



## Rezoning Sites for Housing Project

Draft Environmental Impact Report

SCH #2020030351

*prepared by*

**Sonoma County**

Permit Sonoma

2550 Ventura Avenue

Santa Rosa, California 95403-2809

Contact: Nina Bellucci

*prepared with the assistance of*

**Rincon Consultants, Inc.**

4825 J Street, Suite 200

Sacramento, California 95819

**April 2021**



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Environmental Scientists | Planners | Engineers

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## Appendices

Appendix AQ	California Emissions Estimator Model (CalEEMod) Output Files
Appendix BIO	Biological Resources Assessment
Appendix GEO	Paleontological Technical Information
Appendix NOI	Construction Noise Calculations and Operational Equipment Specification Sheets
Appendix NRG	Energy Calculation Sheets
Appendix NOP	Notice of Preparation
Appendix TRA	Transportation Impact Assessment
Appendix WSS	Water and Sewer Study

# Acronyms and Abbreviations

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AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos-containing materials
AFY	acre-feet per year
ARM	Aggregate Resources Management
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
BRA	Biological Resources Assessment
BSA	Biological Study Area
Btu	British thermal unit
°C	degrees Celsius
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
Cal-Am	California American Water
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalOES	California Office of Emergency Services
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations

Sonoma County  
**Rezoning Sites for Housing Project**

CGC	California Government Code
CGS	California Geological Survey
CH <sub>4</sub>	methane
CIP	capital improvement program
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CoIWMP	Countywide Integrated Waste Management Plan
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CTS	California tiger salamander
CWA	Clean Water Act
cy	cubic yards
dB	decibels
dBA	A-weighted sound pressure level
DOC	California Department of Conservation
DOF	California Department of Finance
DPM	diesel particulate matter
DPR	California Department of Pesticide Regulations
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EAP	Energy Action Plan
EIA	Energy Information Administration
EIR	Environmental Impact Report
EO	Executive Order
ESU	Evolutionarily Significant Unit
EV	electric vehicle
°F	degrees Fahrenheit
FEMA	Federal Emergency Management Agency

FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIGR	Federated Indians of Graton Rancheria
FMMP	Farmland Mapping and Monitoring Program
FPD	fire protection district
FPPA	Farmland Protection Policy Act
FSZ	Farmland Security Zone
FTA	Federal Transit Administration
GHG	greenhouse gas
gpd	gallons per day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWh	gigawatt hours
GWP	global warming potential
HABS	Historic American Building Survey
HCP	Habitat Conservation Plan
HVCAC	heating, ventilation, and air conditioning
HWCL	California Hazardous Waste Control Law
Hz	Hertz
IOU	investor-owned utility
IPCC	Intergovernmental Panel on Climate Change
kBtu	thousands of British thermal units
kWh	kilowatt-hour
LAFCO	Local Agency Formation Commission
LBP	lead-based paint
L <sub>dn</sub>	Day-night average level
L <sub>eq</sub>	equivalent noise level
LID	Low Impact Development
LRA	Local Responsibility Area
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
µg/m <sup>3</sup>	micrograms per cubic meter

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**Rezoning Sites for Housing Project**

MGD	millions of gallons per day
MMBtu	millions of British thermal units
MMT	million metric tons (gigatonne)
mph	miles per hour
MPO	metropolitan planning organization
MS4	Municipal Separate Storm Sewer System
MTC	Metropolitan Transportation Commission
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCAB	North Coast Air Basin
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NSCAPD	Northern Sonoma County Air Pollution Control District
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
PM <sub>10</sub>	particulate matter with an aerodynamic diameter equal to or less than 10 microns
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PQS	Professional Qualifications Standards
PRC	Public Resources Code
PRMMP	Paleontological Resource Mitigation and Monitoring Program
PSD	Prevention of Significant Deterioration

PV	solar photovoltaic
PWS	public water system
RCNM	Roadway Construction Noise Model
RCPA	Regional Climate Protection Authority
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Assessment
RMS	root-mean-square
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SAF Plan	State Alternative Fuels Plan
SB	Senate Bill
SCP	Sonoma Clean Power
SCS	Sustainable Communities Strategy
SCTA	Sonoma County Transportation Authority
SDWA	Safe Drinking Water Act
SEMS	Standardized Emergency Management System
SF <sub>6</sub>	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Basin
SHMP	State of California Multi-Hazard Mitigation Plan
SMARA	Surface Mining and Reclamation Act
SMART	Sonoma-Marin Area Rail Transit
SOI	sphere of influence
SO <sub>2</sub>	Sulfur Dioxide
SRA	State Responsibility Area
SSWD	Sweetwater Springs Water District
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SVP	Society of Vertebrate Paleontology
TAC	toxic air contaminant
TCR	Tribal Cultural Resource
TDM	Transportation Demand Management



Sonoma County  
**Rezoning Sites for Housing Project**

TMDL	total maximum daily load
tpd	tons per day
tpy	tons per year
UGB	Urban Growth Boundary
USACE	United States Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UWMP	Urban Water Management Plan
VESCO	Vineyard & Orchard Development and Agricultural Grading and Draining Ordinance
VMT	vehicle miles traveled
VOC	volatile organic compound
WEAP	Worker Environmental Awareness Training
WMO	World Meteorological Organization
WQCP	Water Quality Control Plan
WUI	Wildland Urban Interface
WWTP	wastewater treatment plant
XPI	Extended Phase I

# Glossary of Terms

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Affordable Housing	Housing which costs no more than 30 percent of a low or very low-income household's gross monthly income. For rental housing, the residents pay up to 30 percent of gross income on full-service rent (including utilities) or the combination of rent and separate utility costs. For home ownership, residents pay up to 30 percent on the combination of mortgage payments, taxes, insurance, and utility costs.
Area Plan	Specific plans and area plans are planning documents that guide the development of a particular geographic area within the county. View the area and specific plans for various areas in Sonoma County.
Build Out	A theoretical level of development which assumes that every parcel of land will develop to the maximum allowed by a plan or zoning.
City Limits	City limits refer to the defined boundary or border of an incorporated city within Sonoma County. Areas outside city limits are unincorporated County lands.
Land Use	The occupation or utilization of land or water area for any human activity or purpose.
Local Agency Formation Commission (LAFCO)	A County commission that reviews and evaluates all proposals for the formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, merger of districts with cities, and setting of spheres of influence. Each county's LAFCO is empowered to approve, disapprove, or conditionally approve these proposals.
Public Services	Infrastructure, including roads, sanitary sewers, storm drains and water mains and social services, including police, fire, health, schools, transit, recreation and libraries.
Public Utility Facility	A facility for the provision of water, light, heat, communications, power, or for sewage collection, treatment, or disposal.
Rural	A comprehensive term contrasting to urban. Those areas not intended for urban development.
Scenic Corridor	As designated in the Open Space and Resource Conservation Element of the County's General Plan, a strip of land of high visual quality along a certain roadway.
Scenic Highway	Those roadways in Sonoma County that have been so designated by the State of California.

Sphere of Influence	The probable ultimate physical limits and service area of a local government jurisdiction as determined by LAFCO.
Unincorporated Community	Areas within the County's jurisdiction that have some or all urban services that support urban level densities.
Urban	Contrasting with rural, pertaining to uses of land typically occurring within cities, such as high density residential, commercial, and industrial uses.
Urban Growth Boundary	A voter designated limit to the urban development of a city.
Urban Service Area	The geographical area within the Urban Service Boundary that is designated for urban development in the Land Use Element of the County's General Plan.
Urban Services	The full range of public services and infrastructures including sewer, water, police and fire protection, roads and transit etc.
Urban Service Boundary	A designated limit to the urban development of the cities and unincorporated communities of the County.
Vehicle Miles Traveled (VMT)	A unit to measure vehicle travel made by a private vehicle, such as an automobile, van, pickup truck, or motorcycle. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle.
Viewshed	The area visible from a defined observation point.
Williamson Act	The California Land Conservation Act of 1965 (as it may be amended from time to time) that allows Counties to establish agricultural preserves through agreements with property owners to maintain agricultural uses in exchange for property tax benefits.
Zoning District	A designated section of the County for which prescribed land use requirements and building and development standards are uniform.

# Executive Summary

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This document is a Program Environmental Impact Report (EIR) analyzing the environmental effects of the proposed Rezoning Sites for Housing Project (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

## Project Synopsis

### Project Applicant

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### Project Description

This Program EIR has been prepared to examine the potential environmental effects of the Rezoning Sites for Housing Project. The following is a summary of the full project description, which can be found in Section 2.0, *Project Description*.

The project site is comprised of 59 urban sites designated as Urban Service Areas throughout unincorporated Sonoma County, listed in Table 2-1 for by-right, medium-density housing<sup>1</sup>. The project would add sites to the County's Housing Element site inventory to comply with new inventory requirements in Housing Element law. Potential Sites are within Urban Growth Boundaries<sup>2</sup>, near incorporated areas located in Geyserville, Guerneville, Larkfield, Forestville, Graton, Santa Rosa, Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma. Current designations of the sites include agricultural, residential, commercial, and industrial uses. The sites include both undeveloped and developed parcels. A full list of sites, their addresses, their corresponding zoning and land use designations can be found in Table 2-2 of Section 2.0, *Project Description*.

The project includes (1) a General Plan Map amendment as necessary to adjust allowable densities on identified sites; (2) a rezone of sites to match new General Plan densities or to add the Workforce Housing (WH) Combining District; and (3) this Program EIR to evaluate the potential

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<sup>1</sup> By-right medium-density housing means that no land use approvals for the development of medium-density housing would be required on the sites. Design review approval is required for all multifamily or mixed-use housing development with more than 3 units.

<sup>2</sup> Urban Growth Boundaries are voter designated limits to the urban development of a city.

environmental impacts of the project. The project is intended to facilitate and encourage housing development that would be developed over a 10-year period, with full buildout by 2030.

### *Project Characteristics*

The proposed project will identify sites to be added to the County's General Plan Housing Element site inventory to comply with State law and will implement current General Plan Policies and Programs that require the County to identify urban sites near jobs and transit which may appropriately accommodate additional housing. It will also identify appropriate sites on which to place the WH Combining District, which would allow the development of jobs and/or housing on the same site or within walking distance from one another. The WH Combining District is an overlay added to sites with non-residential base zoning to allow for housing to be built on sites containing or adjacent to jobs.

Sites analyzed for rezoning to R2 (Medium-Density Residential), with a base density of 10 to 11 units per acre, were assumed to be rezoned to allow a density of 20 to 22 units per acre, respectively, which represents the maximum buildout potential utilizing the County's 100 percent density bonus program. Sites analyzed for rezoning to add the WH Combining District were assumed to allow a density of 24 units per acre, the maximum allowed in the WH Combining District. If all 59 sites were chosen to move forward in the rezoning project studied under this Program EIR, project implementation could increase the housing availability in the county to accommodate up to 2,975 additional dwelling units and approximately 7,735 additional people.

## Project Objectives

1. Add to the inventory of sites zoned for by-right housing development sufficient for the County to meet its share of the region's projected housing need for the upcoming eight-year housing element cycle, in compliance with California Housing Element law (Government Code Section 65580 et seq.)
2. Encourage the development of higher-density housing in the County, increasing the overall availability of housing
3. Provide housing development opportunities throughout the urban areas of the unincorporated county near jobs, transit, services, and schools
4. Implement goals, objectives, and policies of the Sonoma County General Plan that focus growth in established Urban Service Areas and encourage the development of infill sites to prevent sprawl and protect agricultural land and open space

## Alternatives

As required by the California Environmental Quality Act (CEQA), this Program EIR examines alternatives to the proposed project. Studied alternatives include the following four alternatives. Based on the alternatives analysis, Alternative 3 was determined to be the environmentally superior alternative.

1. Alternative 1: No Project
2. Alternative 2: Workforce Housing Combining District
3. Alternative 3: Fewer Potential Sites

**Alternative 1 (No Project)** assumes there is no change in zoning or General Plan land use designations for the parcels identified by the project. Current uses on the sites would continue under this alternative, with future full buildout of the Potential Sites limited by the existing zoning and General Plan designations. Buildout of the Potential Sites under existing zoning would allow for up to 354 total housing units, housing a population of 920 residents. This alternative would not accomplish the project objectives to provide more housing development opportunities in urban areas, encourage the development of additional high-density housing, or alleviate the housing shortages currently experienced in the county.

**Alternative 2 (Workforce Housing Combining District)** would involve amending the zoning code to allow for the placement of the WH Combining District on all the Potential Sites and placing the WH Combining District on all the Potential Sites, which would allow for both commercial development and new residences to be constructed on the Potential Sites. For purposes of the environmental analysis, it was assumed all 59 sites would be developed with a combination of commercial and residential uses. Buildout under this alternative would accommodate fewer new residents but would contribute to increasing housing development opportunities in unincorporated Sonoma County. It is assumed that approximately two thirds of the development proposed under the project would occur under this alternative, resulting in approximately 2,220 new dwelling units and approximately 5,770 new residents. This would result in approximately 1,846 new dwelling units and approximately 4,850 new residents more than would be developed under existing zoning. This pattern of development would allow locally serving retail uses along with residential uses at the Potential Sites, which would reduce the VMT for residents of those sites and surrounding areas because they would live close to some commercial uses. The commercial component of this alternative would allow for commercial uses on the ground floor with up to two stories of residential uses above. The building envelopes under this alternative would be identical to those under the proposed project, as the reduction in housing square footage would be balanced by the increase in commercial square footage. This alternative would provide housing development opportunities, encourage the development of additional workforce housing, and alleviate the housing shortage currently experienced in the county, although to a lesser extent than the proposed project. However, this alternative would not meet project objectives because no sites would be zoned exclusively for housing.

**Alternative 3 (Fewer Potential Sites)** would not include the Potential Sites with the most environmental constraints that would make developing sites more difficult. These Potential Sites would have greater environmental impacts and would be more costly to develop, thus have been removed from Alternative 3. These Potential Sites are described below:

1. FOR-1
2. FOR-2
3. SON-1
4. SON-2
5. SON-3
6. SON-4

These six Potential Sites have greater than average environmental constraints compared to the other Potential Sites. In particular, these sites would require off-site infrastructure water and sewer improvements to serve future development. Under this alternative, the remaining 53 Potential Sites would be rezoned for future development, identical to the proposed project. Development

facilitated by Alternative 3 would result in approximately 2,953 new dwelling units and approximately 7,675 new residents. This would add approximately 2,599 new dwelling units and approximately 6,759 new residents more than development that occurs under existing zoning.

Refer to Section 6, *Alternatives*, for the complete alternatives analysis.

## Areas of Known Controversy

The EIR scoping process identified the project's proposed sites in Glen Ellen and site proximities to wildfire State Responsibility Areas or Local Responsibility Areas to be areas of known controversy for the proposed project. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meeting held by the City are summarized in Section 1, *Introduction*.

## Issues to be Resolved

The proposed project would require a General Plan map amendment to change land use designations and densities for identified sites, zone changes for identified sites to new zoning districts and density designations to match new General Plan densities, and, for select sites, the addition of the WH Combining District. Following hearings before the Planning Commission and the Board of Supervisors, the Board of Supervisors may certify this Program EIR and approve the project.

## Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized as follows:

1. **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per CEQA Guidelines Section 15093.
2. **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under CEQA Guidelines Section 15091.
3. **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
4. **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
<b>Aesthetics</b>		
<b>Impact AES-1.</b> The proposed project would facilitate development in some areas of the county with views of surrounding hillsides, forested lands, and areas near scenic vistas.	<p><b>AES-1 Project Design Constraints.</b> Through the design review process, the project applicant shall site and design projects such that the amount of grading, numbers of tree removed, amount of cut and fill, length of roadways, height of retaining walls, and size of areas for structure envelopes is as minimal as possible without reducing the density of the project. For discretionary projects, the County may impose conservation easements to protect viewsheds and sensitive visual resources, to the extent feasible. Project designs showing that the aforementioned project elements meet these criteria shall be reviewed and approved by the County prior to building permit issuance.</p> <p><b>AES-2 Structure Envelope Constraints.</b> The project applicant shall adjust or move structure envelopes to avoid the locations most visible from public roads, and/or reduce the size of structures to the extent that vegetation that may screen structures is protected but project density is not reduced. Other architectural design measures can also be used to increase density but visually decrease mass (e.g., variations in roofline, fenestration, exterior finishes, and landscaping). Project designs showing these constraints shall be reviewed and approved by the County prior to building permit issuance.</p>	Less than significant
<b>Impact AES-2.</b> Potential Sites in Forestville and Graton border a State scenic highway, and Potential Sites in Guerneville and Glen Ellen are proximate to State scenic highways. Therefore, scenic resources could be affected if individual projects are visible from these roadways.	Refer to AES-1: Project Design Constraints and AES-2: Structure Envelope Constraints.	Less than significant
<b>Impact AES-3.</b> Individual projects implemented on Potential Sites have the potential to adversely affect public views and community aesthetic character. In urbanized areas, the project would conflict with regulations that govern development design standards.	<p>Refer to AES-1: Project Design Constraints and AES-2: Structure Envelope Constraints.</p> <p><b>AES-3 Material Color and Texture.</b> Projects shall be designed with exterior finishes in colors and textures consistent with the surrounding environment. Projects shall be designed with non-reflective surfaces and darker colors to avoid glare and contrast. Project designs detailing proposed materials shall be approved by the County prior to building permit approval.</p> <p><b>AES-4 Screening Vegetation.</b> Project landscape plans shall be designed with screening vegetation, to the extent feasible. Project landscape plans shall be approved by the County prior to building permit approval.</p>	Less than significant
<b>Impact AES-4.</b> Development facilitated by the project would create new sources of light or glare that could adversely affect the visual environment.	<p><b>AES-5 Exterior Lighting Requirements.</b> Project designs shall incorporate exterior lighting plans meeting the following minimum requirements.</p> <ol style="list-style-type: none"> <li>1. Lighting shall be mounted low, downward casting, and fully shielded to prevent glare.</li> </ol>	Less than significant



Impact	Mitigation Measure (s)	Residual Impact
	<ul style="list-style-type: none"> <li>2. Lighting shall not wash out structures or any portions of the site.</li> <li>3. Light fixtures shall not be located at the periphery of the property and shall not spill over onto adjacent properties or into the sky.</li> <li>4. Flood lights are not permitted.</li> <li>5. Parking lot fixtures shall be limited to 20 feet in height.</li> <li>6. All parking lot and/or streetlight fixtures shall use full cut-off fixtures.</li> <li>7. Lighting shall shut off automatically after businesses close and security lighting shall be motion-sensor activated.</li> <li>8. Lighting plans should be designed to meet the appropriate Lighting Zone standards from Title 24 effective October 2005 (LZ1 for dark areas, LZ2 for rural, LZ3 for urban) or successor regulations.</li> </ul>	
<b>Agriculture and Forestry Resources</b>		
<b>Impact AG-1.</b> None of the Potential Sites occur on land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, development facilitated by the project would not convert these types of lands to non-agricultural use. None of the lands are under Williamson Act Contract and thus, these lands under this protection would not be converted to non-agricultural use.	None required	No impact
<b>Impact AG-2.</b> None of the Potential Sites are situated in areas zoned for timberland production (TPZ) and, therefore, development facilitated by the project would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production. Development facilitated by the project would not result in the loss of forest land or conversion of forest land to non-forest use.	None required	No impact
<b>Impact AG-3.</b> The project would rezone some sites that are currently zoned for low density, residential agriculture, resulting in the conversion of potentially viable farmland to non-agricultural use. Implementation of County buffers would reduce this impact to less than significant.	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
<b>Air Quality</b>		
<b>Impact AQ-1.</b> The project would support the primary goals of the 2017 Clean Air Plan, would implement applicable control measures for the 2017 Clean Air Plan, and would not disrupt or hinder implementation of any 2017 Clean Air Plan control measures. The project's VMT increase would be less than the population increase.	None required.	Less than significant
<b>Impact AQ-2.</b> Project construction would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution levels or air quality nuisances.	<p><b>AQ-1 Basic Construction Mitigation Measures.</b> All development facilitated by the project shall be required to reduce construction emissions of reactive organic gases, nitrogen oxides, and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) by implementing the BAAQMD's Basic Construction Mitigation Measures (described below) or equivalent, expanded, or modified measures based on project and site specific conditions.</p> <ol style="list-style-type: none"> <li>1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, with priority given to the use of recycled water for this activity when feasible.</li> <li>2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</li> <li>3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited.</li> <li>4. All vehicle speeds on unpaved roads shall be limited to 15 mph.</li> <li>5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</li> <li>6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</li> <li>7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.</li> <li>8. A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.</li> </ol>	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	<p><b>AQ-2 Additional Construction Mitigation Measures.</b> In addition to implementation of Mitigation Measure AQ-1, for any project that meets the following conditions and as listed in Table 4.3-6, the County shall condition development facilitated by the project to implement BAAQMD CEQA Air Quality Guidelines' Additional Construction Mitigation Measures:</p> <ol style="list-style-type: none"> <li>1. Exceed the BAAQMD construction screening threshold of a change in allowable dwelling units of 114 dwelling units for single-family residences or 240 dwelling units for multi-family residences</li> <li>2. Would result in a change in allowable dwelling units of more than 38 units</li> <li>3. Would require demolition or simultaneous occurrence of more than two construction phases</li> <li>4. Simultaneous construction of more than one land use type (e.g., a mixed-use project involving commercial and residential)</li> <li>5. Extensive material transport of more than 10,000 cubic yards</li> </ol> <p>In addition to implementation of Mitigation Measure AQ-1, for any Potential Sites that meet the criteria listed above, the following measures (or equivalent, expanded, or modified measures based on project- and site-specific conditions) shall be implemented throughout construction of the project:</p> <ol style="list-style-type: none"> <li>1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.</li> <li>2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.</li> <li>3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.</li> <li>4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</li> <li>5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</li> <li>6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.</li> <li>7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel.</li> </ol>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.</p> <p>9. Minimizing the idling time of diesel powered construction equipment to two minutes.</p> <p>10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO<sub>x</sub> reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.</p> <p>11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).</p> <p>12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO<sub>x</sub> and PM.</p> <p>13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.</p>	
<b>Impact AQ-3.</b> Development facilitated by the project would not expose sensitive receptors to substantial pollutant concentrations from CO hotspots or TACs. In addition, development facilitated by the project would not site new sensitive land uses near substantial pollutant generating land uses.	None required	Less than significant
<b>Impact AQ-4.</b> Implementation of the project would not create objectionable odors that could affect a substantial number of people.	None required	Less than significant
<b>Biological Resources</b>		
<b>Impact BIO-1.</b> Future development facilitated by the project could impact special status species and their habitat during construction and/or operation.	<b>BIO-1 Biological Resources Screening and Assessment.</b> For projects in the BSAs that would require ground disturbance through clearing/grading or vegetation trimming, the project applicant shall engage a qualified biologist (having the appropriate education and experience level) to perform a preliminary Biological Resources Screening and Assessment to determine whether the project has any potential to impact special status biological resources, inclusive of special status plants and animals, sensitive vegetation communities, jurisdictional waters (including creeks, drainages, streams, ponds, vernal pools, riparian areas and other wetlands), critical habitat, wildlife movement area, or biological resources protected under	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	<p>local or regional (City or County) ordinances or an existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan, including the Santa Rosa Plain Conservation Strategy. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a project-specific biological analysis to document the existing biological resources within a project footprint plus a minimum buffer of 500 feet around the project footprint, as is feasible, and to determine the potential impacts to those resources. The project-specific biological analysis shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities, critical habitats, and other resources judged to be sensitive by local, state, and/or federal agencies. If the project would have the potential to impact these resources, the following mitigation measures (Mitigation Measures BIO-2 through BIO-12) shall be incorporated, as applicable, to reduce impacts to a less than significant. Pending the results of the project-specific biological analysis, design alterations, further technical studies (e.g., protocol surveys) and consultations with the USFWS, NMFS, CDFW, and/or other local, state, and federal agencies may be required. Note that specific surveys described in the mitigation measures below may be completed as part of the project-specific biological analysis where suitable habitat is present.</p> <p><b>BIO-2 Special Status Plant Species Surveys.</b> If the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1) determines that there is potential for significant impacts to federally or state-listed plants or regional population level impacts to species with a CRPR of 1B or 2B from project development, a qualified biologist shall complete surveys for special status plants prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific biological analysis. All plant surveys shall be conducted by a qualified biologist during the blooming season prior to initial ground disturbance. All special status plant species identified on site shall be mapped onto a site-specific aerial photograph or topographic map with the use of Global Positioning System unit. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the County, and the CDFW and/or USFWS, as appropriate, for review and/or approval.</p> <p><b>BIO-3 Special Status Plant Species Avoidance, Minimization, and Mitigation.</b> If federally and/or state-listed or CRPR 1B or 2 species are found during special status plant surveys (pursuant to Mitigation Measure BIO-</p>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>2), and would be directly impacted, or there would be a population-level impact to non-listed sensitive species, then the project shall be re-designed to avoid impacting those plant species, where feasible. Rare and listed plant occurrences that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm.</p> <p>For projects in BSAs located within the Santa Rosa Plain Area, protocol rare plant surveys shall be conducted, and impacts to suitable rare plant habitat mitigated, in accordance with the 2007 USFWS Santa Rosa Plain Programmatic Biological Opinion, as amended in 2020.</p> <p><b>BIO-4 Restoration and Monitoring.</b> Development and/or restoration activities shall be conducted in accordance with a site-specific Habitat Restoration Plan. If federally or state-listed plants or non-listed special status CRPR 1B and 2 plant populations cannot be avoided, and will be impacted by development, all impacts shall be mitigated by the applicant at a ratio not lower than 1:1 and to be determined by the County (in coordination with CDFW and USFWS as and if applicable) for each species as a component of habitat restoration. A qualified biologist shall prepare and submit a restoration plan to the County for review and approval. (Note: if a federally and/or state-listed plant species will be impacted, the restoration plan shall be submitted to the USFWS and/or CDFW for review, and federal and/or state take authorization may be required by these agencies.) The restoration plan shall include, at a minimum, the following components:</p> <ol style="list-style-type: none"> <li>1. Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)</li> <li>2. Goal(s) of the compensatory mitigation project (type[s] and area[s]) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type[s] to be established, restored, enhanced, and/or preserved)</li> <li>3. Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions, and values)</li> <li>4. Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan)</li> <li>5. Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule)</li> <li>6. Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports)</li> </ol>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>7. Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type or other industry standards as determined by a qualified restoration specialist</p> <p>8. An adaptive management program and remedial measures to address any shortcomings in meeting success criteria</p> <p>9. Notification of completion of compensatory mitigation and agency confirmation</p> <p>10. Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)</p> <p><b>BIO-5 Endangered/Threatened Species Habitat Assessments and Protocol Surveys.</b> Specific habitat assessments and survey protocols are established for several federally- and state-listed endangered or threatened species. If the results of the project-specific biological analysis determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW, NMFS, and/or USFWS protocols prior to issuance of any construction permits. If projects are located within the Santa Rosa Plain Area, surveys shall be conducted for CTS in accordance with the Santa Rosa Plain Conservation Strategy (2005). If through consultation with the CDFW, NMFS, and/or USFWS it is determined that protocol habitat assessments/surveys are not required, the applicant shall complete and document this consultation and submit it to the County prior to issuance of any construction permits. Each protocol has different survey and timing requirements. The applicant shall be responsible for ensuring they understand the protocol requirements and shall hire a qualified biologist to conduct protocol surveys.</p> <p><b>BIO-6 Endangered/Threatened Animal Species Avoidance and Minimization.</b> The following measures shall be applied to aquatic and/or terrestrial animal species as determined by the project-specific Biological Resources Screening and Assessment required under Mitigation Measure BIO-1.</p> <p>1. Ground disturbance shall be limited to the minimum necessary to complete the project. A qualified biologist shall flag the project limits of disturbance. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance.</p> <p>2. All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species. Any work outside these dates would require project-specific approval from the County and may be subject to regulatory agency approval.</p>	

Impact	Mitigation Measure (s)	Residual Impact
	<ol style="list-style-type: none"> <li>3. All projects occurring within or adjacent to sensitive habitats that may support federally and/or state-listed endangered/threatened species shall have a CDFW- and/or USFWS-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW, NMFS, and/or USFWS, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are fully implemented.</li> <li>4. No endangered/threatened species shall be captured and relocated without express permission from the CDFW, NMFS, and/or USFWS.</li> <li>5. If at any time during project construction an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and USFWS, as appropriate, to determine whether it was safe for project activities to resume.</li> <li>6. For all projects occurring in areas where endangered/threatened species may be present and are at risk of entering the project site during construction, the applicant shall install exclusion fencing along the project boundaries prior to start of construction (including staging and mobilization). The placement of the fence shall be at the discretion of the CDFW/USFWS-approved biologist. This fence shall consist of solid silt fencing placed at a minimum of three feet above grade and two feet below grade and shall be attached to wooden stakes placed at intervals of not more than five feet. The applicant shall inspect the fence weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete.</li> <li>7. All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body, including seasonal wetland features. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.</li> <li>8. No equipment shall be permitted to enter wetted portions of any affected drainage channel.</li> <li>9. If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.</li> <li>10. If water is to be diverted around work sites, the applicant shall submit a diversion plan (depending upon the species that may be present) to the CDFW, RWQCB, USFWS, and/or NMFS for their review and approval prior</li> </ol>	



