 1A Alternative Alignment could require more activity in the southwest corner of the access and staging area on Riverside Avenue, which is the site of the former facilities at 649 Riverside Avenue. The Option 1A Alternative Alignment would reduce the area of temporary impacts by 0.40 acre, which would result in a proportional reduction in the potential to encounter undocumented contamination that has not been characterized or remediated. Mitigation Measure 4.7-4 would be required. Overall, impacts under this alternative would be similar to those that would occur with the proposed project and would be less than significant (see Section 4.7, "Hazards and Hazardous Materials").

Hydrology and Water Quality

Where the Proposed Trail Alignment would cross Dry Creek via Bridge #2 and continue on the northern bank of Cirby Creek, the Option 1A Alternative Alignment would cross Dry Creek via Bridge #3. By remaining on the south bank of Cirby Creek, this alternative would not require the construction of Bridge #2 or Bridge #4. The streambank of Cirby Creek is moderately erosive in this area, and the proximity of private property would require the path to be located near the top of the bank. For this reason, the Option 1A Alternative Alignment would require an additional 765 linear feet of retaining walls or streambank stabilization when compared to the Proposed Trail Alignment. The Option 1A Alternative Alignment would require the construction of Bridge #3 instead of bridges #2 and #4 and would, therefore, have a smaller, but still significant, encroachment footprint within the 100-year floodplain when compared to the Proposed Trail Alignment. Additionally, the Option 1A Alternative Alignment would comply with the protective conditions of the existing CDFW Routine Maintenance Agreement and would have a less-than-significant impact on hydrology and water quality. Overall, impacts under this alternative would be slightly greater than those that would occur with the project (see Section 4.8, “Hydrology and Water Quality”).

Land Use and Planning

Consistency with relevant land use plans under the Option 1A Alternative Alignment would be the same as under the Proposed Trail Alignment because the alternative travels through the same land use designations and zoning and contains the same elements as the Proposed Trail Alignment. Effects on established communities under the Option 1A Alternative Alignment would be the same type and of the same magnitude as under the Proposed Trail Alignment, although this alternative would require the acquisition of 17,984 more square feet than the Proposed Trail Alignment. The Option 1A Alternative Alignment would include right-of-way requirements on one additional parcel and on a larger portion of one parcel than would be required under the proposed trail alignment. Overall, impacts under this alternative would be greater than those that would occur with the proposed project and would be less than significant (see Section 4.9, “Land Use and Planning”).

Noise

The location of construction activities under the Option 1A Alternative Alignment would vary slightly based on differences in the alignment of the northernmost section of the trail south of Darling Way and east of Riverside Avenue. This alternative would shift the trail alignment to the south side of Cirby Creek and would be closer to existing commercial land uses and further away from residential land uses located north of Cirby Creek. Additionally, the total number of bridges under the Option 1A Alternative Alignment would be fewer than the number of bridges constructed under the Proposed Trail Alignment, which would result in less noise overall from bridge construction activities. Furthermore, Bridge #3 would be located further away from existing residential land uses located north of Cirby Creek than Bridges #2 and #4 under the Proposed Trail Alignment. For all other sections of the trail, both the trail alignment and bridge locations would be the same as the Proposed Trail Alignment, so significant vibration impacts could occur. Mitigation Measures 4.10-1a, 4.10-1b, 4.10-1c, and 4.10-3 would be required, however impacts related to short-term construction noise would be remain significant and unavoidable after mitigation. While there would be some differences in the locations of the trail and changes in proximity to sensitive receptors would occur, the magnitude and duration of construction activities and associated noise would not be substantially different under the Option 1A Alternative Alignment compared to the Proposed Trail Alignment (see Section 4.10, “Noise”).

Public Services

The Option 1A Alternative Alignment would cross Dry Creek via Bridge #3. By remaining on the south bank of Cirby Creek, this alternative would not require the construction of Bridge# 2 or Bridge #4. This change in design would not affect potential impacts related to fire protection and police protection services. Overall, this alternative would result in the same less-than-significant impacts to existing utilities and service systems as identified for the proposed project (see Section 4.11, “Public Services”).

Recreation

Access to recreational facilities under the Option 1A Alternative Alignment would be the same type and magnitude as the Proposed Trail Alignment and is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. Recreation-related impacts associated under the Option 1A Alternative Alignment would be less than significant similar to the Proposed Trail Alignment (see Section 4.12, "Recreation").

