

## 4.E Noise

### Introduction

This section summarizes information on the noise environment in the St. Helena planning area and provides an evaluation of the noise-related effects of the proposed General Plan Update. The analysis considers existing and projected noise along major roadways, in addition to other noise sources in the area. Mitigation measures are recommended that address General Plan Update policies and implementing actions.

The noise element of a city's general plan is a comprehensive approach for including noise control in the planning process. It is a tool for achieving and maintaining environmental noise levels that are compatible with specific land use types. The Public Health, Safety and Noise Element of the proposed General Plan Update identifies noise-sensitive land uses and noise sources, defines areas of noise impact, and establishes goals, policies, and implementing actions to protect people from excessive noise and vibration.

### Setting

#### Background Information on Noise

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*Noise is defined as unwanted sound.*

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Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. Thus, an increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, and so on. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 4.E-1.

**TABLE 4.E-1  
 DEFINITIONS OF ACOUSTICAL TERMS**

<b>Term</b>	<b>Definitions</b>
Decibel, dB	A unit describing, the amplitude of sound, equal to 10 times the logarithm to the base 10 of the ratio of two like quantities.
Sound Pressure Level (SPL)	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Ten times the logarithm to the base 10 of the ratio between the square of the sound to the square of the reference sound pressure of 20 <sub>u</sub> Pascals Sound pressure level is the quantity that is directly measured by a sound level meter and expressed in dB.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz.
A-Weighted Sound Level, dBA	The SPL in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes low and high frequency components of the sound in a manner similar to the frequency response of the human ear.
Noise	Unwanted or unhealthful sound.
Equivalent Noise Level, L <sub>eq</sub>	The average A-weighted sound level during the measurement period. The A-weighted equivalent continuous sound level
L <sub>max</sub> , L <sub>min</sub>	The maximum and minimum A-weighted sound level during the measurement period with the sound meter using the fast time weighting.
L <sub>01</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub>	The A-weighted sound levels that are exceeded 1%, 1 %, 50 %, and 90 % of the time during the measurement period.
Day/Night Noise Level, L <sub>dn</sub> or DNL	The average A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to levels measured at night between 10:00 pm and 7:00 am.
Total Sound	The composite of sound from all sources, near and far.
Ambient Sound	The sound level measured in the absence of an intrusive or extraneous noise.
Intrusive Noise	The noise from a source of specific origin which intrudes above the existing background sound level. The degree of intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence and tonal or informational content as in contrast to the prevailing background sound level which exists in the absence of the intrusive noise.
Background Sound Level	The LA90 of the ambient sound. It represents the ever-present lower sound level due to distant sources which are individually indistinguishable, and in the absence of the intrusive or extraneous noise.
Extraneous Noise	Specific or distinguishable intermittent sound. It represents sound from nearby sources such as mechanical devices, leaf blowers, pumps, horns, sirens, barking, shouting, birds, wind and other similar individual sources, which don't normally exist on a continuous or regular basis.

SOURCE: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 4.E-2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be used. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called  $L_{eq}$ . The most common averaging period is hourly, but  $L_{eq}$  can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night – because excessive noise interferes with the ability to sleep – 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level, CNEL, is a measure of the cumulative noise exposure in a community, with a 5-dB penalty added to evening (7:00 PM - 10:00 PM) and a 10 dB-addition to nocturnal (10:00 PM - 7:00 AM) noise levels. The Day/Night Average Sound Level, DNL or  $L_{dn}$ , is essentially the same as CNEL, with the exception that the evening time period (7 p.m to 10 p.m) is dropped and all occurrences during this three-hour period are grouped into the daytime period.

## Effects of Noise

### ***Sleep and Speech Interference***

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors, the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 30 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Typically, the highest steady traffic noise level during the daytime is about equal to the  $L_{dn}$  and nighttime levels are 10 dBA lower.

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*Steady noise of sufficient intensity (above 30 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep.*

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The interior noise standard for multi-family dwellings is set by the State of California at 45 dBA  $L_{dn}$ . The standard is designed for sleep and speech

**TABLE 4.E-2  
TYPICAL NOISE LEVELS IN THE ENVIRONMENT**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet fly-over at 1,000 feet	110 dBA	Rock band
Gas lawn mower at 3 feet	100 dBA	Food blender at 3 feet
Diesel truck at 50 feet at 50 mph	90 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime	80 dBA	Vacuum cleaner at 10 feet
Gas lawn mower, 100 feet	70 dBA	Normal speech at 3 feet
Commercial area Heavy traffic at 300 feet	60 dBA	Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime	30 dBA	Library
Quiet rural nighttime	10 dBA 0 dBA	Bedroom at night, concert hall (background)

SOURCE: Technical Noise Supplement (TeNS), Caltrans, September 2013.

protection, and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA  $L_{dn}$  with open windows and 65 to 70 dBA  $L_{dn}$  if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal outdoor noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, while those facing major roadways and freeways typically need special glass windows.

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*Noise causes annoyance when it interferes with speech, radio, and television; causes house vibrations; or interferes with sleep and rest.*

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### **Annoyance**

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio, and television; house vibrations; and interference with sleep and rest. The  $L_{dn}$  as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA  $L_{dn}$ . At an  $L_{dn}$  of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the  $L_{dn}$  increases to 70 dBA, the percentage of the population highly annoyed increases to about 25 to 30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between an  $L_{dn}$  of 60 to 70 dBA. Between an  $L_{dn}$  of 70 to 80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed.

People appear to respond more adversely to aircraft noise. When the  $L_{dn}$  is 60 dBA, approximately 30 to 35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4-percent increase in the percentage of the population highly annoyed.

### **Groundborne Vibration**

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods, including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity, are typically used to quantify the amplitude of vibration. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal. PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

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*Railroad trains within the St. Helena planning area are potential sources of ground vibration.*

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People's response to ground vibration has been correlated best with the vibration velocity level. The vibration velocity level is expressed on the decibel scale. The abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels.

### **Sources of Groundborne Vibration**

Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans.

Perceptible vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams, and foot traffic.

Table 4.E-3 identifies some common sources of vibration and the association to human perception or the potential for structural damage. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be perceptible inside residences. Railroad trains within the St. Helena planning area are potential sources of ground vibration.

**TABLE 4.E-3  
TYPICAL LEVELS OF GROUNDBORNE VIBRATION**

<b>Human/Structural Response</b>	<b>Velocity Level, in Vibration Decibels (VdB)</b>	<b>Typical Events (50-Foot Setback)</b>
Threshold, minor cosmetic damage	100	Blasting, pile driving, vibratory compaction equipment Heavy tracked vehicles (Bulldozers, cranes, drill rigs)
Difficulty with tasks such as reading a video or computer screen	90	Commuter rail, upper range
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, occasional events		Commuter rail, typical bus or truck over bump or on rough roads
Residential annoyance, frequent events	70	Rapid transit, typical
Approximate human threshold of perception to vibration	60	Buses, trucks and heavy street traffic
Lower limit for equipment ultra-sensitive to vibration	50	Background vibration in residential settings in the absence of activity

SOURCE: Transit Noise and Vibration Impact Assessment, U.S. Department of Transportation Federal Transit Administration, May 2006.

Construction activities can cause vibration that varies in intensity depending on several factors. Pile driving and vibratory compaction equipment typically generate the highest construction-related groundborne vibration levels. Because of the impulsive nature of such activities, the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess both the potential of vibration to induce structural damage and the degree of annoyance for humans.

**Effects of Groundborne Vibration**

Human reaction and effects to buildings from vibration are shown in Table 4.E-4. The annoyance levels shown in Table 4.E-4 should be interpreted with care since vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or inactivity. Elderly, retired, or others staying mostly at home, people reading or studying in a quiet environment, and people involved in vibration-sensitive activities are examples of people potentially annoyed by vibration at very low levels. To these and other sensitive individuals, even vibrations at the threshold of perception can be annoying.

**TABLE 4.E-4  
REACTION OF PEOPLE AND POTENTIAL DAMAGE TO  
BUILDINGS FOR CONTINUOUS VIBRATION LEVELS**

<b>Velocity Level, Peak Particle Velocity (PPV) (inches/second)</b>	<b>Human Reaction</b>	<b>Effect on Buildings</b>
0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibration unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk of "architectural" damage to normal dwellings such as plastered walls or ceilings
0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations	Vibration at this level would cause "architectural" damage and possibly minor structural damage.

SOURCE: Transportation Related Earthborne Vibrations. Caltrans, Technical Advisory, TAV-02-01-R9601, February 2002.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise, causing induced vibration in exterior doors and windows.

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*The noise environment in St. Helena is notable for being extremely quiet, especially in the evenings and at night.*

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## Existing Noise Conditions

The ambient noise environment in the City of St. Helena is notable for being extremely quiet, especially in the evenings and at nighttime. Residential areas away from collector streets are shielded from highway and collector noise and register very low background noise levels typically in the range of 20 to 25 dBA or below during evening and nighttime hours. Except within close proximity to Main Street/State Route (SR) 29 and major collector roadways, the noise environment can be characterized as being that of a quiet rural setting.

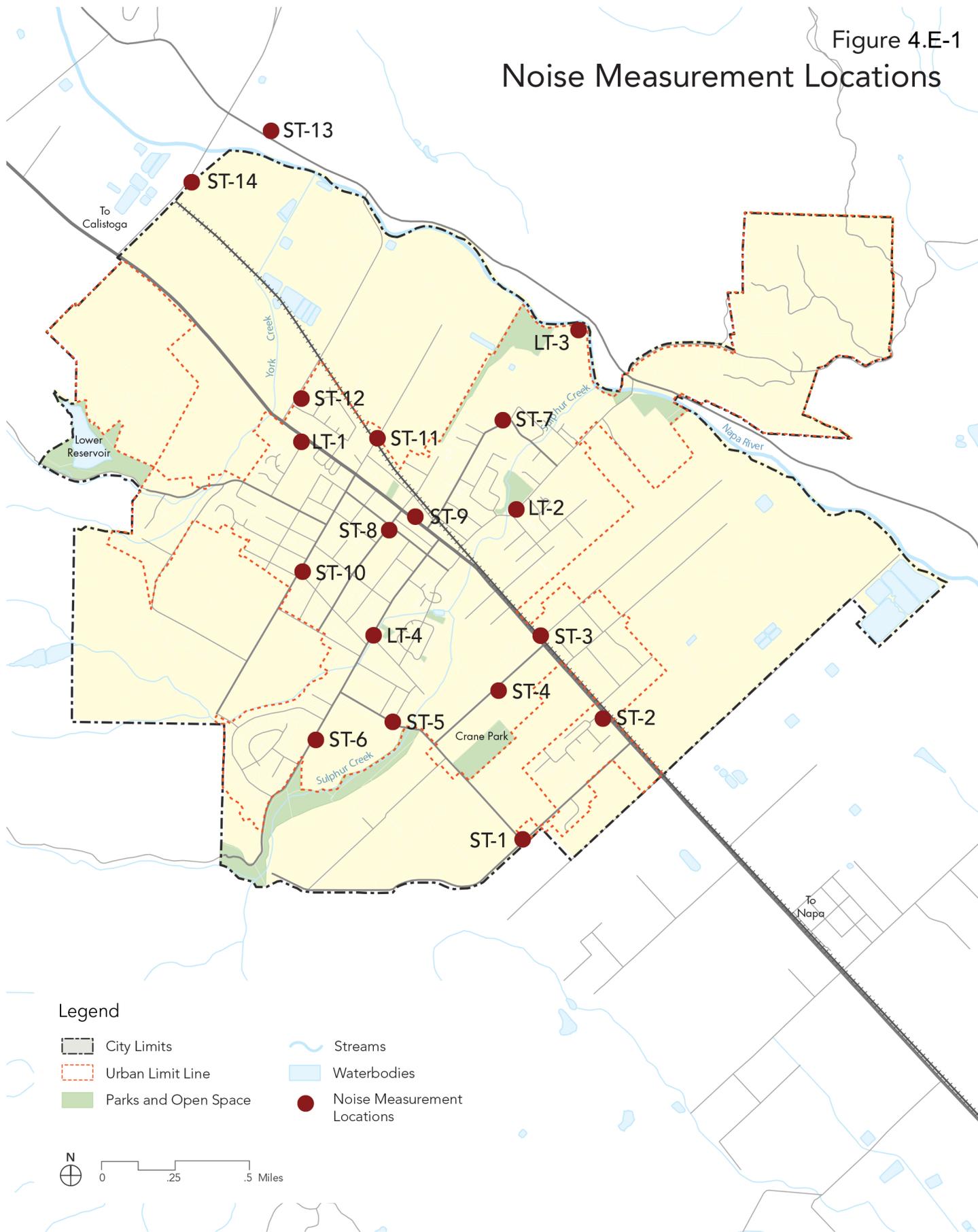
The ambient noise environment in the City of St. Helena is predominantly the result of transportation-related noise sources. Main Street/SR 29 traffic noise is the highest in the community. Major collector roadways, including Silverado Trail, Deer Park Road, and Pope Street, are also significant sources of traffic noise at land uses adjoining these roadways. Noise sources that are intermittent and generally inconsequential to the noise environment are commercial aircraft at high altitudes, and small general aviation and helicopter overflights. The Wine Train has an average of two round trips through St. Helena per day and emits a loud horn at crossings along with the low frequency rumble of the diesel engines. Gravel processing operations at Harold Smith and Son, Inc. along Sulphur Creek also contribute to ambient noise levels at receivers in the vicinity.

Intermittent noises that are typical in St. Helena include those related to agricultural activities, street sweeping and garbage/recycling pickup in the early morning, and emergency sirens. High noise levels are generated by wind machines used for agriculture in the early spring, with noise levels of approximately 90 dBA at nearby residential receptors at the same time that background noise levels are in the low-20 dBA range. Tractors and sulphur blowers that are also employed in the vineyards in the early hours of the morning create other agricultural-related noise. Finally, the city has sirens at two locations associated with the Fire Department. The sirens sound on an average of two to three times per day, with approximately half of these soundings occurring during nighttime hours. Siren sound levels exceed 100 dBA at residences near the sirens and drop off to around 55 dBA at distant residential areas.

### **Noise from Major Roadways**

A noise monitoring survey was conducted to quantify existing noise levels along Main Street/SR 29 and other collector roadways in and around St. Helena. Figure 4.E-1 shows the noise measurement locations.

Figure 4.E-1  
Noise Measurement Locations



Source: City of St. Helena; Napa County, November 2008  
Map Revised: April 2016

Traffic noise levels along Main Street, in the vicinity of Elmhurst Avenue, are approximately 71 dBA  $L_{dn}$  at a distance of 75 feet from the roadway center. Traffic noise levels are slightly lower in the downtown section of the road, where average travel speeds are lower. On portions of Main Street near the north and south boundaries of St. Helena, traffic noise levels are slightly higher, as traffic generally flows at or near 45 miles per hour (mph). During the peak hour, average traffic noise levels ( $L_{eq}$ ) are approximately equal to the  $L_{dn}$  along Main Street. This is typical of major local roadways with some nighttime traffic.

The Silverado Trail generates a day-night average noise level of about 69 dBA  $L_{dn}$  at a distance of 75 feet from the roadway centerline. Noise levels along the Silverado Trail do not vary substantially where the roadway borders St. Helena because existing traffic volumes and travel speeds are fairly constant.

Pope Street is the primary east-west connector in St. Helena. Traffic along this roadway generates a day-night average noise level of about 65 dBA  $L_{dn}$  at a distance of 75 feet from the roadway center line. Average noise levels along Pope Street during the noisiest hours of the day are about 2 dBA  $L_{eq}$  above the  $L_{dn}$ . This is typical of roadways with little nighttime traffic.

Noise levels along roads in residential areas (e.g., Spring Street) peak between 7:00 AM and 9:00 AM (66 to 68 dBA  $L_{eq}$ ), gradually decrease throughout the day, range from 52 to 57 dBA  $L_{eq}$  in the evening, and then fall below 50 dBA  $L_{eq}$  at night. Day-night average noise levels are typically less than 60 dBA  $L_{dn}$  at a distance of 75 feet from the roadway center line.

### **Noise from Napa Valley Wine Train**

The Napa Valley Wine Train is a source of high levels of noise as the train passes through the City of St. Helena. The Wine Train makes up to two round trips per day, one during lunch and one during dinner (Napa Valley Wine Train, 2015), for a total of four one-way trips through the city. The railroad tracks roughly parallel Main Street in the south and central portions of the city and diverge near Pope Street, continuing northward to the terminus of the railroad line at about Pratt Avenue.

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*The Napa Valley Wine Train is a source of high levels of noise as the train passes through St. Helena.*

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The most significant source of noise associated with the Wine Train is the train warning whistle. Unless a “quiet zone” has been established, trains that travel at a speed less than 45 mph are required to sound their warning whistle at all public grade crossings at least 15 seconds but not more than 20 seconds before entering a crossing to warn pedestrians and motorists of the oncoming train. These warning whistles can produce maximum noise levels up to 110 dBA  $L_{max}$  at 50 feet. The sound produced by the Wine Train warning whistle is audible throughout the community.

Assuming one train passby per hour, Napa Valley Wine Train operations generate an hourly average noise level of 66 dBA  $L_{eq}$  at a distance of 50 feet from the tracks. Day-night average noise levels are calculated to be 64 dBA  $L_{dn}$  at a distance of 50 feet from the tracks assuming four trips per day between the hours of 7:00 a.m. and 10:00 p.m. Although the Wine Train travels at a relatively slow speed throughout St. Helena, the train is a source of perceptible groundborne vibration. Assuming a travel speed of about 20 mph, groundborne vibration levels would be expected to be perceptible within approximately 50 to 75 feet from the center of the tracks.

### **Aircraft Noise**

The closest airport to St. Helena is Angwin-Parrett Field Airport, located approximately 4 miles northeast of the city limits. Aircraft operating out of this airport, as well as others in the Bay Area, intermittently contribute to ambient noise levels in the city. Aircraft based at Angwin-Parrett Field Airport include 38 single-engine airplanes, four multi-engine airplanes, and two ultralights. The airport averages about 27 aircraft operations per day (AirNav.com, 2015). Approximately 80 percent of aircraft operations are local general aviation and 20 percent are transient general aviation. Noise generated by these overflights, although audible and noticeable at times, does not measurably affect daily average noise levels in the city.

### **Stationary Noise Sources**

The predominant stationary noise source in the City of St. Helena is the concrete batch plant owned and operated by Harold Smith & Son, Inc. located at 800 Crane Avenue. Noise generated by this facility includes the sounds generated by the plant itself as well as the operation of trucks and other heavy equipment located on the site.

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*The predominant stationary noise source in St. Helena is the concrete batch plant on Crane Avenue.*

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Noise is also generated on individual parcels whether industrial, commercial, or residential. These smaller sources of noise do not negatively affect the overall noise environment throughout the community.

### **Other Noise Sources**

Other existing sources of noise include commercial, recreational, and school uses. Noise sources associated with commercial uses include mechanical equipment, as well as activities associated with parking lots, loading docks, and drive-throughs. Mechanical equipment is used extensively in buildings to provide heating, cooling, air circulation, and water supply. Mechanical equipment that produces noise includes motors, pumps, and fans. Although noise levels from these sources are generally low at nearby properties, such sources may operate continuously and may include pure tones that make them audible and sources of annoyance at a substantial distance.

Intermittent or temporary noise sources include portable power equipment such as leaf blowers, lawn mowers, portable generators, electric saws and drills the municipal fire siren (located adjacent to the City fire station) operated to alert the St. Helena Fire Department of emergency events and other similar equipment. Although these noise sources are typically short in duration, they are often loud and can be major sources of annoyance.

## Regulatory Framework

This subsection describes the relevant guidelines, policies, and standards established by federal and state agencies and the City of St. Helena.

### Federal Regulations

#### ***Department of Housing and Urban Development (HUD)***

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*New residential construction qualifying for HUD financing and proposed in high noise areas must incorporate noise attenuation features to maintain acceptable exterior and interior noise levels.*

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The U.S. Department of Housing and Urban Development (HUD) environmental criteria and standards are presented in 24 CFR Part 51 (U.S. Department of Housing and Urban Development, 1979). New residential construction qualifying for HUD financing and proposed in high noise areas (exceeding 65 dBA  $L_{dn}$ ) must incorporate noise attenuation features to maintain acceptable exterior and interior noise levels. A goal of 45 dBA  $L_{dn}$  is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction, any building will provide sufficient attenuation to achieve an interior level of 45 dBA  $L_{dn}$  or less if the exterior level is 65 dBA  $L_{dn}$  or less. Approvals in a “normally unacceptable noise zone” (exceeding 65 decibels but not exceeding 75 decibels) require a minimum of 5 decibels additional noise attenuation for buildings if the day-night average is greater than 65 decibels but does not exceed 70 decibels, or minimum of 10 decibels of additional noise attenuation if the day-night average is greater than 70 decibels but does not exceed 75 decibels.

#### ***Federal Highway Administration***

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes, require an assessment of noise and consideration of noise abatement per Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), “Procedures for Abatement of Highway Traffic Noise and Construction Noise”(U.S. Department of Transportation, Federal Highway Administration, 1992). The Federal Highway Administration (FHWA) considers noise abatement for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences,

motels, hotels, schools, churches, libraries, and hospitals when “worst-hour” noise levels approach or exceed 67 dBA  $L_{eq}$ . The California Department of Transportation (Caltrans) has further defined the definition of approaching the noise abatement criteria (NAC) to be 1 dBA below the NAC (e.g., 66 dBA  $L_{eq}$  is considered approaching the NAC for Category B activity areas).

### **Federal Transit Administration**

The Federal Transit Administration (FTA) transit and train vibration impact criteria for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (fewer than 30 vibration events of the same source per day) (U.S. Department of Transportation, Federal Transit Administration, 2006).

## **State Regulations**

### **California Government Code Section 65302(f)**

California Government Code Section 65302(f) requires that all general plans include a noise element to address noise problems in the community. The State Office of Planning and Research (OPR) has established guidelines for the content of the noise element. State law requires that current and future noise level contours be developed for the following sources:

- Highways and freeways;
- Primary arterials and major local streets;
- Passenger and freight on-line railroad operations and ground rapid transit systems;
- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine tests stands, and all other ground facilities and maintenance functions related to airport operation;
- Local industrial plants, including, but not limited to, railroad classification yards; and,
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment.

### **California Building Code – Noise Insulation Standards**

In 1974 the State of California established minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings in Title 25 of the

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*The California Government Code requires that all general plans include a noise element.*

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California Administrative Code. These standards were ultimately implemented through Title 24 and the various versions of the California Building Code (most recently Chapter 12, Appendix Section 1207.11 of the 2010 Code). The noise limit was a maximum interior noise level of 45 dBA  $L_{dn}$ /CNEL. Where exterior noise levels exceed 60 dBA  $L_{dn}$ /CNEL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit. The State Office of Planning and Research (OPR) Guidelines require the General Plan to facilitate the implementation of the Building Code noise insulation standards. However, the 2013 update (which became effective January 1, 2014) did not include this section of the State Building Code. Most jurisdictions have adopted policies that implement the limits in the Code and extend them to all residential development as set forth in draft Policy PS2.C set forth in the Public Health, Safety and Noise Element of the General Plan Update.

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*The State of California  
Administrative Code (Title 24)  
establishes minimum noise  
insulation performance  
standards for hotels, motels,  
dormitories, apartment houses,  
and dwellings other than  
detached single-family houses.*

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### **Division of Aeronautics Noise Standards**

Title 21 of the California Code of Regulations (State of California, 1990) sets forth the state's airport noise standards. In the findings described in Section 5006, the standard states the following:

*A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction.*

Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dB. It should be noted that no airports are located within or immediately adjacent to the City of St. Helena. The nearest airport is located in Angwin to the east of St. Helena. (See "Existing Noise Conditions" above.)

### **California Department of Transportation – Construction Vibration**

The California Department of Transportation (Caltrans) has adopted guidance for construction vibrations, and this guidance is used in this analysis to address construction vibrations. Caltrans uses a vibration limit of 12.7 millimeters per second (0.5 inch per second) PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 5 millimeters per second (0.2 inch per second), PPV has been used for buildings that are found to be structurally

sound but structural damage is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 2 millimeters per second (0.08 inch per second), PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance with these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e., walls and floors) to groundborne excitation.

## **City of St. Helena Regulations**

### ***Existing St. Helena General Plan***

The existing St. Helena General Plan, adopted in 1993, outlines policies, standards and programs that together provide a comprehensive, long-term plan for physical development within the city. Individual development projects proposed within the city must demonstrate general consistency with the goals and policies outlined within the General Plan, which articulates and implements the City's long-term vision as it pertains to housing, transportation, historic preservation, open space and other areas. Appendix D contains tables from the existing St. Helena General Plan that establish noise-related standards. The proposed project analyzed in this EIR is the St. Helena General Plan Update, which is an update of the existing General Plan. Once the General Plan Update is adopted, future developments within the city will be subject to policies outlined in the updated document.

### ***St. Helena Municipal Code***

Unnecessary noise is defined in Chapter 8.24 of the St. Helena Municipal Code. The Municipal Code does not quantitatively regulate noise levels, but states that "... unnecessary noise which can be heard outside of any building by attaching any noise-producing attachment to any vehicle; or blowing or ringing any horn, whistle or bell; by operating a loudspeaker, public address system or sound amplification system; or by making any other loud or unusual noise which disturbs the peace of any other persons..." would violate the ordinance unless permitted by the chief of police. Similarly, noise generated by commercial activities between the hours of 10:00 PM and 7:00 AM that can be heard at the property line of any parcel is prohibited, unless permitted by the chief of police.

Construction activities are limited to the hours between 8:00 AM and 5:00 PM Monday through Saturday. Construction is not allowed on Sundays and holidays (federal and local) if noise can be heard at the property line of any parcel of real property within the city limits.

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*The St. Helena Municipal Code generally prohibits noise generated by commercial activities between the hours of 10:00 PM and 7:00 AM that can be heard at the property line of any parcel.*

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Delivery of materials/equipment and cleaning and servicing of machines/equipment are limited to between 7:00 AM and 6:00 PM. Noise generated by contracted landscape maintenance activities is limited to the hours between 8:00 AM and 5:00 PM Monday through Saturday and prohibited on Sundays and holidays (federal and local).

## Impacts

### Significance Criteria

Based on Appendix G of the CEQA Guidelines, implementation of the proposed General Plan Update would have a significant noise impact if it would:

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Create 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.

### Relevant Policies

The following relevant policies and implementing actions of the General Plan Update address noise as it affects the community:

PS2.1. Preserve the current low levels of noise in St. Helena to maintain the City's rural atmosphere.

PS2.2. Maintain a citywide environment that balances various City objectives while minimizing the impact of highway, railroad and industrial noise. The City should manage both indoor and outdoor noise levels to protect health and safety. A combination of noise standards and existing noise levels should be used to determine impacts and mitigation measures.

PS2.3. Minimize potential noise impact conflicts between land uses by regulating incompatible land uses. Encourage noise-generating uses to reduce their impacts while promoting land use patterns that avoid conflicts. Employ compatibility guidelines, interior noise level criteria, the City noise standards and noise contour maps to determine the compatibility of land uses.