Impact	Mitigation Measure (s)	Residual Impact
	<p>to the start of any construction activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.</p> <p>11. At the end of each workday, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.</p> <p>12. All trenches, pipes, culverts, or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.</p> <p>13. The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.</p> <p>14. Considering the potential for projects to impact federally and state-listed species and their habitat, the applicant shall contact the CDFW and USFWS to identify mitigation banks within Sonoma County during project development. If the results of the project-specific biological analysis (Mitigation Measure BIO-1) determine that impacts to federally and state threatened or endangered species habitat are expected, the applicant shall explore species-appropriate mitigation bank(s) servicing the region for purchase of mitigation credits. If projects are located within the Santa Rosa Plain Area, mitigation for impacts to CTS shall be implemented in accordance with the Santa Rosa Plain Conservation Strategy (2005).</p> <p>15. For projects occurring in the Petaluma BSA (PET-1 through PET-4), prior to grading and construction in natural areas of containing suitable upland habitat, a qualified biologist shall conduct a preconstruction survey for CTS. The survey should include a transect survey over the entire project disturbance footprint (including access and staging areas), and mapping of burrows that are potentially suitable for salamander occupancy. If any CTS are detected, no work shall be conducted until the individual leaves the site of their own accord, unless federal and state "take" authorization has been issued for CTS relocation. Typical preconstruction survey procedures, such as burrow scoping and burrow collapse, cannot be conducted without federal and state permits. If any life stage of CTS is found within the survey area, the applicant shall consult with the USFWS and CDFW to determine the appropriate course of action to comply with the FESA and CESA, if permits are not already in place at the time of construction.</p> <p><b>BIO-7 Non-Listed Special Status Animal Species Avoidance and Minimization.</b> The project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1) shall identify some or all the below measures that will be required and applicable to the individual project:</p>	

Impact	Mitigation Measure (s)	Residual Impact
	<ol style="list-style-type: none"> <li>1. For non-listed special status terrestrial amphibians and reptiles, a qualified biologist shall complete coverboard surveys within 14 days of the start of construction. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground as determined by the project-specific biological assessment (pursuant Mitigation Measure BIO-1). The qualified biologist shall check the coverboards once per week for each week after placement up until the start of vegetation removal. The biologist shall capture all non-listed special status and common animals found under the coverboards and shall place them in five-gallon buckets for transportation to relocation sites. The qualified biologist shall review all relocation sites and those sites shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by project construction. Relocation shall occur on the same day as capture. The biologist shall submit CNDDDB Field Survey Forms to the CFDW for all special status animal species observed.</li> <li>2. Prior to construction, a qualified biologist shall conduct a survey of existing buildings to determine if bats are present. The survey shall be conducted during the non-breeding season (November through March). The biologist shall have access to all structures and interior attics, as needed. If a colony of bats is found roosting in any structure, further surveys shall be conducted sufficient to determine the species present and the type of roost (day, night, maternity, etc.).</li> <li>3. If bats are roosting in the building during the daytime but are not part of an active maternity colony, then exclusion measures must include one-way valves that allow bats to get out but are designed so that the bats may not re-enter the structure. Maternal bat colonies shall not be disturbed.</li> <li>4. A qualified biologist shall conduct pre-construction clearance surveys within 14 days of the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 200-foot buffer, if feasible, and shall identify all special status animal species that may occur on-site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion. The biologist shall submit a report of the pre-construction survey to the County for their review and approval prior to the start of construction.</li> <li>5. A qualified biologist shall be present during all initial ground-disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities.</li> <li>6. Project activities shall be restricted to daylight hours.</li> <li>7. Upon completion of the project, a qualified biologist shall prepare a Final Compliance Report documenting all compliance activities implemented for the project, including the pre-construction survey results. The report</li> </ol>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>shall be submitted to the County within 30 days of completion of the project.</p> <p>8. If special status bat species may be present and impacted by the project, a qualified biologist shall conduct, within 30 days of the start of construction, presence/absence surveys for special status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a qualified biologist determines a roost is used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultation with CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.</p> <p><b>BIO-8 Western Pond Turtle Avoidance and Minimization.</b> For projects located in the Penngrove BSA (PEN-1 through PEN-9), a qualified biologist shall conduct pre-construction clearance surveys for western pond turtle within 14 days prior to the start of construction (including staging and mobilization) in areas of suitable habitat. The biologist shall flag limits of disturbance for each construction phase. Areas of special biological concern within or adjacent to the limits of disturbance should have highly visible orange construction fencing installed between said area and the limits of disturbance. If western pond turtles are observed, they shall be allowed to leave the site on their own.</p> <p><b>BIO-9 American Badger Avoidance and Minimization.</b> For projects located in the Petaluma BSA (PET-1 through PET-4), a qualified biologist shall conduct surveys of the grassland habitat on-site to identify any American badger burrows/dens. These surveys shall be conducted not more than 14 days prior to the start of construction. Impacts to active badger dens shall be avoided by establishing exclusion zones around all active badger dens, within which construction related activities shall be prohibited until denning activities are complete or the den is abandoned. A qualified biologist shall monitor each den once per week in order to track the status of the den and to determine when a den area has been cleared for construction.</p> <p><b>BIO-10 Pre-construction Surveys for Nesting Birds for Construction Occurring within Nesting Season.</b> For projects that require the removal of trees or vegetation, construction activities shall occur outside of the nesting season wherever feasible (September 16 to January 31), and no mitigation activity is required. If construction activities must occur during the nesting season (February 1 to September 15), a qualified biologist shall conduct surveys</p>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>for nesting birds covered by the CGFC no more than 14 days prior to vegetation removal. The surveys shall include the entire disturbance area plus a 200-foot buffer around the site as feasible. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. The biologist shall submit a report of these preconstruction nesting bird surveys to the County to document compliance within 30 days of its completion.</p> <p><b>BIO-11 Worker Environmental Awareness Program.</b> If potential impacts to special status species are identified in the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend Worker Environmental Awareness Program training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the BSAs for the project. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of projects. All employees shall sign a form documenting provided by the trainer indicating they have attended the Worker Environmental Awareness Program and understand the information presented to them. The form shall be submitted to the County to document compliance.</p> <p><b>BIO-12 Invasive Weed Prevention and Management Program.</b> For those projects where activity would occur within or adjacent to sensitive habitats, as determined by the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), prior to start of construction a qualified biologist shall develop an Invasive Weed Prevention and Management Plan to prevent invasion of native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six weeks since ground disturbing activities ceased. If exotic species invade</p>	

Impact	Mitigation Measure (s)	Residual Impact
	these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan. Landscape species shall not include noxious, invasive, and/or non-native plant species that are recognized on the federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Moderate and High Risk Lists.	
<b>Impact BIO-2.</b> Future development facilitated by the project could impact riparian habitat or sensitive natural communities during construction and/or operation.	<p><b>BIO-13 Sensitive Natural Community Avoidance.</b> If sensitive natural communities are identified through the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), the project shall be designed to avoid those communities to the maximum extent possible and all project elements associated with development shall be situated outside of sensitive habitats. Bright orange protective fencing installed at least 30 feet beyond the extent of the sensitive natural community during construction, or other distance as approved by a qualified biologist, to protect them from harm.</p> <p><b>BIO-14 Restoration for Impacts to Sensitive Natural Communities.</b> Impacts to sensitive natural communities (including riparian areas and waters of the state or waters of the U.S. under the jurisdiction of the CDFW, USFWS or RWQCB) shall be mitigated through the funding of the acquisition and in-perpetuity management of similar habitat. The applicant shall provide funding and management of off-site mitigation lands through purchase of credits from an existing, approved mitigation bank or land purchased by the County and placed into a conservation easement or other covenant restricting development (e.g., deed restriction). Internal mitigation lands (internal to the Potential Sites), or in lieu funding sufficient to acquire lands, shall provide habitat at a minimum 1:1 ratio for impacted lands, comparable to habitat to be impacted by individual project activity. The applicant shall submit documentation of mitigation funds to the County.</p> <ol style="list-style-type: none"> <li><b>1. Restoration and Monitoring.</b> If sensitive natural communities cannot be avoided and will be impacted by future projects, a compensatory mitigation program shall be implemented by the applicant in accordance with Mitigation Measure BIO-4 and the measures set forth by the regulatory agencies during the permitting process. All temporary impacts to sensitive natural communities shall be fully restored to natural condition.</li> <li><b>2. Sudden Oak Death.</b> The applicant shall inspect all nursery plants used in restoration for sudden oak death. Vegetation debris shall be disposed of properly and vehicles and equipment shall be free of soil and vegetation debris before entering natural habitats. Pruning tools shall be sanitized.</li> </ol>	Less than significant
<b>Impact BIO-3.</b> Future development facilitated by the project could impact jurisdictional state or federally protected wetlands during construction and/or operation.	<b>BIO-15 Jurisdictional Delineation.</b> If potentially jurisdictional wetlands are identified by the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), a qualified biologist shall complete a jurisdictional delineation. The jurisdictional delineation shall	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	<p>determine the extent of the jurisdiction for CDFW, USACE, and/or RWQCB, and shall be conducted in accordance with the requirement set forth by each agency. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the County, USACE, RWQCB, and CDFW, as appropriate, for review and approval. Jurisdictional areas shall be avoided to the maximum extent possible. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirement permit and/or Section 401 Water Quality Certification (depending upon whether the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Lake or Streambed Alteration Agreement pursuant to Section 1600 et seq. of the CFGC would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the CWA would be required. Furthermore, a compensatory mitigation program shall be implemented by the applicant in accordance with Mitigation Measure BIO-4 and the measures set forth by the regulatory agencies during the permitting process. Compensatory mitigations for all permanent impacts to waters of the U.S. and waters of the state shall be completed at a ratio as required in applicable permits. All temporary impacts to waters of the U.S. and waters of the state shall be fully restored to natural condition.</p> <p><b>BIO-16 General Avoidance and Minimization.</b> Projects shall be designed to avoid potential jurisdictional features identified in jurisdictional delineation reports. Projects that may impact jurisdictional features shall provide the County with a report detailing how all identified jurisdictional features will be avoided, including groundwater draw down.</p> <ol style="list-style-type: none"> <li>1. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls (non- monofilament), covers, sand/gravel bags, and straw bale barriers, as appropriate.</li> <li>2. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.</li> <li>3. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.</li> </ol>	
<p><b>Impact BIO-4.</b> Development facilitated by the project would not impact wildlife movement due to the location of the Potential Sites in areas of existing development.</p>	<p>None required</p>	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Residual Impact
<b>Impact BIO-5.</b> Development facilitated by the project would be subject to the County's ordinances and requirements protecting biological resources, such as trees.	None required	Less than significant
<b>Impact BIO-6.</b> Development facilitated by the project within the Santa Rosa Plain Conservation Strategy Area could conflict with the Plan.	<b>BIO-17 Consistency with the Santa Rosa Plain Conservation Strategy.</b> For sites SAN-1 through SAN-10, the Biological Resources Screening and Assessment (Mitigation Measure BIO-1) shall assess projects for impacts to listed species included in the Santa Rosa Plain Conservation Strategy. Impacts to these species should be evaluated and mitigated per the mitigation measures included in Chapter 5 of the Conservation Strategy.	Less than significant
<b>Cultural Resources</b>		
<b>Impact CUL-1.</b> The project has the potential to cause a significant impact on a historic resource if development facilitated by the project would cause a substantial adverse change in the significance of that resource.	<p><b>CUL-1 Architectural History Evaluation.</b> For any future project proposed on or adjacent to a property that includes buildings, structures, objects, sites, landscape/site plans, or other features that are 45 years of age or older at the time of or permit application, the project applicant shall hire a qualified architectural historian to prepare an historical resources evaluation. The qualified architectural historian or historian shall meet the Secretary of the Interior's (SOI) Professional Qualifications Standards (PQS) in architectural history or history. The qualified architectural historian or historian shall conduct an intensive-level evaluation in accordance with the guidelines and best practices recommended by the State Office of Historic Preservation to identify any potential historical resources in the proposed project area. Under the guidelines, properties 45 years of age or older shall be evaluated within their historic context and documented in a technical report and on Department of Parks and Recreation Series 523 forms. The report will be submitted to the County for review prior to any permit issuance. If no historic resources are identified, no further analysis is warranted. If historic resources are identified by the Architectural History Evaluation, the project shall be required to implement Mitigation Measure CUL-2.</p> <p><b>CUL-2 Architectural History Mitigation.</b> If historical resources are identified in an area proposed for redevelopment as the result of the process described in Mitigation Measure CUL-1, the project applicant shall reduce impacts to the extent feasible (as defined in CEQA Guidelines Section 15364). Application of mitigation shall generally be overseen by a qualified architectural historian or historic architect meeting the PQS, unless unnecessary in the circumstances (e.g. preservation in place). In conjunction with any project that may affect the historical resource, the project applicant shall provide a report identifying and specifying the treatment of character-defining features and construction activities to the County for review and approval, prior to permit issuance, to avoid or substantially reduce the severity of the proposed activity on the historical qualities of the resource. Any and all features and construction activities shall become Conditions of Approval for the project and shall be implemented prior</p>	Significant and unavoidable

Impact	Mitigation Measure (s)	Residual Impact
	<p>to issuance of construction (demolition and grading) permits.</p> <p>Mitigation measures may include but are not limited to compliance with the Secretary of the Interior's Standards for Treatment of Historic Properties and documentation of the historical resource in the form of a Historic American Building Survey (HABS)-like report. The HABS report shall comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation and shall generally follow the HABS Level III requirements, including digital photographic recordation, detailed historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the PQS and submitted to the County prior to issuance of any permits for demolition or alteration of the historical resource.</p>	
<p><b>Impact CUL-2.</b> The project has the potential to cause a significant impact on archaeological resources if development facilitated by the project would cause a substantial adverse change in the significance of an archaeological resource, including those that qualify as historical resources.</p>	<p><b>CUL-3 Phase I Archaeological Resource Study.</b> Prior to project approval, the project applicant shall investigate the potential to disturb archaeological resources. If the project will involve any ground disturbance, a Phase I cultural resources study shall be performed by a qualified professional meeting the SOI's PQS for archaeology (National Park Service 1983). If a project would solely involve the refurbishment of an existing building and no ground disturbance would occur, this measure would not be required. A Phase I cultural resources study shall include a pedestrian survey of the project site and sufficient background research and field sampling to determine whether archaeological resources may be present. Archival research shall include a records search of the Northwest Information Center no more than two years old and a Sacred Lands File search with the NAHC. The Phase I technical report documenting the study shall include recommendations that must be implemented prior to and/or during construction to avoid or reduce impacts on archaeological resources, to the extent that the resource's physical constituents are preserved or their destruction is offset by the recovery of scientifically consequential information. The report shall be submitted to the County for review and approval, prior to the issuance of any grading or construction permits, to ensure that the identification effort is reasonable and meets professional standards in cultural resources management. Recommendations in the Phase I technical report shall be made Conditions of Approval and shall be implemented throughout all ground disturbance activities.</p> <p><b>CUL-4 Extended Phase I Testing.</b> For any projects proposed within 100 feet of a known archaeological site and/or in areas identified as sensitive by the Phase I study (Mitigation Measure CUL-3), the project applicant shall retain a qualified archaeologist to conduct an Extended Phase I (XPI) study to determine the presence/absence and extent of archaeological resources on the project site. XPI testing should comprise a series of shovel test pits and/or hand augured units and/or mechanical trenching to establish the boundaries of archaeological site(s) on the project site. If</p>	<p>Less than significant</p>