Utilities

The Option 1A Alternative Alignment would cross Dry Creek via Bridge #3. By remaining on the south bank of Cirby Creek, this alternative would not require the construction of Bridge #2 or Bridge #4. This change in design would result in the same less-than-significant impacts to existing public services as identified for the Proposed Trail Alignment (see Section 4.13, "Utilities").

ABILITY TO ACHIEVE PROJECT OBJECTIVES

The Option 1A Alternative Alignment would be similar to the proposed project and would meet most of the project objectives in a similar manner as the proposed project. This alternative would meet the objective to develop a continuous trail alignment that maximizes opportunities for bicycle and pedestrian travel separate from roadway vehicle traffic by connecting neighborhoods, shopping and employment, schools, parks, transit, and other existing and planned trails, bikeways and walkways. Access to the Dry Creek, Cirby Creek, and Linda Creek open space areas would be enhanced for public recreational and educational opportunities, utility maintenance, open space maintenance, and emergency response. Effects to the natural habitat and special-status wildlife species of the Dry Creek, Cirby Creek, and Linda Creek open space areas would be similar to the proposed project. On balance, the Option 1A Alternative Alignment would have slightly less impact on biological resources than the Proposed Trail Alignment. This alternative would slightly reduce trail connectivity by not providing a connection to Hernandez Lane. Also, this alternative would reduce maintenance and public safety access to the open space behind Hernandez Lane. This alternative would not meet the project objective related to seeking the most effective and efficient balance of capital cost, operational and maintenance costs, environmental and community impacts, and public benefits because preliminary cost estimates determined that construction costs for Option 1A would be greater than the proposed project and Option 1C. In addition, construction of Option 1A would be more challenging than the proposed project because of the steep terrain.

6.4.3 Option 1C Alternative Alignment

The Option 1C Alternative Alignment would begin just before the existing terminus of the Saugstad/Royer trail, travel under the bridge on the east side of Dry Creek and continue south for approximately 700 feet. A spur to the west would provide access to the proposed trail head parking and future trail extension toward Vernon Street, via Bridge # 2 over Dry Creek. This alternative would continue along the east side of Dry Creek and Cirby Creek for approximately 400 feet before crossing Cirby Creek via Bridge #4 to the southern bank of Cirby Creek, from where it would continue within the floodplain along the south side of Cirby Creek toward the I-80 undercrossing. The Option 1C Alternative Alignment would not require the widening of the Darling Way bridge. However, three retaining walls on the east side of Dry Creek would be required. Similar to the Proposed Trail Alignment, this alternative would include the construction of two bridges (#2 and #4). See Chapter 3, "Project Description," for a description of this alternative, including an Exhibit 3-14 of the proposed Alignment Option 1C.

The discussion that follows is a summary of how this alternative compares to the proposed project for each resource topic. For a full evaluation, please see the appropriate resource section in Chapter 4, "Environmental Setting, Impacts, and Mitigation Measures." See Table 6-1 at the end of this chapter for

a table summarizing the comparison of impacts between the Option 1C Alternative Alignment and the proposed project.

Aesthetics

The Option 1C Alternative Alignment would require the same bridges and a similar undercrossing as the Proposed Trail Alignment, but would be located closer to the residences that front Hernandez and Machado Lanes. Because this alternative would result in constructing elements of the trail closer to residences than the Proposed Trail Alignment, there could be more potential for the perceived visual character or quality of the project area to be effected by construction or operation of the trail since it would be more visible to area residents. As discussed for the Proposed Trail Alignment, there would not be light and glare impacts associated with the construction of the Option 1C Alternative Alignment. This alternative would require the same bridges and a similar undercrossing as the Proposed Trail Alignment. The Darling Way undercrossing would be on the side of the creek closer to residences, but is unlikely to affect these receptors because any lighting would be below street level, and this would remain a less-than-significant impact (see Section 4.1, “Aesthetics”).

Air Quality

The Option 1C Alternative Alignment would not require the widening of the Darling Way bridge, which would result in fewer emissions associated with bridge construction activities. Thus, construction and use-related activities combined under the Option 1C Alternative Alignment would be less than estimated emissions for the Proposed Trail Alignment. However, the Option 1C Alternative Alignment could still potentially exceed PCAPCD’s recommended CEQA-level project significance threshold of 82 lbs/day of NO_x during construction; Mitigation Measure 4.2-1 would be required, and the impact would be less than significant after mitigation (see Section 4.2, “Air Quality”).