PS2.4. Require a reduction and/or control of the use of machinery, mechanical systems and other noise-making equipment and sources in and near residential areas where noise impacts would be considered intrusive to adjacent residential property, unless consistent with the right-to-farm.

PS2.A. Consider the environmental impact of transportation-related noise and other noise sources in the review of any new projects and approval of subdivision plans and requests for changes in the zoning ordinance.

PS2.B. Enforce the Land Use Compatibility Standards presented in the State of California's General Plan guidelines when siting new uses. These standards identify the acceptability of a project based on levels of noise exposure.

PS2.C. Adopt and enforce Title 24 Standards for all types of new residential construction including single family dwellings, duplexes, apartments, and dormitories.

- An interior maximum noise level of LAdn-45 dBA in all habitable rooms for all dwelling units; A maximum allowable interior noise level for bedrooms of an hourly LAeq-35 dBA;
- A maximum noise level of LAdn-60 dBA for residential exterior activity areas; If interior noise standards are met by requiring windows to be closed, cooling and outside air exchange must also be provided in the building's design.

PS2.D. Require an acoustical study, prepared by a qualified acoustical consultant for:

- All proposed projects that are likely to be exposed to noise levels greater than the standards;
- All proposed projects that would generate noise where impacts on other uses would be greater than the standards;
- Any project exposed to outdoor noise at or above a day-night average sound level ( $L_{dn}$ ) of 60 or for any noise source that could create such outdoor noise levels for adjacent uses; and
- Any project exposed to or that creates noise which exceeds the adopted City standards.

PS2.E. Require new developments to implement noise mitigation measures when built in close proximity to noise sources, such as State

Route 29 and the railroad tracks. These developments should consider the exterior and interior noise environment.

*PS2.F.* Require construction operations to use noise suppression devices and techniques and limit noisy construction activities that can be heard at the property line to the least noise-sensitive times, as per the noise ordinance.

*PS2.G.* Include appropriate noise attenuation techniques in the design of new streets. Such techniques could include the use of site planning, building orientation, buffer distances and the use of correctly-engineered acoustical barriers and berms where necessary.

*PS2.H.* Amend the City's noise ordinance to regulate intrusive noise sources, such as the use of machinery and equipment, animals, vehicles and motorcycles, and idling buses or trucks in or near uses sensitive to noise.

*PS2.I.* Incorporate right-to-farm legal provisions relative to noise in all newly-created deeds where agricultural activities may pose noise impacts in the future. Require similar language in deeds for properties similarly impacted by the Harold Smith & Son gravel plant operations.

## Impact Analysis

Adoption and implementation of the General Plan Update would result in the following impacts with respect to noise.

### **Impact NOI-1. Potential increases in noise-generating land uses and vibration.**

Development allowed by the General Plan Update would introduce new noise-generating sources adjacent to existing and new noise-sensitive areas. Mixed-use development projects, for example, often include residential uses located above or close to commercial uses. The General Plan Update would allow mixed-use development along Main Street. The operation of the commercial components of these uses could substantially increase noise levels at existing noise-sensitive land uses in the vicinity or could expose new receivers to unacceptable noise levels.

Future operations at existing and proposed noise-producing land uses are dependent on many variables, and information is not available to allow meaningful projections of noise. Noise conflicts may be caused by noise sources such as outdoor dining areas or bars, mechanical equipment, outdoor maintenance areas, truck loading docks and delivery activities, public address systems, and parking lots (e.g., opening and closing of vehicle doors, people talking, and car alarms).

General Plan Update Policy PS2.3 would encourage a reduction in noise from machinery and other noise-making equipment near residential areas.

Implementing Action PS2.D would require acoustical analyses of noise-generating uses to mitigate noise levels in sensitive areas, ensuring that existing residences and other noise-sensitive land uses would not be exposed to excessive noise. Implementing Action PS2.H would require the adoption of a noise ordinance to regulate intrusive noise sources, such as the use of machinery and equipment, animals, vehicles and motorcycles, and idling buses or trucks in or near uses sensitive to noise. The potential impacts resulting from noise-generating land uses would be less than significant with the adoption of the proposed General Plan Update policies and implementing actions. These include Implementing Actions PS2.A, PB2.B, PS2.C, PS2.D, PS2.E, PS2.F, PS2.G, PS2.H and PS2.I.

In terms of potential impacts related to vibration, mixed-use and residential developments are envisioned along the existing Napa Valley Wine Train railroad line. Existing groundborne vibration levels resulting from infrequent, low-speed, Napa Valley Wine Train passbys are generally low and just perceptible at distances of 50 to 75 feet from the tracks. The specific locations of proposed buildings and their sensitivities to vibration levels are not known at this time and would be determined through project level noise analysis. Groundborne vibration levels at this minimum distance would be at most perceptible and would only occur a few times per day, primarily during daytime and early evening hours when people are not normally sleeping or at rest. The impact of locating sensitive land uses in the immediate vicinity of the Napa Valley Wine Train would be less than significant due to the low vibration levels associated with train passbys, the infrequent number of events per day, and the fact that these vibration events occur during the less sensitive hours of the day.

### **Impact NOI-2. Potential generation of construction noise.**

The General Plan Update could allow the construction of new projects, and existing residences and businesses located adjacent to proposed development sites could be affected at times by construction noise. These projects would primarily be infill developments situated along Main Street/SR 29, the predominant source of environmental noise that affects the community. Other small projects would also be constructed in various areas of the city.

*Measuring Construction Noise Impacts.* Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining

noise-sensitive land uses, or when construction lasts for extended periods of time.

For the purposes of this assessment, construction noise impacts would be considered significant if (1) the construction noise would exceed 60 dBA  $L_{eq}$  and would exceed ambient noise levels by 5 dBA  $L_{eq}$  or more at nearby noise-sensitive land uses (e.g., residential land uses) for a period of more than one construction season (typically from late spring to mid-autumn of each year), or (2) the construction noise would exceed 70 dBA  $L_{eq}$  and would exceed ambient noise levels by 5 dBA  $L_{eq}$  or more at industrial, office, or commercial land uses for a period of more than one construction season.

*Anticipated Sources of Construction Noise.* Major noise-generating construction activities associated with new projects would include removal of existing pavement and structures, site grading and excavation, installation of utilities, construction of building cores and shells, paving, and landscaping. The highest construction noise levels would be generated during grading and excavation because of the use of heavy equipment, with lower noise levels occurring during building construction activities when activities move indoors and less heavy equipment is required. Construction equipment would typically include, but would not be limited to, earth-moving equipment and trucks, pile driving rigs, mobile cranes, compressors, pumps, generators, paving equipment, and pneumatic, hydraulic, and electric tools.

*Typical Construction Noise Levels.* Table 4.E-5 presents the typical range of hourly average noise levels generated by different phases of construction measured at a distance of 50 feet. Hourly average noise levels generated by demolition and construction are about 77 dBA to 89 dBA  $L_{eq}$  measured at a distance of 50 feet from the center of a busy construction site. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA  $L_{max}$  at a distance of 50 feet. Typical hourly average construction-generated noise levels are about 81 to 89 dBA  $L_{eq}$  measured at a distance of 50 feet from the site during busy construction periods.

**TABLE 4.E-5  
TYPICAL RANGES OF NOISE LEVELS AT 50 FEET  
FROM CONSTRUCTION SITES (DBA L<sub>eq</sub>)**

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I <sup>a</sup>	II <sup>b</sup>	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

<sup>a</sup> I – All pertinent equipment present at site.  
<sup>b</sup> II – Minimum required equipment present at site.

SOURCE: United States Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity. Noise levels would drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would result in lower noise levels.

Noise generated by infill projects facilitated by the General Plan Update would likely have relatively short overall construction durations, with the noisiest phases of construction (e.g., demolition, foundations, project infrastructure, building core and shell) limited to a timeframe of one year or less. These phases of construction are not anticipated to generate noise levels in excess of 60 dBA L<sub>eq</sub> and the ambient noise environment by 5 dBA L<sub>eq</sub> or more at sensitive land uses in the area over extended periods of time (beyond one construction season). Interior construction, landscaping, and finishing activities would not be expected to result in noise levels in excess of 60 dBA L<sub>eq</sub>.

The potential short-term noise impacts associated with construction facilitated by the General Plan Update would be mitigated by the adoption of Implementing Action PS2.F, which would require "...construction operations to use noise suppression devices and techniques and limit noisy construction activities to the least noise-sensitive times, as per the noise ordinance." The St. Helena Municipal Code limits construction activities to the hours between

8:00 AM and 5:00 PM, Monday through Saturday. Construction is not allowed on Sundays and holidays (federal and local) if noise can be heard at the property line of any parcel of real property within the city limits.

In accordance with Implementing Action PS2.F, noise suppression devices and techniques developed as part of a typical construction noise control plan could include, but not be limited to, the following measures:

- Use of “quiet” models of air compressors and other stationary noise sources where technology exists;
- Equipping all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment;
- Locating all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Locating staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibiting all unnecessary idling of internal combustion engines;
- Notifying all adjacent land uses of the construction schedule in writing;
- Designating a “disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

With the use of reasonable noise reduction measures during all phases of construction activity, in combination with the limitations on hours set forth in the St. Helena Municipal Code, short-term construction impacts would be reduced to a less-than-significant level.

### **Impact NOI-3. Potential aircraft noise impacts.**

Noise levels resulting from aircraft overflights, although audible and noticeable at times, do not measurably contribute to daily average noise levels in the city. The city is not located within an airport land use plan, or within two miles of a public airport or private airstrip, and development in accordance with the General Plan Update would not expose persons to excessive aircraft noise.

#### **Impact NOI-4. Impacts to noise-sensitive land uses.**

The General Plan Update would allow development of new noise-sensitive uses adjacent to existing noise sources. In particular, development of the Change Areas and Key Housing Opportunity Sites identified in the General Plan Update could locate noise-sensitive land uses in areas where noise levels would exceed “normally acceptable” levels for the proposed use.

Change Areas sensitive to noise would include the mixed-use developments planned along Main Street, the Napa Valley Wine Train railroad line, and Oak Street. Noise-sensitive mixed-use and public/quasi-public uses are also planned along Adams Street. Residential developments planned along Oak Avenue, Spring Street, and Grayson Avenue would also be considered sensitive to noise. Key Housing Opportunity Sites identified in the 2015 Housing Element would also be sensitive to community noise; these sites are scattered throughout St. Helena. Most of the Pipeline Projects (i.e., projects currently under review by the City or tentatively proposed for the immediate future) are located along Main Street.

Residential development is sensitive to community noise both outdoors and indoors. The development of residential uses adjacent to arterial and collector roadways, or in areas where high noise levels exist from agricultural or industrial operations, may result in exposure to noise levels exceeding “normally acceptable” levels for these uses. Therefore, acoustical analyses are typically conducted to design mitigation that would reduce noise levels as much as practical in exterior use areas and maintain interior noise levels at acceptable levels. High-density/mixed-use residential, commercial, and industrial development is less noise-sensitive because uses are primarily indoors and noise levels are generally mitigated with building design and construction.

*Potential Noise Exposure.* A computer model was used to calculate traffic noise levels throughout St. Helena. The model, SoundPLAN V7.4, is a three-dimensional ray-tracing program that takes into account the source of noise, the frequency spectra, and numerous environmental variables. Existing and future traffic noise levels throughout St. Helena were modeled to determine the noise level contours along major roadways. Development proposed along Main Street, Spring Street, Oak Avenue, and Adams Street could be subject to transportation noise levels exceeding 60 dBA  $L_{dn}$ .

Where exterior noise levels exceed 60 dBA  $L_{dn}$  in new residential development areas, interior levels might exceed the 45 dBA  $L_{dn}$  noise limit established by federal and state regulations. Interior noise levels are about 15 dBA lower than exterior levels within residential units with the windows partially open and approximately 20 to 25 decibels lower than exterior noise levels with the windows closed, assuming typical California construction

methods. Where exterior day-night average noise levels are 60 to 70 dBA  $L_{dn}$ , interior noise levels can typically be maintained below 45 dBA  $L_{dn}$  with the incorporation of an adequate forced air mechanical ventilation system in the residential units to allow residents the option of controlling noise by keeping the windows closed. In areas exceeding 70 dBA  $L_{dn}$ , the inclusion of windows and doors with high Sound Transmission Class (STC) ratings, and the incorporation of forced-air mechanical ventilation systems, may be necessary to meet the 45 dBA  $L_{dn}$  noise limit.

General Plan Update Policies PS2.1 and PS2.2 and Implementing Actions PS2.A, PS2.B, PS2.C, PS2.D and PS2.J would require that the State of California's General Plan guidelines and related state noise regulations be used when siting new uses and would require noise attenuation measures to achieve the 60 dBA  $L_{dn}$  "tentatively compatible" noise level standard for residential uses. The noise-related policies and implementing actions of the General Plan Update would therefore reduce the potential impact associated with noise and land use compatibility in exterior areas to a less-than-significant level.

In accordance with Implementing Action PS2.D, acoustical studies would be required for new development proposals when appropriate in order to maintain consistency with the exterior noise standard established by the General Plan Update.

**Impact NOI-5. Impacts related to increases in noise as a result of increased traffic.**

Increases in traffic noise gradually degrade the environment in areas sensitive to noise. According to Appendix G of the CEQA Guidelines, “a substantial increase” is necessary to cause a significant environmental impact. Typically, a change in noise level of less than 3 dBA is not discernable to the general population. Increases in average noise levels from 3 to 5 dBA are clearly discernable to most people. An increase of 3 dBA  $L_{dn}$  or more is considered substantial in noise-sensitive areas along roadways analyzed in St. Helena.

Vehicular traffic on roadways in the city could increase as development occurs and the city’s population increases. These projected increases in traffic would occur over time and would increase noise levels throughout the community. Traffic noise levels throughout St. Helena were projected for General Plan Update buildout in the year 2035 for the General Plan buildout. The models project how changes in vehicular traffic volumes would affect traffic noise levels. The relative increases in traffic noise along affected roadway segments are shown in Table 4.E-6.

**TABLE 4.E-6  
EXISTING AND FUTURE L<sub>dn</sub> NOISE LEVELS ALONG MAJOR ROADWAYS**

Roadway	Segment		Speed (mph)	L <sub>dn</sub> at 100 Feet (dBA)		Change in L <sub>dn</sub> (dBA)
	From	To		Existing	2030 General Plan Update	
Main St/SR 29	Deer Park Rd	Pratt Ave	45	69	71	2
	Fulton Ln	Adams St	35	67	69	2
	Pope St	Mills Ln	25	69	69	0
Silverado Trail	Pope St	Taplin Rd	55	69	69	0
	Pratt Ave	Pope St	55	69	69	0
Sulfur Springs Ave	Arrowhead Dr	Crane Ave	25	60	62	2
Pope St	Church St	Edwards St	25	63	65	2
	Paseo Grand Dr	Silverado Trail	25	64	66	2
Spring St	Stockton St	Crane Ave	25	56	57	1
Adams St	SR 29	Railroad Ave	25	61	63	2
	Stockton St	Kearny St	25	61	63	2
Fulton Ln	SR 29	Railroad Ave	25	60	61	1
Madrona Ave	Spring Mountain Rd	Stockton St	25	62	62	0
Pratt Ave	Park St	Silverado Trail	25	58	59	1
Spring Mountain Rd	Elmhurst Ave	Madrona Ave	20	59	59	0
Oak Ave	Pine St	Adams St	25	61	63	2
Valley View St.	Spring St	Olive Ave	25	55	59	<b>4</b>
Crane Ave	Grayson Ave	Sulfur Springs Ave	25	55	55	0

\* Substantial noise level increases in proximity to existing noise-sensitive uses (i.e., 3 dBA L<sub>dn</sub> or greater) are indicated in **bold** font.

SOURCE: Illingworth & Rodkin, Inc., 2015.

*Areas Subject to Traffic Noise Increases.* Noise impacts resulting from buildout of the General Plan Update are assessed by comparing projected noise levels to existing conditions. Throughout most of St. Helena, noise levels are anticipated to increase by 0 to 1 dBA L<sub>dn</sub> by the year 2030. Exceptions are along segments of Main Street/SR 29, Pope Street, Sulfur Springs Avenue, Adams Street, and Oak Street, where noise levels are expected to increase about 2 dBA L<sub>dn</sub>. A review of the data presented in Table 4.E-6 shows that noise levels would increase by less than 3 dBA L<sub>dn</sub> between 2015 and 2035 with buildout of the General Plan Update, except along a segment of Valley View Street between Spring Street and Olive Avenue.

Existing land uses located adjacent to the segment of Valley View Street between Spring Street and Olive Avenue are residential and are sensitive to increased traffic noise. The noise environment in this area results predominantly from traffic noise along Valley View Street. The traffic noise

level increase would be substantial, as noise levels are expected to increase by 4 dBA  $L_{dn}$ .

*Potential Noise-Reducing Treatments.* Existing residential receivers located along Valley View Street between Spring Street and Olive Avenue front the roadway with private outdoor use areas located behind the homes. Noise barriers would not be feasible at single-family residences that front the roadway due to access requirements.

Case studies have shown that the replacement of dense grade asphalt (standard type) with open-grade or rubberized asphalt can reduce traffic noise levels along local roadways by 2 to 3 dBA  $L_{dn}$ . A possible noise reduction of 2 dBA would be expected using conservative engineering assumptions, and the impact of future traffic noise increases could be mitigated to a less-than-significant level by repaving Valley View Street with “quieter pavements.” To be a permanent mitigation, subsequent repaving would also have to use “quieter” pavements.

Traffic calming could also be implemented to reduce noise levels expected with the buildout of the General Plan Update. Traffic calming typically involves reducing roadway widths, adding “bulbouts” at intersections and adding speed bumps to reduce traffic speed. Each five-mile-per-hour reduction in average speed provides approximately one dBA of noise reduction on an average basis ( $L_{eq}/L_{dn}$ ). Traffic calming measures that regulate speed improve the noise environment by smoothing out noise levels.

Residences could be provided with sound insulation treatments if further study finds that interior noise levels within the affected residential units would exceed 45 dBA  $L_{dn}$  as a result of the projected increase in traffic noise. Treatments to the homes may include the replacement of existing windows and doors with sound-rated windows and doors and the provision of a suitable form of forced-air mechanical ventilation to allow the occupants the option of controlling noise to by closing the windows. The specific treatments for each affected residential unit would need to be identified on a case-by-case basis.

Each of the measures described above involves other non-acoustical considerations. For example, other engineering issues may dictate continued use of dense grade asphalt. Sound insulation treatments must be installed on private property, necessitating agreements with each property owner.

*Traffic Noise from Road Extensions.* The General Plan Update also includes the extension of several roadways, if approved by the City Council. Roadway extensions could occur for Library Lane, Starr Avenue, Oak Avenue, and Adams Street. A roadway extension to Mills Lane, either from College Avenue, Starr Avenue or Allison Avenue, as well as an extension to the Silverado Trail, either from Adams Street or Mills Lane, are planned options. Implementing Action PS2.D would require an acoustical study to identify specific mitigation measures in order to mitigate noise from these planned roadway extensions. Implementing Action PS2.G would also require that noise attenuation techniques be included in the design of all new arterial streets. These actions would mitigate the noise impact resulting from planned roadway extensions to a less-than-significant level.

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## 4.F Aesthetics

### Introduction

This section of the EIR focuses on significant visual features within the City of St. Helena. The impacts discussion describes how new development that would be allowed under the proposed updated General Plan may affect such resources and also addresses the potential for new light and glare. Existing conditions are documented by the inclusion of photographs taken in areas where new land use change may occur.

### Setting

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*St. Helena's small-town character is embodied in its distinctive architecture, tree-lined streets, and visually prominent vineyards.*

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St. Helena's small-town character is embodied in its distinctive architecture, tree-lined streets and the visually prominent vineyards visible at the city's entryways and interspersed throughout portions of the community. The general ambience is also characterized by many natural features that surround and adjoin residential and commercial areas such as Sulphur Creek, York Creek, the Napa River, and the oak and bay wooded hillsides found at the north end of St. Helena and the far eastern edge along Howell Mountain Road (east of the Napa River). Vineyards form one of the main visual amenities within the city, with their changing seasonal qualities, ranging from bare branches of winter to vibrant summer and fall color. The vineyards also provide view corridors to the hillsides west and east of the city center. Other open space amenities include the city's parks such as Jacob Meilly Park, Crane Park, Lyman Park, and Wappo Park (partially developed). Architectural elements of significant merit include the many historic buildings found along Main Street and throughout St. Helena.

### Scenic Views

St. Helena is framed by the undeveloped, wooded foothills of the Mayacama and Vaca mountains on the west and east, respectively. These foothills are prominently visible from many locations in the flatland areas of the city, especially from east/west streets in the center of the city.

### Entries and Corridors

The major highway entry into St. Helena from both the north and south is State Route (SR) 29, also identified as Main Street. Motorists and bicyclists using this corridor view large expanses of vineyards and various wineries along the highway when entering from the south. From the north, wooded hillsides frame the view on the western side of the highway, and vineyards and level areas of open space frame the view on the eastern side. St. Helena

is separated from Calistoga to the north and Yountville to the south by vineyards and undeveloped lands, allowing uninterrupted views along long stretches of SR 29 from both the north and south of the city.

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*State Route 29 is the major highway entry into St. Helena from both the north and south.*

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The City of St. Helena sits in a relatively narrow valley, framed by foothills to the east and west. Transportation corridors in this area are limited to Main Street, the Silverado Trail to the east of the center of town, and two-lane, east/west streets. The main road connection to the west is Spring Mountain Road. Where this two-lane, rural road enters the city at the northwest corner of St. Helena, one views predominantly low-density urban development.

From the east, visitors and residents enter St. Helena along Deer Park Road and Pope Street. Deer Park Road is at the far northern edge of the city and passes through large undeveloped areas and wide expanses of vineyards. Pope Street is lined with low-density residential development, Wappo Park, the Napa River and some large areas of open space and vineyards.

One highly visible feature along many of the roadway corridors within St. Helena is the overhead electrical lines, which can create a sense of “visual clutter” within important viewsheds. The north entrance to the city includes such overhead lines. Electrical lines are also visible along the Wine Train railroad tracks, within alleys, and along many roadways where undergrounding of electrical lines has not occurred.

## Scenic Roads

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*Several roads in St. Helena have unique scenic qualities because of their natural setting as well as historical and cultural features.*

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Several roads in St. Helena have unique scenic qualities because of their natural setting as well as historical and cultural features. A scenic road is considered by the City as a highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources. Scenic roads direct views to areas of exceptional beauty, natural resources or landmarks, or historic or cultural interest.

Caltrans has designated Main Street (Highway 29) as an eligible State Scenic Highway, but this route has not been officially listed by the State. No other roads exist in the City that have been classified as a Scenic Highway

## Downtown

Downtown St. Helena is a mixture of historic and newer buildings largely concentrated along Main Street. Street trees, wide sidewalks, and pedestrian features such as benches define this core area of the city. From Main Street, views to nearby natural features are generally screened by intervening

buildings. Smaller side streets, such as Adams Street, Railroad Avenue and Hunt Avenue, also include commercial businesses.

## Open Space and Agriculture

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*The many vineyards within St. Helena provide an important visual amenity.*

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Open space areas and agricultural lands provide a variety of benefits, including visual enjoyment. The existing General Plan designates approximately 75 percent of the city as open space, agricultural land, woodlands/watershed and/or parkland. Of this, about 48 percent is agricultural acreage. Much of the open space and agricultural acreage is located outside of the city's Urban Limit Line but within the city boundaries. The many vineyards within the City of St. Helena provide an important visual amenity, allowing uninterrupted views to nearby foothills and providing a dynamic visual feature which changes with each season. These vineyards are an important distinguishing feature of the city.

## Regulatory Framework

### Existing St. Helena General Plan

The existing St. Helena General Plan, adopted in 1993, outlines policies, standards and programs that together provide a comprehensive, long-term plan for physical development within the city. Individual development projects proposed within the city must demonstrate general consistency with the goals and policies outlined within the General Plan, which articulates and implements the city's long-term vision as it pertains to housing, transportation, historic preservation, open space and other areas.

The proposed project analyzed in this EIR is the St. Helena General Plan Update, which is an update of the existing General Plan. Once the General Plan Update is adopted, future developments within the city will be subject to compliance with the policies outlined in the updated document.

### Design Review

Chapter 17.164 of the St. Helena Zoning Ordinance addresses requirements for design review. The stated purpose of the design review process is the following (City of St. Helena, 2015):

- To promote those qualities in the environment which bring value to the community;
- To foster the attractiveness and functional utility of the community as a place to live and work;

- To preserve the character and quality of our heritage by maintaining the integrity of those areas which have a discernible character or are of special historic significance;
- To protect certain public investments in the area;
- To encourage where appropriate, a mix of uses within permissible use zones; and
- To raise the level of community expectations for the quality of its environment.

Design review applies to any new development as well as the modification of the exterior of any structure. For example, after a Tentative Subdivision Map is approved, building plans for individual residential lots may be submitted. Each residential unit would undergo design review.

### **California Energy Commission Lighting Standards**

In November 2003, the California Energy Commission adopted changes to Title 24 (Building Energy Efficiency Standards) regarding outdoor lighting. These new standards addressed both reduced energy consumption and reduced glare from outdoor lighting. The standards vary by “lighting zone.” Zone 1 refers to parks, recreation areas, and wildlife preserves. Zone 2 refers to rural areas, and Zone 3 refers to urban areas. Lighting Zone 4 is a special use district that may be adopted by a local government where high ambient lighting is permissible. Local jurisdictions can designate special neighborhoods as a different lighting zone when appropriate. For example, a special commercial district may be designated Lighting Zone 3 in a rural area. St. Helena would be considered a rural area because it is not identified by the U.S. Census as an urban area.

### **California Scenic Highway Program**

The State of California has a formal program related to scenic highways. The California Scenic Highway Program, established in 1963, identifies and designates certain highways along which adjoining land uses and features require special conservation treatment. The responsibility for the management of a program is left to local cities and counties. Highways shown as “eligible” for listing are believed to have outstanding scenic values. Once a highway is shown in “Streets and Highways Code Section 263” (which is the case for SR 29), it may be nominated for official designation by the local governing body with jurisdiction over the lands adjacent to the proposed scenic highway. A visual assessment is required and a number of other steps must be followed.

SR 29 through all of Napa County is shown as “eligible for designation as a scenic highway”; however, it has not been formally designated (California Department of Transportation, 2015). Neither the existing or proposed existing St. Helena General Plan does not designate any St. Helena roadways as scenic roads.

## Impacts and Mitigation Measures

### Significance Criteria

Based on Appendix G of the CEQA Guidelines, implementation of the proposed General Plan Update would have a significant effect on visual resources if it would:

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

### Relevant Policies

The following relevant policies and implementing actions of the proposed General Plan Update address aesthetics and visual resources:

LU2.2. Encourage new residential development that is consistent in design, size, color and floor area ratio (FAR) footprint with the older residences in the neighborhood.

LU2.3. Protect residential neighborhood views of surrounding vineyards and mountains.