Impact	Mitigation Measure (s)	Residual Impact
	<p>the boundaries of the archaeological site are already well understood from previous archaeological work and is clearly interpretable as such by a qualified cultural resources professional, an XPI will not be required. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with local California Native American tribe(s) and any XPI work plans may be combined with a tribal cultural resources plan prepared under Mitigation Measure TCR-3. If applicable, a Native American monitor shall be present in accordance with Mitigation Measure TCR-4.</p> <p>All archaeological excavation shall be conducted by a qualified archaeologist(s) under the direction of a principal investigator meeting the SOI's PQS for archaeology (National Park Service 1983). If an XPI report is prepared, it shall be submitted to Sonoma County for review and approval prior to the issuance of any grading or construction permits. Recommendations contained therein shall be implemented for all ground disturbance activities.</p> <p><b>CUL-5 Archaeological Site Avoidance.</b> Any identified archaeological sites (determined after implementing Mitigation Measures CUL-3 and/or CUL-4) shall be avoided by project-related construction activities, where feasible. A barrier (temporary fencing) and flagging should be placed between the work location and any resources within 60 feet of a work location to minimize the potential for inadvertent impacts.</p> <p><b>CUL-6 Phase II Site Evaluation.</b> If the results of any Phase I and/or XPI (Mitigation Measures CUL-3 and/or CUL-4) indicate the presence of archaeological resources that cannot be avoided by the project (Mitigation Measure CUL-5) and that have not been adequately evaluated for CRHR listing at the project site, the qualified archaeologist will conduct a Phase II investigation to determine if intact deposits remain and if they may be eligible for the CRHR or qualify as unique archaeological resources. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with local California Native American tribe(s) and any Phase II work plans may be combined with a tribal cultural resources plan prepared under Mitigation Measure TCR-3. If applicable, a Native American monitor shall be present in accordance with Mitigation Measure TCR-4.</p> <p>A Phase II evaluation shall include any necessary archival research to identify significant historical associations and mapping of surface artifacts, collection of functionally or temporally diagnostic tools and debris, and excavation of a sample of the cultural deposit. The sample excavation will characterize the nature of the sites, define the artifact and feature contents, determine horizontal and vertical boundaries, and retrieve representative samples of artifacts and other remains.</p> <p>If the archeologist and, if applicable, a Native American monitor (see Mitigation Measure TCR-4) or other interested tribal representative determine it is appropriate, cultural materials collected from the site shall be processed and</p>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>analyzed in a laboratory according to standard archaeological procedures. The age of the materials shall be determined using radiocarbon dating and/or other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the sites shall be evaluated according to the criteria of the CRHR. The results of the investigations shall be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)." The report shall be submitted to Sonoma County for review and approval prior to the issuance of any grading or construction permits. Recommendations in the Phase II report shall be implemented for all ground disturbance activities.</p> <p><b>CUL-7 Phase III Data Recovery.</b> Should the results of the Phase II site evaluation (Mitigation Measure CUL-6) yield resources that meet CRHR significance standards and if the resource cannot be avoided by project construction in accordance with Mitigation Measure CUL-5, the project applicant shall ensure that all feasible recommendations (as defined in CEQA Guidelines Section 15364) for mitigation of archaeological impacts are incorporated into the final design and approved by the County prior to construction. Any necessary Phase III data recovery excavation, conducted to exhaust the data potential of significant archaeological sites, shall be carried out by a qualified archaeologist meeting the SOI standards for archaeology according to a research design reviewed and approved by the County prepared in advance of fieldwork and using appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5 (1991), Guidelines for Archaeological Research Design, or the latest edition thereof. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with local California Native American tribe(s) and any Phase III work plans may be combined with a tribal cultural resources plan prepared under Mitigation Measure TCR-3. If applicable, a Native American monitor shall be present in accordance with Mitigation Measure TCR-4.</p> <p>As applicable, the final Phase III Data Recovery reports shall be submitted to Sonoma County prior to issuance of any grading or construction permit. Recommendations contained therein shall be implemented throughout all ground disturbance activities.</p> <p><b>CUL-8 Cultural Resources Monitoring.</b> If recommended by Phase I, XPI, Phase II, or Phase III studies (Mitigation Measures CUL-3, CUL-4, CUL-6, and/or CUL-7), the project applicant shall retain a qualified archaeologist to monitor project-related, ground-disturbing activities. If archaeological resources are encountered during ground-disturbing activities, Mitigation Measures CUL-5 through CUL-7 shall be implemented, as appropriate. The</p>	

Impact	Mitigation Measure (s)	Residual Impact
	archaeological monitor shall coordinate with any Native American monitor as required by Mitigation Measure TCR-4. <b>CUL-9 Unanticipated Discovery of Archaeological Resources.</b> If archaeological resources are encountered during ground-disturbing activities, work within 60 feet shall be halted and the project applicant shall retain an archaeologist meeting the SOI's PQS for archaeology (National Park Service 1983) immediately to evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work may be warranted, such as data recovery excavation, to mitigate any significant impacts to historical resources. If the resource is of Native American origin, implementation of Mitigation Measures TCR-1 through TCR-4 may be required. Any reports required to document and/or evaluate unanticipated discoveries shall be submitted to the County for review and approval. Recommendations contained therein shall be implemented throughout the remainder of ground disturbance activities.	
<b>Impact CUL-3.</b> The discovery of human remains is always a possibility during ground disturbing activities. Ground disturbance associated with development facilitated by the project may disturb or damage known or unknown human remains. This impact would be less than significant with adherence to existing regulations.	None required	Less than significant
<b>Energy</b>		
<b>Impact E-1.</b> Development facilitated by the project would not result in a significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources.	None required	Less than significant
<b>Impact E-2.</b> Development facilitated by the project would not conflict with or obstruct an applicable renewable energy or energy efficiency plan.	None required	Less than significant
<b>Geology and Soils</b>		
<b>Impact GEO-1.</b> No Potential Sites are located in Alquist-Priolo Earthquake Fault Zone, and therefore development facilitated by the project would not directly or indirectly cause substantial adverse effects involving rupture of a known earthquake fault.	None required	No impact

Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact GEO-2.</b> Development facilitated by the project could result in exposure of people or structures to a risk of loss, injury, or death from seismic events. Development facilitated by the project could be located on a geologic unit or soil that is unstable or could become unstable resulting in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. This impact would be less than significant with compliance with applicable laws and regulations.</p>	None required	Less than significant
<p><b>Impact GEO-3.</b> Development facilitated by the project would include ground disturbance such as excavation and grading that would result in loose or exposed soil. This disturbed soil could be eroded by wind or during a storm event, which would result in the loss of topsoil. Adherence to permit requirements and County regulations would ensure this impact is less than significant.</p>	None required	Less than significant
<p><b>Impact GEO-4.</b> Development facilitated by the project may result in the construction of structures on expansive soils, which could create a substantial risk to life or property. This impact would be less than significant with compliance with the requirements of the California Building Code.</p>	None require	Less than significant
<p><b>Impact GEO-5.</b> Development facilitated by the project would not include septic tanks or alternative wastewater disposal systems on soils incapable of supporting such systems.</p>	None required	No impact
<p><b>Impact GEO-6.</b> Development facilitated by the project may directly or indirectly destroy a unique paleontological resource or site or unique geologic feature during ground disturbing activities.</p>	<p><b>GEO-1 Paleontological Review of Project Plans.</b> For projects with proposed ground-disturbing activity, the project applicant shall retain a Qualified Professional Paleontologist to review proposed ground disturbance associated with development to:</p> <ol style="list-style-type: none"> <li>1. Assess if the project will require paleontological monitoring;</li> <li>2. If monitoring is required, to develop a project-specific Paleontological Resource Mitigation and Monitoring Program (PRMMP) as outlined in Mitigation Measure GEO-2;</li> </ol>	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	<p>3. Draft the Paleontological Worker Environmental Awareness Program as outlined in Mitigation Measure GEO-3; and</p> <p>4. Define within a project specific PRMMP under what specific ground disturbing activity paleontological monitoring will be required and the procedures for collection and curation of recovered fossils, as described in Mitigation Measures GEO-4, GEO-5, and GEO-6.</p> <p>The Qualified Paleontologist shall base the assessment of monitoring requirements on the location and depth of ground disturbing activity in the context of the paleontological potential and potential impacts outlined in this section. A qualified professional paleontologist is defined by the SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years (SVP 2010). The County shall review and approve the assessment before grading permits are issued.</p> <p><b>GEO-2 Paleontological Resources Mitigation and Monitoring Program.</b> For those projects deemed to require a PRMMP under Mitigation Measure GEO-1 above, the Qualified Paleontologist shall prepare a PRMMP for submission to the County prior to the issuance of grading permits. The PRMMP shall include a pre-construction paleontological site assessment and develop procedures and protocol for paleontological monitoring and recordation. Monitoring shall be conducted by a qualified paleontological monitor who meets the minimum qualifications per standards set forth by the SVP. The PRMMP procedures and protocols for paleontological monitoring and recordation shall include:</p> <ol style="list-style-type: none"> <li>1. Location and type of ground disturbance requiring paleontological monitoring.</li> <li>2. Timing and duration of paleontological monitoring.</li> <li>3. Procedures for work stoppage and fossil collection.</li> <li>4. The type and extent of data that should be collected with recovered fossils.</li> <li>5. Identify an appropriate curatorial institution.</li> <li>6. Identify the minimum qualifications for qualified paleontologists and paleontological monitors.</li> <li>7. Identify the conditions under which modifications to the monitoring schedule can be implemented.</li> <li>8. Details to be included in the final monitoring report.</li> </ol> <p>Prior to issuance of a grading permit, copies of the PRMMP shall be submitted to the County for review and approval as to adequacy.</p> <p><b>GEO-3 Paleontological Worker Environmental Awareness Program (WEAP).</b> Prior to any ground disturbance within Potential Sites underlain by geologic units with high paleontological resource potential, the applicant shall</p>	

Impact	Mitigation Measure (s)	Residual Impact									
	<p>incorporate information on paleontological resources into the Project's Worker Environmental Awareness Training (WEAP) materials, or a stand-alone Paleontological Resources WEAP shall be submitted to the County for review and approval. The Qualified Paleontologist or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The Paleontological WEAP training shall be fulfilled simultaneously with the overall WEAP training, or at the first preconstruction meeting at which a Qualified Paleontologist attends prior to ground disturbance. Printed literature (handouts) shall accompany the initial training. Following the initial WEAP training, all new workers and contractors must be trained prior to conducting ground disturbance work. A sign-in sheet for workers who have completed the training shall be submitted to the County upon completion of WEAP administration.</p> <p><b>GEO-4 Paleontological Monitoring.</b> Paleontological monitoring shall only be required for those ground-disturbing activities identified under Mitigation Measure GEO-1, where construction activities (i.e., grading, trenching, foundation work) are proposed in previously undisturbed (i.e., intact) sediments with high paleontological sensitivities. Monitoring shall be conducted by a qualified professional paleontologist (as defined above) or by a qualified paleontological monitor (as defined below) under the supervision of the qualified professional paleontologist. Monitoring may be discontinued on the recommendation of the qualified professional paleontologist if they determine that sediments are likely too young, or conditions are such that fossil preservation would have been unlikely, or that fossils present have little potential scientific value. The monitoring depth required for each of the Potential Sites is provided in Table 4.7-3, in addition to the associated geologic unit.</p> <p><b>Table 4.7-2      Potential Sites Subject to Mitigation</b></p> <table> <tr> <th>Potential Rezone Site(s)</th><th>Sensitive Geologic Unit(s)</th><th>Recommended Monitoring</th></tr> <tr> <td>GEY-1 through GUE-2 through GUE-4, LAR-1 through LAR-8, SAN-1, SAN-3, SAN-5, SAN-10</td><td>Quaternary young alluvium (Q, Qal)</td><td>None</td></tr> <tr> <td>GEY-4</td><td>Quaternary young alluvium (Q, Qal) Early Cretaceous to Late Jurassic Great Valley Complex (KJgvc)</td><td>None</td></tr> </table>	Potential Rezone Site(s)	Sensitive Geologic Unit(s)	Recommended Monitoring	GEY-1 through GUE-2 through GUE-4, LAR-1 through LAR-8, SAN-1, SAN-3, SAN-5, SAN-10	Quaternary young alluvium (Q, Qal)	None	GEY-4	Quaternary young alluvium (Q, Qal) Early Cretaceous to Late Jurassic Great Valley Complex (KJgvc)	None	
Potential Rezone Site(s)	Sensitive Geologic Unit(s)	Recommended Monitoring									
GEY-1 through GUE-2 through GUE-4, LAR-1 through LAR-8, SAN-1, SAN-3, SAN-5, SAN-10	Quaternary young alluvium (Q, Qal)	None									
GEY-4	Quaternary young alluvium (Q, Qal) Early Cretaceous to Late Jurassic Great Valley Complex (KJgvc)	None									

Impact	Mitigation Measure (s)		Residual Impact
	GUE-1	Quaternary old alluvial and marine terrace deposits (Qt)	All excavations within native (intact) sediments
	FOR-1 through FOR-6, GRA-1, GRA-3 through GRA-5, PET-1 through PET-3	Wilson Grove Formation (Twg, Pwg)	All excavations within native (intact) sediments
	GRA-2	Quaternary young alluvium (Qal)	None
	SAN-2, SAN-4, SAN-6 through SAN-9, AGU-1 through AGU-3, SON-1 through SON-4	Quaternary old alluvium (Qo)	All excavations within native (intact) sediments
	GLE-1, GLE-2	Huichica and Glen Ellen Formations (QT)	All excavations within native (intact) sediments
	PEN-1 through PEN-9	Petaluma Formation (Pp)	All excavations within native (intact) sediments
	PET-4	Wilson Grove Formation (Twg, Pwg) Pliocene to Miocene Sonoma Volcanics (Psv, Tsb) mapped within the southeast corner	All excavations within native (intact) sediments None

The following outlines minimum monitor qualifications and procedures for fossil discovery and treatment:

1. **Monitoring.** Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The Qualified Paleontologist will determine the duration and timing of the monitoring based on the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, they may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Refer to Table 4.7-2 and Table 4.7-3 for a paleontological resource potential summary and recommendations for each of the 59 Potential Sites.
2. **Fossil Discoveries.** In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Paleontologist shall evaluate the find before

Impact	Mitigation Measure (s)	Residual Impact
	<p>restarting construction activity in the area. If the Qualified Paleontologist determines that the fossil(s) is (are) scientifically significant; including identifiable specimens of vertebrate fossils, uncommon invertebrate, plant, and trace fossils; the Qualified Paleontologist (or paleontological monitor) shall recover them following standard field procedures for collecting paleontological as outlined in the PRMMP prepared for the project.</p> <p>3. <b>Salvage of Fossils.</b> Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the Qualified Paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. If fossils are discovered, the Qualified Paleontologist (or Paleontological Monitor) shall recover them as specified in the project's PRMMP.</p> <p><b>GEO-5 Preparation and Curation of Recovered Fossils.</b> Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Paleontologist.</p> <p><b>GEO-6 Final Paleontological Mitigation Report.</b> Upon completion of ground disturbing activity (and curation of fossils if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the County prior to occupancy permits. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.</p>	
<b>Greenhouse Gas Emissions</b>		
<b>Impact GHG-1.</b> GHG emissions from development facilitated by the project would not exceed the BAAQMD interpolated 2030 project-level or plan-level thresholds.	None required	Less than significant
<b>Impact GHG-2.</b> Development facilitated by the project would be consistent with the goals of the 2017 Scoping Plan, Plan Bay Area 2040, County General Plan, and	None required	Less than significant