Biological Resources

Under the Option 1C Alternative Alignment permanent impacts to wetlands and/or waters would be 0.01 acre less than the Proposed Trail Alignment, and the Option 1C Alternative Alignment temporary impacts would be 0.05 acre less than the Proposed Trail Alignment. The Option 1C Alternative Alignment would permanently affect up to 1.25 acres of riparian forest (0.55 acre more than the Proposed Trail Alignment) and temporarily disturb up to 0.90 acre of riparian forest (0.20 acre more than the Proposed Trail Alignment). Project implementation with the Option 1C Alternative Alignment would permanently affect up to 4.25 acres of valley oak riparian woodland (0.05 acre less than the Proposed Trail Alignment) and temporarily disturb up to 4.85 acres of valley oak riparian woodland (0.05 acre less than the Proposed Trail Alignment).

Under the Option 1C Alternative Alignment permanent impacts to salmonid habitat (i.e., aquatic habitat) would be 0.01 acres less than the Proposed Trail Alignment (or 0.25 acres), and the Option 1C Alternative Alignment temporary impacts would be 0.05 acres less than the Proposed Trail Alignment. Implementation of the Option 1C Alternative Alignment would result in an anticipated removal of 0.032 acre of SRA (or 0.019 acre more than the Proposed Trail Alignment) and temporary effects on SRA to be 0.25 acre (or 0.072 acre more than the Proposed Trail Alignment).

Under the Option 1C Alternative Alignment, a total of 14 elderberry shrubs (as compared to 15 elderberry shrubs under the Proposed Trail Alignment) could be adversely impacted through direct removal of elderberry shrubs, ground-disturbing construction (cut/fill) within the root zone of the shrubs, or permanent removal of riparian habitat within 165 feet of elderberry shrubs. It is anticipated that implementation of the project would result in the removal of a total of 0.87 acres (as compared to 1.22 acres under the Proposed Trail Alignment) of suitable riparian habitat.

Under the Option 1C Alternative Alignment permanent impacts to Sandford’s arrowhead potential habitat would be 0.01 acres less than the Proposed Trail Alignment (or 0.25 acres), and Option 1C Alternative Alignment temporary impacts would be 0.05 acres less than the Proposed Trail Alignment.

The Option 1C Alternative Alignment would result in similar impacts to nesting raptors, nesting special-status birds, western pond turtle, roosting special-status bats, migratory fish, and similar impacts to sensitive habitats as would occur with the Proposed Trail Alignment.

On balance, the Option 1C Alternative Alignment would have slightly less impact on biological resources than the Proposed Trail Alignment, however all mitigation measures identified for the Proposed Trail Alignment would be required (see Section 4.3, “Biological Resources”).

Cultural Resources

The Option 1C Alternative Alignment would not require the widening of the Darling Way Bridge, which would reduce the amount of excavation and other ground-disturbing activities that could damage or destroy as yet undiscovered archaeological resources or human remains as compared to the Proposed Trail Alignment. Mitigation Measures 4.4-1 and 4.4-2 would be required, and these impacts would be less than significant after mitigation (see Section 4.4, “Cultural Resources”).

Geology and Soils

With implementation of the Option 1C Alternative Alignment, the trail would be located in an additional area of high risk, as identified in the trail risk assessment (PSOMAS 2014). The section of trail along the east side of Dry Creek downstream of the Darling Way Bridge would be located in proximity to the eroding creek bank in an area where the stream power is high. Key constraints in this area include the distance between the top of the creek bank and the existing fence line of the adjacent private properties, an existing sewer trunk line, and a number of large trees. A reinforced concrete retaining wall would be constructed along the property line, and the trail would be located up against the property line to maximize setback from the creek. Trail width would be reduced to 8 feet, and a post and cable fence would be constructed on the western side of the trail.

The Option 1C Alternative Alignment would decrease temporary impacts by approximately 0.57 acre, while increasing permanent impacts by 0.59 acre. This would result in a net increase of 0.02 acre mapped as slight erosion hazard when used for trails and roads. There would also be an increase in the length of bank affected; an additional 146.29 linear feet of moderately eroded bank would be affected (67.98 feet of temporary impacts and 78.31 acres of permanent impacts). Overall, impacts under this alternative would be less than significant but to slightly greater degree than those that would occur with the proposed project (see Section 4.5, “Geology and Soils”).