LU2.6. Consider allowing higher density housing in single family neighborhoods within Medium and High Density Residential Land Use Designations as long as the development character of the single family area is maintained, including lot widths, orientation to street, building heights, onsite parking, traffic, noise, among other considerations

LU2.B. Develop and implement residential design guidelines and/or form-based codes, to provide oversight and guidance for new buildings and renovations. Guidelines should ensure that new residential development is consistent with the design, size and footprint of older residences in the neighborhood.

LU2.C. Implement view shed protection review for residential development as part of an updated design review process.

LU2.E. Update zoning standards to encourage the following criteria:

- A variety of lot widths and sizes, such as that found in the older areas of town;
- Garages at the rear of lots rather than on the street; or creative garage designs that incorporate the “garage door” frontage appearance to blend into the home.
- Lot coverage and floor area ratio (FAR) that is consistent with the scale of historic and older areas;
- Planting of street trees and planting strips along sidewalks.
- Setbacks, building massing and configuration consistent with older parts of neighborhoods.

LU3.6. Continue to work with the County of Napa to review land use and design changes for projects in the unincorporated areas at the City’s gateways.

LU3.11. Ensure that new commercial development does not obstruct view corridors to the mountains.

LU4.3. Ensure that industrial projects are designed and sited to provide a positive image of the community. Landscaping and setbacks should be used to enhance industrial buildings.

LU4.B. Develop and implement industrial design guidelines and/or form-based codes, to provide oversight and guidance for new buildings and renovations. Guidelines should ensure that new industrial development is consistent with the City’s character.

CD1.8. Require, to the extent feasible, that all new development include underground utilities to minimize their negative visual impact. In addition, funding sources to underground electrical lines shall be sought so the undergrounding of existing overhead lines can occur over time.

CD1.A. Continue to implement the existing design review process for new development and remodels throughout the City. Create additional tools, including design guidelines and/or form-based codes, to inform decision-making and ensure high-quality, sustainable design that is compatible with and enhances community character. Consider formation of historic design review committee and/or policies.

CD2.4. Ensure active and complete streets within commercial districts by providing sidewalk amenities, such as landscape buffers, berms, street trees, street furniture, outdoor dining, public art, signage and wayfinding.

CD2.5. Encourage property owners to improve façades and landscaping surrounding existing buildings through the implementation of beautification programs.

CD2.A. Develop and implement design guidelines and/or form-based codes, to provide oversight and guidance for new buildings and renovations.

CD2.B. Require street tree plantings along the commercial streets east of Main Street to reflect Main Street's existing planting pattern, in order to provide visual continuity and to create a pleasant pedestrian environment.

CD2.C. Install attractive and well-designed community amenities such as public restrooms, drinking fountains, benches, bicycle racks and trash and recycling containers in commercial districts. Ensure that community amenities are designed and installed to complement surrounding businesses and support the pedestrian-orientation of the street.

CD2.D. Require businesses and structures to be of a scale commensurate with existing older buildings in the CB and SC land use areas.

CD2.E. Adopt and implement façade and landscape beautification programs to provide assistance to owners of existing properties. Explore potential programs, such as commercial façade improvement programs and traffic-calming incentive programs.

CD3.3. Encourage the use of landscaping and tree plantings as buffers between sidewalks and residential uses. Discourage the removal of existing trees. Support the adoption of a more comprehensive tree ordinance.

CD3.4. Ensure safe bicycle and pedestrian-friendly character on all residential streets. Consider retrofitting existing wide residential streets, such as Starr Avenue, with landscaped medians, wide sidewalks and adjacent Class I pedestrian and bicycle trails.

CD3.A. Develop and implement residential design guidelines and/or form-based codes, to provide oversight and guidance for new buildings and renovations.

CD3.B. Review the existing ordinance language limiting lot coverage/floor area ratio according to parcel size in residential areas in order to preserve neighborhood character, reduce adverse view and shade impacts on existing homes, improve groundwater infiltration, and avoid overbuilt conditions. At the same time, care needs to be taken that any ordinance revision does not impair the ability to build second units on existing lots where appropriate.

CD3.D. Encourage the design and location of parking to minimize its appearance on front façades, locating it to the side or rear of the building, where feasible.

*CD3.C.* Encourage property owners to install landscaping and tree plantings in front setbacks as a buffer between the sidewalk and residential uses.

*CD3.D.* Require new development to include landscaping and street trees.

*CD5.1.* Preserve the visual and physical connection to agriculture by protecting views from streets, parks and open spaces to vineyards, agriculture and hillsides. Where new streets are extended adjacent to agriculture, encourage hillside and vineyard views by maintaining agricultural activities at the road edge. Existing east and west entries should be maintained in their current appearance, protecting and improving views of vineyards and the surrounding hillsides wherever possible.

*CD5.2.* Use public streets or pathways to form the edge of developed areas, allowing views of open space from streets.

*CD5.3.* Ensure that key gateways into the City receive special, character-defining treatments and landscaping. Consider establishing landmark trees along the roads that serve as gateways to the City. New commercial development on Main Street south of the Sulphur Creek bridge should be carefully designed to provide an appropriate gateway in to the downtown area.

*CD5.A.* Working with CALTRANS, design and install a landscaping treatment for the northbound (State Route 29 from Chaix Lane north to Sulphur Creek) and westbound (from Silverado Trail west along Pope, and any future roadway segment from the Trail to downtown) gateways into the City. Consider a tunnel of trees similar to those located at the northern gateway.

*CD5.1.* Preserve the visual and physical connection to agriculture by protecting views from streets, parks and open spaces to vineyards, agriculture and hillsides. Where new streets are extended adjacent to agriculture, encourage hillside and vineyard views by maintaining agricultural activities at the road edge. Existing east and west entries should be maintained in their current appearance, protecting and improving views of vineyards and the surrounding hillsides wherever possible.

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*CD5.4.* Preserve and enhance the City's nighttime environment and quiet rural sounds of the night for residents and wildlife by limiting the negative effects of artificial lighting.

*CD5.A.* Working with CALTRANS, design and install a landscaping treatment for the northbound (State Route 29 from Chaix Lane north to Sulphur Creek) and westbound (from Silverado Trail west along Pope, and any future roadway segment from the Trail to downtown) gateways into the City. Consider a tunnel of trees similar to those located at the northern gateway.

*CD5.B.* Adopt a dark sky ordinance to preserve the City's rural character by limiting the negative effects of light pollution on wildlife and community aesthetics. Develop lighting design guidelines for new development that mitigate light pollution while ensuring adequate nighttime security.

*CD5.C.* New development shall not result in significant light glare and noise that could affect residents, visitors, and wildlife. Lighting shall be shielded to reduce glare and shall be cast downwards. Outdoor new lighting shall occur primarily for the purpose of security and safety. Upcast lighting shall be discouraged to minimize impacts on wildlife and to retain the agricultural ambience of St. Helena. All lighting shall conform to the Lighting Zone 2 requirements of Title 24 of the California Building Code.

*CD5.D.* The City shall encourage the undergrounding of any new electrical lines required to serve new development. In addition, funding sources to underground existing electrical lines shall be sought so that undergrounding of existing overhead electrical lines can occur over time.

*CD5.E.* The City shall investigate the possibility of designating all or a portion of State Route 29 that passes through the City of St. Helena as a scenic highway under the State's scenic highway program

## Impact Analysis

### **Impact AES-1. Potential substantial impacts on scenic vistas, potential substantial damage to scenic resources, substantial degradation to the existing visual character and quality of St. Helena.**

The adoption of the proposed General Plan Update would not have substantial adverse effects on scenic vistas. Due to potential visual impacts of new development, General Plan Update policies seek to preserve remaining public views. Scenic vistas would be protected by the proposed policies, especially Policy LU3.11. New development that could occur in Key

Housing Opportunity Sites, Change Areas, or Pipeline Projects would not be out-of-scale with surrounding development in terms of mass and height.

New development associated with the proposed General Plan Update would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. As mentioned in the Regulatory Framework subsection above, no designated scenic highways currently pass through St. Helena. However, SR 29 has been identified by the California Scenic Highway Program as eligible for such designation. Policies LU3.6, CD5.3, and CD5.A would help to protect SR 29 as it passes through St. Helena. New development would not substantially degrade the existing visual character and quality of the site or its surroundings because of the proposed General Plan Update policies and the fact that the City has a design review process in place. The City has an adopted sign ordinance (Municipal Code Chapter 17.148) that limits the size, type, and lighting of signs to minimize visual intrusion and clutter within the city. In addition, the Updated General Plan contains an Implementing Policy to deal with the aesthetic effects of overhead wires and cables on main roadways in the community.

Areas of new growth are depicted in Figure 3-4 in Chapter 3, Project Description. These areas could undergo changes, especially where no development currently exists and open space/vineyard lands are located. However, the combination of the city's design review process and the fact that new development would occur within the City's Urban Limit Line and within close proximity to existing development would reduce any potential visual impacts to less-than-significant levels.

### **Impact AES-2. Potential substantial impacts related to generation of light and glare.**

New development that would be facilitated by the General Plan Update could result in increased light and glare within existing developed portions of the city. Such light and glare could affect residential areas as well as areas frequented by wildlife. Adherence to Implementing Actions CD5.B and CD5.C contained in the Community Design Element will reduce future light and glare impacts to a less-than-significant level. Implementing Action CD5.B requires the City to adopt a "Dark Sky" ordinance to preserve the City's rural character by limiting the negative effects of light pollution on wildlife and community aesthetics. This Action also requires the development of lighting design guidelines for new development to minimize adverse effects of lighting while ensuring adequate nighttime security. Implementing Action CD5.C requires new development in the community not to generate significant light or glare impacts. Future lighting

shall be shielded and directed downwards to minimize glare. Upcast lighting is discouraged.

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## References – Aesthetics

California Department of Transportation. 2010. *Scenic Highway Guidelines*. Viewed May 20, 2010 at:  
[http://www.dot.ca.gov/hq/LandArch/scenic/guidelines/scenic\\_hwy\\_guidelines.pdf](http://www.dot.ca.gov/hq/LandArch/scenic/guidelines/scenic_hwy_guidelines.pdf)

City of St. Helena. 2015. Municipal Code. Viewed September 15, 2015 at:  
<http://www.codepublishing.com/CA/sthelen/>

## 4.G Biological Resources

### Introduction

This section of the EIR provides a summary of the biological resources in St. Helena and an assessment of the potential impacts of implementing the proposed General Plan Update on these resources. Biological resources were identified through the review of available information and reconnaissance surveys of the planning area. Considerable background information is available documenting biological and wetland resources in St. Helena, including the detailed inventory prepared as part of the *Natural Environment General Plan Update Working Paper* (2007). Other information sources reviewed included recent records of the California Natural Diversity Data Base (CNDDDB) of the California Department of Fish and Wildlife (CDFW), and recent environmental documents for specific development projects in the vicinity. Field reconnaissance surveys were conducted by the EIR biologist on November 11, 2009 and February 1, 2010 to confirm mapping of biotic communities, review wildlife habitat conditions and any important resources and verify conclusions regarding presence or absence of any special-status species. The results of the field reconnaissance were verified by another qualified biological firm in the fall of 2015 to ensure the results of the earlier surveys remain valid. No detailed field reconnaissance surveys were conducted by the EIR biologist and none are considered necessary given the broad program-level analysis of this document. Further project site-specific detailed surveys will likely be appropriate to confirm presence or absence of sensitive resources on future development sites, as recommended by implementation actions in the proposed General Plan Update.

### Setting

#### Biotic Communities

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*Urbanization and agricultural use limit the extent of native vegetation communities and wildlife habitats in St. Helena.*

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St. Helena is characterized by a mix of urban development and agricultural uses with some undeveloped wooded hillsides to the east and west of the city center and wooded hillsides interspersed with residential development to the west of the city center. The Napa River and a narrow band of associated riparian vegetation form a large portion of the eastern and northern boundary of the city limit. York Creek and Sulphur Creek flow from the hills west of the city, through the city and surrounding agricultural lands, and join the Napa River within the city limits (see Figure 4.G-1).

Urbanization and extensive agricultural use limit the extent of native vegetation communities and associated high-quality wildlife habitats within St. Helena. The remaining vegetation communities dominated by native plants occur within the undeveloped lands in the hillsides to the east and west

of the city, and within the stream and river corridors traversing the valley floor. The value of an area to wildlife depends on a number of physical and biological factors, including the quality of the remaining habitat and extent of protective cover, location relative to other land uses, and the uniqueness of the habitat within a regional context.

Fifteen biotic communities have been mapped within St. Helena (see Figure 4.G-1). These consist of California annual grassland, chaparral, serpentine chaparral, deciduous oak woodlands, evergreen oak woodlands, mixed oak woodland, mixed willow woodland, valley oak woodland, eucalyptus woodland, white alder woodland, Douglas-fir/redwood forest, foothill pine woodland, agricultural lands, developed lands, and aquatic habitat. The distribution of these biotic communities was derived from the land cover mapping prepared for all of Napa County (County of Napa, 2005) based on the vegetation classification system outlined in *The Manual of California Vegetation* (CNPS, 1995).

Table 4.G-1 shows the approximate acreages of the biotic communities within St. Helena and their relationship to the various component vegetation communities mapped by Napa County. The 15 biotic communities occurring within St. Helena are discussed in more detail below under the six general land cover-type headings: Grassland, Chaparral, Oak Woodland, Riparian Woodland, Coniferous Forest, and Aquatic Habitat. The discussion includes information on general vegetation and characteristic wildlife associated with each cover type.

### **Grassland**

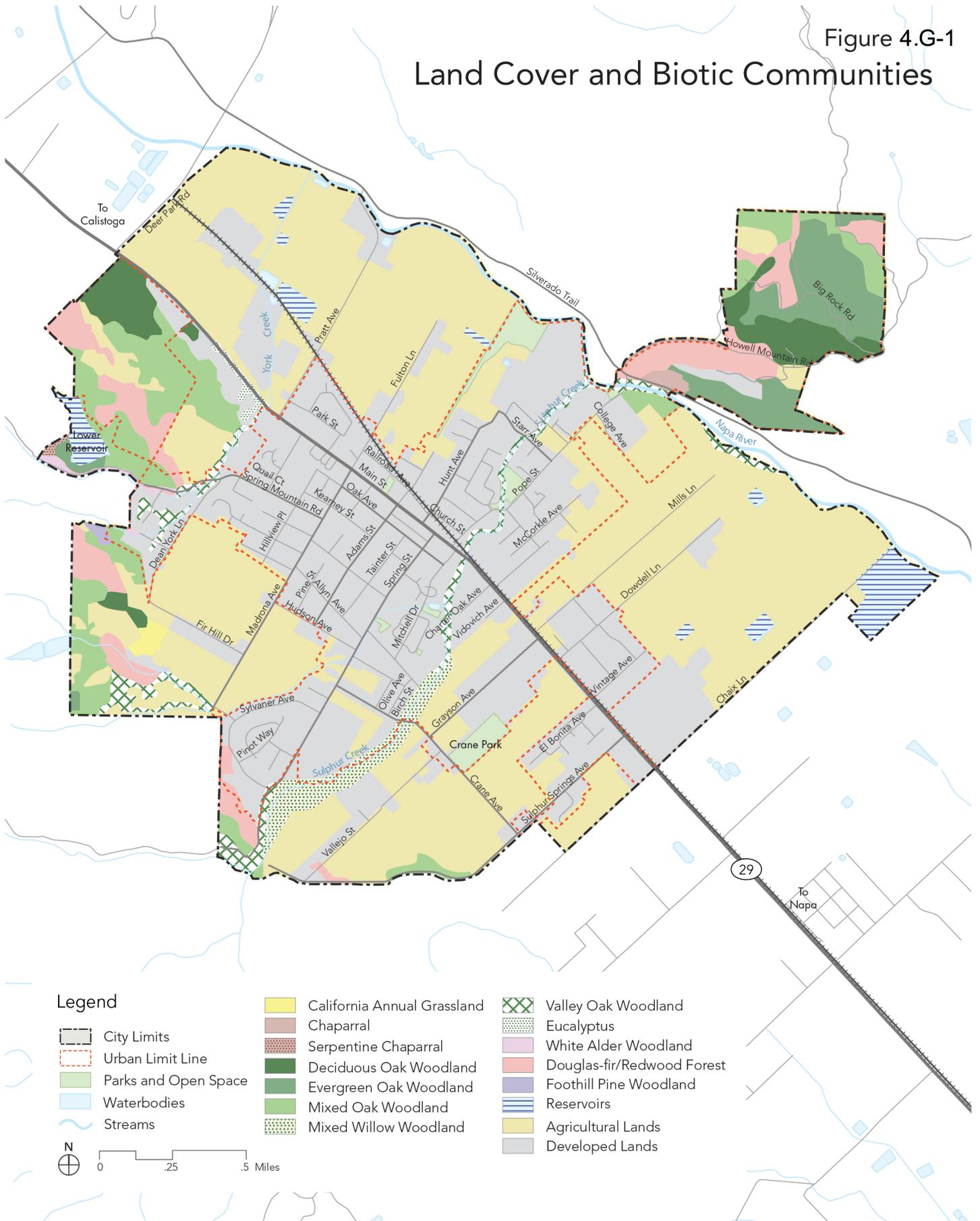
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*Grassland occupies approximately 51.1 acres in St. Helena.*

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Grassland occupies approximately 51.1 acres within St. Helena. The grassland is dominated by nonnative annual grasses such as wild oat (*Avena* spp.) species, brome (*Bromus* spp.) grasses, wild barley (*Hordeum* spp.) species, Italian ryegrass (*Lolium multiflorum*), medusa head (*Taeniantherum caput-medusae*), and annual fescue (*Vulpia*) species. Species composition of the annual grassland is highly diverse and in some locations includes native and nonnative forbs. Common forb species include many clover species (*Trifolium* sp.), filaree species (*Erodium* spp.), miniature lupine (*Lupinus bicolor*), Douglas's lupine (*Lupinus nanus*), slender cottonweed (*Micropus californicus* var. *californicus*), birdsfoot trefoil (*Lotus corniculatus*), evening snow (*Linanthus dichotomus*), California poppy (*Eschscholtzia californica*), purple owl's clover (*Castilleja densiflora*), valley tassels (*Castilleja attenuata*), blow wives (*Achyrachaena mollis*), buttercup (*Ranunculus* spp.), and smooth cat's ear (*Hypochaeris glabra*). Remnant native grasslands, although not mapped within St. Helena, are considered a sensitive natural community type by the CNDDDB.

Figure 4.G-1  
Land Cover and Biotic Communities



Legend

- City Limits
- Urban Limit Line
- Parks and Open Space
- Waterbodies
- Streams

- California Annual Grassland
- Chaparral
- Serpentine Chaparral
- Deciduous Oak Woodland
- Evergreen Oak Woodland
- Mixed Oak Woodland
- Mixed Willow Woodland

- Valley Oak Woodland
- Eucalyptus
- White Alder Woodland
- Douglas-fir/Redwood Forest
- Foothill Pine Woodland
- Reservoirs
- Agricultural Lands
- Developed Lands

0 0.25 0.5 Miles

**TABLE 4.G-1  
 BIOTIC COMMUNITIES AND ASSOCIATED LAND COVER TYPES  
 MAPPED WITHIN ST. HELENA**

Land Cover Type	Biotic Communities	Vegetation Community Names (Used in ICE Land Cover Map) <sup>a</sup>	Acres
Grassland	California annual grassland	California Annual Grasslands Alliance	51.1
		Upland Annual Grasslands & Forbs Formation	
Chaparral	Chaparral	Chamise Alliance	4.8
	Serpentine chaparral	Leather Oak – California Bay – Rhamnus spp. Mesic Serpentine NFD Alliance <sup>b</sup>	2.4
		Leather Oak – White Leaf Manzanita – Chamise Xeric Serpentine NFD Super Alliance	
Oak woodland	Deciduous oak woodland	Blue Oak Alliance	75.5
		Valley Oak Alliance	
	Evergreen oak woodland	Coast Live Oak Alliance	102.3
		Coast Live Oak – Blue Oak – (Foothill Pine) NFD Association	
		California Bay – Madrone – Coast Live Oak – (Black Oak Big – Leaf Maple) NFD Super Alliance	
Mixed oak woodland	Mixed Oak Alliance	151.5	
Riparian Woodland	Mixed willow woodland	Mixed Willow Super Alliance	37.0
	Valley oak woodland	Valley Oak – (California Bay – Coast Live Oak – Walnut – Ash) Riparian Forest NFD Association	89.7
	White alder woodland	White Alder (Mixed Willow – California Bay – Big Leaf Maple) Riparian Forest NFD Association	6.4
Coniferous Forest	Douglas-fir/redwood forest	Douglas-fir Alliance	125.9
	Foothill pine woodland	Foothill Pine Alliance	3.1
Aquatic	Streams and reservoirs	Water	53.8
Agricultural Cropland	Agricultural lands	Agriculture	1,311.9
Developed Lands	Developed lands	Urban or Built-Up	1,128.6
		Vacant	
Other	Nonnative woodland	Eucalyptus Alliance	5.9
<b>Total</b>			<b>3,150.0</b>

<sup>a</sup> “ICE Land Cover Map” was created by the University of California at Davis Information Center for the Environment (ICE). This map was prepared as a prototype to implement revisions to the vegetation classification system outlined in *Manuel of California Vegetation* (CNPS, 1995). Its production involved the first large-scale, detailed mapping effort for this new methodology that is being applied throughout California as the new standard for land cover mapping at a regional and local scale (Thorne et al., 2004).

<sup>b</sup> NFD” stands for “no formal description” of the identified community type as no formal description currently exists. NFD vegetation types were designed in the Napa County ICE Land Cover Map to be consistent with the *Manuel of California Vegetation*.

SOURCE: County of Napa, 2005; data compiled by EDAW in 2007.

Grasslands vary in productivity for wildlife depending on soil type, adjacent land use, and management regime. Different species of wildlife and plants benefit from different grazing intensities or mowing regimes, and frequencies of burning. Annual grasslands can be extremely productive wildlife habitats, providing abundant seed and insects as a food source for small mammals and birds, which in turn provide prey for numerous raptors and other predators. A

variety of reptiles and mammals are characteristic of grassland habitats. These species include western fence lizard, common garter, gopher snake black-tailed jackrabbit, California ground squirrel, Botta's pocket gopher, western harvest mouse, California vole, and coyote. Common birds that breed in or near grassland habitats include western kingbird, loggerhead shrike, California horned lark, Savannah sparrow, western bluebird, Say's phoebe, and western meadowlark. Grasslands also provide important foraging habitat for a number of raptors, including golden eagle, northern harrier American kestrel, white-tailed kite, red-tailed hawk, and wintering ferruginous.

### **Chaparral**

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*Chaparral occupies approximately 7.2 acres in St. Helena.*

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Chaparral occupies approximately 7.2 acres within St. Helena, with alliances of both chamise chaparral and serpentine chaparral. Chamise chaparral is the most common chaparral type in Napa County, occurring on steep, dry, south-to southwest-trending slopes with thin soil. This chaparral type is usually dense and tall (up to 9 feet) with a closed canopy cover dominated by chamise (*Adenostoma fasciculatum*). Serpentine chaparral grows on infertile soils derived from serpentinite rock that have a unique mineral composition with high concentrations of iron and magnesium and low concentration of nutrients such as nitrogen and calcium. These harsh soils support a distinctive flora, including many endemic species (species that occur only on those soils). Dominant shrubs of serpentine chaparral typically include leather oak (*Quercus durata*), chamise, or white leaf manzanita (*Arctostaphylos viscida*). Species composition is related to aspect, mineral content, and soil moisture levels and the transition between chaparral types can be subtle. Mixed serpentine chaparral is considered a sensitive natural community by the CNDDB (CDFW, 2003; CDFW, 2009).

Many common wildlife species are primarily associated with chaparral, including reptiles such as western rattlesnake and California mountain kingsnake, mammals such as desert cottontail and Sonoma chipmunk, and birds such as wrenit, California thrasher, rufous-crowned sparrow, California quail, and sage. Most of these species are resident and are rarely found outside of this habitat type. Other species that occur in chaparral are also found in adjacent woodlands and other habitat types, including mammals such as ringtail, striped skunk, gray fox, black-tailed deer, bobcat, and mountain lion, as well as birds such as orange-crowned warbler, lazuli bunting, spotted towhee, and California towhee.

### **Oak Woodland**

Three types of oak woodlands – deciduous oak woodland, evergreen oak woodland, and mixed oak woodland – occur within St. Helena, collectively

occupying approximately 300 acres. Oak woodlands are dominated by a single or multiple species of oak tree, with an understory that varies widely. In the

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Three types of oak woodlands – deciduous oak woodland, evergreen oak woodland, and mixed oak woodland – collectively occupy about 300 acres in St. Helena.

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St. Helena vicinity, blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), and coast live oak (*Quercus agrifolia*) are the dominant tree species. Cover in the oak woodlands ranges from an open canopy with a dense understory of grasses and forbs to closed canopies with multiple species of trees as codominant. Although oak woodlands are considered to provide important habitat, particularly deciduous oak woodlands, only the valley oak woodlands in St. Helena are recognized as a sensitive natural community by the CNDDDB (CDFW, 2003; CDFW, 2009).

Many wildlife species are associated with oak woodlands, including reptiles and amphibians such as western skink, ensatina, and California slender salamander; and birds such as Nuttall’s woodpecker, warbling vireo, chestnut-backed chickadee, black-throated gray warbler, and black-headed grosbeak. Typical mammal species found in this habitat include those described for chaparral communities, with many grassland associated species found in the understory when grassland cover is present.

### **Riparian Woodland**

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Riparian woodland occupies approximately 133 acres in St. Helena.

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Riparian woodland occupies approximately 133 acres within St. Helena. This habitat type occurs in corridors along the Napa River, Sulphur Creek, and York Creek. Three types of riparian woodland are present based on the dominant overstory tree species. White alder woodland is dominated by white alder (*Alnus rhombifolia*) and may include California bay (*Umbellularia californica*), Oregon ash (*Fraxinus latifolia*), and willows (*Salix* spp). The understory may include mulefat (*Baccharis salicifolia*), torrent sedge (*Carex nudata*), California polypody (*Polypodium californicum*), ninebark (*Physocarpus capitatus*), spicebush (*Calycanthus occidentalis*), California grape (*Vitis californica*), and brown dogwood (*Cornus glabrata*), among other species. Valley oak woodland is dominated by valley oak in the tree layer, with other large riparian trees, such as Fremont’s cottonwood (*Populus fremontii*), sometimes present. The understory is similar to white alder woodland. Mixed willow woodland is characterized by mixed or pure stands of Pacific willow (*Salix lucida* ssp. *lasiandra*), red willow (*Salix laevigata*), black willow (*Salix gooddingi*), sandbar willow (*Salix exigua*), and/or arroyo willow (*Salix lasiolepis*). Mixed willow stands are typically smaller and grow in narrow bands along streams or on the edges of small lakes and reservoirs.



View of riparian vegetation along Napa River  
St. Helena General Plan Update  
Revised Draft EIR

Several wildlife species are primarily associated with this habitat, including amphibians such as Pacific tree frog and western toad; birds such as downy woodpecker, yellow warbler, and yellow-breasted chat; and wide-ranging

mammals such as those described for chaparral and oak woodlands. Many bird species associated with oak woodland habitats are also found in riparian woodlands.