Sonoma County  
Rezoning Sites for Housing Project

Impact	Mitigation Measure (s)	Residual Impact
County Climate Change Action Resolution.		
<b>Hazards and Hazardous Materials</b>		
<b>Impact HAZ-1.</b> Development facilitated by the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, nor through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	None required	Less than significant
<b>Impact HAZ-2.</b> Development facilitated by the project could result in development on sites contaminated with hazardous materials. However, compliance with applicable regulations relating to site remediation would minimize impacts from development on contaminated sites.	None required	Less than significant
<b>Impact HAZ-3.</b> The Potential Sites are not located within two miles of an airport. Development facilitated by the project would not result in a safety hazard or excessive noise for people residing or working in or near the Potential Sites.	None required	No impact
<b>Impact HAZ-4.</b> Development facilitated by the project would not result in any physical changes that could interfere with or impair emergency response or evacuation. Therefore, the project would not result in interference with these types of adopted plans.	None required	Less than significant
<b>Impact HAZ-5.</b> Development facilitated by the project could expose people or structures to risk of loss, injury, or death.	Refer to WFR-1: Wildfire Risk Reduction; WFR-2: Spark Arresters; and WFR-3: New Structure Locations.	Significant and unavoidable
<b>Hydrology and Water Quality</b>		
<b>Impact HWQ-1.</b> Development facilitated by the project would not violate water quality standards or Waste Discharge Requirements, or otherwise substantially degrade surface or groundwater quality.	None required	Less than significant
<b>Impact HWQ-2.</b> Development facilitated by the project would not interfere substantially with groundwater recharge such that the project may impede sustainable	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
groundwater management of local groundwater basins.		
<b>Impact HWQ-3.</b> Development facilitated by the project would alter drainage patterns and increase runoff in the Potential Sites, but would not result in substantial erosion or siltation on or off site, result in increased flooding on or off site, exceed the capacity of existing or planned stormwater drainage systems, or generate substantial additional polluted runoff.	None required	Less than significant
<b>Impact HWQ-4.</b> Development facilitated by the project would alter drainage patterns on and increase runoff from the Potential Sites. The Potential Sites within an area at risk from inundation by flood hazard would be required to comply with applicable General Plan goals and policies.	None required	Less than significant
<b>Impact HWQ-5.</b> The Potential Sites are not within an area at risk from inundation by seiche or tsunami, and therefore would not be at risk of release of pollutants due to project inundation.	None required	Less than significant
<b>Impact HWQ-6.</b> Development facilitated by the project would comply with adopted water quality control plans and sustainable groundwater management plans applicable to the Potential Sites.	None required	Less than significant
<b>Land Use and Planning</b>		
<b>Impact LU-1.</b> Project implementation would provide for orderly development in the unincorporated county and would not physically divide an established community.	None required	Less than significant
<b>Impact LU-2.</b> The project would not result in a significant environmental impact due to a conflict with any land use plan and policy.	None required	Less than significant
<b>Mineral Resources</b>		
<b>Impact MIN-1.</b> Although mineral extraction sites occur throughout the county, none are within the Potential Sites.	None required	No impact

Impact	Mitigation Measure (s)	Residual Impact
<b>Noise</b>		
<p><b>Impact NOI-1.</b> Construction activities associated with development facilitated by the project could result in noise level increases that would exceed applicable construction noise standards at nearby noise sensitive receivers. This would be a potentially significant impact. Operational noise impacts from HVAC units and generators would potentially exceed County standards if located near noise-sensitive land uses.</p>	<p><b>NOI-1 General Construction Activities Noise Reduction Measures.</b> If construction activities occur between the hours of 10 p.m. to 7 a.m., within 0.5 mile of a noise-sensitive receiver (residences, schools, day care facilities, hospitals, nursing homes, long term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors), the following measures shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Nighttime construction noise shall not exceed the noise level standards shown in Table 4.13 4 when conducted between the hours of 10 p.m. to 7 a.m.</li> <li>2. The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.</li> <li>3. The analysis of nighttime construction activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider the type of construction equipment to be used and the potential noise levels at noise-sensitive receivers located within 0.5 mile of the Potential Site.</li> <li>4. Provided the nighttime construction noise analysis determines that nighttime noise levels will not exceed 45 dBA L<sub>50</sub>, 50 dBA L<sub>25</sub>, 55 dBA L<sub>08</sub>, or 60 dBA L<sub>02</sub> between the hours of 10 p.m. to 7 a.m., construction may proceed without additional measures.</li> <li>5. Provided the nighttime construction noise analysis determines that nighttime noise levels would exceed the nighttime standards shown in Table 4.13 4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers or performing activities at a further distance from the noise-sensitive land use.</li> </ol> <p><b>NOI-2 Pile Driver Noise and Vibration Reduction Measures.</b> If pile driving activities occur between the hours of 10 p.m. to 7 a.m., where pile driving is to be used within 2.8 miles of a noise-sensitive receiver (residences, schools, day care facilities, hospitals, nursing homes, long term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors) or, during daytime or nighttime hours, within 160 feet of a vibration-sensitive receiver (residences, research and advanced technology equipment) the following measures shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Daytime (7 a.m. to 10 p.m.) <ol style="list-style-type: none"> <li>a. Pile Driving Vibration <ol style="list-style-type: none"> <li>i. Use of a pile driver shall not occur within 160 feet of a vibration-sensitive receiver;</li> <li>ii. Daytime pile driving vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers</li> </ol> </li> </ol> </li> </ol>	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Residual Impact
	<p>2. Nighttime (10 p.m. to 7 a.m.):</p> <p>a. Pile Driving Noise</p> <ul style="list-style-type: none"> <li>i. Nighttime pile driving noise shall not exceed the noise level standards shown in Table 4.13 4 when conducted between the hours of 10 p.m. to 7 a.m.</li> <li>ii. The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.</li> <li>iii. The analysis of nighttime pile driving activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider the type of pile driver to be used and potential noise levels at noise-sensitive receivers located within 15,000 feet of the Potential Site.</li> <li>iv. Provided the analysis concludes that noise levels will not exceed 45 dBA L<sub>50</sub>, 50 dBA L<sub>25</sub>, 55 dBA L<sub>08</sub>, or 60 dBA L<sub>02</sub> between the hours of 10 p.m. to 7 a.m., construction may proceed without additional measures.</li> <li>v. Provided the analysis concludes that pile driving noise levels exceed the nighttime standards shown in Table 4.13 4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers to reduce noise levels.</li> </ul> <p>b. Pile Driving Vibration</p> <ul style="list-style-type: none"> <li>i. Use of a pile driver shall not occur within 160 feet of a vibration-sensitive receiver.</li> <li>ii. Nighttime pile driving vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers.</li> <li>iii. The project applicant shall retain a qualified consultant to prepare a project-specific construction vibration impact analysis.</li> <li>iv. The analysis of nighttime pile driving vibration shall be completed in accordance with industry standards. The analysis shall consider the type of pile driver to be used and potential vibration levels at vibration-sensitive receivers located within 160 feet of the Potential Site.</li> <li>v. Provided the analysis concludes vibration levels do not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, construction may proceed without additional measures.</li> <li>vi. Provided the analysis concludes that pile driving vibration levels exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the</li> </ul>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>structural damage impact to structures of 0.4 in/sec PPV, additional measures shall be implemented to reduce vibration levels below the standard. These measures may include, but not be limited to, pre-drilling pile holes, utilizing a vibratory pile driver, or performing pile driving at a further distance from the noise-sensitive land use to reduce vibration levels.</p> <p><b>NOI-3 Breaker Noise Reduction Measures.</b> If construction activities use a breaker noise between the hours of 10 p.m. to 7 a.m. within 0.5 mile of a noise-sensitive receiver (residences, schools, day care facilities, hospitals, nursing homes, long term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors), one of the following measures shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Nighttime breaker noise shall not exceed the noise level standards shown in Table 4.13 4 when conducted between the hours of 10 p.m. to 7 a.m.</li> <li>2. The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.</li> <li>3. The analysis of nighttime breaker activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider type of breaker used and other factors of the environment and the potential noise levels at noise-sensitive receivers located within 0.5 mile of the Potential Site.</li> <li>4. Provided the nighttime breaker noise analysis determines that nighttime noise levels will not exceed 45 dBA L<sub>50</sub>, 50 dBA L<sub>25</sub>, 55 dBA L<sub>08</sub>, or 60 dBA L<sub>02</sub> between the hours of 10 p.m. to 7 a.m., construction may proceed without additional measures.</li> <li>5. Provided the nighttime breaker noise analysis determines that nighttime noise levels would exceed the nighttime standards shown in Table 4.13 4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers or performing breaking at a further distance from the noise-sensitive land use.</li> </ol> <p><b>NOI-4 Blasting Noise and Vibration Reduction Measures.</b> If construction activities using blasting occurs during construction of a Potential Site, the following measure shall be implemented:</p> <ol style="list-style-type: none"> <li>1. Daytime (7 a.m. to 10 p.m.) <ol style="list-style-type: none"> <li>a. Blasting Vibration <ol style="list-style-type: none"> <li>i. Daytime blasting vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers</li> </ol> </li> </ol> </li> <li>2. Nighttime (10 p.m. to 7 a.m.):</li> </ol>	

Impact	Mitigation Measure (s)	Residual Impact
	a. Blasting Noise	
	ii. Nighttime blasting noise shall not exceed the noise level standards shown in Table 4.13 4 when conducted between the hours of 10 p.m. to 7 a.m.	
	iii. The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.	
	iv. The analysis of nighttime blasting activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider the blasting plan and potential noise levels at noise-sensitive receivers located within 0.25 mile of the Potential Site.	
	v. Provided the analysis concludes that noise levels will not exceed 45 dBA L <sub>50</sub> , 50 dBA L <sub>25</sub> , 55 dBA L <sub>08</sub> , or 60 dBA L <sub>02</sub> between the hours of 10 p.m. to 7 a.m. construction may proceed without additional measures.	
	vi. Provided the analysis concludes that pile driving noise levels exceed the nighttime standards shown in Table 4.13 4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers to reduce noise levels.	
	b. Blasting Vibration	
	i. Nighttime blasting vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers within 0.25 mile feet of the Potential Site.	
	ii. The project applicant shall retain a qualified consultant to prepare a project-specific construction vibration impact analysis.	
	iii. The analysis of nighttime blasting vibration shall be completed in accordance with industry standards. The analysis shall consider the blasting plan and potential vibration levels at vibration-sensitive receivers located within 0.25 mile of the Potential Site.	
	iv. Provided the analysis concludes vibration levels do not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, blasting may proceed without additional measures.	
	v. Provided the analysis concludes that pile driving vibration levels exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, additional measures shall be implemented to reduce vibration levels below the standard. These measures may include, but	

Impact	Mitigation Measure (s)	Residual Impact
	<p>not be limited to, blasting mats shall be implemented to reduce vibration levels below the threshold.</p> <p><b>NOI-5 HVAC Noise Reduction Measures.</b> For any individual project that would place one or more HVAC unit(s) within 30 feet of an existing noise-sensitive receiver, the County shall, concurrently with design review and prior to the approval of building permits, require a project-specific design plan demonstrating that the noise level from operation of the HVAC unit(s) shall not contribute to a cumulative exceedance of the County noise standards at receiving noise-sensitive land uses, listed in Table 4.13 4. The analysis shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. Noise control measures shall include, but are not limited to, the selection of quiet equipment, equipment setbacks, enclosures, silencers, and/or acoustical louvers.</p> <p><b>NOI-6 Generator Noise Reduction Measures.</b> If an individual project would place permanent backup generators within 300 feet of an existing noise-sensitive receiver, the County shall, concurrently with design review and prior to the approval of building permits, require a project-specific design plan demonstrating that the noise level from operation of generators shall not contribute to a cumulative exceedance of the County noise standards at receiving noise-sensitive land uses, listed in Table 4.13 4. The analysis shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. Project specific noise reduction measures shall be implemented into the design plan during construction by the project applicant. Noise control measures that could be implemented include, but are not limited to, the selection of quiet equipment, equipment setbacks, enclosures, silencers, and/or acoustical louvers.</p>	
<b>Impact NOI-2.</b> If pile driving or blasting is performed during construction, vibration from this equipment may exceed applicable standards.	Refer to NOI-2: Pile Driver and Vibration Reduction Measures and NOI-4: Blasting Noise and Vibration Reduction Measures	Less than significant
<b>Impact NOI-3.</b> There are no Potential Sites within two miles of an airstrip or airport or within the noise contours for an airstrip or airport, and no impacts would occur from exposing residents or workers to excessive aircraft noise levels.	None required	No impact
<b>Impact NOI-4.</b> Potential Sites located near industrial sources, within the 60 and 65 dB L <sub>dn</sub> contours of nearby roadways, and/or located near railroad line/crossing may exceed the County's acceptable noise levels of 60 dB L <sub>dn</sub> or less in outdoor activity areas and interior	<p><b>NOI-7 Exterior and Interior Land Use Noise Compatibility Compliance.</b> Potential Sites with that may exceed noise compatibility standards include: GEY-1 through GEY-4, LAR-1, LAR-3, LAR-4, LAR-5, LAR-7, LAR-8, FOR-1, FOR-3, FOR-5, FOR-6, GRA-1, GRA-2, GRA-3, GRA-5, SAN-1 through SAN-10, GLE-1, AGU-2, AGU-3, PEN-1, PEN-3, PEN-5, PEN-6, PEN-8, PEN-9, PET-1 through PET-4, and SON-1 through SON-4. For Potential Sites where exterior noise levels may exceed 60 dB L<sub>dn</sub> or greater in outdoor activity areas or where</p>	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
noise levels of 45 dB L <sub>dn</sub> or less with windows and doors closed.	<p>interior noise levels may exceed 45 dB L<sub>dn</sub> or greater with windows and doors closed, the project applicant shall coordinate with the project architects and other contractors to ensure compliance with the County's noise thresholds.</p> <p>The specific project-level land use compatibility analysis shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The information in the analysis may include, for exterior areas, the layout and placement of the outdoor area, and for interior areas the wall heights and lengths, room volumes, window and door tables typical for a building plan, as well as information on any other openings in the building shell. With this specific plan information, the analysis shall determine the predicted exterior and interior noise levels at the planned buildings. If predicted noise levels are found to be in excess of the applicable limits, the report shall identify architectural materials or techniques that shall be incorporated into the project to reduce noise levels to the applicable limits.</p> <p>Measures to provide the required noise control may include, but are not limited to:</p> <ol style="list-style-type: none"> <li>1. Exterior <ol style="list-style-type: none"> <li>a) Use of sound walls between the outdoor areas and nearby roadways.</li> <li>b) Placement of the outdoor areas where building attenuation would partially block or fully block the line of sight between the area and nearby roadways.</li> </ol> </li> <li>2. Interior <ol style="list-style-type: none"> <li>a) Installation of windows, doors, and walls with higher Sound Transmission Class ratings over minimum standards.</li> <li>b) Installation or air conditioning or mechanical ventilation systems to allow windows and doors to remain closed for extended intervals of time so that acceptable interior noise levels can be maintained.</li> </ol> </li> </ol>	
<b>Population and Housing</b>		
<b>Impact PH-1.</b> Development facilitated by the project would accommodate an additional 7,735 new residents and 2,975 new housing units in the county. This would exceed established population and housing forecasts, but the County has established the need for additional housing beyond that allowed in the County's General Plan, due to shortages in workforce housing, overcrowding, and residence destruction by recent wildfires and other emergencies.	None required	Less than significant
<b>Impact PH-2.</b> Development facilitated by the project could displace existing housing or people,	<b>PH-1 Replacement Housing.</b> For Potential Sites that contain existing rental housing that would displace individuals during development, the project applicant shall prepare a relocation plan to, similar to the requirements of	Less than significant