Greenhouse Gas Emissions and Climate Change

The Option 1C Alternative Alignment would not require the widening of the Darling Way bridge, which would result in fewer emissions associated with bridge construction activities. Thus, construction and use-related activities under the Option 1C Alternative Alignment would be less than estimated emissions for the Proposed Trail Alignment, and this would be a less-than-significant impact (see Section 4.6, “Greenhouse Gas Emissions and Climate Change”).

Hazards and Hazardous Materials

The Option 1C Alternative Alignment would shift trail construction at the westernmost end of the project site from the west side of Dry Creek to the east side. This would separate earthwork that could encounter hazardous materials from the industrial and commercial properties along Riverside Avenue more than the Proposed Trail Alignment. The Option 1C Alternative Alignment would also reduce the area of temporary impacts by approximately 0.57 acre, which would result in a proportional reduction in the potential to encounter undocumented contamination that has not been characterized or remediated. Mitigation Measure 4.7-4 would be required and impacts would be less than significant after mitigation. Overall, impacts under this alternative would be less than those that would occur with the proposed project (see Section 4.7, “Hazards and Hazardous Materials”).

Hydrology and Water Quality

The Option 1C Alternative Alignment is the same as the Proposed Trail Alignment with the exception that in the Sheet 1 Segment, the multi–use trail would be located on the northeastern side of Dry Creek. In the Sheet 1 Segment, the northeastern bank of Dry Creek is steep and erosive with little distance between the top of the bank and the adjacent private property (CBEC 2014). Because of this, implementation of this alternative would require an additional 1,080 linear feet of streambank stabilization. The Option 1C Alternative Alignment would have the same bridges and undercrossings described above under the Proposed Trail Alignment, with the exception of the widening of the Darling Way Bridge (Bridge #1), and this alternative would have the same construction and use-related impacts. Because the Option 1C Alternative Alignment would not require the widening of Darling Way Bridge (Bridge #1), it would therefore have a smaller encroachment footprint within the 100-year floodplain when compared to the Proposed Trail Alignment. Option 1C would have a less-than-significant impact on hydrology and water quality. Overall, impacts under this alternative would be slightly greater than those that would occur with the proposed project (see Section 4.8, “Hydrology and Water Quality”).

Land Use and Planning

Consistency with relevant land use plans under the Option 1C Alternative Alignment would be the same as under the Proposed Trail Alignment because the alternative travels through the same land use designations, zoning, and contains the same elements as the Proposed Trail Alignment. Effects on established communities under the Option 1C Alternative Alignment would be the same type and magnitude of as under the Proposed Trail Alignment, although this alternative would require the acquisition of 55,881 fewer square feet than the Proposed Trail Alignment, and this impact would be less than significant. Compared to the proposed project, Option 1C Alternative Alignment would include small right-of-way requirements on two parcels on the east side of Dry Creek and one parcel north of Darling Way. It would require less acquisition on five parcels along Riverside Avenue. Overall, impacts under this alternative would be less than those that would occur with the proposed project (see Section 4.9, “Land Use and Planning”).

Noise

The location of construction activities under the Option 1C Alternative Alignment would vary somewhat based on differences in the alignment of the northernmost section of trail near Darling Way and east of Riverside Avenue. The location of the trail alignment under this alternative would shift to the east side of Dry Creek and would be within 50 feet or less of existing residential land uses. This alternative would not require the widening of the Darling Way bridge; therefore, the total number of bridges requiring construction under the Option 1C Alternative Alignment in the areas near Darling Way and east of Riverside Avenue would be fewer than the number of bridges constructed under the Proposed Trail Alignment, which would result in less noise overall from bridge construction activities; however, a series of retaining walls would be constructed under this alternative along the trail alignment both north and south of Darling Way and north of Bridge #2. For all other sections of the trail, both the trail alignment and bridge locations would be the same as the Proposed Trail Alignment. The construction of retaining walls would result in construction activity occurring closer to residences under Option 1C Alternative Alignment than under the Proposed Trail Alignment. Mitigation Measures 4.10-1a, 4.10-1b, 4.10-1c, and 4.10-3 would be required, however impacts related to short-term construction noise would remain significant and unavoidable after mitigation. Although the magnitude, frequency, and duration of construction activities would be similar to those under the Proposed Trail Alignment, the activities may occur closer to residences under Option 1C Alternative Alignment compared to the Proposed Trail Alignment (see Section 4.10, “Noise”).

Public Services

The Option 1C Alternative Alignment would not require the widening of the Darling Way Bridge, but would include the construction of Bridge #2 and Bridge #4. This change in design would not affect potential impacts related to fire protection and police protection services. Overall, this alternative would

result in the same less-than-significant impacts to existing utilities and service systems as identified for the proposed project (see Section 4.11, “Public Services”).