View of Sulphur Creek

Riparian woodland typically provides high-quality wildlife habitat because it provides shade and protective cover, a source of surface water and food, and nutrients for aquatic invertebrates. Coarse woody debris from riparian trees and shrubs is also an important feature of in-stream habitat, forming scour pools and logjams used by amphibians, insects, and fish. Riparian forests and woodland may be the most important habitat for California landbird species, providing breeding and over-wintering grounds, migration stopover areas, and movement corridors (Riparian Habitat Joint Venture, 2004). The quality of riparian wildlife habitat is enhanced by multilayered, structurally complex vegetation, including canopy trees and a shrub layer, and food sources such as berries and insects. Riparian woodlands are considered sensitive natural communities by the CNDDDB (CDFW, 2003; CDFW, 2009).

### **Coniferous Forest**

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Two types of coniferous forest occupy approximately 129 acres in St. Helena.

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Two coniferous forest types occupy approximately 129 acres within St. Helena. Douglas-fir/redwood forest occurs on the wooded slopes to the east and west of the city and is characterized by a dense cover of tall Douglas-fir (*Pseudotsuga menziesii*) and redwood (*Sequoia sempervirens*). Shrub associates include California hazel (*Corylus cornuta* var. *californica*), oceanspray (*Spirea douglasii*), creeping snowberry (*Symphoricarpos mollis*), poison oak (*Toxicodendron diversilobum*), ceanothus (*Ceanothus* spp.), California nutmeg (*Torreya californica*), woodland rose (*Rosa gymnocarpa*), thimbleberry (*Rubus parviflorus*), and manzanita (*Arctostaphylos* spp.). Foothill pine forest occurs on the serpentine derived soils around the Lower York Creek Reservoir and is characterized by an open tree cover of foothill pine (*Pinus sabiniana*) with a sparse shrub and herb understory.

Common wildlife species associated with Douglas-fir-redwood and foothill pine forests include reptiles such as ringnecked snake and rubber boa; birds such as hairy woodpecker, pileated woodpecker, Steller's jay, redbreasted nuthatch, pygmy nuthatch, brown creeper, yellow-rumped warbler, western tanager, and pine siskin; and mammals such as Trowbridge's shrew and western gray squirrel, which is also found in oak woodland. Wildlife productivity in Douglas-fir redwood forest, and in coniferous forest generally, depends in part on structural diversity of forest stands on the landscape scale. Habitat features such as snags, forest gaps, unfragmented forest interior habitat, and recently burned areas are important to maintaining a diversity of wildlife species in coniferous forests.

### ***Aquatic Habitat***

Primary aquatic habitats within St. Helena include the Napa River, Sulphur Creek, York Creek, Spring Creek, and the Lower York Creek Reservoir, and collectively they occupy about 54 acres of St. Helena. According to the Napa

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*Aquatic habitats – including the Napa River, Sulphur Creek, York Creek, Spring Creek, and the Lower York Creek Reservoir – occupy approximately 54 acres in St. Helena.*

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County baseline biological database report (County of Napa, 2005), the Napa River provides habitat for 22 native fish species, including species such as prickly sculpin, riffle sculpin, Sacramento sucker, and threespine stickleback. As discussed in more detail below, special-status fish species that occur in streams that traverse the St. Helena vicinity include steelhead and fall-run chinook salmon. Common nonnative fish species that would be found include striped bass, large and smallmouth bass, catfish, threadfin shad, yellowfin goby, and tule and shiner perch.

### **Sensitive Biological Resources**

Sensitive biological resources are those identified as such by CDFW, the California Native Plant Society (CNPS), and the United States Fish and Wildlife Service (USFWS) and those given recognition in local or regional plans, policies, and regulations. The CNDDDB (2015) was used as the primary source to identify previously reported occurrences of special-status species and sensitive habitats within a 5-mile radius of the city limits (see Figure 4.G-2). The CNDDDB is a statewide inventory managed by CDFG that is continually updated with the locations and condition of the state's rare and declining species and habitats. Although the CNDDDB is the most current and reliable tool for tracking occurrences of previously documented special-status species, it contains only those records that have been submitted to CDFG and is not always completely up-to-date. Thus, additional special-status species could be present that have not been discovered or reported, and additional occurrences that have already been reported may not yet have been entered into the database.

### ***Special Status Species***

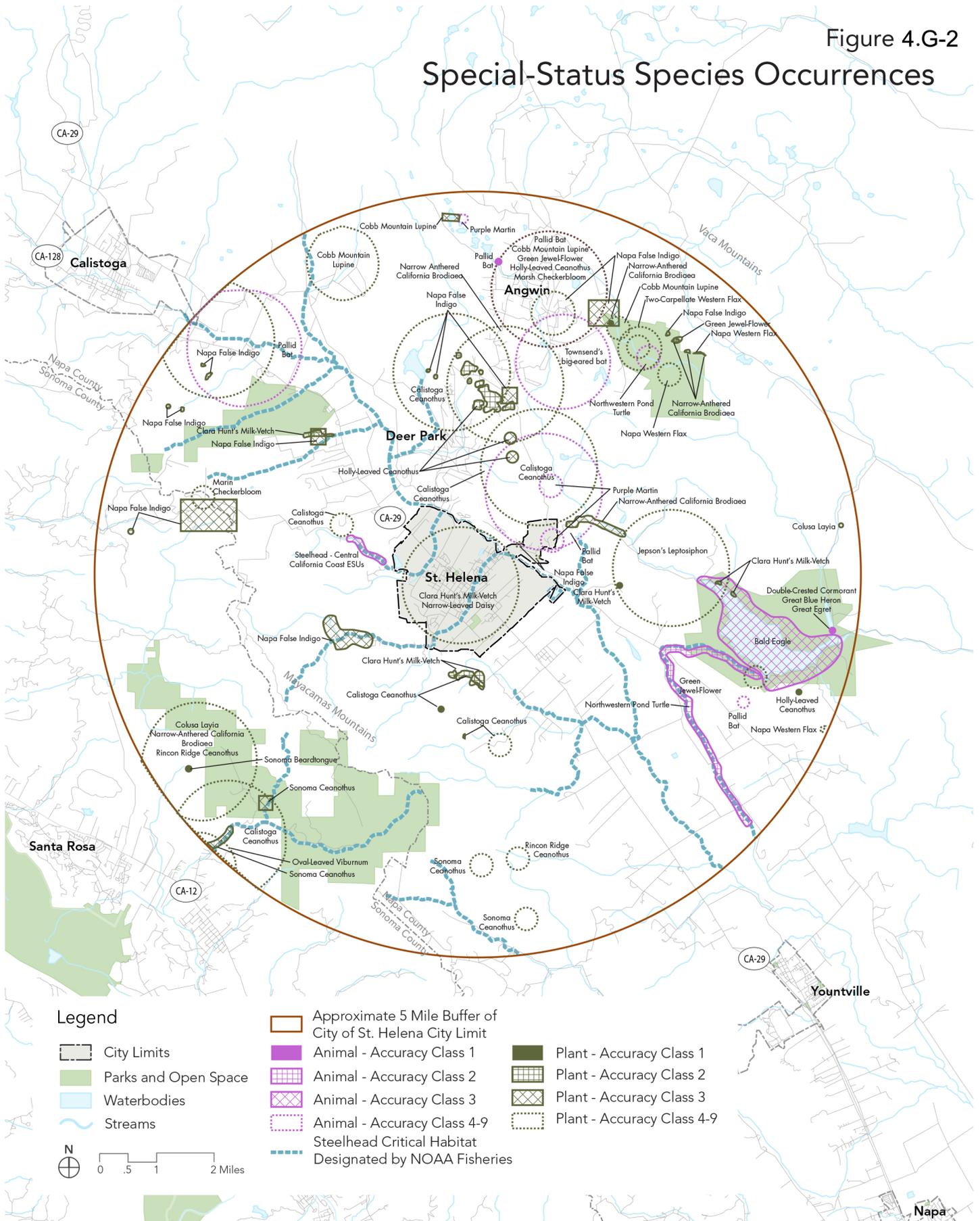
Special-status species include plants and animals in the following categories:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA);
- Species considered as candidates for listing as threatened or endangered under the ESA or CESA;
- Wildlife species identified by CDFW as Species of Special Concern;
- Plants listed as endangered or rare under the California Native Plant Protection Act;
- Animals fully protected under the California Fish and Wildlife Code; and

- Plants on CNPS List 1A and 1B (plants rare, threatened, or endangered in California and elsewhere) or List 2 (plants rare, threatened, or endangered in California but more common elsewhere). The CNPS lists are used by both CDFW and USFWS in their consideration of formal species protection under the ESA or CESA.

Figure 4.G-2

# Special-Status Species Occurrences

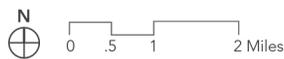


**Legend**

- City Limits
- Parks and Open Space
- Waterbodies
- Streams

- Approximate 5 Mile Buffer of City of St. Helena City Limit
- Animal - Accuracy Class 1
- Animal - Accuracy Class 2
- Animal - Accuracy Class 3
- Animal - Accuracy Class 4-9
- Steelhead Critical Habitat Designated by NOAA Fisheries

- Plant - Accuracy Class 1
- Plant - Accuracy Class 2
- Plant - Accuracy Class 3
- Plant - Accuracy Class 4-9



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*Eighteen special-status plant species have been documented within a 5-mile radius of St. Helena.*

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### **Special-Status Plants**

Nineteen special-status plant species have been documented within a 5-mile radius of St. Helena (see Table 4.G-2). Locations of documented special-status plant occurrences within and near the city are shown in Figure 4.G-2. One species – Clara Hunt’s milk-vetch (*Astragalus claranus*) – is federally listed as endangered and state-listed as threatened. The remaining 18 special-status plant species are tracked in the CNPS’s *Electronic Inventory of Rare and Endangered Plants* (CNPS, 2015). The CNPS Inventory includes five lists for categorizing plant species of concern, which are summarized below.

#### **CNPS-Listed Plants**

The plants listed on CNPS lists 1A, 1B, and 2 meet the definitions of Section 1901, Chapter 10 of the Native Plant Protection Act (NPPA) or Sections 2062 and 2067 (CESA) of the California Fish and Wildlife Code and may qualify for state listing. Therefore, they are considered rare plants pursuant to Section 15380 of the CEQA Guidelines. CDFG recommends that they be fully considered during preparation of environmental documents pursuant to CEQA. Some of the plants constituting CNPS Lists 3 and 4 meet the definitions of Section 1901, Chapter 10 or Sections 2062 and 2067 of the California Fish and Game Code and are eligible for state listing. CDFG recommends, and some local governments require, that CNPS List 3 and List 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA. The CNPS lists are categorized as follows:

- List 1A – Plants presumed extinct in California
- List 1B – Plants rare, threatened, or endangered in California and elsewhere
- List 2 – Plants rare, threatened, or endangered in California but more common elsewhere
- List 3 – Plants about which we need more information - a review list
- List 4 – Plants of limited distribution - a watch list

#### **Clara Hunt’s Milk-Vetch**

Clara Hunt’s milk-vetch (*Astragalus claranus*) is federally listed as endangered, state-listed as threatened, and on CNPS List 1B. Clara Hunt’s milk-vetch is an annual herb in the Pea family (*Fabaceae*). It occurs in chaparral, cismontane woodland, valley and foothill grassland, often in open grassy hillsides with serpentinite or volcanic substrates, between 245 and 900 feet elevation. The species blooms March through May (CNPS, 2015, electronic edition). Documented occurrences in the vicinity of St. Helena are present on private property just outside the city limits to the south and on public property to the east (CNDDDB, 2010). Potential suitable habitat is present within St. Helena in serpentine soils around the Lower York Creek Reservoir.

**TABLE 4.G-2  
 SPECIAL-STATUS PLANT SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN ST. HELENA**

Species	Status*			Habitat	Flowering Period
	Fed	State	CNPS		
Clara Hunt's milk-vetch <i>Astragalus claranus</i>	E	T	1B	Found in serpentine grassland and open grassy areas in oak woodland, on thin volcanic or serpentinite soils from 330 to 500 feet elevation.	March to May
Napa false indigo <i>Amorpha californica</i> var. <i>nepensis</i>	-	-	1B	Found in broadleaf upland forest (openings), chaparral, and cismontane woodland from 450 to 6,250 feet elevation.	April to July
Narrow-anthered California brodiaea <i>Brodiaea californica</i> var. <i>leptandra</i>	-	-	1B	Found in broadleaf upland forest, chaparral, and lower montane coniferous forest; often on serpentine soils from 300 to 3,000 feet elevation.	May to July
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	-	-	1B	Found in chaparral, on volcanic or serpentine substrates from 420 to 3,550 feet elevation.	February to June
Calistoga ceanothus <i>Ceanothus divergens</i>	-	-	1B	Found in chaparral, on rocky volcanic or serpentine substrates from 550 to 3,150 feet elevation	February to March
Holly-leaf ceanothus <i>Ceanothus purpureus</i>	-	-	1B	Found in chaparral, on rocky volcanic substrates from 400 to 2,150 feet elevation.	February to June
Sonoma ceanothus <i>Ceanothus sonomensis</i>	-	-	1B	Found in chaparral on sandy, serpentine or volcanic soils from 700 to 2650 feet elevation.	February to April
Sebastopol meadowfoam <i>Limnanthes vincularis</i>	FE	SE	1B	Vernal pools. 0-1000 m	April-June
Sharsmith's western flax <i>Herperolimon sharsmithae</i>			1B2	Herbaceous herb commonly found along the coast of North America	April-June
Napa Checkerbloom <i>Sidalcea hickmanii</i>			1B.1	Typically found in volcanic soil and chaparral areas	April-June
Calistoga popcornflower <i>Plagiobothrys strictus</i>	E	T	1B.1	Occurs in wetland and riparian areas	March-June
Napa bluecurls <i>Trichostema ruygtii</i>			1B.2	Found in chaparral, lower valley grasslands and vernal pools	June-October
Narrow-leaved daisy <i>Erigeron angustatus</i>	-	-	1B	Found in chaparral, on volcanic or serpentine substrates from 260 to 1,000 feet elevation.	May to September
Two-carpetellate western flax <i>Hesperolinon bicarpellatum</i>	-	-	1B	Found in chaparral, on volcanic or serpentine substrates from 260 to 1,000 feet elevation.	May to July
Collusa lavia <i>Layia septentrionalis</i>	-	-	1B	Found in sandy or serpentine soils in grasslands and openings in chaparral and foothills woodlands from 300 to 3,600 feet elevation.	April to May
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	-	-	1B	Found on grassy slopes, on volcanics or periphery of serpentine soils from 300 to 1,650 feet elevation.	March to May

4. Environmental Setting, Impacts, and Mitigation Measures  
 G. Biological Resources

Species	Status*			Habitat	Flowering Period
	Fed	State	CNPS		
Cobb Mountain lupine <i>Lupinus sericatus</i>	-	-	1B	Found on open wooded slopes in gravelly soils in knobcone pine-oak woodland and chaparral from 900 to 5,000 feet elevation.	March to June
Marsh checkerbloom <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	-	-	1B	Found in meadows and moist areas in perennial grassland and riparian forest from 3,000 to 6,000 feet elevation.	July to August
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	-	-	1B	Found in rocky areas in chaparral from 2,300 to 4,500 feet elevation.	April to August

**TABLE 4.G-2 (Continued)  
 SPECIAL-STATUS PLANT SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN ST. HELENA**

Species	Status*			Habitat	Flowering Period
	Fed	State	CNPS		
Green jewel-flower <i>Streptanthus breweri</i> var. <i>hesperidis</i>	-	-	1B	Found in openings in chaparral and woodland on rocky, serpentine substrates from 400 to 2,500 feet elevation.	May to June
Oval-leaved viburnum <i>Viburnum ellipticum</i>	-	-	2	Found in chaparral and cismontane woodland from 650 to 4,500 feet elevation.	May to June

**Status Definitions:**

Federal Listing Categories (USFWS)

- E = Endangered
- T = Threatened

State Listing Categories (CDFG)

- E = Endangered
- T = Threatened
- R = Rare

CNPS Categories from Inventory

- 1A Plant species presumed extinct in California.
- 1B Plant species considered rare or endangered in California and elsewhere (but not legally protected under the ESA or CESA)
- 2 Plant species considered rare or endangered in California but more common elsewhere (but not legally protected under the ESA or CESA)
- 3 Need more information about this plant (review list)
- 4 Limited distribution (watch list)

USFWS: United States Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; CNPS: California Native Plant Society

SOURCE: County of Napa, 2005; data compiled by EDAW in 2007, updated in 2015.

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Seventeen special-status animal species are known to occur within a 5-mile radius of St. Helena.

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### **Special-Status Wildlife**

Twenty-four special-status wildlife species are known to occur within a 5-mile radius of St. Helena (see Table 4.G-3). Of these, six are federally or state-listed as threatened or endangered:

- Valley elderberry longhorn beetle
- California freshwater shrimp,
- Central California Coast steelhead, evolutionarily significant unit (ESU)
- Central Valley fall/late fall-run chinook salmon ESU,
- California red-legged frog
- Northern spotted owl

The remaining 11 species are considered federal candidate species for listing by the USFWS and/or California Species of Special Concern by CDFW. Locations of documented occurrences of special-status animal species within 5 miles of St. Helena are shown in Figure 4.G-2. Table 4.G-3 lists status and habitat requirements for each of these species.

### **California Freshwater Shrimp**

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California freshwater shrimp is federally and state-listed as endangered.

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California freshwater shrimp (*Syncaris pacifica*) is federally and state-listed as endangered. It is a small, 10-legged crustacean occurring in low-elevation and gradient (less than 1 percent) perennial streams in Marin, Sonoma, and Napa counties. The species occurs in shallow pools away from the main current where they feed primarily on detritus and, to a lesser extent, on decomposing vegetation, dead fish, and invertebrates. Most shrimp appear opaque to nearly transparent with colored flecks across their bodies. Females can appear dark brown to purple under certain conditions. Breeding occurs in the autumn, but young do not hatch until the following May or early June. After breeding, female shrimp carry the fertilized eggs attached to their abdominal swimming legs throughout the winter. The freshwater shrimp has been extirpated from many streams and continues to be threatened by introduced predators, pollution, and habitat loss.

Historically, California freshwater shrimp were known to occur along the mainstem Napa River in the upper watershed (USFWS, 1998). Recent sightings are restricted to Garnett Creek, an upstream tributary to the Napa River (USFWS, 1998). Suitable habitat in the form of undercut banks, refuge habitat, and rootwads extending into the channel exists in portions of the Napa River, York Creek, and Sulphur Creek. Most recently, in 2011-21, the USFWS completed a review of this species and made no changes to the existing status.

**TABLE 4.G-3  
 SPECIAL-STATUS WILDLIFE SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN ST. HELENA**

Species	Status*		Habitat
	Fed	CDFW	
<b>Invertebrates</b>			
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T		Closely associated with blue elderberry ( <i>Sambucus mexicana</i> or <i>S. velutina</i> ), which is an obligate host for beetle larvae. Adult valley elderberry longhorn beetles are usually found flying between elderberry plants.
California freshwater shrimp <i>Syncaeris pacifica</i>	E	E	Inhabits pool areas of low elevation, low gradient, permanent streams; among live tree roots of undercut banks, under overhanging woody debris or vegetation.
<b>Fish</b>			
Central California Coast steelhead Distinct Population Segment <i>Oncorhynchus mykiss</i>	T, NOAA		Inhabits riparian, emergent, palustrine habitat. Spawning and rearing habitat is usually characterized by perennial streams with clear, cool to cold, fast-flowing water with a high dissolved-oxygen content and abundant gravels and riffles.
Chinook salmon, Central Valley fall/late fall-run evolutionarily significant unit <i>Oncorhynchus tshawytscha</i>	C, NOAA	CSC	Inhabits riparian, emergent, palustrine habitat. Spawning and rearing habitat is usually characterized by perennial streams with clear, cool to cold, fast-flowing water with a high dissolved-oxygen content and abundant gravels and riffles.
<b>Amphibians</b>			
California red-legged frog <i>Rana aurora draytonii</i>	T	CSC	Found in a variety of aquatic, riparian, and upland habitats, including ephemeral ponds, intermittent streams, seasonal wetlands, springs, seeps, permanent ponds, perennial creeks, manmade aquatic features, marshes, dune ponds, lagoons, riparian corridors, blackberry thickets, nonnative annual grasslands, and oak savannas.
Foothill yellow-legged frog <i>Rana boylei</i>		CSC	Found in middle to low elevations in perennial creeks and streams, usually with cobble bottoms.
<b>Reptiles</b>			
Northwestern pond turtle <i>Emys (=Clemmys) marmorata marmorata</i>		CSC	Uses permanent or nearly permanent water bodies in a variety of habitat types. Can be found in ponds, marshes, rivers, streams, and irrigation ditches within grasslands, woodlands, and open forests.
<b>Birds</b>			
Cooper's hawk <i>Accipiter cooperii</i>		CSC	Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests.
Sharp-shinned hawk <i>Accipiter striatus</i>		CSC	Forages across a wide range of habitats and breeds in mixed forest and woodland habitats.
Northern harrier <i>Circus cyaneus</i>		CSC	Habitat types include brackish and freshwater marshes, alpine meadows, grasslands, prairies, and agricultural lands. Wintering habitat includes freshwater and saltwater wetlands, coastal dunes, grasslands, deserts, meadows, and croplands. Breeding habitat includes freshwater wetlands, coastal brackish wetlands, open wet meadows and grasslands, shrub-steppe, desert sinks, areas along rivers and lakes, and crop fields.

**TABLE 4.G-3 (Continued)  
 SPECIAL-STATUS WILDLIFE SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN ST. HELENA**

Species	Status*		Habitat
	Fed	CDFW	
<b>Birds (cont.)</b>			
Yellow warbler <i>Dendroica petechia brewsteri</i>		CSC	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses.
White-tailed kite <i>Elanus leucurus</i>		CSC	Forages and nests in trees and shrubs in grasslands and savannas.
Bald eagle <i>Haliaeetus leucocephalus</i>	D	FPS	Coastal and inland waterways including large-bodied rivers, lakes, and seashores.
Purple martin <i>Progne subis</i>		CSC	Nests in dense cattails and tules, riparian scrub, and other low dense vegetation; forages in grasslands and agricultural fields.
Northern spotted owl <i>Strix occidentalis caurina</i>	T	CSC	Dense old-growth or mature forests dominated by conifers with topped trees or oaks available for nesting crevices.
tricolored blackbird <i>Agelaius tricolor</i>		CSC	Freshwater marsh habitat with emergency tules, cattails or other vegetation for nesting and open areas for foraging.
black swift <i>Cypseloides niger</i>		CSC	Forages in open sky preferring mountain country and sea cliffs. Breeds in these habitat types often behind waterfalls
American peregrine falcon <i>Falco peregrinus anatum</i>		FPS	Woodland, wetland, forest and coastal habitats as well as agricultural areas and urban areas.
yellow-breasted chat <i>ctria virens</i>		CSC	Dense riparian thickets adjacent to stream channels, ponds and brushy thickets.
great egret <i>ardea alba</i>		CSC	Forage in shallow wetlands and other water bodies
great blue heron <i>ardea herodias</i>		CSC	Found in marshes, rivers, lakes and ponds
Double-crested cormorant <i>Phalacrocorax aurius</i>		CSC	Generally inhabits rivers and lakes along coastlands
Bell's sparrow <i>Amphispiza belli</i>	FPS		Found along the western slope of the Sierra Nevada to the coast
Loggerhead shrike <i>Lanius ludovicianus</i>	FPS		Requires open habitat to forage, elevated perches and nesting sites
Nuttall's woodpecker <i>Picoides nuttata</i>	FPS		Found in and near oak woodlands

4. Environmental Setting, Impacts, and Mitigation Measures  
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Species	Status*		Habitat
	Fed	CDFW	
Oak titmouse <i>Baeolophus inornatus</i>	FPS		Prefers open woodlands of oak and oak-pine and roosts in dense foliage
Olive-sided flycatcher <i>Contopus cooperii</i>	FPS		Breed in coniferous forests
<b>Mammals</b>			
Pallid bat <i>Antrozous pallidus</i>		CSC	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts.
Pacific Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>		CSC	Roosts in caves, tunnels, mines, and dark attics of abandoned buildings. Very sensitive to disturbances and may abandon a roost after one on-site visit.
Fringed myotis <i>myotis thysanodes</i>		CSC	Tend to occur in or near low elevation forest land.
<b>Fish</b>			
Steelhead-central California coastal ESU		F,T	Majority of life spent in open ocean Reproduces in col freshwater streams. Occurs below natural and manmade impassable barriers in California streams from the Russian River to Aptos Creek.

**Status Definitions:**

Federal Listing Categories (USFWS/NOAA Fisheries)

- E Endangered
- T Threatened Delta smelt
- C Candidate
- D Delisted
- X Critical Habitat is designated for this species by USFWS
- NOAA Species under jurisdiction of the NOAA Fisheries

State Listing Categories (CDFW)

- E Endangered
- T Threatened
- CSC Species of special concern
- FPS Fully protected species

USFWS: United States Fish and Wildlife Service; NOAA: National Oceanic and Atmospheric Administration; CDFG: California Department of Fish and Game

SOURCE: CNDDB, 2015

### Valley Elderberry Longhorn Beetle

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Valley elderberry longhorn beetle is federally listed as threatened.

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Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is federally listed as threatened. It is patchily distributed throughout the remaining riparian forests of the Central Valley from Redding to Bakersfield. The beetle appears to be only locally common (i.e., found in population clusters that are not evenly distributed across the Central Valley). Extensive loss of California's Central Valley riparian forests has occurred since 1900, declining by 80 to 96 percent depending on the region (USFWS, 2006). Although wide-ranging, the valley elderberry longhorn beetle is thought to have suffered a long-term decline because of human activities that have resulted in widespread alteration and fragmentation of riparian habitats and, to a lesser extent, upland habitats that support the beetle. Low density and limited dispersal capability may cause the beetle to be particularly vulnerable to population isolation as a result of habitat fragmentation. Insecticide and herbicide use in agricultural areas and along road rights-of-way may be factors limiting the beetle's distribution. The age and quality of individual elderberry shrubs/trees and stands as a food plant for beetle may also be a factor in its limited distribution.

The USFWS released a 5-year status review for valley elderberry longhorn beetle on October 2, 2006 (USFWS, 2006). This review reported an increase in known beetle locations from 10 at the time of listing in 1980 to 190 in 2006. Because of this observed population increase and the concurrent protection and restoration of several thousand acres of riparian habitat suitable for valley elderberry longhorn beetles, the USFWS status review determined that this species is no longer in danger of extinction and recommended that the species no longer be listed under the ESA. This recommendation is not a guarantee that the species will be delisted, however, because formal changes in the classification of listed species require a separate USFWS rulemaking process distinct from the 5-year review.

### California Red-Legged Frog

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California red-legged frog is federally listed as threatened and is a California Species of Special Concern.