Impact	Mitigation Measure (s)	Residual Impact
necessitating the construction of replacement housing elsewhere.	<p>Government Code Section 7260-7277. The relocation plan may include, but not be limited to:</p> <ol style="list-style-type: none"> <li>1. Proper notification of occupants or persons to be displaced.</li> <li>2. Provision of “comparable replacement dwelling” which means decent, safe, and sanitary; and adequate in size to accommodate the occupants.</li> <li>3. Provision of a dwelling unit that is within the financial means of the displaced person.</li> <li>4. Provision of a dwelling unit that is not subject to unreasonable adverse environmental conditions.</li> </ol> <p>This measure shall apply to future development projects that may displace individuals and is not limited to development undertaken by a public entity or development that is publicly funded. The County shall approve the relocation plan prior to project approval.</p>	
<b>Public Services and Recreation</b>		
<b>Impact PS-1.</b> Development facilitated by the project would not result in substantial adverse physical impacts associated with the construction of new or physically altered fire facilities to maintain acceptable service ratio response times or other objectives.	None required	Less than significant
<b>Impact PS-2.</b> Development facilitated by the project would not result in substantial adverse physical impacts associated with the construction of new or physically altered police facilities to maintain acceptable service ratio response times or other objectives.	None required	Less than significant
<b>Impact PS-3.</b> Development facilitated by the project would not result in substantial adverse physical impacts associated with the construction of new or physically altered school facilities, and pursuant to State law, payment of impact fees to mitigate demand on school facilities would be required.	None required	Less than significant
<b>Impact PS-4.</b> Development facilitated by the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered parks, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other objectives and would not increase the use of existing neighborhood and regional	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
parks such that substantial physical deterioration of the facility would occur or be accelerated.		
<b>Impact PS-5.</b> Development facilitated by the project would not result in substantial adverse physical impacts associated with the construction of new or physically altered library or other public facilities to maintain acceptable service ratios, response times, or other objectives, and the payment of property taxes funding library or other public facilities would be required.	None required	Less than significant
<b>Transportation and Traffic</b>		
<b>Impact TRA-1.</b> The addition of vehicle miles traveled (VMT) by drivers coming from development facilitated by the project would result in an exceedance of VMT thresholds and conflict with policies seeking to reduce VMT in Sonoma County. This would not meet the VMT screening criteria.	<p><b>TRA-1 Transportation Demand Management Program.</b> Prior to the issuance of building permits, the project applicant shall develop a Transportation Demand Management (TDM) program for the proposed project, including any anticipated phasing, and shall submit the TDM program to Permit Sonoma for review and approval. The TDM program shall identify trip reduction programs and strategies. The TDM program shall be designed and implemented to achieve trip reductions as required to meet thresholds identified by OPR to reduce daily VMT and vehicle trips forecast for the project by 11.5 percent from the base year plus project value to reach the threshold value of 13.0.</p> <p>Trip reduction strategies that may be included in the TDM program include, but are not limited to, the following:</p> <ol style="list-style-type: none"> <li>1. Provision of bus stop improvements or on-site mobility hubs</li> <li>2. Pedestrian improvements, on-site or off-site, to connect to nearby transit stops, services, schools, shops, etc.</li> <li>3. Bicycle programs including bike purchase incentives, storage, maintenance programs, and on-site education program</li> <li>4. Enhancements to countywide bicycle network</li> <li>5. Parking reductions and/or fees set at levels sufficient to incentivize transit, active transportation, or shared modes</li> <li>6. Cash allowances, passes, or other public transit subsidies and purchase incentives</li> <li>7. Enhancements to bus service</li> <li>8. Implementation of shuttle service</li> <li>9. Establishment of carpool, bus pool, or vanpool programs</li> <li>10. Vanpool purchase incentives</li> <li>11. Low emission vehicle purchase incentives/subsidies</li> <li>12. Compliance with a future County VMT/TDM ordinance, if eligible</li> <li>13. Participation in a future County VMT fee program</li> </ol>	Significant and Unavoidable

Impact	Mitigation Measure (s)	Residual Impact
	<p>14. Participate in future VMT exchange or mitigation bank programs</p> <p>The TDM strategies depend heavily on context and area surrounding the Potential Sites.</p> <p><b>TRA-2 Construction Traffic Management Plan.</b> To mitigate potential impacts and disruptions during project construction, the applicant shall submit a Construction Traffic Management Plan for County review and approval. The plan shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>1. A prohibition on all construction truck activity during the period 30 minutes prior to the beginning of school and 30 minutes after the end of the school day.</li> <li>2. The provision of flaggers at all on-site locations where construction trucks and construction worker vehicles conflict with school vehicle, bicycle, or pedestrian traffic.</li> <li>3. Preservation of emergency vehicle access.</li> <li>4. Identification of approved truck routes in communication with the County.</li> <li>5. Location of staging areas and the location of construction worker parking.</li> <li>6. Identification of the means and locations of the separation (i.e. fencing) of construction areas.</li> <li>7. Provision of a point of contact for incorporated and unincorporated Sonoma County residents to obtain construction information, have questions answered and convey complaints.</li> <li>8. Identification of the traffic controls and methods proposed during each phase of project construction. Provision of safe and adequate access for vehicles, transit, bicycles, and pedestrians. Traffic controls and methods employed during construction shall be in accordance with the requirements of the Manual of Uniform Traffic Control Devices (Federal Highway Administration, 2009 Manual on Uniform Traffic Control Devices with Revisions 1 and 2, May 2012).</li> <li>9. Provision of notice to relevant emergency services, thereby avoiding interference with adopted emergency plans, emergency vehicle access, or emergency evacuation plans.</li> <li>10. Maintenance of bicycle and pedestrian access along the project's driveway for the duration of project construction.</li> </ol>	
<b>Impact TRA-2.</b> The proposed project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	None required	Less than significant
<b>Impact TRA-3.</b> The proposed project would not result in inadequate emergency access.	None required	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
<b>Tribal Cultural Resources</b>		
<b>Impact TCR-1.</b> Development facilitated by the project has the potential to impact tribal cultural resources.	<p><b>TCR-1 Tribal Cultural Resources Consultation.</b> If during the implementation of Mitigation Measure CUL-1, archival research results in the identification of an association between a historical built-environment resource and a local California Native American tribe, the qualified architectural historian or historian shall confer with the local California Native American tribe(s) on the implementation of Mitigation Measure CUL-2. Throughout the implementation of Mitigation Measures CUL-3 through CUL-9, the qualified archaeologist retained to implement the measures shall confer with local California Native American tribe(s) on the identification and treatment of tribal cultural resources and/or resources of Native American origin not yet determined to be tribal cultural resources through AB 52 consultation. If, during the implementation of Mitigation Measures CUL-3 through CUL-9, a resource of Native American origin is identified, the County shall be notified immediately in order to open consultation with the appropriate local California Native American tribe(s) to discuss whether the resource meets the definition of a tribal cultural resource as defined in AB 52.</p> <p><b>TCR-2 Avoidance of Tribal Cultural Resources.</b> When feasible, development facilitated by the project shall be designed to avoid known tribal cultural resources. Any tribal cultural resource within 60 feet of planned construction activities shall be fenced off to ensure avoidance. The feasibility of avoidance of tribal cultural resources shall be determined by the County and applicant in consultation with local California Native American tribe(s).</p> <p><b>TCR-3 Tribal Cultural Resource Plan.</b> A Tribal Cultural Resources Plan shall be required for Potential Sites identified as potentially sensitive for tribal cultural resources during consultation with local California Native American tribe(s) during the implementation of TCR-1 and/or by the qualified archaeologist during the implementation of CUL-3 through CUL-9. Prior to any development facilitated by the project that would include ground disturbance, the project applicant or its consultant, shall prepare a tribal cultural resources treatment plan to be implemented in the event an unanticipated archaeological resource that may be considered a tribal cultural resource is identified during construction. The plan shall include any necessary monitoring requirements, suspension of all earth-disturbing work in the vicinity of the find, avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the local Native Americans and, if applicable, a qualified archaeologist. Examples of appropriate treatment for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery. As appropriate, the tribal cultural resources treatment plan may be combined with any Extended Phase I, Phase II,</p>	Less than significant

Impact	Mitigation Measure (s)	Residual Impact
	<p>and/or Phase III work plans or archaeological monitoring plans prepared for work carried out during the implementation of Mitigation Measures CUL-4, CUL-6, CUL-7, or CUL-8. The plan shall be reviewed and approved by the County and the appropriate local California Native American tribe(s) to confirm compliance with this measure prior to construction.</p> <p><b>TCR-4 Native American Monitoring.</b> For Potential Sites identified as potentially sensitive for tribal cultural resources through consultation with local California Native American tribe(s) during the implementation of TCR-1 and/or identified as sensitive for cultural resources of Native American origin by the qualified archaeologist during the implementation of CUL-3 through CUL-9, the project applicant shall retain a locally affiliated Native American monitor to observe all ground disturbance, including archaeological excavation, associated with development facilitated by the project. Monitoring methods and requirements shall be outlined in a tribal cultural resources treatment plan prepared under Mitigation Measure TCR-3. In the event of a discovery of tribal cultural resources, the steps identified in the tribal cultural resources plan prepared under Mitigation Measure TCR-3 shall be implemented.</p> <p><b>TCR-5 Sensitive Location of Human Remains.</b> For any development facilitated by the project where human remains are expected to be present based on the results of tribal consultation during the implementation of TCR-1 and/or as identified by the qualified archaeologist, the County shall consult with local California Native American tribe(s) on the decision to employ a canine forensics team. If appropriate, the County shall require the use of a canine forensics team to attempt to identify human remains in a noninvasive way (e.g., non-excavation) for the purpose of avoidance, if avoidance is feasible (see Mitigation Measure TCR-2). Any requirements for the use of a canine forensics team shall be documented in the tribal cultural resources treatment plan prepared under Mitigation Measure TCR-3. Pending the results of any canine investigations, the tribal cultural resources treatment plan may require revision or an addendum to reflect additional recommendations or requirements if human remains are present.</p>	
<b>Utilities</b>		
<p><b>Impact UTIL-1.</b> Impacts related to stormwater drainage, electric power, natural gas, and telecommunication infrastructure would be less than significant. However, water supply and wastewater generation impacts would be potentially significant and mitigation is required.</p>	<p><b>UTIL-1 Water and Wastewater Provider Capacity.</b> Future development proposed on the following sites shall be required to demonstrate that the applicable water and/or sewer service provider has sufficient capacity and that existing water and/or sewer services are available to serve future development projects, or that the necessary improvements to serve a Potential Site will be made prior to occupancy:</p> <ol style="list-style-type: none"> <li>1. Potential Sites that need to demonstrate capacity from the applicable water service provider: GEY-1 through GEY-4, GUE-1 through GUE-4, LAR-1 through LAR-8, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3,</li> </ol>	<p>Less than significant</p>

Impact	Mitigation Measure (s)	Residual Impact
	<p>SAN-5 through SAN-8, PEN-2, PEN-4, and SON-1 through SON-4.</p> <p>2. Potential Sites that need to demonstrate capacity from the applicable wastewater service provider: GEY-1, GUE-2, GUE-3, LAR-1 through LAR-8, FOR-1, FOR-2, FOR-6, GRA-4, SAN-6, SAN-7, SAN-10, PEN-2, PEN-4, PEN-9, PET-1, and SON-1 through SON-4.</p> <p>The required documentation shall be provided to the County during the plan review and permit approval process for projects on the above-listed Potential Sites.</p>	
<b>Impact UTIL-2.</b> The project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, including the Central Disposal Site. The project would not impair the attainment of solid waste reduction goals and would comply with federal, State, and local statutes and regulations related to solid waste.	None required	Less than significant
<b>Wildfire</b>		
<b>Impact WFR-1.</b> The project includes Potential Sites that are in or near a SRA or Very High FHSZs, but development facilitated by the project would not substantially impair an adopted emergency response or evacuation plan.	None required	Less than significant
<b>Impact WFR-2.</b> The project includes Potential Sites that are in or near Moderate, High, and Very High FHSZs. Development facilitated by the project would expose project occupants and structures to wildfire risks for sites located in or near (within 2 miles of) SRAs or Very High FHSZs.	<p><b>WFR-1 Wildfire Risk Reduction.</b> The County shall require the following measures to reduce risk of loss, injury, or death from wildfire:</p> <ol style="list-style-type: none"> <li>1. Use fire-resistant vegetation native to Sonoma County and/or the local microclimate of the site and prohibit the use of fire-prone species especially non-native, invasive species.</li> <li>2. Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that shall be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings.</li> <li>3. Require fire extinguishers to be onsite during project construction. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher.</li> </ol> <p>At the County's discretion, additional wildfire risk reduction requirements may be required. The County shall review and approve the project-specific methods to be employed prior to building permit approval.</p> <p><b>WFR-2 Spark Arresters.</b> Construction equipment powered by internal combustion engines shall be equipped with spark arresters. The spark arresters shall be maintained per</p>	Significant and Unavoidable

Impact	Mitigation Measure (s)	Residual Impact
	<p>manufacturer recommendations to ensure adequate performance.</p> <p><b>WFR-3 New Structure Locations.</b> Prior to finalizing site plans, proposed structure locations shall, to the extent feasible given site constraints, meet the following criteria:</p> <ol style="list-style-type: none"><li>1. Located outside of known landslide-susceptible areas; and</li><li>2. Located at least 50 feet from sloped hillsides.</li></ol> <p>Should the location meet the above criteria, no additional measures are necessary. Should the location be within a known landslide area or within 50 feet of a sloped hillside, structural engineering features shall be incorporated into the design of the structure to reduce the risk of damage to the structure from post-fire slope instability resulting in landslides or flooding. These features shall be recommended by a qualified engineer and approved by the County prior to the building permit approval.</p>	

# 1 Introduction

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This document is a Program Environmental Impact Report (EIR) that analyzes a program aimed at rezoning sites throughout the County to allow by-right development of medium density housing. The proposed Rezoning Sites for Housing Project (hereafter referred to as the “proposed project” or “project”) identifies urban sites near jobs and transit which may appropriately accommodate additional housing, and identifies appropriate sites on which to apply the Workforce Housing Combining District to allow the development of jobs and/or housing on the same site or within walking distance from one another.