Recreation

Access to recreational facilities under the Option 1C Alternative Alignment would be the same type and magnitude as the Proposed Trail Alignment and is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. Recreation-related impacts associated under the Option 1C Alternative Alignment would be less than significant and would be similar to the Proposed Trail Alignment (see Section 4.12, “Recreation”).

Utilities

The Option 1C Alternative Alignment would not require the widening of the Darling Way Bridge, but would include the construction of Bridge #2 and Bridge #4. This change in design would result in the same less-than-significant impacts to existing utilities and service systems as identified for the Proposed Trail Alignment (see Section 4.13, “Utilities”).

ABILITY TO ACHIEVE PROJECT OBJECTIVES

The Option 1C Alternative Alignment would be similar to the proposed project and would meet the project objectives in a similar manner as the proposed project. This alternative would meet the objective to develop a continuous trail alignment that maximizes opportunities for bicycle and pedestrian travel separate from roadway vehicle traffic by connecting neighborhoods, shopping and employment, schools, parks, transit, and other existing and planned trails, bikeways and walkways. Access to the Dry Creek, Cirby Creek, and Linda Creek open space areas would be enhanced for public recreational and educational opportunities, utility maintenance, open space maintenance, and emergency response. Effects to the natural habitat and special-status wildlife species of the Dry Creek, Cirby Creek, and Linda Creek open space areas would be similar to the proposed project. On balance, the Option 1C Alternative Alignment would have slightly less impact on biological resources than the Proposed Trail Alignment. This alternative would attain the project objective related to seeking the most effective and efficient balance of capital cost, operational and maintenance costs, environmental and community impacts, and public benefits in a similar manner as the proposed project because preliminary cost estimates were similar for Option 1C and Option 1B (the proposed project).

6.4.4 Option 5A Alternative Alignment

The Option 5A Alternative Alignment would begin just south of the confluence of Cirby Creek and Linda Creek and remain on the south side, following the southern bank of Linda Creek within City-owned property. The trail would travel eastward and pass beneath Sunrise Avenue. Connecting ramps would provide access to both sides of Sunrise Avenue. This alternative would continue to just east of the existing drainage outfall structure at which point it would cross to the north side of Linda Creek via Bridge #14, before continuing further east toward Oak Ridge Drive. The Option 5A Alternative Alignment would eliminate the need for Bridge #13 (see Chapter 3, “Project Description” Exhibit 3-15 Alignment Option 5A).

The discussion that follows is a summary of how this alternative compares to the proposed project for each resource. For a full evaluation, please see the appropriate resource section in Chapter 4, “Environmental Setting, Impacts, and Mitigation Measures.” See Table 6-1 at the end of this chapter for a summary comparison of impacts between the Option 5A Alternative Alignment and the proposed project.

Aesthetics

The Option 5A Alternative Alignment would cross under Sunrise Avenue on the south side of Linda Creek, rather than the north side as described for the Proposed Trail Alignment. With this alternative, the bridge over Linda Creek (Bridge #14) would be constructed on the eastern side of Sunrise Avenue, immediately adjacent to residences on either side of the creek. This bridge may be visible from nearby residences, while the corresponding bridge for the Proposed Trail Alignment (Bridge #13) would most likely not, because the residences located to the north of Bridge #13 are screened by at least 200 feet of dense vegetation. This alternative also includes a connection to the residences on Meadow Gate Drive, which would increase the visibility of the project. As discussed for the Proposed Trail Alignment, the actual visual change due to implementation of this alternative would be relatively low. Construction of the Option 5A Alternative Alignment would not result in substantial light or glare for the same reasons discussed for the Proposed Trail Alignment. In this commercial area, which already has ample street and business lighting, this change would not substantially affect views of the project area. Installation of Bridge #14 instead of Bridge #13 would result in a bridge with associated illumination in closer proximity to residences than the Proposed Trail Alignment. These impacts would be less than significant (see Section 4.1, “Aesthetics”).

Air Quality

Implementing the Option 5A Alternative Alignment would change the location of one bridge (#14 rather than #13), but would not change the number of bridges proposed, which would result in approximately the same emissions associated with bridge construction activities. Thus, estimated emissions for construction and use-related activities under the Option 5A Alternative Alignment would be the same as the Proposed Trail Alignment. However, Option 5A Alternative Alignment could still potentially exceed PCAPCD’s recommended CEQA-level project significance threshold of 82 lbs/day of NO_x during construction; Mitigation Measure 4.2-1 would be required, and the impact would be less than significant after mitigation (see Section 4.2, “Air Quality”).