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California red-legged frog (*Rana aurora draytonii*) was listed as threatened on May 23, 1996, by the USFWS and is listed as a California Species of Special Concern by CDFW. Critical habitat was designated for this species on April 13, 2006. Current critical habitat designations do not include the York Creek watershed. California red-legged frog is most common in marshes, streams, lakes, reservoirs, ponds, and other water sources with plant cover. Breeding occurs in deep, slow moving waters with dense, shrubby, or emergent vegetation. Breeding generally occurs from late November through April. Egg masses are attached to emergent vegetation (i.e., *Typha sp.* or *Scirpus sp.*) near the water's surface. Tadpoles require 3.5 to 7 months to attain metamorphosis. Adults take invertebrates and small vertebrates. Larvae are thought to be algal grazers.

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*Foothill yellow-legged frog is a California Species of Special Concern.*

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### **Foothill Yellow-Legged Frog**

Foothill yellow-legged frog (*Rana boylei*) is a CDFW-designated Species of Special Concern. Currently, this species occurs from southern Oregon south to the Salinas River in Monterey County, California, and in isolated patches in the Cascade and Sierra Nevada foothills. The foothill yellow-legged frog is found in or near partly shaded rocky streams from near sea level to 6,300 feet in a variety of habitats. Breeding generally occurs from mid-March to early June after high winter flows have subsided. Egg masses are attached to the downstream side of rocks and gravel in shallow, slow, or moderate-sized streams. Tadpoles require 3 to 4 months to attain metamorphosis. Adults take aquatic and terrestrial invertebrates, and tadpoles graze along rocky stream bottoms on algae and diatoms. During all seasons, this species is generally found in or within close proximity to streams.

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*Northwestern pond turtle is a California Species of Special Concern.*

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### **Northwestern Pond Turtle**

Northwestern pond turtle (*Actinemys marmorata marmorata*) is a CDFW-designated Species of Special Concern. It is one of two subspecies of the western pond turtle, along with the southwestern pond turtle (*A. m. palida*), which is also a Species of Special Concern. The western pond turtle is found in suitable aquatic habitats west of the crest of the Sierra Nevada in California and in parts of Oregon, Washington, and Mexico. The northwestern subspecies is generally found from San Francisco Bay north to the Columbia River drainage in Oregon and Washington. Northwestern pond turtle still occupies most of its historic range but many local populations are declining or have been extirpated. These declines are primarily a result of loss of wetland habitats to agricultural and urban uses and flood control and water diversion projects. Northwestern pond turtle is generally associated with permanent or nearly permanent wetlands in a wide variety of environments below an elevation of 6,000 feet (CDFW, 1988). The species lives in quiet waters of lowland ponds, marshes, lakes, and reservoirs and in streams with deep pools, rocks, logs, and streamside vegetation that provide escape cover and basking sites (Stebbins, 1972). Northwestern pond turtles are highly aquatic but leave the water to bask and lay eggs. They may lay their eggs along sandy wetland margins or at upland locations as far as 1,300 feet from water (Holland and Bury, 1992).

### **Bald Eagle**

Bald eagle (*Haliaeetus leucocephalus*), formerly federally listed as threatened, was removed from the federal list of threatened and endangered species on June 28, 2007. Bald eagle is still state-listed as endangered and is

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*Bald eagle is state-listed as endangered and is protected by the federal Bald and Golden Eagle Protection Act.*

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protected by the federal Bald and Golden Eagle Protection Act (16 USC 668). Historically, it nested throughout California; however, the current bald eagle nesting population is restricted primarily to mountainous habitats in the northern Sierra Nevada, Cascade Range, and northern portion of the Coast Ranges (CDFW, 2005a). Recently, bald eagles have nested in southern California, in the central portion of the Coast Ranges, and on Santa Catalina Island. They winter at lakes and reservoirs and along river systems throughout most of central and northern California and in a few southern California localities (CDFG, 2005a). The nesting population of bald eagles in California is increasing in numbers and range, and the wintering population appears stable. Past declines in bald eagle populations have been attributed to the agricultural pesticide dichlorodiphenyltrichloroethane (DDT), harassment by humans, and destruction of riparian, wetland, and coniferous forest habitats.

Bald eagle nesting territories in California are found primarily in ponderosa pine and mixed conifer forests. Bald eagle nest sites are always associated with a lake, river, or other large water body that supports abundant fish or waterfowl as prey. Bald eagles winter along rivers, lakes, and reservoirs that support abundant fish or waterfowl and have large trees or snags for perch sites. They often roost communally during winter in areas isolated from human disturbance.

### **Northern Spotted Owl**

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*Northern spotted owl is federally listed as threatened.*

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Northern spotted owl (*Strix occidentalis caurina*) was listed as threatened on June 26, 1990, by the USFWS. Critical habitat was designated for this species on January 15, 1992, but this designated habitat currently does not include Napa County.

Northern spotted owl is an uncommon permanent resident of dense forest habitats in northern California and oak and oak-conifer habitats in southern California. This nocturnal species requires dense, multilayered canopy cover for roosting sites. Spotted owls feed upon a variety of small mammals, birds, and large arthropods. Nest sites include tree or snag cavities or broken tops of large trees. The typical breeding period lasts from early March through June, with owls rearing two young per season. A pair of owls may use the same breeding site for 5 to 10 years; however, they may not breed every year. The spotted owl has experienced a population decline because of the loss and degradation of existing mature and old growth forests. They are a year-round resident of Napa County and are known to occur within the upper York Creek watershed (Berner et. al., 2003).

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*Other special-status raptors that could occur in St. Helena include white-tailed kite, Cooper's hawk, sharp-shinned hawk, and northern harrier.*

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### **Additional Special-Status Raptors**

Other special-status raptors that could occur within St. Helena include white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), and northern harrier (*Circus cyaneus*). Cooper's hawk, sharp-shinned hawk, and northern harrier are a CDFG Species of Special Concern and white-tailed kite is a species designated by CDFG as fully protected. All of these raptors are also protected under Section 3503.5 of the California Fish and Game Code, along with more common raptor species such as red-tailed hawk (*Buteo jamaicensis*) and great-horned owl (*Bubo virginianus*). Cooper's hawk and sharp-shinned hawk tend to be associated with riparian woodlands. Annual grassland and the open understory of oak woodland and conifer forests provide suitable foraging habitat for most of the raptors found within the planning area. Suitable nesting habitat varies depending on species, with most raptors preferring to nest in woodlands and mature trees.

### **Purple Martin**

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*Purple martin is a California Species of Special Concern.*

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Purple martin (*Progne subis*) is a CDFW-designated Species of Special Concern. The purple martin is a member of the swallow family (*Apodidae*) that frequents riparian and oak woodlands and coniferous and montane forests at upper elevations. They forage over open land and water. Purple martins are cavity nesters and will use primarily natural holes or crevices. Average clutch size is four to five eggs. Breeding occurs from April into August with peak activity in June. Purple martins are an uncommon migrant and a breeding resident in Napa County.

### **Yellow Warbler**

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*Yellow warbler is a California Species of Special Concern.*

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Yellow warbler (*Dendroica petechia brewsteri*) is a CDFW-designated Species of Special Concern. Yellow warbler is a neotropical migrant songbird that breeds throughout North America. It typically occupies riparian woodlands, montane chaparral, and pine forests. Yellow warbler forage primarily for insects and spiders but will also feed on fruit. Breeding occurs from mid-April into early August. Nesting sites include shrubs and saplings from 2 to 12 feet in height, and the average clutch size is three to six eggs. Yellow warbler is a common summer resident in Napa County; however, they have disappeared in recent years from a number of locations within the Napa Valley.

### **Pallid Bat**

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*Pallid bat is a California Species of Special Concern.*

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Pallid bat (*Antrozous pallidus*) is a CDFW-designated Species of Special Concern. It occupies grassland, shrubland, woodland, and forest habitats at low elevations in California. Pallid bats can most commonly be found in open, dry habitats with suitable rocky areas for roosting. This species can also be found roosting in caves, crevices, mines, hollow trees, and abandoned

buildings during the day. Night roosts generally consist of more open areas such as porches and open buildings. This species feeds chiefly on a variety of arachnids and insects. Pallid bat is a year-round resident throughout most of its range. During the nonbreeding season, both sexes may be found roosting in groups of 20 or more individuals. Young are born from April to July. As with many bat species, pallid bat is extremely sensitive to roosting site disturbance.

### **Townsend's Western Big-Eared Bat**

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*The Townsend's western big-eared bat is a California Species of Special Concern.*

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The Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*) is a CDFW-designated Species of Special Concern. They are found throughout much of California, with the exception of subalpine and alpine communities, most commonly in mesic habitats. This species is most active in late evening when they can be found foraging for small moths, beetles, and other soft-bodied insects. Roosting, maternity, and hibernacula sites include limestone caves, lava tubes, mines, tunnels, or abandoned buildings. Hibernation generally occurs from October to April, and young are born from May to June, peaking in late May. This species is extremely sensitive to disturbance at roosting sites. Populations of big-eared bats have declined precipitously in California.

### **Central California Coast Steelhead**

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*Central California Coast steelhead is federally listed as threatened.*

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Six distinct population segments (DPS) of steelhead (*Oncorhynchus mykiss*) exist within California, including the Central California Coast (CCC) DPS. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) listed CCC steelhead as a threatened species on August 18, 1997, and its threatened status was reaffirmed on January 5, 2006. Most recently, St. Helena has been identified as Critical Habitat for this species. This population occurs downstream of natural and human-made impassable barriers in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco, San Pablo, and Suisun Bays, excluding the Sacramento–San Joaquin River Basin, and also includes two propagated stocks.

Critical habitat for CCC steelhead was designated on September 2, 2005 and includes the Napa River and its tributaries (including York Creek and Sulphur Creek). Historically, York Creek had a steelhead run and rainbow/steelhead persist in the drainage today, although levee construction, road building, and channel modifications in the portions that run through the city have created problems for fish passage. Based on habitat data collected as part of the Central Napa River Watershed Plan by Napa County Resource Conservation District (RCD), York Creek has been identified as one of the most significant spawning and rearing streams for steelhead within the Napa Basin (CDFW, 2005b).

Steelhead are anadromous salmonids, meaning they spawn in freshwater and mature in the ocean. Adults spend 1 to 4 years at sea before returning to their natal streams to spawn. Unlike other salmonids, steelhead may spawn as many as four times. Adult steelhead spawn from December through April in cool, clear, well-oxygenated streams with pea to apple-sized gravel (1.3 to 11.7 centimeters). Eggs are deposited in a depression called a redd, usually at the head of riffle. Eggs hatch between 19 and 80 days, depending on stream temperatures. Alevins, newly hatched fish, remain in the gravel for 2 to 3 weeks until their yolk sac is absorbed. They then emerge from the gravel as fry. The young fish remain in edgewater habitats often in small schools. As they grow larger, they move out into the stream channel into pool and riffle habitats. Juveniles require cool stream flows to transport drifting insects for feeding and cover in the form of undercut banks, woody debris, boulders, and deep pools to escape predation and high flows. After spending up to 2 years in freshwater, steelhead migrate downstream to the ocean as smolts. Steelhead that remain in freshwater streams are called rainbow trout. Unlike steelhead, rainbow trout are not protected under the federal Endangered Species Act. Environmental requirements for steelhead vary by season and life stage. Optimal water temperatures for steelhead range from 10 to 15°C, with an upper lethal limit of 20°C. Rearing salmonids require a high level of dissolved oxygen, at least 80 percent, with a minimum temporary reduction no lower than 5.0 milligrams per liter (mg/l). Deposited and suspended sediment plays a significant role in steelhead's ability to successfully spawn and rear. Optimal upstream migration water velocities range from 40 to 90 centimeters per second and a minimum stream depth of 13 centimeters.

### **Chinook Salmon**

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*Central Valley fall/late fall-run  
Chinook salmon is a federal  
Species of Concern.*

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Chinook salmon is an anadromous fish species that requires cold, freshwater streams with suitable gravel for reproduction. After spending 2 to 4 years maturing in the ocean, Chinook salmon return to their natal streams to spawn by depositing their eggs in gravel nests called redds (Moyle, 2002). Eggs generally hatch in 6 to 12 weeks, and newly emerged larvae remain in the gravel for another 2 to 4 weeks until the yolk is absorbed. Juveniles typically rear in freshwater for up to 5 months before migrating to sea. Unlike steelhead, adult chinook salmon die after spawning (Moyle, 2002).

Central Valley fall/late fall-run Chinook salmon ESU is a federal Species of Concern. Fall-run Chinook salmon is the most widely distributed and most numerous run occurring in the Sacramento and San Joaquin rivers and their tributaries (Moyle, 2002). Fall-run Chinook salmon have been observed in the Napa River upstream of St. Helena to the base of the Kimball Canyon Dam north of Calistoga. Fall chinook salmon returns to the Napa River are thought to be small and sporadic, with only occasional observations of spawning primarily between Zinfandel Lane, slightly downstream of

St. Helena, and the City of Calistoga. Chinook salmon are known to spawn in Sulphur Creek in the vicinity, with 7 adults and 24 redds (nests) observed in December 2004 along an approximately one-mile stretch below the confluence with Heath Canyon. NOAA Fisheries believes that these populations are not self-sustaining, likely consist of strays from other basins, and are more likely present only on an intermittent basis during favorable periods.

### ***Sensitive Natural Communities***

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*Sensitive natural communities in St. Helena include the serpentine chaparral around York Creek Reservoir, the riparian woodland vegetation along rivers and creeks, and valley oak woodlands mapped along Sulphur Creek, York Creek, and the lower hillsides west of the valley floor.*

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Sensitive natural communities are those protected by or of special concern to federal, state, or local resource conservation agencies and organizations. CDFW and CNPS both have programs that identify and track rare and/or diminishing native plant communities within California. Although some of these communities represent important biological resources and may be unique to California, they may have no legal or protected status under the California and/or federal Endangered Species Acts. Regardless, substantial losses of some of these plant communities may be considered significant under CEQA.

Sensitive natural communities present within St. Helena include the serpentine chaparral around York Creek Reservoir, the riparian woodland vegetation along the rivers and creeks traversing the valley floor, and valley oak woodlands mapped along Sulphur Creek, York Creek, and the lower hillsides west of the valley floor. Native grasslands may also be present in the remaining grasslands in the planning area, particularly where serpentine substrate is present, and would also be considered a sensitive natural community type, although none have been mapped within St. Helena according to the CNDDDB records.

### **Wildlife Corridors**

A wildlife corridor can be defined as a linear landscape feature (such as a ridge or valley), allowing animal movement between two patches of habitat. Wildlife corridors can be regional or local in nature, and may be identified as functional for some species but insufficient for others.

Wildlife corridors play an important role in preserving species diversity. In the absence of corridors, habitats become isolated islands surrounded by development. Fragmented habitats support significantly lower numbers of species and increase the likelihood of extinction for species restricted to small areas. Connections between areas of open space are an integral part of maintaining biological diversity and population viability. Preserving connectivity is one of the most practical and effective measures to protect native biodiversity.

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*In St. Helena, the Napa River, York Creek, and Sulphur Creek are important wildlife corridors.*

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Corridors are frequently constrained by development through the loss of cover, increased noise, and the increased presence of domestic animals. However, even constrained corridors may increase in importance when alternative, preferred corridors are disturbed or eliminated. With the continued loss of native habitats throughout Napa County, existing and even constrained corridors have taken on a heightened significance. Within St. Helena, the Napa River, York Creek, and Sulphur Creek riparian corridors function as important wildlife corridors.

## Wetlands and Other Waters

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. As discussed further below under Regulatory Framework, technical standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers (Corps) and the USFWS.

Jurisdictional waters within St. Helena include the Napa River, Sulphur Creek, and York Creek. Many of the “waterbodies” identified in Figure 4.G-1 are human-made reservoirs used for agricultural purposes and are most likely not regulated by jurisdictional agencies. There remains a possibility that regulated waters may also include smaller tributary ephemeral and intermittent drainages that occur within the largely undeveloped hillsides in the western and eastern edges of the planning area; channelized drainages on the valley floor; or seasonal wetland features, seeps, and springs. Further site assessment would be required to confirm the extent of jurisdictional waters on undeveloped land proposed for development or conversion to agricultural uses.

## Regulatory Framework

Local, state, and federal regulations have been enacted to provide for the protection and management of sensitive biological and wetland resources. On the federal level, the U.S. Fish and Wildlife Service (USFWS) is responsible for protection of inland non-anadromous fish through implementation of the federal Endangered Species Act <sup>1</sup> and the Migratory Bird Treaty Act. The National Marine Fisheries Service (NOAA Fisheries) is responsible for protection of anadromous fish and marine wildlife. The Corps has primary

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<sup>1</sup> The Federal Endangered Species Act (ESA) declares that all federal departments and agencies shall use their authority to protect endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of the ESA and pertains to California species.

responsibility for protecting wetlands under Section 404 of the Clean Water Act. At the state level, the California Department of Fish and Wildlife (CDFW) is responsible for administration of the California Endangered Species Act and for protection of streams and waterbodies through the Streambed Alteration Agreement process under Section 1600 of the California Fish and Game Code. Certification from the California Regional Water Quality Control Board (RWQCB) is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the Clean Water Act and EPA Section 404(b)(1) Guidelines. The RWQCB has also taken an increasingly important role in regulating waters no longer considered jurisdictional by the Corps due to recent federal Supreme Court rulings.

## Special-Status Species Regulations

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*Special-status species are plants and animals that are legally protected under the California and/or federal Endangered Species Acts or other regulations, or other species considered rare enough to warrant special consideration.*

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Special-status species<sup>2</sup> are plants and animals that are legally protected under the California and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species with legal protection under the federal and California Endangered Species Acts often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a “take” of these species. “Take” as defined by the federal Endangered Species Act (ESA) means to “harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect” a threatened or endangered species. “Harm” is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modifications or degradation. CDFW also considers the loss of listed species habitat as “take,” although this policy lacks statutory authority and case law support under the California Endangered Species Act (CESA). No incidental “take” permits are issued by the CDFW for fully protected species. Incidental take permits may

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<sup>2</sup> Special-status species include designated (rare, threatened, or endangered) and candidate species for listing by CDFW; designated (threatened or endangered) and candidate species for listing by the USFWS; species considered to be rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act Guidelines, such as those identified on lists 1A, 1B, and 2 in the 2001 *Inventory of Rare and Endangered Plants of California* by the California Native Plant Society (CNPS); and possibly other species which are considered sensitive due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on list 3 in the CNPS Inventory or identified as animal Species of Special Concern by CDFW. Species designated as a Species of Special Concern have no legal protective status under the California Endangered Species Act but are of concern to CDFW because of severe decline in breeding populations and other factors.

be issued for federal and state listed species if certain criteria are met, but no take permits can be issued for California-listed, fully protected species.

The primary information source on the distribution of special-status species in California is the California Natural Diversity Database (CNDDDB) inventory, which is maintained by the Biogeographic Data Branch of the CDFW. The CNDDDB inventory provides the most comprehensive statewide information on the location and distribution of special-status species and sensitive natural communities. Occurrence data are obtained from a variety of scientific, academic, and professional organizations, private consulting firms, and knowledgeable individuals, and entered into the inventory as expeditiously as possible. The occurrence of a species of concern in a particular region is an indication that an additional population may occur at another location if habitat conditions are suitable. However, the absence of an occurrence in a particular location does not necessarily mean that special-status species are absent from the area in question; only that no data have been entered into the CNDDDB inventory. A site assessment and possibly detailed field surveys may be necessary to provide a conclusive determination on presence or absence of sensitive resources from a particular location where there is evidence of potential occurrence.

### ***Federal Authority***

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*The United States Fish and Wildlife Service and NOAA Fisheries have jurisdiction over species that are formally listed as threatened or endangered under the federal Endangered Species Act.*

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The USFWS and NOAA Fisheries have jurisdiction over species that are formally listed as threatened or endangered under the federal ESA. The federal ESA is a complex law enacted in 1973 to protect and recover plant and animal species in danger of becoming extinct and to conserve their ecosystems, with the ultimate goal being the recovery of a species to the point where it is no longer in need of protection. A “threatened” species is one that is likely to become endangered within the foreseeable future. An “endangered” plant or animal species is one that is considered in danger of becoming extinct throughout all or a significant portion of its range. The USFWS also maintains a list of species proposed for listing as endangered or threatened, and a list of candidate species for which sufficient information is available to support issuance of a proposed listing rule.

It is illegal to take any listed species without specific authorization. Any activity that could result in take of a federally listed species requires a Section 10 take permit authorization from the USFWS or NOAA Fisheries. Should another federal agency be involved with permitting the project, such as the Corps under jurisdiction of the Clean Water Act, Section 7 of the ESA requires the federal lead agency to consult with the USFWS and/or NOAA Fisheries before permitting any activity that may result in take of a listed species. Section 9 of the ESA and its applicable regulations restrict certain activities with respect to endangered and threatened plants. However, these

restrictions are less stringent than those applicable to fish and wildlife species. The provisions prohibit the removal of, malicious damage to, or destruction of any listed plant species from areas under federal jurisdiction.

In addition to the protection offered under the ESA, the federal Migratory Bird Treaty Act (MBTA) provides for protection of migratory bird species, birds in danger of extinction, and their active nests. It is illegal to possess or take any bird protected under the MBTA without a depredation permit from the USFWS, which includes protection of eggs, young, and nests in active use. Although the MBTA technically provides for protection of most bird species, it is typically applied as a mechanism to protect active nests of raptors and colonial nesting species through the breeding and nesting season.

### **State Authority**

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*The California Department of Fish and Game has jurisdiction over threatened or endangered species that are formally listed under the California Endangered Species Act.*

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CDFW has jurisdiction over threatened or endangered species that are formally listed under the CESA. The CESA is similar to the federal ESA both in process and substance, providing additional protection to listed species in California. The CESA does not supersede the federal ESA, but operates in conjunction, with some species having different listing status. The CESA is intended to conserve, protect, restore, and enhance listed species and their habitat. Compliance with the CESA is required when a take is considered likely by CDFW.

CDFW also maintains informal lists of “Species of Special Concern.” These species are broadly defined as animals that are of concern to CDFW because of population declines and restricted distribution, and/or because they are associated with habitats that are declining in California. These species are inventoried in the CNDDDB, focusing on nesting, roosting, and congregation sites for non-listed species. In addition, wildlife species designated as “Fully Protected” or “Protected” may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW. The CESA prohibits the take of any plant listed as endangered, threatened, or rare. A “rare” plant species is one not presently threatened with extinction but may become endangered if its present environment worsens. State listing of plants began in 1977 with passage of the Native Plant Protection Act (NPPA). The CESA expanded upon the NPPA and enhanced legal protection for plants. To align with federal regulations, the CESA created the categories of threatened and endangered species. It grandfathered all rare animals into the CESA as threatened species, but did not do so for rare plants.

The California Native Plant Society (CNPS) is a non-profit conservation organization dedicated to the preservation of native flora in California. The CNPS has been involved in assembling, evaluating, and distributing information on special-status plant species in the state, as listed in the

*Inventory of Rare and Endangered Plants of California* (2001 and electronic online inventory update). A List 1A plant is a species, subspecies, or variety that is considered to be extinct. A List 1B plant is considered rare, threatened, or endangered in California and elsewhere. A List 2 plant is considered rare, threatened, or endangered in California but is more common elsewhere. A List 3 plant is a species for which the CNPS lacks necessary information to determine whether or not it should be assigned to a list. A List 4 plant has a limited distribution in California and is considered a “watch list” by the CNPS.

All of the plant species on List 1 and List 2 meet the requirements of the NPPA (Section 1901, Chapter 10) or Section 2062 and 2067 of the CESA, and are eligible for state listing. Species maintained by CNPS on Lists 1 and 2 should be considered special-status species under the California Environmental Quality Act (CEQA). Some List 3 plant species also meet the requirements for state listing. Very few List 4 plants are eligible for listing but may be locally important and their listing status could be elevated if conditions change.

CEQA requires government agencies to consider environmental impacts of discretionary projects and to avoid or mitigate them where feasible. CEQA Guidelines Section 15380 provides protection for both state-listed species and for any other species that can be shown to meet the criteria for state listing. CDFW recognizes that Lists 1A, 1B, and 2 of the CNPS *Inventory* consist of plants that, in a majority of cases, would qualify for listing and these species should be addressed under CEQA review. In addition, CDFG recommends, and local governments may require, protection of species that are regionally significant, such as locally rare species, disconnected populations, essential nesting and roosting habitat for more common wildlife species, or plants on the CNPS Lists 3 and 4.

## **Sensitive Natural Communities Regulations**

In addition to species-oriented management, protecting habitat on an ecosystem level is increasingly recognized as vital to the protection of natural biodiversity in the state. This is considered the most effective means of providing long-term protection of ecologically viable habitat, and can include whole watersheds, ecosystems, and sensitive natural communities. Providing functional habitat connectivity between natural areas is essential to sustaining healthy wildlife populations and allowing for the continued dispersal of native plant and animal species.

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*The California Natural Diversity Database is responsible for maintaining up-to-date records of sensitive natural communities.*

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The CNDDDB is responsible for maintaining up-to-date records of sensitive natural communities, those considered rare or threatened in the state. The classification system for “natural communities” now used by the CNDDDB is based on the system described in the *Manual of California Vegetation* (Sawyer

and Keeler-Wolf, 1995). It is a floristically based system that uses two units of classification, called the alliance and the association in the National Vegetation Classification (Grossman et al., 1998). Although it is just now being used in a broad scale, this quantitative vegetation classification and systematic mapping method will allow conservationists and resource managers a greater understanding of natural ecosystems, their abundance, and their relative security. Previously, the classification of natural communities used by the CNDDDB was generally a habitat-based approach defined by dominant or characteristic plant species as described in the preliminary descriptions of the terrestrial natural communities of California (Holland, 1986).

The purpose of the CNDDDB natural community inventory was originally to identify and determine the significance and rarity of the various vegetation types in the state. While identifying and mapping sensitive natural communities continues to be a primary focus of the inventory, a more thorough understanding of all natural communities is essential to accurately define rarity, identify monitoring trends and threats, and broaden the approach to ecosystem-level conservation of biological diversity. This will presumably lead to mapping of vegetation throughout the state. Considerable work is necessary in updating and refining existing mapping records, identifying new occurrences of sensitive natural communities, and expanding the database to include the identification of high-quality stands of all natural communities. In the interim, sensitive natural community types recorded in the CNDDDB are still generally mapped according to the older Holland classification system.

### **Federal Authority**

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*No federal regulations have been enacted that relate specifically to protection of sensitive natural communities.*

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No regulations have been enacted specifically related to the protection of sensitive natural communities on a federal level. Regulations related to the protection of wetlands and critical habitat for listed species protected under the ESA provide indirect protection of some sensitive natural community types where they overlap with these other resources. An example is development of a Habitat Conservation Plan (HCP) for protection of listed species as called for under Section 10 of the ESA where essential habitat may be adversely affected by proposed private development where no federal agencies are involved.