This section discusses (1) the purpose of this Program EIR; (2) the type of environmental document prepared and future streamlining opportunities; (3) the content and format of the Program EIR; (4) public review and participation process; (5) the scope and content of the document; (6) lead, responsible and trustee agencies pursuant to California Environmental Quality Act (CEQA); and (7) the environmental review process required under the CEQA. The proposed project is described in detail in Section 2, *Project Description*.

Permit Sonoma continues to operate virtually during the COVID-19 event to keep critical projects advancing in Sonoma County. This Program EIR addresses the current housing crisis. This planning work enables housing development to continue even during times of emergencies. Because CEQA and planning processes are expected to take more than six months, staff identified the importance of moving forward. Additionally, changes were made to this project’s public outreach plan to include an online scoping meeting and an extended comment period which allowed commenters throughout the County to provide input remotely during the scoping period.

## 1.1 Statement of Purpose

This Program EIR has been prepared in compliance with the CEQA Statutes and Guidelines (see *CEQA Guidelines* Section 15121[a]). In general, the purpose of an EIR is to:

1. Analyze the environmental effects of the adoption and implementation of the project;
2. Inform decision-makers, responsible and trustee agencies and members of the public as to the range of the environmental impacts of the project;
3. Recommend a set of measures to mitigate significant adverse impacts; and
4. Analyze a range of reasonable alternatives to the proposed project.

As the lead agency for preparing this Program EIR, the County of Sonoma will rely on the EIR analysis of environmental effects in their review and consideration of the proposed project prior to approval.

## 1.2 Type of Environmental Document

This document is a Program EIR. *CEQA Guidelines* Section 15168(a) states that:

A Program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in a chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other



general criteria, to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

As a programmatic document, this EIR presents a regionwide assessment of the impacts of the proposed project. Analysis of site-specific impacts of individual projects is not required in a Program EIR, unless components of the program are known in great detail. Many specific projects are not currently defined to the level that would allow for such an analysis. Individual specific environmental analysis of each project will be performed as necessary by the County prior to each project being considered for approval. This Program EIR serves as a first-tier CEQA environmental document supporting second-tier environmental documents, if required, for development facilitated by the project on any of the 59 Potential Sites.

Project applicants implementing subsequent projects may undertake future environmental review depending on the results of the analysis in this Program EIR and requirements of the mitigation measures. If project applicants are required to prepare subsequent environmental documents, they may incorporate by reference the appropriate information from this Program EIR regarding secondary effects, cumulative impacts, broad alternatives and other relevant factors. If the County finds that implementation of a later activity would have no new effects and that no new mitigation measures would be required, that activity would require no additional CEQA review and a consistency finding would be prepared. Where subsequent environmental review is required, such review would focus on significant effects specific to the project, or its site, that have not been considered in this Program EIR (*CEQA Guidelines* Section 15168).

*CEQA Guidelines* Section 15151 provides the following standards related to the adequacy of an EIR:

An Environmental Impact Report should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to decide which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have looked not for perfection; but for adequacy, completeness, and a good faith effort at full disclosure.

*CEQA Guidelines* Section 15146 further provides the following additional standards related to the adequacy of an EIR:

The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.

- (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
- (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption, or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

### 1.2.1 Streamlining Under Senate Bill 226

In 2011, the California legislature enacted Senate Bill (SB) 226 to establish additional streamlining benefits applicable to infill projects that are consistent with the requirements set forth in *CEQA Guidelines* Section 15183.3 (Public Resources Code [PRC] Sections 21094.5 [c], 21094.5.5).

Residential projects are eligible for this streamlining provided they meet the following requirements: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in *CEQA Guidelines* Appendix M; and, (3) are consistent with the general use designation, density, building intensity and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, with some exceptions.

For these projects, the project-level environmental review is only required to analyze effects on the environment that are specific to the project or to the project site and were not addressed as significant effects in a prior planning-level or programmatic EIR unless new information shows the effects will be more significant than described in the prior EIR (PRC Section 21094.5 [a][1]).

Moreover, the project-level environmental review is not required to consider potentially significant environmental effects of the project that may be reduced to a less-than-significant level by applying uniformly applicable development policies or standards adopted by the city, county, or the lead agency (PRC Section 21094.5 [a][2]). The project-level environmental review is also not required to discuss (1) alternative locations, project densities, and building intensities, or (2) growth-inducing impacts.

The intent of this Program EIR is to enable development facilitated by the project to use *CEQA Guidelines* Section 15183.3 to streamline future CEQA compliance. Projects that are consistent with County regulations, including zoning, would require no additional CEQA review, but applicants would be responsible for implementing applicable mitigation measures. The recommended mitigation measures, once adopted by the Board of Supervisors, will be coded to the Potential Sites in the County's permitting system as appropriate and delineated in this Program EIR.

### 1.2.2 Other Tiering Opportunities

For all other types of projects proposed to be carried out or approved by a lead agency within the region, the lead agency may use this Program EIR for the purposes of other allowed CEQA tiering (PRC Sections 21068.5, 21093-21094, *CEQA Guidelines* 15152, 15385). Tiering is the process by which general matters and environmental effects in an EIR prepared for a policy, plan, program, or ordinance are relied upon by a narrower second-tier or site-specific EIR (PRC Section 21068.5). Moreover, by tiering from this Program EIR (once certified by the County Board of Supervisors), a later tiered EIR would not be required to examine effects that (1) were mitigated or avoided in this EIR, (2) were examined at a sufficient level of detail in this Program EIR to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project (PRC Section 21094).

## 1.3 EIR Content and Format

This document includes discussions of environmental impacts related to several issue areas. The analysis of environmental impacts identifies impacts by category: significant and unavoidable, significant but mitigable, less than significant, and no impact or beneficial. It proposes mitigation

measures, where feasible, for identified significant environmental impacts to reduce project generated impacts. The responsible agency for each mitigation measure is also identified. It is the responsibility of the lead agency implementing specific projects to conduct the necessary environmental review consistent with CEQA and where applicable, incorporate mitigation measures provided herein and developed specifically for the project to minimize environmental impacts and/or reduce impacts to less than significant.

This Program EIR has been organized into seven sections. These include:

- 1.0 **Introduction.** Provides the project background, description of the type of environmental document and CEQA streamlining opportunities, and information about the EIR content, format, and public review process.
- 2.0 **Project Description.** Presents and discusses the project objectives, project location and specific project characteristics.
- 3.0 **Environmental Setting.** Provides a description of the existing physical setting of the project area and an overview of the progress in project implementation.
- 4.0 **Analysis of Environmental Issues.** Describes existing conditions found in the project area and assesses potential environmental impacts that may be generated by implementing the proposed project, including cumulative development in the region. These potential project impacts are compared to “thresholds of significance” to determine the nature and severity of the direct and indirect impacts. Mitigation measures, intended to reduce adverse, significant impacts below threshold levels, are proposed where feasible. Impacts that cannot be eliminated or mitigated to less than significant levels are also identified.
- 5.0 **Other CEQA Required Discussions.** Identifies growth inducing impacts that may result from implementation of the proposed project, as well as long-term effects of the project and significant irreversible environmental changes.
- 6.0 **Alternatives.** Describes alternatives to the proposed project and compares each alternative’s environmental impacts to the proposed project.
- 7.0 **References/Preparers.** Lists all published materials, federal, state, and local agencies, and other organizations and individuals consulted during the preparation of this Program EIR. It also lists the Program EIR preparers.

## 1.4 Existing Conditions and Baseline

As outlined by *CEQA Guidelines* Section 15125, an EIR must include a description of the physical environmental conditions in the project vicinity. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives. The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture practically possible of the project’s likely near-term and long-term impacts. Generally, the lead agency should describe physical environmental conditions as they exist at the time the Notice of Preparation (NOP) is published. For purposes of this Program EIR, the baseline was established on March 11, 2020, when the County published the NOP. Physical conditions that may have changed after this day have been included for informational purposes only.

On March 4, 2020, the Governor proclaimed a State of Emergency in California as a result of the threat of COVID-19. On March 18, 2020, the Sonoma County Public Health Officer issued a Shelter at Home Order for the County of Sonoma. The threat of COVID-19, as well as the subsequent State and County proclamations and orders, have resulted in temporary changes to the existing economic and physical conditions in California and Sonoma County regionally. Temporary changes to existing environmental conditions may have included changed vehicle traffic patterns and associated noise and pollutant emissions, reduced electricity consumption. In addition, the timing and likelihood of cumulative development and regional buildout assumptions may be affected during or after the threat of COVID-19. The magnitude and duration of the State of Emergency and associated State and County orders, or future orders related to the threat of COVID-19 cannot be ascertained. Accordingly, the effect of COVID-19 on baseline and future environmental conditions effects of COVID-19 is currently speculative. *CEQA Guidelines* Section 15064(d)(3) states that:

“An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable.”

Furthermore, *CEQA Guidelines* Section 15154 states that:

“If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact.”

It would be speculative for this Program EIR to assume what changes to baseline or cumulative baseline conditions might occur as a result of COVID-19 or the subsequent State and County proclamations and orders. Therefore, the changes to baseline due to COVID-19 are not discussed further in this Program EIR.

## 1.5 Public Review and Participation Process

The County of Sonoma distributed an NOP of the Program EIR for a 58-day agency and public review period commencing March 11, 2020, and closing May 14, 2020. In addition, the County held a virtual Scoping Meeting on May 6, 2020. The meeting, held from 6:30 p.m. to 7:30 p.m., was aimed at providing information about the proposed project to members of public agencies, interested stakeholders and residents/community members. Due to the COVID-19 pandemic, the virtual meeting was held through an online meeting platform and a call-in number. The County received letters from eight agencies, three organizations, and 29 people in response to the NOP during the public review period, as well as comments from 14 people during the scoping meeting. The NOP and scoping comment letters received are presented in Appendix NOP of this Program EIR. Table 1-1 summarizes the content of the letters and verbal comments and where the issues raised are addressed in the Program EIR.

Table 1-1 NOP Comments and EIR Response

Commenter	Comment/Request	How and Where It Is Addressed
<b>Agency Comments</b>		
Sweetwater Springs Water District	The commenter states Sweetwater Springs Water District owns GUE-1 and that the parcel is fully utilized for water infrastructure, water tanks, and a treatment plant and asks for the site to be removed from consideration. An additional comment letter requests an update.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
California Department of Fish and Wildlife (CDFW)	The commenter summarizes CEQA requirements and agency responsibility and includes a list of special-status species known to occur or that have a potential to occur in or near the project area. The commenter recommends surveys for special-status species with potential to occur and botanical surveys during the blooming period for all sensitive plant species with the potential to occur. The commenter summarizes filing fees and regulatory requirements as well.	See Section 4.4, <i>Biological Resources</i> , and Appendix BIO for details regarding special status species. As mentioned in Section 1.2, <i>Type of Environmental Document</i> , above, this EIR is a programmatic document, and thus presents a regionwide assessment of the impacts of the proposed project. Analysis of site-specific impacts of individual projects is not required in a Program EIR. Many specific projects are not currently defined to the level that would allow for such an analysis. Comment noted.
City of Petaluma Public Works & Utilities	The commenter notes the existing wastewater collection system in Bodega Avenue is at capacity and would require an upgrade to meet minimum City Standard from the site east to Bantam Avenue and assumes such system would be privately maintained. The commenter states upgrades to the water distribution system to the site would be required to meet City standards and that the 8-inch water main in Bodega Avenue has capacity for development. The commenter notes stormwater improvement would be required to meet BASMAA post construction requirements and provide full determination mitigation for increased runoff.	See Section 4.18, <i>Utilities and Service Systems</i> , and Appendix WSS for details regarding water and wastewater capacity.
California Department of Transportation (Caltrans)	The commenter notes a vehicle miles traveled (VMT) analysis may be required as part of CEQA and lists components that analysis may include, including travel demand management, transportation impact fees. The commenter states an encroachment permit would be required for any work proposed in Caltrans right-of-way.	See Section 4.16, <i>Transportation</i> , and Appendix TRA for details regarding transportation impacts.
Native American Heritage Commission	The commenter mentions requirements under CEQA for tribal consultation and summarizes requirements under AB 52 and SB 18, along with recommendations for conducting cultural resources assessments.	See Section 4.17, <i>Tribal Cultural Resources</i> , for details regarding tribal cultural resources.
Geyserville Planning Committee	The commenter included a presentation and results of a survey about community interests in development for consideration.	Thank you for the information. The information does not pertain to the scope of the EIR. It will be considered by the decision makers prior to a decision on the project.

Commenter	Comment/Request	How and Where It Is Addressed
Sonoma Local Agency Formation Commission (LAFCO)	The commenter provides information regarding LAFCO's policy on extension of public services to unincorporated parcels located within a city's Sphere of Influence.	Thank you for the information. The information does not pertain to the scope of the EIR because it is a planning decision and will be addressed by County staff at the appropriate time. It will be considered by the decision makers prior to a decision on the project.
Bay Area Air Quality Management District (BAAQMD)	The commenter brought up research showing that a large amount of particulate matter (PM) pollution comes from vehicle braking and tire wear and picking up dust already on the road, which represents a health risk. BAAQMD recommends this be considered for the purposes of health risk assessment and consideration of measures to reduce PM exposure. The comment also mentions if apartments have elevators, a permit may be required for backup generators. An additional comment letter specifies that US-101 is the freeway of concern, potentially affecting the following sites: GEY-1 through GEY-4, SAN-4, and SAN-9.	See Section 4.3, <i>Air Quality</i> , for details regarding PM impacts.
<b>Organization Comments</b>		
Penngrove Area Plan Advisory Committee	The commenter has concerns regarding the Penngrove Sanitation Zone and existing collection system capacity constraints, and the uncertainty of availability of existing capacity.	See Section 4.18, <i>Utilities and Service Systems</i> , and Appendix WSS for details regarding wastewater capacity.
Greenbelt Alliance	The commenter requests an extended comment deadline for scoping comments and to reschedule the April 2 public meeting. An additional comment letter contains a request the project be postponed, claims the NOP lacks necessary information, asks for identification of Regional Housing Needs Assessment (RHNA) numbers, further information regarding number of units for buildout and clarification of by-right development, and lists items the EIR should contain, including objectives, details of water and sewer, analysis of cumulative impacts, alternatives, and cities' land use policies, and a discussion of affordability and vacation rentals, wildfire mapping, hazards analysis, and SB 743 analysis. The commenter also raises questions regarding the current County General Plan and need for housing in the County.	The public meeting was postponed to May 6 and the scoping comment period was extended to May 14. RHNA allocations are discussed in Section 4.14, <i>Population and Housing</i> . See Section 2, <i>Project Description</i> , for potential buildout of the project and clarification of by-right development. That chapter also contains the project objectives. See Section 4.18, <i>Utilities and Service Systems</i> , and Appendix WSS for details regarding water and wastewater impacts. Each environmental resource section (4.1 through 4.19) contains an analysis of cumulative impacts for that resource. See Section 6, <i>Alternatives</i> , for an analysis of alternatives to the project. Because the Potential Sites are within unincorporated County, city land use policies do not apply. Affordability and vacation rentals are not within the scope of the environmental analysis. See Section 4.19, <i>Wildfire</i> , for details regarding wildfire impacts. See Section 4.9, <i>Hazards and Hazardous Materials</i> , for details regarding impacts from hazards. Refer to Section 4.16, <i>Transportation</i> , for the transportation and SB 743 analysis.