Biological Resources

The Option 5A Alternative Alignment would have the same permanent and temporary riparian forest impact as the Proposed Trail Alignment. However, the Option 5A Alternative Alignment would permanently affect 4.60 acres of valley oak riparian woodland (0.30 acre more than the Proposed Trail Alignment) and temporarily disturb 5.10 acres of valley oak riparian woodland (0.20 acre more than the Proposed Trail Alignment). Project implementation would result in permanent loss and temporary disturbance of wetlands and other waters of the United States, waters of the state, and associated riparian habitat.

The permanent impacts to salmonid habitat under Option 5A Alternative Alignment would be 0.0005 acre more than the Proposed Trail Alignment, and the temporary impacts to wetlands and/or waters would be 0.001 acres less than the Proposed Trail Alignment. No riparian impacts are expected from implementation of Option 5A Alternative Alignment. However, based on the analysis for SRA, implementation of the Option 5A Alternative Alignment would result in an anticipated removal of 0.022 acre of SRA (or 0.009 acre more than the Proposed Trail Alignment) and temporary effects on SRA to be 0.16 acre (or 0.059 acre more than the Proposed Trail Alignment).

Adverse impacts to VELB habitat would be the same under Option 5A Alternative Alignment as compared to the Preferred Trail Alignment. Under Option 5A Alternative Alignment, total of 15 elderberry shrubs could be adversely impacted through direct removal of elderberry shrubs, ground-disturbing construction (cut/fill) within the root zone of the shrubs, or permanent removal of riparian habitat within 165 feet of elderberry shrubs. It is anticipated that implementation of the project would result in the removal of a total of 1.22 acres of suitable riparian habitat.

The permanent impacts to Sanford's arrowhead potential habitat under Option 5A Alternative Alignment would be 0.0005 acre more than the Proposed Trail Alignment, and the temporary impacts to Sadford's arrowhead potential habitat would be 0.001 acres less than the Proposed Trail Alignment.

The Option 5A Alternative Alignment would result in similar impacts to nesting raptors, nesting special-status birds, western pond turtle, roosting special-status bats, migratory fish, and similar impacts to sensitive habitats as would occur with the Proposed Trail Alignment.

On balance, the Option 5A Alternative Alignment would have slightly more impact on biological resources than the Proposed Trail Alignment, however all mitigation measures identified for the Proposed Trail Alignment would be required (see Section 4.3, "Biological Resources").

Cultural Resources

The Option 5A Alternative Alignment would change the location of one bridge (#14 rather than #13), but would not change the number of bridges proposed. Therefore, the amount of excavation and other ground-disturbing activities that could damage or destroy as yet undiscovered archaeological resources or human remains would be the same as the Proposed Trail Alignment. Mitigation Measures 4.4-1 and 4.4-2 would be required, and these impacts would be less than significant after mitigation (see Section 4.4, "Cultural Resources").

Geology and Soils

The Option 5A Alternative Alignment would increase temporary and permanent impacts by 0.13 acre and 0.22 acre, respectively. There would be a corresponding increase of 0.43 acre mapped as slight erosion hazard for roads and trails and a decrease of 0.07 acre not rated. Areas with moderate erosion hazard would be slightly less effected during construction (a reduction of 0.03 acre), but would make up slightly more of the project footprint (an increase of 0.02 acre). There would be no change in the bank erosion severity along the alignment. Overall, impacts under this alternative would be less than significant but to a greater degree than those that would occur with the proposed project (see Section 4.5, "Geology and Soils").

Greenhouse Gas Emissions and Climate Change

Implementing the Option 5A Alternative Alignment would change the location of one bridge (#14 rather than #13), but would not change the number of bridges proposed, which would result in the same emissions associated with bridge construction activities. Thus, construction and use-related activities under this alternative would be the same as estimated emissions for the Proposed Trail Alignment, and this would be a less-than-significant impact (see Section 4.6, "Greenhouse Gas Emissions and Climate Change").

Hazards and Hazardous Materials

The Option 5A Alternative Alignment would increase the area of temporary impacts by 0.13 acre, which would result in a proportional increase in the potential to encounter undocumented contamination that has not been characterized or remediated. Mitigation Measure4.7-5 would be required, and impacts would be less than significant after mitigation. Overall, impacts under this alternative would be slightly greater than those that would occur with the proposed project (see Section 4.7, "Hazards and Hazardous Materials").