### **State Authority**

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*Although sensitive natural communities have no legal protective status under the California or federal Endangered Species Acts, they are provided some level of protection under CEQA.*

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Although sensitive natural communities have no legal protective status under the California or federal Endangered Species Acts, they are provided some level of protection under CEQA. The CEQA Guidelines identify potential impacts on a sensitive natural community as one of six significance criteria. As an example, a discretionary project that has a substantial adverse effect on any riparian habitat, native grassland, valley oak woodland, or other sensitive natural community would normally be considered to have a significant effect

on the environment. Further loss of a sensitive natural community could be interpreted as substantially diminishing habitat, depending on its relative abundance, quality and degree of past disturbance, and the anticipated impacts to the specific community type. Where determined to be a significant under CEQA, the potential impact would require mitigation through avoidance, minimization of disturbance or loss, or some type of compensatory mitigation when unavoidable. The Natural Community Conservation Act of 1991 was adopted as a method of providing a comprehensive approach to planning for the protection of natural diversity. The Natural Community Conservation Planning (NCCP) program of CDFW is intended to provide a more broad-based approach to ecosystem protection and is typically used in conjunction with the federal HCP program.

### **Wetlands Regulations**

Although federal and state definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. As already noted, wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the Corps and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

In recognition of the importance of wetlands, in 1977 the USFWS began a systematic effort to classify and map remaining wetlands in the country, now known as the National Wetlands Inventory Program (NWI). Using the USGS topographic maps as a base, the wetlands mapping effort provides a generalized inventory of wetlands according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979) used by the USFWS. Mapping has been prepared through interpretation of aerial photographs, with only limited ground confirmation, which means that a more thorough ground and historical analysis may result in a revision to wetland boundaries in a specific location. The inventory is not an attempt to define the limits of proprietary jurisdiction of any governmental agency. This mapping effort also identified features according to the broader definition of wetlands used by the USFWS, in which only one criterion (wetland hydrology, hydric soils, or hydrophytic vegetation) is typically necessary for the location to meet the wetland definition, rather than all three criteria as required by the Corps.

### **Federal Authority**

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*Under Section 404 of the Clean Water Act, the United States Army Corps of Engineers is responsible for regulating the discharge of fill material into "waters of the United States," including wetlands.*

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The Clean Water Act was enacted to address water pollution, establishing regulations and permit requirements regarding construction activities that affect storm water, dredge and fill material operations, and water quality standards. This regulatory program requires that discharges to surface waters be controlled under the National Pollutant Discharge Elimination System permit program, which applies to point sources of water runoff, private developments, and public facilities. Under Section 404 of the Clean Water Act, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. All three of the identified technical criteria must be met for an area to be identified as a wetland under Corps jurisdiction, unless the area has been modified by human activity. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the United States. The type of permit depends on the amount of acreage and the purpose of the proposed fill, subject to the discretion of the Corps.

Certain activities in wetlands or "other waters" are automatically authorized, or granted a nationwide permit that allows filling where impacts are considered minor. Eligibility for a nationwide permit simplifies the permit review process. Nationwide permits cover construction and fill of waters of the United States for a variety of routine activities such as minor road crossings, utility line crossings, streambank protection, recreational facilities and outfall structures. To qualify for a nationwide permit, a project must demonstrate that it has no more than a minimal adverse effect on the aquatic ecosystem, including species listed under the ESA. This typically means that there will be no net loss of either habitat acreage or habitat value, resulting in appropriate mitigation where fill activities are proposed.

The Corps assumes discretionary approval over proposed projects where impacts are considered significant, requiring adequate mitigation and permit approval. To provide compliance with the Environmental Protection Agency's Section 404(b)(1) Guidelines, an applicant must demonstrate that the proposed discharge is unavoidable and is the least environmentally damaging practicable alternative that will achieve the overall project purpose. The 1990 Memorandum of Agreement between the EPA and Corps concerning the Determination of Mitigation under the Guidelines sets priorities for mitigation, with the first priority to avoid impacts, the second to minimize impacts, and the third to provide compensatory mitigation for unavoidable impacts.

### **State Authority**

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*Under the California Fish and Game Code, it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying the California Department of Fish and Game, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement.*

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Jurisdictional authority of CDFW over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying CDFW, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. CDFW's Wetlands Resources Policy states that the Fish and Game Commission will strongly discourage development in or conversion of wetlands unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage. CDFW is also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958.

In addition, the Regional Water Quality Control Board (RWQCB) is responsible for upholding state water quality standards. Pursuant to Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a nationwide permit, must obtain water quality certification. The RWQCB is also responsible for regulating wetlands under the Porter-Cologne Act, which may include hydrologically isolated wetlands no longer regulated by the Corps under Section 404 of the Clean Water Act. Recent federal Supreme Court rulings have limited the extent of Corps jurisdiction, but the RWQCB in some cases continues to exercise jurisdiction over these isolated wetland features.

### **Existing St. Helena General Plan**

The existing St. Helena General Plan, adopted in 1993, outlines policies, standards and programs that together provide a comprehensive, long-term plan for physical development within the city. Individual development projects proposed within the city must demonstrate general consistency with the goals and policies outlined within the General Plan, which articulates and implements the city's long-term vision as it pertains to housing, transportation, historic preservation, open space and other areas. Several policies in the Open Space and Conservation Element of the existing St. Helena General Plan relate to protecting natural habitat and vegetation in hillside areas, as well as integrating existing significant trees into future development and requiring replacement where loss is unavoidable.

The proposed project analyzed in this EIR is the St. Helena General Plan Update, which is an update of the existing General Plan. Once adopted, future developments within the city will be subject to policies outlined in the updated document.

## St. Helena Municipal Code

Chapter 12.24 of the St. Helena Municipal Code pertains to trees and other vegetation. This chapter provides for protection of “heritage trees” and other protected trees. As defined by the ordinance, a “heritage tree” means any tree or grove of trees within the city boundaries designated by a resolution of the City Council, and “protected tree” includes a heritage tree or a protected replacement tree planted as a condition of mitigation for the removal of any existing native or heritage trees, street tree, and city tree. A Tree Committee is charged with the responsibility of reviewing all matters pertaining to tree resources and reporting back in an advisory capacity to the City Council, Planning Director, Parks and Recreation Commission, Planning Commission, and the public. Figure 4.G-1 shows the location of designated “heritage trees” within St. Helena.

## Impacts and Mitigation Measures

### Significance Criteria

Based on Appendix G of the CEQA Guidelines, implementation of the proposed General Plan Update would have a significant biological resources impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

In addition, in accordance with CEQA Guidelines Section 15065, the City of St. Helena (the lead agency) must find that implementation of the proposed General Plan Update may have a significant effect on the environment if it would:

- Have the potential to degrade the quality of the environment substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal.

## Relevant Policies

The following relevant goals of the General Plan Update address biological resources:

Preserve, Enhance and Restore Natural Resources. St. Helena is committed to preserving, enhancing and restoring its abundance of natural habitat, wildlife and open space resources.

Ensure Stewardship of Water Resources. St. Helena is dedicated to promoting water conservation and ensuring its natural supply of water is properly managed and securely maintained. . improving water quality.

The following relevant policies and implementing actions of the General Plan Update implement the above-referenced goals to protect biological resources in St. Helena.

OSI.1. Preserve and enhance St. Helena's riparian corridors for their value in providing wildlife habitat, biodiversity, natural drainage and visual amenity.

OSI.2. Prohibit development, alteration and/or removal of native vegetation from riparian areas. Disallow invasive species that degrade habitat quality.

OSI.3. Protect and enhance contiguous corridors of riparian vegetation along the Napa River and its tributaries in order to support regional wildlife movement and enhance aquatic habitat.

OSI.4. Protect natural habitats that have the potential to support rare, endangered or special-status wildlife and plant species. Control invasive species that degrade habitat quality.

OSI.5. Restrict development of hillside areas in order to protect wildlife, vegetation, viewsheds and open space characteristics.

OSI.6. Manage invasive species that degrade habitat quality, especially along the Napa River and its tributaries.

OSI.7. Promote, encourage and require sustainable agricultural practices that are sensitive to natural habitat and do not harm wildlife.

OS2.5. Limit public access to habitat areas when public access will significantly impact the value of the habitat area.

OS4.1. Protect and enhance tree resources in developed and undeveloped areas. Efforts may include: adequate maintenance of street trees; requiring replacement trees where existing significant trees cannot be saved; and requiring street trees as a condition of new development.

OS1.A. Develop and adopt an ordinance for the protection, restoration and enhancement of creek corridors. The ordinance should consider the following:

- Establish setbacks to allow for all new development projects to protect stream function and riparian habitat, while allowing for limited recreational development and success of the stream corridor for maintenance and flood control;
- Limit the use of herbicides and insecticides associated with aquatic toxicity in areas near and adjacent to creeks, and ensure best management practices for all developments and industries;
- Provide access for creek maintenance and public use through easements and cooperative agreements with landowners;
- Establish sufficient buffer width adjacent to waterways to allow for wildlife habitats, trails and greenbelts;
- Adhere to Living River Principles that allow the river to meander, reconnect to its historic floodplain and retain natural channel features to support continuous fish migration and the health of riparian corridors;
- Encourage the use of bioswales, off-stream detention ponds and other green best practices for stormwater management.
- Implement an Integrated Pest management ordinance that includes provisions to minimize reliance on pesticides that threaten water quality and to require the use of integrated pest management in municipal operations; and
- Incorporate relevant actions and performance standards in TMDL implementation strategies for the Napa River to control discharges of pathogens and sediment.

OS1.B. Restrict development on open space-designated parcels along Sulphur Springs Creek west of the Crane Avenue Bridge. All development must be outside the stream corridor and structures must be set back from the creek's edge, consistent with California Department of Fish and Wildlife standards.

OS1.C. Coordinate with the California Department of Fish and Wildlife, the Living Rivers Council, the Regional Water Quality Control Board and other federal, state and local regional agencies with regulatory authority for water quality, protected plant and animal species and streams and wetlands to restore and maintain creek corridors.

OSI.D. Coordinate with the County, the California Department of Fish and Wildlife and other regional agencies to augment water flow in the Napa River and its tributaries in order to enhance year-round fish habitat and minimize stagnation and pollution.

OSI.E. Create a work plan for restoring sensitive habitat that has been degraded by agriculture or other past practices. Where applicable, encourage agricultural enterprises to participate in restoration efforts and in efforts to prevent further degradation.

OSI.F. Create a set of guidelines for the protection of special-status species. Guidelines can include appropriate survey methods consistent with the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service and CEQA requirements.

OSI.G. Require a biological assessment of any proposed project site where species or the habitat defined as sensitive or special-status by the California Department of Fish and Wildlife, NOAA Fisheries or the U.S. Fish and Wildlife Service might be present including the installation of new wind turbines for alternative energy. Avoid potential of sensitive species as part of new development to the maximum extent feasible. Where complete avoidance is not possible, the project applicant must secure required authorization from jurisdictional agencies and provide adequate replacement mitigation to ensure there is no loss of habitat or values.

OSI.H. Require all proposed projects adjacent to a creek corridor or located in the City's hillside areas to submit a management plan for protecting natural habitats, including provisions to:

- Employ supplemental planting and maintenance of grasses, shrubs and trees of similar quality and quantity to provide adequate vegetation cover to keep the watersheds on steep slopes and along streams in good condition, and to provide shelter and food for wildlife; and
- Provide protection for wildlife habitat; and

OSI.I. Require new development to be sited to maximize the protection of native tree species, riparian vegetation, important concentrations of natural plants and sensitive wildlife habitat.

OSI.J. Discourage and minimize the installation of deer fencing to maintain wildlife corridors and support regional wildlife movement.

OSI.K. Require environmental review of new agricultural uses including, but not limited to, farming, horticulture, floriculture and viticulture, animal husbandry and livestock farming. Viticulture review must include the replanting of existing vineyards in accordance with County regulations.

OSI.L. Discourage removal of trees for agricultural or other development in hillside areas.

OS1.N. Conduct a study to determine if the natural build-up of gravel in Sulphur Springs Creek to avoid the risk of flooding. Limit development to non-flood risk areas using FEMA's 200-year flood zone at minimum and help educate existing development to be aware of flood risks and available State and Federal insurance opportunities. Ensure that implementation measures contribute positively to the preservation of the creek and its corridor.

OS1.O As part of new development, avoid disturbance to and loss of bird nests in active use by scheduling vegetation removal and new construction during the non-nesting season (September through January) or by conducting a preconstruction survey by a qualified biologist if vegetation removal and construction is initiated during the nesting season (February through August). Surveys for nesting birds will be conducted no earlier than 14 days prior to tree removal and/or breaking ground, 2) in the event that nesting birds are found, the project applicant will consult with CDFG and obtain approval for nest-protection buffers prior to tree removal and/or ground-breeding activities, and 3) nest protection buffers will remain in effect until the young have fledged.

OS1.P. Avoid potential impacts on jurisdictional wetlands and other waters as part of new development to the maximum extent feasible.

OS1.Q. Carry out the removal of the Upper Dam on York Creek sufficient to allow the passage of fish, especially Central California steelhead, a threatened species, and complete the restoration of historical fish habitat above the dam.

OS2.B. Adopt a land dedication ordinance that requires developers to provide land and improvements, such as trails and revegetation, along both sides of creek corridors as a condition of subdivision approval. The width of dedicated corridors should be established in consultation with the California Department of Fish and Wildlife.

OS4.A. Establish an urban forestry program to ensure a coordinated and comprehensive approach to maintaining and increasing the City's trees. Key program aspects will include the following:

- A tree planting program to ensure that new trees are planted regularly;
- A tree maintenance program to ensure that existing trees are healthy and pruned;
- A tree inventory to create a comprehensive listing of the City's trees and tree-related needs;
- A Tree Committee to oversee the implementation of the urban forestry program and approval of tree removals;
- A landmark tree list that identifies trees that require additional protection from damage and/or removal; and

- Appropriate Heritage tree deed restrictions.

*OS4.B.* Until implementation of the City-sponsored urban forestry program occurs, continue to use the Master Street Tree List as a guideline for all street tree plantings.

*OS4.C.* Develop and adopt a Tree Ordinance for the purpose of protecting trees and identifying replacement trees. In coordination with an urban forestry program, existing, significant trees should be integrated into future development. In cases where existing trees cannot be saved, require the planting of replacement trees consistent with guidelines included in the Master Tree List.

## **Impact Analysis**

### ***Less-than-Significant Impacts***

For the most part, adoption of the proposed General Plan Update would not have substantial adverse effects on biological resources because of the comprehensive policies and implementing actions included in the General Plan Update, as listed above. Numerous policies and implementing actions call for protection of native vegetation, tree resources, and important wildlife habitat areas. Policies OS1.5, OS1.7 and OS2.5 and Implementing Action OS1.E address the protection of natural habitat and restoration of sensitive habitats. Policy OS1.6 discourages the use of invasive species that can spread and degrade natural habitat. Additional policies and implementing actions relevant to the significance criteria are discussed below.

New development could occur on Key Housing Opportunity Sites, in Change Areas, as part of Pipeline Projects, or in other areas, but would generally be located in areas that have already been extensively developed with past agricultural and urban uses. For example, a comparison of Figure 4.G-1 to the Figure 3-4 (Potential Growth Areas) in Chapter 3, Project Description, indicates that most Change Areas have already been developed or support agricultural cover (Potential Land Use Change Areas 1 through 8). Only a portion of Change Area 9 at the south end of Spring Street continues to support a natural cover of native Douglas-fir/redwood forest. Further review of any development application at this location, and conformance with the relevant policies in the General Plan Update, would serve to address any potential impacts on sensitive biological resources on Change Area 9.

### **Natural Habitat and Wildlife Movement**

Numerous policies and implementing actions of the General Plan Update call for protecting natural habitat and important wildlife habitat areas. Policies OS1.1, OS1.2, and OS1.3, and Implementing Actions OS1.A, OS1.B, OS1.C, OS1.D, OS1.H, OS1.N, and OS1.2.B all pertain to preserving and enhancing riparian habitat along creeks in St. Helena. Implementing Action OS1.J calls

for minimizing installation of deer fencing to maintain wildlife corridors and support regional wildlife movement. These measures would serve to minimize loss of important wildlife habitat and protect wildlife movement opportunities. The potential impact on wildlife corridors is considered less than significant.

#### **Tree Preservation Policies or Ordinances**

General Plan Update Implementing Actions OS1.I, OS1.L, OS4.A, and OS4.B call for protection and enhancement of tree resources and establishment of an urban forestry program to ensure a coordinated and comprehensive approach to maintaining and increasing trees within the planning area. Development projects would also be required to comply with Chapter 12.24 of the St. Helena Municipal Code pertaining to trees and other vegetation, including permit requirements for removal of any protected trees. These requirements include consideration of trees meeting the definition of “protected trees” and “heritage trees,” as mapped in Figure 4.G-1. The potential for impacts associated with a conflict with tree preservation policies or ordinances is therefore considered less than significant.

#### **Impacts to Active Bird Nests**

The proposed General Plan Update contains Implementing Action OS1.O that specifically addresses the potential for inadvertent loss of bird nests in active use that are protected from destruction under the federal Migratory Bird Treaty Act and various sections of the California Fish and Wildlife Code. Tree removal, vegetation clearing, or disturbance in the immediate vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young. Where possible nesting habitat is present, preconstruction surveys would be necessary in advance of construction during the nesting season (March through August) to confirm presence or absence of any active nests.

#### **Impacts to Wetlands and Other Waters**

The proposed General Plan Update provides policies that specifically address the potential for loss of or modifications to jurisdictional wetlands and drainages (See Implementing Action OS1.A). Future development could require new or expanded stream crossings and other modifications to jurisdictional drainages and wetlands that would create potentially significant impacts. In addition to direct disturbance, potential impacts on jurisdictional waters could include indirect changes associated with the increased potential for erosion and water quality degradation. As indicated in Figure 5.2 of the General Plan Update, bridge crossings are proposed for the Adams Street extension to Silverado Trail and across Sulphur Creek, which could directly

affect jurisdictional waters. Potential erosion and degradation of creeks and drainages can occur as a result of increased urban runoff volumes and degraded water quality associated with development. New development typically magnifies the volume of runoff and potential for urban pollutants, with perhaps the greatest potential damage resulting from sedimentation during the construction phase of construction and from new non-point discharge of automobile by-products, fertilizers and herbicides. However, implementation of adequate erosion control measures and use of Best Management Practices, as discussed in the Section 4.M, Hydrology and Water Quality, of this EIR, would serve to address potential indirect impacts on wetlands and water quality.

#### **Loss of Sensitive Biological Resources**

New development would generally occur in areas that have already been extensively developed with past agricultural and urban uses, limiting the potential for adverse impacts on special-status species and sensitive natural communities. However, there remains a possibility that new crossings of streams or development in remaining natural areas could adversely affect sensitive biological resources. Encouraging and facilitating wind turbines for alternative energy could result in loss of individual birds, including raptors, depending on the turbine design, speed, and other factors, which would require further detailed review.

Potential impacts on special-status species would be mitigated through policies and implementing actions included in the General Plan Update. The General Plan Update calls for site-specific review where sensitive resources such as special-status species could be affected by proposed development. Policy OS1.4 calls for protecting natural habitat that has the potential to support special-status species. Implementing Action OS1.F would create a set of guidelines to protect special-status species, and would include conduct of appropriate surveys to verify presence or absence. Implementing Action OS1.G would require a biological assessment of any proposed project site where sensitive habitat and special-status species may be present. Implementing Action OS1.K would require environmental review of new agricultural uses, presumably in part to confirm that no sensitive resources would be adversely affected by habitat conversion.

A number of General Plan Update policies and implementing actions address sensitive resources.. Implementing Action OS1.G requires a biological assessment where sensitive habitat and special-status species may be present but does not call for avoidance or adequate mitigation where complete avoidance is infeasible. Implementing Action OS1.K requires environmental review of new agricultural uses. Adherence to Implementing Policies OS1.F and OS1.K will reduce this impact to a less-than-significant level.

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## 4.H Cultural Resources

### Introduction

The findings and information in this section summarize the results of cultural resources studies done for the proposed General Plan Update, which primarily consisted of a records search for previous archeological, historical and/or Native American resources on file with the Northwest Information Center located at Sonoma State University in Rohnert Park. This section describes the baseline conditions for cultural resources in St. Helena, identifies impacts on such resources that may result from implementation of the General Plan Update.

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*Cultural resources include archaeological sites, historic roadways and railroad tracks, and buildings of architectural significance.*

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Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value for their historical significance. Cultural resources include a broad range of resources, examples of which include archaeological sites, historic roadways and railroad tracks, and buildings of architectural significance. Generally, for a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources), it must be 50 years or older (California Office of Historic Preservation, 2006), or be formally recognized by a lead agency as constituting an historical resource.

Under the California Environmental Quality Act (CEQA), paleontological resources are a subset of cultural resources and include fossil plants and animals, and evidence of past life such as trace fossils and tracks. Ancient marine sediments may contain invertebrate fossils representing snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Terrestrial sediments may contain fossils that represent such vertebrate land mammals as mammoth, camel, saber tooth cat, horse, and bison.

### Setting

This subsection describes the cultural resources of the St. Helena area. It provides a brief overview of the area's paleontological and cultural settings, a summary of recorded cultural resources in St. Helena, and an assessment of the City's archaeological and paleontological sensitivity.

### Study Methods

The methods used to develop the baseline conditions for cultural resources within St. Helena include archival records searches and a literature review. The purpose of the records searches and literature review was to identify recorded cultural resources within the city. Records searches were conducted

on December 4, 2008, and January 5, 2009, at the Northwest Information Center (NWIC) of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California.<sup>1</sup>

In addition to the NWIC records searches, other cultural resource inventories and literature reviewed include:

- *California Inventory of Historic Resources* (California Department of Parks and Recreation, 1976).
- *Five Views: An Ethnic Historic Sites Survey for California* (California Office of Historic Preservation, 1988).
- *Directory of Properties in the Historic Property Data File for Napa County* (California Office of Historic Preservation, 2008). The directory includes the listings of the National Register of Historic Places, National Historic Landmarks, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.
- *Napa County Historic Resources Inventory, City of St. Helena* (Napa Landmarks, Inc., 1978).
- *Historic Resources Inventory, City of St. Helena, St. Helena, California* (Page & Turnbull, Inc., 2006).

Background research was also done to determine whether St. Helena contains paleontological resources (fossils) or geologic units known to contain fossils. This research, based on a fossil locality search and a literature review, was done to identify the geologic units, fossil localities (i.e., a location at which paleontological resources have been documented), and the types of fossils that may be within St. Helena. The fossil locality search was conducted by the staff of the University of California Museum of Paleontology (UCMP), Berkeley. Paleontological and geological maps and literature pertaining to St. Helena were also reviewed.

## **Prehistory and Ethnography**

The Paleo-Archaic-Emergent cultural sequence developed by Fredrickson (1974, 1994) is commonly used to interpret the prehistoric occupation of Central California. The sequence consists of three broad periods: the Paleoindian Period (10,000-6000 B.C.); the three-staged Archaic Period, consisting of the Lower Archaic (6000-3000 B.C.), Middle Archaic (3000-500 B.C.), and Upper Archaic (500 B.C.-A.D. 1000); and the Emergent Period (A.D. 1000-1800).

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<sup>1</sup> The NWIC is an affiliate of the California Office of Historic Preservation and is the official state repository of cultural resources reports and records for Napa County.

The Paleo Period began with the first entry of people into California. These people probably subsisted mainly on big game and minimally processed plant foods, and had few or no trade networks. Current research, however, is indicating more sedentism, plant processing, and trading than previously believed. During the Lower Archaic, milling stones for plant processing were abundant and hunting was less important than obtaining plant foods. Artifacts were predominantly of local materials, suggesting that few if any extensive trade networks were established at this time. During the Middle Archaic, the subsistence base began to expand and diversify with a developing acorn economy, as evidenced by the mortar and pestle, and the growing importance of hunting. Status and wealth distinctions were evidenced in the Upper Archaic archaeological record, and regional trade networks were well established at this time for the exchange of goods and ideas, such as obsidian and Kuksu ceremonial practices involving spirit impersonations. Increasing social complexity continued during the Lower Emergent, with well established territorial boundaries and regularized inter-group exchanges involving more and varied goods, people, and ideas. Bow and arrow technology was also introduced. By the Upper Emergent, a monetary system based on the clamshell disk bead had been established. Native population reached its zenith during this time, as evidenced by high site densities and large village sites in the archaeological record.

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*At the time of Euro-American contact, St. Helena was within the territory of the Wappo.*

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Native American occupation of the Upper Napa Valley dates from at least the Middle Archaic and continued until the Upper Emergent. Middle Archaic occupation is evidenced at prehistoric archaeological site CA-NAP-131 near St. Helena, which is characterized by an assemblage that includes thick-leaf and concave-base projectile points, and millingslabs and handstones. Evidence of Emergent Period occupation, including “Rattlesnake Series” and “Stockton Series” projectile points, is commonly found at sites in St. Helena and the vicinity.

At the time of Euro-American contact, St. Helena was within the territory of the Wappo, one of two Yukian language groups (Shipley, 1978). Wappo territory included approximately the area between the City of Napa, Cobb Mountain, and Alexander Valley (Sawyer, 1978).

Little is known about the Napa Valley Wappo during the historical contact-period, and knowledge of the Wappo derives mostly from Driver’s (1936) ethnography of an Alexander Valley Wappo tribe.

According to Barrett (1908), the Wappo villages in or closest to the General Plan area are *Annakotanoma* “on the town site of St. Helena” and *Tsemanoma* in the foothills on the eastern side of Napa Valley, about 2 miles northeast of St. Helena. Wappo habitation sites were of two kinds (Driver,

1936:183): permanent or winter villages and temporary or summer villages. This settlement pattern is similar to the “tribelet” or “village community” typical of most California groups at the time of Euro-American contact (Kroeber, 1925:228-229, 1932:258). These village communities consisted of a principal winter village, where the chief resided, with outlying, secondary settlements used during the spring and summer to exploit seasonal resource patches. A village community, ranging in population from about 100 to 2,000 persons, claimed communal lands in which members could hunt, fish, or gather plant food without limitations of private ownership (Kroeber 1925).

Archaeological data indicate numerous permanent and temporary villages in the Upper Napa Valley. These sites are frequently identified by the presence of midden soils—anthropogenic soils that develop from the accumulation of organic debris—and can include shell, faunal bone, and culturally flaked stone, such as obsidian and chert.

## History<sup>2</sup>

### ***History of St. Helena***

In 1842, Rancho Carne Humana, in Napa County, was granted to a young English surgeon, Dr. Edward Bale. Comprised of the entire Napa Valley north of George C. Yount’s Rancho Caymus, Rancho Carne Humana included the future site of St. Helena.

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*The first structure built in what would become St. Helena was a house by Still and Walters in 1851.*

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By 1851, Henry Still and his partner Walters had purchased 100 acres that would become St. Helena, from the estate of Dr. Bale. Their 100-acre parcel was bounded by what are now Main Street, Sulphur Creek, Madrona Avenue, and the foothills to the southwest.

The first structure built in what would become St. Helena was a house by Still and Walters in 1851. According to Smith and Elliot (1878:14), the store building constructed by Still and Walters was located on a site subsequently occupied by G.F. Brown. In 1854, the Sons of Temperance formed a post in the town, naming themselves the St. Helena Division, giving the town its name.

By 1855, in an effort to attract businessmen to the new town, Still gave away parcels adjacent to the County Road (Main Street). John Howell erected his blacksmith shop, near what is now Main Street, in 1856 and A. Tainter built a hotel in 1856 at Pope and Main streets. Other early businessmen included John S. Keister, who ran a shoe store, and Robert Calderwood, who ran a

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<sup>2</sup> This subsection adapted from *Historic Resources Inventory, City of St. Helena, St. Helena, California* by Page & Turnbull, Inc. (August 2006).

wagon store. In total, St. Helena had seven thriving businesses c. 1855 serving the surrounding farmlands.

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*The first record of a vineyard in Napa County is one of Mission grapes started by J.N. Pachett in 1850.*

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The first record of a vineyard in Napa County is one of Mission grapes started by J.N. Pachett in 1850, and the first shipment of wine from the county occurred in 1857. George Belden Crane, viticulture pioneer of the 1850s, had his first experimental vineyards on the land now occupied by the St. Helena High School at 437 Main Street. Charles Krug began making wine on the site of the present Charles Krug winery in St. Helena in 1861. In 1874, John Thomman, a Swiss winemaker, established his winery south of town. Along Sulphur Springs Avenue were the vineyard and orchard estates of the Lewelling family, Mrs. W.B. Bourn, Charles Langley, General Keyes, and the Heath family. By the 1870s, grazing and grain lands surrounding the town were profitably converted to viticulture and horticulture.



*View along Church Street*

St. Helena's burgeoning role as an agricultural crossroads in the Napa Valley was improved when railway transportation came to the area in the 1860s. In March 1864, a bill to aid the construction of a railroad in Napa County was introduced in the Legislature by Chancellor Hartson. After passage of the bill on April 24, 1864, the Napa Valley Railroad Company was organized with Hartson as president. The Napa Valley Railroad originally was built from Suscol to Napa, and eventually to St. Helena, reaching the town on February 27, 1868. The Napa Valley Railroad underwent foreclosure in 1896 and was acquired by the California Pacific Railroad. In April 1899, the California Pacific Railroad was taken over by the Southern Pacific Railroad, which used the railroad as a freight line.

St. Helena received its city charter on March 24, 1876. By the 1880s, the land from Napa to 18 miles north of St. Helena was basically one continuous vineyard (Napa Landmarks, Inc., 1978:2). A 1886 Sanborn Fire Insurance Map shows the W.A.C. Smith Special Bonded Warehouse for wines located on the south side of Church Street, between Pope Street and Hunt Avenue. The warehouse had a storage capacity of 120,000 gallons and is evidence of St. Helena's early history of wine production. The City of St. Helena was later reincorporated on May 14, 1889.

The open farmland, only sparsely settled until the railroad pushed up the Napa Valley to Calistoga in 1868, was rapidly parceled out in succeeding years. Farmers could now profitably ship their produce down the valley to Napa by train, and from there by train or boat to markets in San Francisco. Fruit, vegetables, grain, dairy products, and other agricultural products were in high demand and commanded high prices. Cutting cordwood and poles on the forested slopes outside of the city continued at a brisk pace, and the area northeast of the railroad was home to woodworking and planing mills.

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*Main Street has been St. Helena's main thoroughfare since the city's founding.*

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*View along Main Street*

St. Helena became a major commercial center for the developing countryside and a central shipping point for agricultural and extractive industries for the upper Napa Valley and beyond. The original railroad depot located at Railroad Avenue and Hunt Avenue could not handle the increasing volume of freight and passenger traffic by the 1880s when the Southern Pacific Railroad had taken over the line. According to Sanborn Fire Insurance Maps, as early as 1899, Southern Pacific built a larger standardized depot at the present location on Railroad Avenue and Pine Street.

Main Street has been St. Helena's main thoroughfare since the city's founding, connecting the city to Napa to the south and Calistoga to the north. By the 1880s, wooden sidewalks were installed for pedestrians to walk on along Main Street, and by 1900 sewers had been installed and the wooden sidewalks had been replaced by concrete sidewalks. Seven years later, an electric railway was installed on Main Street, providing public transportation. In 1937, the electric railway was discontinued and Main Street was paved with concrete and asphalt, which is how it appears today (Loeber, 1955).

During the Prohibition years, 1920-1933, the economy of St. Helena, as well as most of the region, fell into a slump because of the devastation that the Volstead Act and resulting Eighteenth Amendment caused to viticulture. Most wineries and vineyards had to either find a new cash crop or shut down completely. Some farmers were able to find alternative crops to produce, such as fruits, nuts, and grains. Others went into ranching. Only a small handful of vineyards in the entire region, such as the Beringer Vineyard, were able to survive with special permits to produce sacramental wines. After the end of Prohibition in 1933, wineries and vineyards could legally reopen; however, many proprietors remained closed due to the harsh financial times caused by the Great Depression. Not until after World War II did commercial production of wine in the Napa Valley return to pre-Prohibition levels (Heintz, 1999).

After 1945, the viticulture industry around St. Helena gradually recovered. During this time, the tourist industry developed and grew, with an emphasis on the wineries and vineyards in the area. Today, wines from St. Helena and its environs are considered to be some of the best in the world.

### ***Historical Architecture of St. Helena***

Over time, St. Helena has developed from a rural agricultural community into a small city focused on the wine industry and the related tourism industry. The agricultural roots of the area are clearly visible in the area's built environment. The city's main industry has always been viticulture, and many historic wineries, complete with farmhouses, agricultural outbuildings, and vineyards, are located within the city limits. As the city grew to become

an agricultural crossroads in the late-nineteenth century, commercial buildings, typically constructed of brick and local stone, were erected along Main Street. Mills and industrial buildings that processed the area's agricultural resources were located to the northeast of the railroad. The city's residential areas developed both to the northeast and southwest of the railroad and Main Street, the city's commercial core. St. Helena's historic residential areas include a variety of architectural styles.

### Winery Architecture

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*The most significant character-defining feature of rural agricultural buildings in California is their utilitarian appearance.*

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The design, construction, and spatial organization of St. Helena's wineries, like all ranches in the West, depended on many factors, including climate, soils, availability of water and building materials, and the ethnicity and class of their builders. These factors, as well as the ingenuity of individual ranchers or their employees, affected the handling of materials and use of building technologies.

The most significant character-defining feature of rural agricultural buildings in California is their utilitarian appearance, a function of the inexpensive materials and design for flexibility. As functional buildings set back far from the main house or the road, outbuildings such as field barns, pump houses, chicken coops and bunkhouses were typically designed without the aid of an architect. Most were instead built from pattern books, traditional know-how passed from generation to generation, or a combination of both. Ethnic and regional influences played a part as well. The typical two-story, gable and shed-roof California barns of the nineteenth-century are thought to have derived from the "crib-and-shed" type barns of Tennessee. Composed of a central gable-roofed "nave" illuminated by monitor windows and flanked by shed-roofed side aisles, the crib-and-shed barn disseminated westward through the Plains states, where it was modified to employ timber framing instead of log construction. In this guise, the "three portal crib barn" eventually infiltrated the valleys of the Pacific West, including the Willamette Valley of Oregon and the San Joaquin, Sacramento, Santa Clara, and Salinas valleys of California, where the original prototype was gradually modified in response to local environmental conditions and crops.

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*Many wineries in St. Helena contain examples of substantial stone outbuildings.*

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In addition to the simple, utilitarian timber-frame, three-portal barn, many wineries in St. Helena also contain examples of more substantial stone outbuildings and associated features, such as wine-aging caves. Influenced by St. Helena's large ethnic communities and the skills of immigrant stonemasons, some buildings in St. Helena were constructed of local stone, typically tufa stone. Stonemasonry drew on a wide range of ethnic backgrounds, including Swiss, Italian, and others. The availability of stone craftsmanship in St. Helena made it economically viable to build in stone rather than other materials. Commercial buildings, residential basements,

simple industrial warehouses, and even agricultural outbuildings were constructed of stone. Utilitarian outbuildings and features such as winery storage buildings, well houses, and tunnels, which benefit from the cooling properties of stone, were constructed in local stone. These typically utilitarian structures are unique for their inclusion of detailed stonework and ornamentation such as quoins.<sup>3</sup> One of the most notable of these features is the wine-aging tunnels that Chinese immigrants excavated from the late 1870s to early 1880s into the side of Spring Mountain at Beringer Winery. These tunnels extend approximately 1,200 linear feet and were constructed using picks, shovels, and black powder.

In addition to barns, tankhouses for storing water were a common building type in the vicinity of St. Helena. Tankhouses were erected between the late 1800s and late 1930s in the western United States. In St. Helena, as in many rural areas that have been developed, many tankhouses have been torn down, although some remain within the city, often converted to other uses.

### **Residential Architecture**

By 1876, the physical fabric of today's city had already begun to take shape. Buildings appear in the Greek Revival, Gothic, Italianate, Second Empire, and other styles. Many buildings were not designed in a recognizable architectural style, as they were folk-designed structures that made use of local materials. Designed for practical purposes and often with limited resources, many of St. Helena's early buildings can be described as being of vernacular design.

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*St. Helena contains three areas with unique styles of residential development: houses on Main Street, houses northeast of Main Street, and houses southwest of Main Street.*

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Large numbers of historic images of St. Helena buildings have not been found; therefore, the understanding of vernacular architecture in St. Helena is based largely on existing historic buildings. A recent historical architectural survey revealed a wide variety of vernacular building types in addition to popular architectural styles such as Stick/Eastlake, Queen Anne, Shingle, Romanesque, Arts & Crafts, Art Deco, Spanish Colonial Revival, and Mission Revival (Page & Turnbull, 2006). Much of the common vernacular residential architecture in St. Helena includes easily recognizable rural vernacular house forms, including rectangular massing, gabled or hipped roofs, wood-frame construction, extended porches, simple locally available materials including redwood siding, and little ornamental detail.

St. Helena contains three areas with unique styles of residential development: houses on Main Street, houses northeast of Main Street, and houses southwest of Main Street. Main Street residential architecture styles include Craftsman

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<sup>3</sup> Quoins are the cornerstones of brick or stone walls and may be either structural or decorative.

and Georgian Revival. Historical residences in this area are often sited on large lots with elegant landscaping, as seen in the residential neighborhood of Alexander Court just off Main Street. Residences northeast of the city's commercial core along Main Street were largely influenced by the presence of the railroad. Much of the housing in the area was worker housing and was rendered in simple vernacular styles that made use of readily available local materials. Residences in this area are also situated on large agricultural lots that functioned as small family farms and contained a main house and agricultural outbuildings. The area southwest of the city's commercial core was more densely developed than other areas of the city, and the majority of houses constructed between the late-19 and early-20th century were rendered in a vernacular style, although other notable styles including Stick, Craftsman, Italianate, and Folk Victorian styles are present. Many of the residences southwest of Main Street were set on small lots but were set back from the lot lines, giving the neighborhoods a rural character.

### **Commercial Architecture**

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*The late-19th and early-20th century architecture of St. Helena's commercial corridor along Main Street has been recognized as a National Register Historic District.*

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The late-19th and early-20th century architecture of St. Helena's commercial corridor along Main Street has been recognized as a National Register Historic District (St. Helena Historic Commercial District). Main Street, however, also contains many historically significant mid-20th century commercial properties that have not been formally recorded as contributors to the St. Helena Historic Commercial District. While the area's economy was severely affected by both Prohibition and the Great Depression, a few commercial buildings were constructed along Main Street in the 1930s and 1940s in the Streamline Moderne style. These modern buildings, which include the El Bonita Motel (195 Main Street), Gott's Roadside Tray Gourmet (933 Main Street), and the Main Street Service Station (1380 Main Street), were set in contrast to St. Helena's other architecture from that time, which was largely derived from historic precedents, not modern styles. In addition to the unique architectural style employed, the commercial buildings were also typical of the era's automobile-focused culture. These 1930s- and 1940s-era commercial buildings were typically constructed on large lots and included large setbacks from Main Street allowing for ample automobile parking.

### **Paleontology**

St. Helena lies in an alluvial valley formed by tectonic faulting. The Vaca Mountain range lies to the east, and the Mayacamas Mountains lie to the west; both consist mostly of Sonoma Volcanics. The erosion of Sonoma Volcanics in and around St. Helena and the subsequent fluvial transportation of the sediment resulted in the deposition of alluvium (Sloan, 2006; U.C. Davis Soil Resource Laboratory, 2009). The sediments that underlie

St. Helena are Quaternary (1,800,000 years B.P.<sup>4</sup> to present) alluvial deposits laid down by the Napa River and the York, Heath Canyon, and Sulphur Canyon creeks exiting the hills to the west of St. Helena. The Quaternary deposits in St. Helena include moderately sorted, coarse-grained Holocene (10,000 years B.P. to present) alluvium and poorly sorted Late Pleistocene (126,000 to 10,000 years B.P.) alluvium.

St. Helena is underlain by the following geological units, described in stratigraphic sequence from youngest (Quaternary Deposits) to oldest (Franciscan Complex).

### **Quaternary Deposits**

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*Locally, Late Pleistocene deposits contain invertebrate and extinct vertebrate fossils.*

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Quaternary deposits of Pleistocene (1,800,000 to 10,000 years B.P.) and Holocene (10,000 years B.P. to present) age occur in the Napa Valley. These deposits consist of loosely consolidated sand and gravel deposited in fluvial systems (Helley et al., 1979). Older Pleistocene deposits typically occur as terraces incised by Holocene fluvial drainages. Locally, Late Pleistocene (126,000 to 10,000 years B.P.) deposits contain invertebrate and extinct vertebrate fossils, many of which are representative of the RanchoLabrean land mammal age (Bell et al., 2004). Fossils found in alluvium of this age include, but are not limited to, bison, mammoth, ground sloths, saber-toothed cats, dire wolves, horses, cave bears, rodents, birds, reptiles, and amphibians (Bell et al., 2004; Helley et al., 1979; Helley et al., 1972; Hertlein, 1951; Savage, 1951; Stirton, 1951).

### **Sonoma Volcanics**

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*Andesitic tuff may contain invertebrate and extinct vertebrate fossils.*

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Underlying the Quaternary alluvium, at an unknown depth, is a sequence of Pliocene (53,000,000 to 1,800,000 years B.P.) Sonoma Volcanic andesitic tuff (Wagner and Bortugno, 1999). Andesitic tuff may contain invertebrate and extinct vertebrate fossils representative of the Hemphillian (9,000,000 to 4,750,000 years B.P.) and Blancan (4,750,000 to 1,800,000 years B.P.) land mammal ages (Berkeley Natural History Museum 2009).

### **Franciscan Complex**

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*Marine fossils occur in the unmetamorphosed rocks of the Franciscan Complex.*

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Presumably underlying the Napa Valley at great depth is the Franciscan Complex, a group of high-pressure and low-temperature metamorphic rocks formed during the Middle and Upper Jurassic (175,000,000 to 144,000,000 years B.P.) and the Lower Cretaceous (144,000,000 to 100,000,000 years B.P.). The Franciscan Complex is composed of metamorphosed and unmetamorphosed sandstone, shale, conglomerate, chert, greenstone, and metagraywacke, and is the basement rock of the region (Wagner and

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<sup>4</sup> Before Present (B.P.).

Bortugno, 1999; Sloan, 2006). Marine fossils, including *Ichthyosaurus*, *Belemnnoidea*, *Buchia*, and *Inoceramus*, occur in the unmetamorphosed rocks of the Franciscan Complex (Berkeley Natural History Museum, 2009).

## Identified Cultural Resources

A total of 186 cultural resources are recorded within St. Helena, including those that are listed in, or are eligible for listing in, the National Register of Historic Places and California Register of Historical Resources. Numerous others appear eligible for listing in the National and/or California registers. All cultural resources recorded within St. Helena are listed in Table C-1, which includes the National Register Status Code—if available—assigned to a particular resource by the California Office of Historic Preservation.

### Archaeological Sites

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*St. Helena contains 24 recorded archaeological sites.*

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The St. Helena area contains 24 recorded archaeological sites. These sites include midden soil deposits (indicative of prehistoric habitation sites) with flaked- and ground-stone artifacts, subsistence debris, and human remains; lithic scatters with culturally flaked obsidian; and two historic-period archaeological sites, which include a stone foundation, a possible building pad, structural debris, and the possible remnants of a water wheel. The California Office of Historic Preservation has assigned a National Register Status Code of “2S2” to prehistoric archaeological site P-28-000151, indicating this resource was “determined eligible for National Register by a consensus through Section 106 process. Listed in the California Register.”

Additional prehistoric archaeological deposits may be located within St. Helena, and project-specific reviews would need to be done to assess potential impacts on archaeological sites. Areas that are near natural water sources (e.g., riparian corridors and springs) are generally considered of high sensitivity for prehistoric archaeological deposits and associated human remains. In the Napa Valley, prehistoric archaeological deposits can be associated with buried Holocene landforms, and the absence of surface materials or soils indicative of an archaeological deposit does not preclude the possibility of significant subsurface archaeological deposits.

Although only two historical archaeological deposits, P-28-001349 and CA-NAP-684H, have been recorded within St. Helena, additional deposits likely exist. Although St. Helena has witnessed commercial and residential development, such development does not preclude the possibility of intact historical archaeological deposits. The possibility of such deposits, however, must be evaluated on a project-specific basis.

### **Historical Built Environment**

Table C-1 in Appendix A lists all recorded historical buildings and structures within the city limits by address and includes the resource identification number and National Register Status Code assigned to each property by the California Office of Historic Preservation. Some buildings, including those recently inventoried by Page & Turnbull (2006), listed on Table C-1 have not yet been assigned a National Register Status Code, although most of these appear to be eligible for the National and California registers (Heidecker, 1996; Page & Turnbull, 2006).

Figure 4.H-1 identifies the 34 buildings in the St. Helena Historic Commercial District considered to be contributors to the district's historic character or significance, along with 13 non-contributor buildings. Non-contributors are those buildings that, due to date of construction, alterations, or other factors, do not contribute to the historic character of the district.

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*Eleven historical resources within the city are listed in the National Register of Historic Places and California Register of Historical Resources.*

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Numerous historical buildings and structures have been recorded within the city limits (see Table C-1). The most common historical property types identified within the city consist of residences and commercial buildings, although other property types are present, including barns, warehouses, wineries, churches, schools, bridges, a culvert, street lights, a motel, tankhouses, stonework, roads, a railroad depot, and government buildings. The majority of these properties were recorded as part of the Napa County Historic Resources Inventory conducted by Napa Landmarks, Inc., in 1977-1978, and a recent historical architectural survey conducted by Page & Turnbull, Inc. (2006).

Eleven historical resources within the city are listed in the National Register of Historic Places and California Register of Historical Resources: (1) the Beringer Winery Historic District (Main Street); (2) Charles Krug Winery (Main Street); (3) Greystone Cellars (Main Street); (4) Main Street Commercial Historic District (Adams and Main streets—see Figure 4.H-1); (5) Southern Pacific Railroad Depot (Railroad Avenue); (6) Special Internal Revenue Bonded Warehouse (Church Street); (7) St. Helena Catholic Church (Oak Avenue); (8) St. Helena High School (Main Street); (9) St. Helena Public Library (Oak Avenue); (10) Taylor, Duckworth & Co. Foundry (Railroad Avenue); and (11) William Tell Saloon and Hotel (Spring Street). Two of these historical resources—the Beringer Winery Historic District and the Main Street Commercial Historic District—include multiple buildings and structures, which are indicated by a National Register Status Code of “1D” in Table C-1. Numerous other historical buildings in St. Helena appear eligible for listing in the National and California registers, as indicated by a National Register Status Code “3S,” which would qualify such properties as historical resources for purposes of CEQA (see Appendix A).

Figure 4.H-1

# National Register of Historic Places Historic Commercial District



Source: City of St. Helena; Napa County  
Map Revised: April 2016

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*No recorded paleontological resources were identified in St. Helena.*

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### ***Paleontological Sites***

No recorded paleontological resources were identified in St. Helena. The general area is underlain by Quaternary period Holocene and Pleistocene deposits, the latter of which can contain significant Rancholabrean fossils. The depths of these deposits are not known but likely extend for several feet below the ground surface. Below these Quaternary deposits are deposits that date from the Pliocene to the Middle Jurassic periods. These older deposits, due to their potential to contain sensitive for significant paleontological resources, are most likely at considerable depths below the ground surface.

## **Regulatory Framework**

### **California Environmental Quality Act (CEQA) and Other State Regulations**

CEQA defines a “historical resource” as a resource that meets one or more of the following criteria:

- Listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register);
- Listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k);
- Identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or
- Determined to be a historical resource by a project’s lead agency (Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5(a)).

A historical resource consists of:

“Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.... Generally, a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” CEQA Guidelines Section 15064.5(a)(3).

In accordance with CEQA Guidelines Section 15064.5(b), a substantial adverse change in the significance of a historical resource is a significant effect on the environment.

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*CEQA requires a lead agency to determine if an archaeological cultural resource meets the definition of a historical resource, a unique archaeological resource, or neither.*

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CEQA requires a lead agency to determine if an archaeological cultural resource meets the definition of a historical resource, a unique archaeological resource, or neither (CEQA Guidelines Section 15064.5(c)). Prior to considering potential impacts, the lead agency must determine whether an archaeological cultural resource meets the definition of a historical resource in CEQA Guidelines Section 15064.5(c)(1). If the archaeological cultural resource meets the definition of a historical resource, then it is treated like any other type of historical resource in accordance with CEQA Guidelines Section 15126.4. If the archeological or cultural resource does not meet the definition of a historical resource, then the lead agency must determine if it meets the definition of a unique archaeological resource as defined at CEQA Section 21083.2(g). Should the archeological cultural resource meet the definition of a unique archaeological resource, then it must be treated in accordance with CEQA Section 21083.2. If the archaeological cultural resource does not meet the definition of a historical resource or an archaeological resource, effects on the resource are not considered significant effects on the environment (CEQA Guidelines Section 15064.5(c)(4)). In practice, however, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource (Bass, Herson, and Bogdan, 1999:105).

California Health and Safety Code Section 7050.5 states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

California Public Resources Code (PRC) Section 5097.5 provides for the protection of cultural and paleontological resources. This PRC section prohibits the removal, destruction, injury, or defacement of archaeological and paleontological features on any public lands under the jurisdiction of state or local authorities.

### **Senate Bill 18 (SB 18)**

Adopted in 2004, this state law requires local public agencies to consult with local Native American Tribes when considering adoption or amendment to a General Plan or Specific Plan.

## Assembly Bill 52 (AB 52)

This bill was adopted by the state and became effective in 2014. AB 52 requires local agencies to consult with Native American tribes with any such tribe requesting a consultation. If requested, the consultation shall occur prior to a Lead Agency determination whether a negative declaration, mitigated negative declaration or an environmental impact report is needed to satisfy CEQA requirements for a specific development project. If a lead agency determines, through the CEQA process, that a project could result in a significant adverse impact to a tribal cultural resource, the lead agency must consider measures to mitigate such impact.

## St. Helena Municipal Code

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*The St. Helena Municipal Code contains regulations for protecting, preserving, and mitigating impacts on cultural resources.*

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Title 16 (Subdivisions) and Title 17 (Zoning) of the St. Helena Municipal Code contain regulations for protecting, preserving, and mitigating impacts on cultural resources, as described below.

### **Archaeological and Paleontological Sites**

Section 16.32.140 of the Municipal Code requires that subdivisions<sup>5</sup> affecting resources described in the existing General Plan and any applicable specific plan include a survey by a qualified archaeologist prior to development “whenever significant archeological or paleontological sites may be located within the project area.” Mitigation measures for archaeological and/or paleontological resources must be implemented prior to development of the project site.

### **Historical Built Environment Resources**

The City’s zoning ordinance is contained at Title 17 of the Municipal Code, which includes three chapters that address historical built environment resources:

- *Central Business District.* Chapter 17.48 establishes a Central Business (CB) district to provide for “retail, personal service uses, offices, restaurants, hotels/motels, service stations, public and quasi-public uses, and similar and compatible uses that serve local residents and the surrounding area” (Section 17.48.010). This zoning prohibits demolition of a significant architectural or historical building—as determined by the Planning Commission—unless the Commission finds that (1) the structure poses a threat to health, safety and general welfare if it is not

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<sup>5</sup> “Subdivision” means the division, by any subdivider, of any unit or units of improved or unimproved land, or any portion thereof, shown on the latest equalized county assessment roll as a unit or as contiguous units, for the purpose of sale, lease, or financing whether immediate or future (St. Helena Municipal Code Section 16.04.130).

demolished; (2) that restoration of the structure is not feasible or practicable using current building codes including, but not limited to, the Historic Building Code provision of the Uniform Building Code of the state; and (3) that no public or other funding is available for financing State Historic Building Code, as amended and adopted by the City.

- *Historic Preservation Overlay District.* Chapter 17.92 establishes a Historic Preservation Overlay (HP) district “to preserve the unique architectural character of those certain specific structures which have contributed to the City’s historic development” (Section 17.92.020). The Planning Commission must determine buildings that will be protected within an HP overlay district. Protections include restrictions on historically inappropriate exterior alterations, demolition, and restoration, and economic incentives for preservation of significant buildings.

## Impacts and Mitigation Measures

### Significance Criteria

Based on the CEQA Guidelines, the proposed General Plan Update would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change<sup>6</sup> in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

### Relevant Policies

The General Plan Update includes the following policies and implementing actions that address cultural resources and are relevant to the current analysis:

LU2.2. Encourage new residential development that is consistent in design, size, color and floor area ratio (FAR) footprint with the older residences in the neighborhood.

LU2.B. Develop and implement residential design guidelines and/or form-based codes, to provide oversight and guidance for new buildings and renovations. Guidelines should ensure that new residential development is consistent with the design, size and footprint of older

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<sup>6</sup> Specifically, substantial adverse changes include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired

residences in the neighborhood. Consider the impact of new development on surrounding residences, such as solar access.

LU2.E. Update zoning standards to encourage the following criteria:

- A variety of lot widths and sizes, such as that found in the older areas of town;
  - Garages at the rear of lots rather than on the street; or creative garage designs that incorporate the “garage door” frontage appearance to blend into the home.
  - Lot coverage and floor area ratio (FAR) that is consistent with the scale of historic and older areas;
  - Planting of street trees and planting strips along sidewalks.
- Setbacks, building massing and configuration consistent with older parts of neighborhoods

LU3.4. Protect historic resources in the commercial areas, and encourage appropriate rehabilitation and adaptive reuse.

LU3.5. Ensure that new retail and commercial development is compatible with and complementary to St. Helena’s small-town image. In addition, within the City’s Central Business District, new retail and commercial development should be of a scale and type that complements the historic character.

LU3.E. Develop and implement commercial design guidelines and/or form-based codes to provide oversight and guidance for new buildings and renovations. Guidelines should ensure that new commercial development is consistent with the City’s character, particularly in historic districts.

HR1.1. Preserve the City’s historic and cultural resources, so that they may contribute to the special character and quality of the City and support its economic base.

HR1.2. Protect the historic resources that exist in the downtown commercial area.

HR1.3. Encourage the adaptive reuse, rehabilitation and retrofit of historic buildings in which the original use is no longer feasible.

HR1.4. Promote the application of sustainable building practices to the preservation of historic resources.