Hydrology and Water Quality

The Option 5A Alternative Alignment deviates from the Proposed Trail Alignment just west of Bridge #13. Bridge #13 would not be constructed, and this alternative would remain on the south bank of Cirby Creek until crossing to the north bank via Bridge #14. The Option 5A Alternative Alignment would include both an undercrossing of Sunrise Avenue and connecting paths to both sides of Sunrise Avenue. Both the Proposed Trail Alignment and this alternative would make extensive use of retaining walls through this section of the path; however, this alternative would require an additional 635 linear

feet when compared to the Proposed Trail Alignment. Under the Option 5A Alternative Alignment, Bridge #13 would not be constructed, and this alternative would not result in the significant impact related to the 100-year floodway described under the Proposed Trail Alignment. This alternative would cross Linda Creek via Bridge #14 and would result in no encroachments within the regulated floodway and, therefore, would not result in an increase in the 100-year WSE; and the magnitude of the impacts would be less than those that would occur with the proposed project. Option 5A Alternative Alignment would have a less-than-significant impact on hydrology and water quality. (see Section 4.8, “Hydrology and Water Quality”).

Land Use and Planning

Consistency with relevant land use plans under the Option 5A Alternative Alignment would be the same as under the Proposed Trail Alignment because the alternative travels through the same land use designations, zoning, and contains the same elements as the Proposed Trail Alignment. Effects on established communities under the Option 5A Alternative Alignment would be the same type and magnitude of as under the Proposed Trail Alignment, although this alternative would require the acquisition of 14,603 fewer square feet than the Proposed Trail Alignment, and the impact would be less than significant. Compared to the proposed project, Option 5A Alternative Alignment would not require acquisition from five parcels north of Linda Creek, but it would require acquisition from three parcels south of Linda Creek. Overall, impacts under this alternative would be less than those that would occur with the proposed project (see Section 4.9, “Land Use and Planning”).

Noise

The location of construction activities under the Option 5A Alternative Alignment would vary from the Proposed Trail Alignment due to differences in the trail near Sunrise Avenue along Linda Creek. The location of the trail under this alternative would shift to the south side of Linda Creek, which would result in trail paving and construction activities located further away from existing residential land uses on the north side of Linda Creek. The alignment under this alternative would be closer to existing commercial uses and some existing residential uses south of Linda Creek based on a trail spur that would connect to Meadow Gate Drive. A series of retaining walls would be constructed under the Option 5A Alternative Alignment on both sides of Sunrise Avenue, compared to only on the north side of Linda Creek under the Proposed Trail Alignment. This alternative would also require the construction of Bridge #14 over Linda Creek east of Sunrise Avenue, rather than Bridge #13 west of Sunrise Avenue. Thus, although the magnitude, frequency, and duration of construction activities under Option 5A Alternative Alignment would be similar than compared to the Proposed Trail Alignment, the activities may occur closer to residences under Option 5A Alternative Alignment compared to the Proposed Trail Alignment. Mitigation Measures 4.10-1a, 4.10-1b, 4.10-1c, and 4.10-3 would be required, however impacts related to short-term construction noise would be remain significant and unavoidable after mitigation (see Section 4.10, “Noise”). If the caisson drilling for Bridge #14 cannot feasibly be located greater than 43 feet from occupied structures, vibration human disturbance impacts would also remain significant and unavoidable after mitigation.

Public Services

Implementing the Option 5A Alternative Alignment would change the location of one bridge (#14 rather than #13), but would not change the number of bridges proposed. This change in design would not affect potential impacts related to fire protection and police protection services. Overall, this alternative would result in the same less-than-significant impacts to existing utilities and service systems as identified for the proposed project (see Section 4.11, “Public Services”).

Recreation

Access to recreational facilities under the Option 5A Alternative Alignment would be the same type and magnitude as the Proposed Trail Alignment and is not expected to result in a substantial number of additional users at existing recreation facilities such that new facilities would need to be built to accommodate increased use. Recreation-related impacts associated under the Option 5A Alternative

Alignment would be less than significant and would be similar to the Proposed Trail Alignment (see Section 4.12, “Recreation”).