HR1.5. If historic resources are suspected by the City of being present on a proposed development site the City shall conduct a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System to determine if a project has the potential to affect an archaeological site and if additional

project-specific study for cultural resources is recommended. The City may require additional cultural resources study if recommended by the NWIC, with the study addressing project-specific impacts on archaeological and paleontological resources. The City shall incorporate the study recommendations as project conditions of approval to ensure that impacts on archaeological and/or paleontological resources are mitigated.

*HR1.A.* Adopt a historic preservation ordinance to implement the policies recommended in the Historic Resources Element.

*HR1.B.* Adopt design review guidelines and/or form-based codes, standards and criteria for the alteration or rehabilitation of historic properties. The adoption of design review guidelines and/or form-based codes can assist City staff, the Planning Commission and City Council when reviewing permit requests and provide long-term regulatory consistency.

*HR1.C.* Adopt design review guidelines and/or form-based codes that require new development in or adjacent to historic areas or buildings to be compatible in design and character with existing historic buildings.

*HR1.D.* Develop an incentive program to encourage property owners to participate in historic preservation efforts. Potential program measures can include alternate building codes for historic structures and financial incentives, where necessary.

*HR1.E.* Consolidate and update the existing inventories of historic buildings and houses and develop criteria to add to the list.

*HR1.F.* Develop sustainable development and green building guidelines for rehabilitation, retrofitting and adaptive reuse of historic resources. Identify incentives to encourage property owners to utilize these guidelines.

*HR1.G.* Continue to develop and implement downtown design guidelines and/or standards to protect historic buildings and guide façade changes.

*HR1.H.* Regularly update the Historic Resources Inventory to ensure that it includes a current list of historic structures in the City.

*HR1.I.* Incorporate the preservation of historic resources into a citywide urban design plan.

*HR2.1.* Strengthen public awareness of and support for the preservation and protection of the City's historic resources.

*HR2.A.* Expand community awareness about the value of historic preservation in order to build support among property owners and developers for the preservation and adaptive reuse of historic and cultural resources.

*HR2.C.* Improve community access to information about available historic preservation funding sources and related resources. Provide information about sensitive ways to incorporate sustainable materials and design practices into historic rehabilitation projects.

*HR2.D.* Conduct a survey of historic resources to determine different architectural types in the City and develop design guidelines specific to style and period.

*CD1.6.* Encourage the adaptive reuse, rehabilitation and retrofitting of historic buildings in which the original use is no longer feasible.

## Impact Analysis

Adoption and implementation of the General Plan Update would result in the following impacts to cultural resources.

### **Impact CUL-1. Potential development that could be allowed under the General Plan Update could impact historic above-ground resources in the community.**

As listed above, the General Plan Update includes multiple policies and implementing actions that attempt to mitigate impacts on historical built environment resources through rehabilitation and adaptive reuse of such resources. These policies and actions encourage (1) design/development standards for new construction and remodeling projects to ensure that such projects would not adversely affect the historical integrity of adjacent historical buildings and structures, (2) adaptive reuse of historic buildings, and (3) preservation of historic buildings and neighborhoods. These policies and implementing actions would also mitigate potential impacts on historic districts or adjacent historical buildings from development that may occur in Change Areas and Key Housing Opportunity Sites identified by the General Plan Update (see Figure 3-3 and Figure 3-4 in Chapter 3, Project Description, of this EIR) by use of design standards and/or form-based codes that ensure new construction would complement the neighborhood's historical setting. This impact would be less-than-significant. Impact CUL-2. Potential development that could be allowed under the General Plan Update could impact archeological, prehistoric, Native American or paleontologic resource as a result of new development that could be allowed under the General Plan Update.

Future development of public and private projects could disturb recorded and unrecorded archeologic, prehistoric, Native American or paleontologic resources as a result of site grading, construction of building foundations, trenching for utilities and/or similar activities that would disturb existing ground surfaces. Adherence to Policy HR1.5 contained in the Historic Resources Element of the General Plan would reduce this impact to a less-than-significant level by requiring the City to conduct a records search at the Northwest Information Center (NWIC) for future development projects that would disturb ground surfaces to determine the potential to affect cultural

resources and to incorporate any recommendations provided by the NWIC into the final design of the project.

**Impact CUL-3. Potential future development under the auspices of the General Plan Update could impact human remains, including remains that could be located outside of a formal cemetery.**

Future public and private projects that could be constructed under the auspices of the General Plan Update could have a significant impact on human remains that were not buried in a formal cemetery. This would be a potentially significant impact that would be reduced to a less-than-significant level by adherence to Policy HR1.5 contained in the Historic Resources Element of the General Plan.

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## 4.I Energy

### Introduction

This section describes St. Helena's existing energy uses and consumption, along with potential future increases in consumption levels. The potential energy effects of future development under the proposed General Plan Update are described and evaluated. The section describes how the proposed General Plan Update would affect energy consumption rates over the planning period.

### Setting

#### Regional and Statewide Energy Use

With the largest population of any state and the largest gross state product; California imports electricity from neighboring states (CEC, 2015).. Table 4.I-1 shows system generation sources.

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*In 2009, California imported 26.8 percent of its energy sources from the Pacific Northwest and the southwestern United States.*

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**TABLE 4.I-1  
CALIFORNIA TOTAL SYSTEM POWER IN GIGAWATT HOURS, 2009**

<b>Fuel Type</b>	<b>In-State Generation</b>	<b>Northwest Imports</b>	<b>Southwest Imports</b>	<b>Total System Power</b>	<b>Percent of Total System Power</b>
<b>Coal</b>	1,011	--	17,877	18,888	6.4%
<b>Large Hydro</b>	14,052	160	2,138	16,350	5.5%
<b>Natural Gas</b>	121,934	1	10,151	132,087	44.5%
<b>Nuclear</b>	17,027	--	8,139	25,166	8.5%
<b>Renewables</b>	44,887	11,423	3,493	59,803	20.1
Biomass	6,721	762	24	7,507	2.5%
Geothermal	12,186	150	694	13,030	4.4%
Small Hydro	2,426	361	-	2,787	0.9%
Solar	10,557	-	2,009	12,566	4.2%
Wind	12,997	10,151	766	23,913	8.1%
<b>Unspecified</b>	-	-	25,676	44,433	15.0

SOURCE: CEC, 2015

In 2007, the California Public Utilities Commission adopted greenhouse gas emissions requirements for any long-term power commitment made by the state's electric utilities, including purchases from out-of-state providers. The state is the leading producer of renewable energy in the United States, including all categories of renewable energy production—biomass, geothermal, and solar—and is second in wind energy production. California is also one of the state leaders in the production of hydroelectric power (DOE, 2009a; EIA, 2009a, 2009b).

Transportation accounts for 39 percent of all energy consumption in California, which makes it the largest energy-consuming sector of the state economy. The state is the largest consumer of ethanol and a leader in use of alternative fuels. Under the Clean Air Act, California is the only state allowed to set regulations for automobile emissions that are more restrictive than federal law; subsequently, other states are allowed to adopt the California regulations (DOE, 2009b).

## Local Energy Use

Electricity and natural gas is used in St. Helena to light, heat, and cool urban and neighborhood structures and to power office equipment, industrial machinery, public services, and home appliances. The city also uses fossil fuels to move people and products along its transportation corridors. Energy is vital to the continued functioning of the urban environment, housing, transportation, public services and facilities in St. Helena. However, great strides can be made in the transportation and built environment sectors through conservation, green building design, retrofit, transit use, and bicycle and pedestrian infrastructure.

Energy consumption in St. Helena, like that in California as a whole, has become the focus of public and government attention with concerns over a shortage of energy supplies, rising costs for energy consumers, and the effect on global climate change.

## Existing Energy Consumption

St. Helena had a population of approximately 6,100 in 2009. Per capita electrical energy use in Napa County was 2,740 kilowatt hours (kWh) in 2005, and per capita natural gas consumption in that same year was 159.2 therms (MIG and Napa Valley Community Foundation, 2009). With a population of 6,100, St. Helena's electrical use in one year (2005 estimates) would be 16.7 million kWh and natural gas use would be 0.97 million therms.

Usually 70 percent of residential energy use is for lighting, refrigeration, clothes drying, cooking, and hot water heating. Air conditioning is one use

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*St. Helena's population of approximately 6,100 uses about 16.7 million kilowatt hours of electricity and 0.97 million therms of natural gas each year.*

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that fluctuates with ambient temperatures and has the greatest effect on peak energy demand.

### ***Energy Distribution***

Most of the energy consumed in the City of St. Helena is delivered to the city through established distribution networks. Pacific Gas and Electric Company (PG&E) provides electrical service and natural gas. Gasoline and other petroleum products are sold through private retailers throughout the city. Natural gas is delivered to St. Helena via pipelines, and petroleum products are delivered by tanker trucks.

### ***Alternative Sources***

A large percentage of the energy currently consumed by residents of St. Helena comes from the non-renewable sources of natural gas and petroleum. As part of the City's efforts to reduce GHG emissions, the City is encouraging the use of renewable energy by incorporating solar and green building practices into development projects to the fullest extent feasible.

## **Energy Use and Global Warming**

Scientists and climatologists have cited evidence that the burning of fossil fuels by vehicles, power plants, industrial facilities, residences, and commercial facilities has led to a mean increase in the earth's temperature of 1 degree Celsius over the last 100 years. Some estimates indicate that, in the next 50 years, the earth's temperature could rise another 1 to 2.5 degrees Celsius. While climate change has been a regular occurrence throughout history, it is argued that for the first time human activities may be accelerating the warming process. For an analysis of greenhouse gas production and impacts of the General Plan Update on climate change, please see Section 4.J, Greenhouse Gas Emissions.

## **Regulatory Framework**

Federal and state agencies regulate energy consumption through various means and programs. At the local level, individual cities and counties regulate energy through their regulatory and planning activities. On the federal level, the U.S. Department of Transportation, U.S. Department of Energy, and U.S. Environmental Protection Agency are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through federal taxes on fuel, through funding of energy-related research and development projects, and through funding for transportation infrastructure projects.

On the state level, the California Public Utilities Commission and California Energy Commission are two agencies with authority over different aspects of energy. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The California Energy Commission collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and regulates the power plant siting process.

At the local level, the City of St. Helena, through its regulatory and planning activities, directly influences how, and to what extent, energy is used in the city. Local regulations governing the design, construction and use of buildings affect operational energy needs. Transportation and land use policy decisions directly and indirectly affect petroleum-based fuel use (e.g., mixed use land uses and improved pedestrian systems can reduce reliance on the private automobile).

Some of the more relevant federal, state, and local energy-related laws and plans are discussed below.

## Federal Regulations

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*The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards in order to conserve oil.*

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### **Energy Policy and Conservation Act**

The Energy Policy and Conservation Act (EPCA) of 1975 established nationwide fuel economy standards in order to conserve oil. Pursuant to the EPCA, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation, is responsible for revising existing fuel economy standards and establishing new vehicle fuel economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine passenger vehicle manufacturer compliance with the government's fuel economy and emissions standards. (Light trucks and SUVs are exempt from CAFE.) Compliance with CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. The U.S. EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, the U.S. Department of Transportation is authorized to assess penalties for noncompliance.

### **Energy Policy Act of 1992 (EPAct)**

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles

(AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the Act to consider a variety of incentive programs to help promote AFVs.

### ***Energy Policy Act of 2005***

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources (e.g., landfill gas); provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

### ***Energy Independence and Security Act of 2007***

The Energy Independence and Security Act of 2007, adopted on December 19, 2007, will improve vehicle fuel economy by setting stricter CAFE standards and help reduce U.S. dependence on oil. It represents a step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change.

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*The Energy Independence and Security Act of 2007 will improve vehicle fuel economy by setting stricter standards and help reduce U.S. dependence on oil.*

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Requirements under the Energy Independence and Security Act of 2007 (Pub.L. 110-140, originally named the CLEAN Energy Act of 2007) will help reduce America's dependence on oil by:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels.
- Reducing U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020 – an increase in fuel economy standards by 40 percent saving billions of gallons of fuel.

By addressing renewable fuels and CAFE standards, the act will build on progress made by the Energy Policy Act of 2005 in setting out a comprehensive energy strategy for the 21st century.

The National Energy Policy, developed in May 2001, proposes recommendations on energy use and on the repair and expansion of the nation's energy infrastructure. The policy is based on the finding that growth in U.S. energy consumption is outpacing the current rate of production. The policy, using data and projections from the Sandia National Laboratories and

the U.S. Department of Energy's Energy Information Administration, states that through 2020, the growth in the consumption of oil is predicted to increase by 33 percent, natural gas by over 50 percent, and electricity by 45 percent. While federal policy promotes further improvements in energy use through conservation, it focuses on increased development of domestic oil, gas, and coal and the use of hydroelectric and nuclear power resources. To address the reliance on natural gas for new electric power plants, the federal policy proposes research in clean coal technology and expanding the generation of energy to include energy derived from landfill gas, wind, and biomass sources.

## State Regulations

The California Constitution vests in the California Public Utilities Commission (CPUC) the exclusive power and sole authority to regulate privately owned or investor-owned public utilities. This exclusive power extends to all aspects of the location, design, construction, maintenance, and operation of public utility facilities. Nevertheless, the CPUC has provisions for regulated utilities to work closely with local governments and give due consideration to their concerns.

### **Warren-Alquist Act**

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission. The act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures.

### **State of California Energy Plan**

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*The 1997 California Energy Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs.*

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The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for low-emission vehicles and addressing their infrastructure needs; and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

### **Energy Action Plan**

The first Energy Action Plan (EAP) emerged in 2003 from a crisis atmosphere in California's energy markets. The state's three major energy policy agencies (the California Public Utilities Commission, the California Energy Commission, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California's electricity and natural gas needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on the California environment.

In the October 2005 *Energy Action Plan II*, the Energy Commission and the Public Utilities Commission updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP such as the emerging importance of climate change, transportation-related energy issues and research and development activities. The Energy Commission adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the state's ongoing actions in the context of global climate change.

### **2007 Integrated Energy Policy Report**

Senate Bill 1389 (SB 1389, Bowen and Sher, Chapter 568, Statutes of 2002) requires the California Energy Commission to:

“[C]onduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.” (Pub. Res. Code § 25301(a)).

### **Assembly Bill 1007: State Alternative Fuels Plan**

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*The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production.*

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Assembly Bill 1007 (Pavley, Chapter 371, Statutes of 2005) required the California Energy Commission to prepare a state plan to increase the use of alternative fuels in California. The Energy Commission prepared the *State Alternative Fuels Plan* in partnership with the California Air Resources Board and in consultation with the other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production

of biofuels without causing a significant degradation of public health and environmental quality.

### ***Assembly Bill 2076: Reducing Dependence on Petroleum***

In response to Assembly Bill 2076 (Pavley, Chapter 936, Statutes of 2000), the Energy Commission and the California Air Resources Board prepared and adopted a joint agency report, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita vehicles miles traveled (California Energy Commission and Air Resources Board, 2003a). Further, in response to the Energy Commission's 2003 and 2005 *Integrated Energy Policy Reports*, the Governor directed the Energy Commission to take the lead in developing a long-term plan to increase alternative fuel use (Schwarzenegger, 2005).

A performance-based goal is to reduce petroleum demand to 15 percent below 2003 demand. The options include (California Energy Commission and Air Resources Board, 2003b):

- *Near-Term Options (could be fully implemented by 2010)*
  - Use more fuel-efficient replacement tires with proper inflation
  - Improve fuel economy in government fleets
  - Improve private vehicle maintenance
  - Mid-Term Options (could be fully implemented in the 2010-2020 time frame)
  - Double fuel efficiency of current model light duty vehicles to 40 miles/gallon
  - Use natural gas-derived Fischer-Tropsch fuel as a 33 percent blending agent in diesel
- *Long-Term Options*
  - Introduce fuel cell light duty vehicles in 2012, increasing to 10 percent of new vehicle sales by 2020, and 20 percent by 2030

Recommendations include:

- The Governor and Legislature should adopt the recommended statewide goal of reducing demand for on-road gasoline and diesel to 15 percent below the 2003 demand level by 2020 and maintaining that level for the foreseeable future.
- The Governor and Legislature should work with the California delegation and other states to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks and SUVs.

- The Governor and Legislature should establish a goal to increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

### **California Environmental Quality Act (CEQA)**

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*The CEQA Guidelines describe energy conservation in terms of decreased per capita energy consumption, decreased reliance on natural gas and oil, and increased reliance on renewable energy sources such as wind, tidal and solar.*

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Appendix F of the CEQA Guidelines describes the types of information and analyses related to energy conservation that are to be included in Environmental Impact Reports (EIRs). In Appendix F of the CEQA Guidelines, energy conservation is described in terms of decreased per capita energy consumption, decreased reliance on natural gas and oil, and increased reliance on renewable energy sources such as wind, tidal and solar. To assure that energy implications are considered in project decisions, EIRs must include a discussion of the potentially significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

### **Senate Bill (SB) 375**

SB 375, signed by Governor Schwarzenegger in September 2008, requires metropolitan planning organizations (MPOs) to include sustainable community strategies (SCS), as defined, in their regional transportation plans for the purpose of reducing greenhouse gas emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies. Specifically, the bill made findings and declarations concerning the need to make significant changes in land use and transportation policy in order to meet the greenhouse gas reduction goals established by AB 32.

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*Senate Bill 375 addresses the need to make significant changes in land use and transportation policy in order to meet the greenhouse gas reduction goals.*

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It requires the California Air Resources Board (ARB) to set regional targets for the purpose of reducing greenhouse gas emissions from passenger vehicles, for 2020 and 2035. If regions develop integrated land use, housing, and transportation plans that meet the SB 375 targets, new projects can be relieved of certain review requirements of CEQA. ARB appointed the SB 375 Regional Technical Advisory Committee (RTAC) to provide recommendations on factors to be considered and methodologies to be used in the ARB target setting process, as required under SB 375. The Committee must provide its recommendations in a report to ARB by September 30, 2009. RTAC had its first meeting on February 3, 2009.

### **Title 24 Building Efficiency Standards**

The State of California regulates energy consumption under Title 24, Part 6 of the California Code of Regulations (also known as the California Energy Code). The Title 24 Building Energy Efficiency Standards were developed by the California Energy Commission (CEC) and apply to energy consumed

for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. Under Assembly Bill 970, signed September 2000, the CEC is required to periodically update and implement its appliance and building efficiency standards to make “maximum feasible” reduction in unnecessary energy consumption.

### ***California Energy Efficiency Standards (Title 24)***

The State of California has adopted energy conservation standards, popularly known as Title 24 standards. These standards apply to all new construction and regulate energy consumed for heating, cooling, water heating and lighting. Compliance with these standards are enforced by the City of St. Helena through the building permit and inspection process.

## **Local Regulations**

### ***Existing St. Helena General Plan***

The existing St. Helena General Plan, adopted in 1993, outlines policies, standards and programs that together provide a comprehensive, long-term plan for physical development within the city. Individual development projects proposed within the city must demonstrate general consistency with the goals and policies outlined within the General Plan, which articulates and implements the city’s long-term vision as it pertains to housing, transportation, historic preservation, open space and other areas.

The proposed project analyzed in this EIR is the St. Helena General Plan Update, which is an update of the existing General Plan. Once the General Plan Update is adopted, future developments within the city will be subject to policies outlined in the updated document.

## **Impacts and Mitigation Measures**

### **Significance Criteria**

Implementation of the St. Helena General Plan Update would have a significant energy impact if it would result in the inefficient, wasteful or unnecessary consumption of energy by residential, commercial, industrial, or public uses.

### **Relevant Policies**

The following policies and implementing actions of the General Plan Update are relevant to energy impacts as defined by the significance criteria above. Some policies also address sustainability. Many of the policies in the Climate

Change chapter of the General Plan Update came from the “Napa Countywide Community Climate Action Framework” (Napa County, 2009).

CDI.2. Ensure the construction of sustainable buildings and landscaping in all public and private development projects.

CDI.3. Require construction and development practices that reduce energy demand through conservation and efficiency, such as the use of green building materials, site design to maximize passive heating and cooling and energy generation on site water reuse, water efficient landscaping and use of low-flow appliances, among others.

CDI.4. Strengthen water conservation measures for development or construction that result in significant reductions in local water use and the protection of local water resources.

CDI.6. Encourage the adaptive reuse, rehabilitation and retrofitting of historic buildings in which the original use is no longer feasible.

CDI.7. Promote the application of sustainable building practices to the preservation of historic resources.

CDI.B. Adopt a Green Building and Landscaping Ordinance that establishes green building and landscaping site design standards customized to meet the unique climatic context of the community. Partner with third party agencies, such as PG&E, to encourage the inclusion of energy-efficient systems in remodels and retrofits of existing buildings and residences. Offer incentives for improving energy-efficiency in existing buildings. Landscaping standards should limit impervious paving and identify standards and incentives that encourage the use of locally-propagated native, low-water, drought-tolerant planting and integrated pest management practices.

CCI.1. Promote a “walkable” and “bikeable” city.

CCI.2. Support transportation planning efforts to optimize fuel efficiency and reduce vehicle miles traveled on local roads.

CCI.3. Seek initiatives that provide efficient modes of transportation for visitors and residents

CCI.A. Adopt and implement pedestrian and bicycle networks within St. Helena that may connect to a countywide multi-use trail that extends from Calistoga to American Canyon.

CCI.B. If feasible, maintain and enhance existing express bus, local bus and paratransit services. Provide shuttle service between the three upvalley towns. Support the establishment of a northbound express bus during peak commute hours. Ensure that these services provide opportunities to connect with proposed countywide service improvements, such as a centralized transit center in downtown Napa.

CCI.C. Expand Park and Ride areas and other support facilities to encourage public transportation use, and car and van pooling.

CCI.D. Evaluate truck and freight rail routes through the City. Based on these findings, develop policies and strategies to improve circulation and neighborhood compatibility issues.

CCI.E. Adopt and implement transportation plans in accordance with the Napa Valley Transportation Authority's (NVRTA) Strategic Transportation Plan to increase transit service and ridership in St. Helena and connections with County transit services.

CCI.F. Establish programs to reduce vehicle miles traveled by supporting local hiring, food production, farmers' markets and community-based "buy local" campaigns. For General Plan purposes, "local" includes St. Helena and its residents, as well as the residents and areas of the surrounding towns and unincorporated County that have traditionally been served by St. Helena's commercial and retail services.

CCI.G. Evaluate parking standards to help reduce vehicle miles traveled by reducing vehicle idling.

CCI.H. Increase walkability and bikeability to encourage a reduction in local auto trips. Strengthen outreach to increase awareness of pedestrian and bicycle amenities throughout the City.

CCI.I. Require discretionary development projects to assess and mitigate the impacts of vehicle miles traveled using transportation demand management programs, including providing transit amenities.

CCI.J. Initiate programs that encourage car-free tourism through incentives, outreach, awareness and creating a bicycle and pedestrian-friendly environment.

CCI.K. Adopt and implement programs to assist businesses and organizations switch from fossil fuel-powered fleet vehicles to vehicles powered by clean, renewable energy sources.

CCI.L. Develop parks and open spaces in support of efforts to create walkable, bikeable mixed-use neighborhoods, especially to complement higher-density development and connect lower density areas.

CCI.M. Design and operate the public street system to optimize fuel efficiency. Consider fuel efficiency in the design of street extensions, connections and right-of-way controls at intersections, and monitor and adjust traffic signals.

CC2.1. Encourage measures to reduce energy demand through conservation and efficiency

CC2.2. Support local efforts to improve the energy supply by switching from fossil fuels to renewables.

CC2.A. Partner with the County of Napa to implement an AB811 program that makes funding available to residential and commercial property owners seeking to improve their properties to conserve energy and water, and to generate solar energy.

CC2.B. Pursue state and federal funding programs designed to reduce energy demand through conservation and efficiency.

CC2.C. Implement improved energy conservation (Title 24) standards for new buildings, and other state building code standards for high performance “green” buildings, beginning in 2011. Utilize established green building standards, such as Leadership in Energy and Environmental Design (LEED) and Build it Green.

CC2.D. Continue to reduce energy use by promoting domestic water conservation and requiring water-efficient landscape improvements associated with new construction.

CC2.E. Reduce greenhouse gas emissions from buildings and energy use. Require or request that new development projects assess greenhouse gas emissions due to energy use, and incorporate energy and safe yield water conservation measures into projects.

CC2.F. In support of countywide energy generation efforts, increase local renewable energy generation. Adopt production standards for the City based on quantifiable measures that increase per capita generation levels.

CC2.G. Remove regulatory impediments and economic disincentives associated with the generation and use of energy from renewable sources, such as wind, geothermal and solar energy.

CC2.H. Establish programs that encourage owners to retrofit existing structures to incorporate energy-efficient and “green” building standards..

## Impact Analysis

### **Impact ENERGY-1. Proposed approval and development of land uses allowed under the General Plan Update could result in inefficient and unnecessary consumption of energy.**

Under buildout of the General Plan Update, energy use associated with new commercial, industrial, and public services facilities would also increase energy use within the city.

Building design and retrofit measures can make a building more energy-efficient. Because the design and retrofit of commercial and industrial buildings differ from design and retrofit of residential buildings, there is a greater potential for energy savings in commercial and industrial facilities.

This is particularly true due to the large amount of energy typically used for manufacturing processes, space heating and cooling, refrigeration, and lighting. New construction provides the simplest opportunity for implementation of energy-saving techniques; however, older buildings can also benefit from retrofitting for energy efficiency. The city requires that all building projects that are subject to discretionary review, including design review, incorporate green building practices into their design.

For new development, improved site planning and building design can conserve a considerable amount of energy. Most commercial, industrial, and public services structures are custom-designed and can consider building materials, orientation, and other measures not available to smaller units. The design review process provides an opportunity to assist developers and builders in the selection of appropriate energy conservation and efficiency measures and implementing energy conservation programs. This process provides a mechanism for ensuring that new development is constructed with measures that meet or could exceed Title 24 requirements.

Implementation of the General Plan Update policies and implementing actions listed above aimed at conserving energy within the city would avoid wasteful energy use and would promote the use of alternative energy sources within the city. Many policies are aimed at increasing the walkability of the City of St. Helena, which would reduce fuel use within the transportation sector. In addition, the proposal for a new Mixed Use designation in the city's core would also improve walkability within the city. The General Plan Update also contains greenhouse gas emission reduction policies designed to conserve energy and promote transit, bicycle, and pedestrian travel, and other goals and policies that would also serve to reduce overall energy use and promote the use of alternative energy sources.

The potential for inefficient energy use and increased reliance on natural gas and oil would therefore be a less-than-significant impact. Expansion and intensification of urban uses within the City of St. Helena could potentially increase use of natural non-renewable energy sources for lighting and air conditioning within homes and workplaces, transportation throughout the city, and operation of entertainment and recreation facilities. Increased use of non-renewable energy would occur with city growth, but proposed General Plan Update policies and implementing actions would reduce this potential impact to a less-than-significant level.

The proposed General Plan Update would not result in any potentially significant energy impacts by adherence to General Plan Update policies and implementing actions CD1.2, CD1.3, CD1.4, CD1.6, CD1.7, CD1.B, CC1.1,

CC1.2, CC1.3, CC1.A, CC1.B, CC1.C, CC1.D, CC1.E, CC1.F, CC1.G,  
CC1.H and others as noted earlier in this chapter

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