Utilities

Implementing the Option 5A Alternative Alignment would change the location of one bridge (#14 rather than #13), but would not change the number of bridges proposed. This change in design would result in the same less-than-significant impacts to existing utilities and service systems as identified for the Proposed Trail Alignment (see Section 4.13, “Utilities”).

ABILITY TO ACHIEVE PROJECT OBJECTIVES

The Option 5A Alternative Alignment would be similar to the proposed project and would meet the basic project objectives in a similar manner as the proposed project. This alternative would meet the objective to develop a continuous trail alignment that maximizes opportunities for bicycle and pedestrian travel separate from roadway vehicle traffic by connecting neighborhoods, shopping and employment, schools, parks, transit, and other existing and planned trails, bikeways and walkways. This alternative would enhance trail connectivity when compared to proposed project by providing access to the west side of Sunrise Avenue and to Meadow Gate Drive neighborhood. Access to the Dry Creek, Cirby Creek, and Linda Creek open space areas would be enhanced for public recreational and educational opportunities, utility maintenance, open space maintenance, and emergency response. Effects to the natural habitat and special-status wildlife species of the Dry Creek, Cirby Creek, and Linda Creek open space areas would be similar to the proposed project. On balance, the Option 5A Alternative Alignment would have slightly more impact on biological resources than the Proposed Trail Alignment. This alternative would be similar to the proposed project in attaining the project objective related to seeking the most effective and efficient balance of capital cost, operational and maintenance costs, environmental and community impacts, and public benefits because estimated construction costs would be similar. However, preliminary cost estimates for Option 5A were slightly higher than Option 5B (the proposed project).

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) states that when the No Project Alternative is identified as the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives. Per the analysis conducted for this Draft EIR for the Dry Creek Greenway Multi-Use Trail Project, the environmentally superior alternative would be the No Project Alternative because it would not result in new impacts on the project site. However, as discussed above, the No Project Alternative would not achieve any of the project’s objectives. Among the other alternatives, Option 1A Alignment Alternative would be the environmentally superior alternative.

As discussed above and in the analyses in Chapter 4, the magnitude of several impacts would be less than the proposed project with Option 1A Alignment Alternative (see Table 6-1). This alternative would result in the construction of one fewer bridge than under the proposed project because it would construct Bridge #3, rather than Bridges #2 and #4, but additional retaining walls would be required. This would result in less construction than under the proposed project. Under Alternative 5A, Impact 4.8-3 (Alter or redirect 100-year flood flows, or expose people or structures to risk of injury or damage by flood waters) would be less than significant because this alternative would not include the construction of Bridge #13.

Table 6-1 Comparison of the Environmental Impacts of the Alternatives in Relation to the Proposed Project

Environmental Topic	Proposed Project	No Project	Option 1A Alternative Alignment	Option 1C Alternative Alignment	Option 5A Alternative Alignment
Aesthetics	LTS	NI	LTS (Less)	LTS (Greater)	LTS (Greater)
Air Quality	LTS	NI	LTS (Less)	LTS (Less)	LTS (Similar)
Biological Resources	LTSM	NI	LTSM (Less)	LTSM (Less)	LTSM (Greater)
Cultural Resources	LTSM	NI	LTSM (Less)	LTSM (Less)	LTSM (Similar)
Geology and Soils	LTS	LTS (Greater)	LTS (Less)	LTS (Greater)	LTS (Greater)
Greenhouse Gas Emissions and Climate Change	LTS	LTS (Less)	LTS (Less)	LTS (Less)	LTS (Similar)
Hazards and Hazardous Materials	LTSM	NI	LTSM (Similar)	LTSM (Less)	LTSM (Greater)
Hydrology and Water Quality	LTS	LTS (Greater)	LTS (Greater)	LTS (Greater)	LTS (Less)
Land Use and Planning	LTS/Beneficial	LTS (Greater)	LTS/Beneficial (Greater)	LTS/Beneficial (Less)	LTS/Beneficial (Less)
Noise	SU	NI	SU (Similar)	SU (Greater)	SU (Greater)
Public Services	LTS	LTS (Greater)	LTS (Similar)	LTS (Similar)	LTS (Similar)
Recreation	LTS	NI	LTS (Similar)	LTS (Similar)	LTS (Similar)
Utilities	LTS	NI	LTS (Similar)	LTS (Similar)	LTS (Similar)
Meet Project Objectives?	Yes	No	No	Yes	Yes

Impact Status:

NI=No Impact LTS = Less Than Significant Impact LTSM = LTS with Mitigation

Source: Data compiled by Ascent Environmental in 2016

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