Sonoma County  
Rezoning Sites for Housing Project

Commenter	Comment/Request	How and Where It Is Addressed
Sonoma Valley Housing Group	The commenter notes the County has an affordable housing problem and that the 20 percent inclusionary ordinance is not enough to address it. The commenter suggests the County strengthen affordable housing goals with more units required. The commenter requests the County find a way to either mandate and/or further incentivize density bonus program provisions. The commenter offers site-specific information and comments as well.	Comment noted. The comment does not pertain to the scope of the EIR. It will be considered by the decision makers prior to a decision on the project.
<b>Public Comments</b>		
Fred Allebach	The commenter states their opinion that project should include stricter requirements of affordable housing compared to market rate requirements.	Comment noted. The comment does not pertain to the scope of the EIR. It will be considered by the decision makers prior to a decision on the project.
Merry Edwards	The commenter states their opinion that the consideration of GRA-3 for additional housing units does not seem appropriate as it is zoned RR with a 4-way corner and traffic light with two corners already zoned commercial. The commenter suggested commercial rezoning would be more appropriate as there is already heavy traffic on Frei Road getting out of the driveway and the line of sight approaching the intersection from the east is poor due to a hill.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process. See Section 4.16, <i>Transportation</i> , and Appendix TRA for details regarding transportation impacts.
Joy Spragens	The commenter states their opposition to any rezoning in Glen Ellen that would allow more housing due to concerns about local roadways and fires.	See Section 4.16, <i>Transportation</i> , and Appendix TRA for details regarding transportation impacts. See Section 4.19, <i>Wildfire</i> , for details regarding wildfire impacts.
Vicki Hill	<p>The commenter states their opposition to rezoning in Glen Ellen and details concerns about the scoping process, timing, and noticing; and objects to the proposed zoning not being defined during scoping. The commenter also includes potential effects to consider in the EIR including land use compatibility, historic resources, aesthetic impacts and community character, cumulative effects, traffic, circulation, parking, tree removal, landscaping, drainage issues, growth-inducing effects, and increasing density.</p> <p>The commenter also expresses an opinion of the applicability of the Workforce Housing Combining District. Attached to this comment are public comments from a previous development project proposed in Glen Ellen. An additional comment letter covers concerns on the same parcels, including alternatives, as well as questions about why the Program EIR is separate from the Housing Element. The commenter objects to allegedly misleading terminology, and requests information regarding the screening process and criteria for selecting sites. The commenter further suggests notices to adjacent properties should be provided</p>	<p>As stated in Section 1.5, <i>Public Review and Participation Process</i>, above, the scoping comment period was extended to 58 days, 28 days longer than the minimum scoping period required under CEQA. The public will have additional opportunities to comment on the project during the environmental and decision-making process. This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.</p> <p>See Section 4.11, <i>Land Use and Planning</i>, for details regarding land use compatibility. See Section 4.5, <i>Cultural Resources</i>, for details regarding historic resources. See Section 4.1, <i>Aesthetics</i>, for details regarding aesthetic impacts and community character. Each environmental resource section (4.1 through 4.19) contains an analysis of cumulative impacts for that resource. See Section 4.16, <i>Transportation</i>, and</p>

Commenter	Comment/Request	How and Where It Is Addressed
	now rather than when the Board is considering the project.	<p>Appendix TRA for details regarding transportation impacts. Parking is not an environmental impact addressed under CEQA. See Section 4.3, <i>Biological Resources</i>, for details regarding tree removal. Landscaping is site-specific and cannot be addressed in a programmatic way. See Section 4.10, <i>Hydrology and Water Quality</i>, for details regarding drainage. See Section 5, <i>Other CEQA Required Discussions</i>, for details regarding growth-inducing impacts. The environmental analysis contained in Sections 4.1 through 4.19 addressed the increased density that could occur on the 59 Potential Sites.</p> <p>See Section 6, <i>Alternatives</i>, for details regarding potential alternatives to the project.</p>
Alice and Sanford Horowitz	The commenter expresses concern over parcels in Glen Ellen and the EIR process moving forward through the coronavirus pandemic. The commenters request the EIR be postponed and the Glen Ellen parcels removed from the EIR due to concerns about the historical character of the town and potential precedent-setting actions.	<p>This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process. Permit Sonoma continues to operate virtually during the COVID-19 event to keep critical projects advancing in Sonoma County. This Program EIR addresses the current housing crisis. This planning work enables housing development to continue even during times of emergencies. Because CEQA and planning processes are expected to take more than six months, staff identified the importance of moving forward. Additionally, changes were made to this project's public outreach plan to include an online scoping meeting which allowed commenters throughout the County to provide input remotely during the scoping period. See Section 4.5, <i>Cultural Resources</i>, for details regarding historic resources.</p>
Susan Mulcahy	The commenter states the process should not proceed during the coronavirus pandemic due to difficulties with community engagement, and expresses concern regarding the scale of the project in Glen Ellen, especially with regard to traffic issues.	<p>Permit Sonoma continues to operate virtually during the COVID-19 event to keep critical projects advancing in Sonoma County. This EIR addresses the current housing crisis. This planning work enables housing development to continue even during times of emergencies. Because CEQA and planning processes are expected to take more than six months, staff identified the importance of moving forward. Additionally, changes were made to this project's public outreach plan to include an online scoping meeting which allowed</p>



Sonoma County  
Rezoning Sites for Housing Project

Commenter	Comment/Request	How and Where It Is Addressed
		commenters throughout the County to provide input remotely during the scoping period. See Section 4.16, <i>Transportation</i> , and Appendix TRA for details regarding transportation impacts.
Arthur Dawson	The commenter includes a letter regarding a previous project proposed for the Glen Ellen parcels. The commenter raises concerns about potential adverse impacts on contributors to the Glen Ellen Historic District and concurs with comments submitted by Vicki Hill (noted above).	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Deb Pool	The commenters raises concerns about the Glen Ellen parcels, including the scoping process, scale of development, tree removal concerns, traffic and road conditions, availability of transit, and General Plan guidelines. The commenter requests the parcels be removed from the project.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Dan Bumgartner	The commenter states support for housing on LAR-2 and LAR-6, but requests their property (LAR-1), which contains a church, be removed from the list of potential sites.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Erik Hansen	The commenter expresses their opposition to rezoning sites in Glen Ellen due to lack of infrastructure, roadways, and public services, as well as inconsistency with the semi-rural character of the area.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Margie Foster	The commenter states objections to rezoning parcels in Glen Ellen and requests the parcels be removed from the project due to lack of infrastructure, roadways, and public services, as well as traffic concerns and potential incompatibility with the area's rural character.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Suzi Molofsky	The commenter states opposition to a zoning change for parcels in Glen Ellen due to lack of infrastructure, states concerns regarding the scale of development, and requests investment to create a town center.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Joseph and Deborah Votek	The commenters state their opinion the two Glen Ellen parcels should be removed from consideration in the EIR due to public service capacity, roadway issues, and insufficient infrastructure. They voice concerns regarding tree removal, the scale of structures that may be considered, traffic circulation, lack of parking, and potential visual effects, drainage impacts, lack of transit, and potential incompatibility with the General Plan and Glen Ellen Development and Design Guidelines.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process. Parking is not an environmental impact addressed under CEQA.
Christine Cunha	The commenter expresses their desire for the parcels in Glen Ellen to not be rezoned due to concerns regarding community character.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.

Commenter	Comment/Request	How and Where It Is Addressed
Sonia Taylor	<p>The commenter requests the County provide them specific information, and questions whether more public engagement will be needed. The commenter requests the EIR evaluate public services and growth-inducing impacts, and mentions some parcels are within the Urban Growth Boundaries of some cities. The commenter requests evaluation of land use policies and plans affecting potential rezone sites, and mentions some sites are currently being used for manufacturing/industrial or retail/commercial/business services uses. For these parcels, the commenter suggests evaluation of impacts on the inventory of other sites with this designation available, the impacts of the rezoning on viability of other properties for these uses, compatibility with surrounding land use, and impacts on consistency with policy and planning documents.</p> <p>The commenter also mentions concerns regarding RHNA numbers, General Plan buildout projection, housing currently under construction, population growth, cumulative impacts, land use impacts, public services impact, cooperation between cities and the County, recreation impacts, hazards and hazardous materials impacts, transit impacts, soil impacts, possible future annexation of some parcels, impacts from Priority Development Areas and Specific Plans, displacement of existing uses or residents, and wildfire impacts.</p>	<p>The public will have additional opportunities to comment on the project during the environmental and decision-making process. See Section 4.15, <i>Public Services and Recreation</i>, for details regarding public services. See Section 5, <i>Other CEQA Required Discussions</i>, for details regarding growth-inducing impacts. That is correct: the Potential Sites near incorporated cities are within their Urban Growth Boundaries since this was one of the criteria required for site selection (see Section 2, <i>Project Description</i>, for more details). See Section 4.11, <i>Land Use and Planning</i>, for details regarding consistency with land use plans and policies including compatibility with adjacent uses.</p> <p>RHNA allocations and General Plan buildout projections are discussed in Section 4.14, <i>Population and Housing</i>. See Section 4.14, <i>Population and Housing</i>, for details regarding population growth and potential displacement of existing residents. Each environmental resource section (4.1 through 4.19) contains an analysis of cumulative impacts for that resource. See Section 4.11, <i>Land Use and Planning</i>, for details regarding land use impacts. See Section 4.15, <i>Public Services and Recreation</i>, for details regarding public services and recreation. Cooperation between cities and the County is not within the scope of the environmental analysis. See Section 4.9, <i>Hazards and Hazardous Materials</i>, for details regarding hazards and hazardous materials impacts. See Section 4.16, <i>Transportation</i>, and Appendix TRA for details regarding transportation impacts. See Section 4.19, <i>Wildfire</i>, for details regarding wildfire impacts.</p>
Wendy Krupnik	<p>The commenter raises concerns regarding RHNA and the Housing Element Update process, affordability, alternatives, housing currently under construction, land use impacts. The commenter is concerned with sites in south Santa Rosa, Graton, Forestville, and Larkfield and voices concerns regarding availability of food markets, pharmacies, banks, libraries, transit, and bike/pedestrian infrastructure. The commenter mentions concerns regarding potential loss of sites that have been or are being used for food production. The commenter mentions concerns about trees providing habitat, shade, and carbon</p>	<p>The project is not a RHNA update, therefore this is not within the scope of this environmental analysis. Housing affordability is not within the scope of the environmental analysis. See Section 6, <i>Alternatives</i>, for a comparison of alternatives to the project. Housing currently under construction is considered part of the “existing setting” and is incorporated into the analysis for each environmental resource (Sections 4.1 through 4.19). See Section 4.11, <i>Land Use and Planning</i>, for details regarding land use impacts. This Program EIR</p>

Commenter	Comment/Request	How and Where It Is Addressed
	capture on sites near Graton, Forestville, and Larkfield.	provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process. See Section 4.2, <i>Agriculture and Forestry Resources</i> , for details regarding food production impacts. See Section 4.4, <i>Biological Resources</i> , regarding impacts to trees and sensitive habitat.
Tom Conlon (also submitted these comments through the Sonoma County Interactive Mapping Web Portal)	The commenter requests that the EIR assess alternative uses for AGU-1 and AGU-2, and provides site-specific information regarding land use, hydrology, and hazards. The commenter states AGU-3, SON-2, and SON-3 appear to be excellent for higher-density housing provided that bike/pedestrian access to nearby schools, shopping, and parks can be improved. The commenter states that SON-1 appears to be excellent for higher density housing if daytime transit service headways are reduced to less than 20 minutes and bike/pedestrian access to nearby schools, shopping, and parks can be improved.	As mentioned in Section 1.2, <i>Type of Environmental Document</i> , above, this EIR is a programmatic document, and thus presents a regionwide assessment of the impacts of the proposed project. Analysis of site-specific impacts of individual projects is not required in a Program EIR. Many specific projects are not currently defined to the level that would allow for such an analysis. Comment noted. The comment does not pertain to the scope of the EIR. It will be considered by the decision makers prior to a decision on the project.
Steve Birdlebough	The commenter expresses concerns regarding GHG emissions for medium density development located a mile or more from a train station and questions the use of proximity to bus stops as a basis for property selection. The commenter provides further comments on transit, ride-share concerns, car ownership, parking policies, VMT impacts, walking/biking distances, housing construction, utilities and public services, UGBs, and commerce. The commenter requests the street addresses for parcels being considered be released.	See Section 4.8, <i>Greenhouse Gas Emissions</i> , for details regarding greenhouse gas emissions from the project. Section 2, <i>Project Description</i> , summarizes the County's process for determining which sites to study in this EIR. Parking is not an environmental impact addressed under CEQA. Not all parcels have street addresses at this time. For details on specific parcels, please use the interactive website located here: <a href="https://bit.ly/3rT937B">https://bit.ly/3rT937B</a>
Holly Bennett	The commenter raises concerns regarding Glen Ellen parcels, including public transportation, commercial infrastructure, and traffic safety.	See Section 4.16, <i>Transportation</i> , and Appendix TRA for details regarding transportation impacts. Existing commercial infrastructure does not pertain to the scope of the EIR.
Gaylord Schaap	The commenter states they own the parcels and would like to know how the project affects their property rights.	Comment noted. The comment does not pertain to the scope of the EIR.
Jan Frost	The comment poses many property-specific questions regarding the effect of a change in zoning and potential connection to city sewer, and how those may relate to desired development on the property.	As mentioned in Section 1.2, <i>Type of Environmental Document</i> , above, this EIR is a programmatic document, and thus presents a regionwide assessment of the impacts of the proposed project. Analysis of site-specific impacts of individual projects is not required in a Program EIR. Many specific projects are not currently defined to the level that would allow for such an analysis.

Commenter	Comment/Request	How and Where It Is Addressed
Lori Barber	The commenter notes that transit-oriented development is considered to be within 0.25 mile of major transportation, and that currently there is not enough housing surrounding train stations, and that the local bus system needs improvement. The commenter suggests including for consideration the area around the train station on Airport Boulevard. Regarding infrastructure, the commenter believes it must exist on the west side of the freeway.	Comment noted.
<b>Comments Submitted through the Sonoma County Interactive Mapping Web Portal</b>		
Gaylord Schaap	The commenter requests information regarding their property.	Comment noted. The comment does not pertain to the scope of the EIR.
Maud Hallin	The commenter states their belief that low income housing is imperative.	Comment noted. The comment does not pertain to the scope of the EIR. It will be considered by the decision makers prior to a decision on the project.
Mike Witkowski	The commenter states an opinion that the project does not fit in with the small town feel of Glen Ellen.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Vicki A Hill	The commenter states concerns regarding land use, visual, policy consistency, transportation, biological resources, cumulative impacts, and growth inducement.	See Section 4.11, <i>Land Use and Planning</i> , for details regarding land use impacts and policy consistency. See Section 4.1, <i>Aesthetics</i> , for details regarding visual impacts. See Section 4.16, <i>Transportation</i> , and Appendix TRA for details regarding transportation impacts. See Section 4.4, <i>Biological Resources</i> , and Appendix BIO for details regarding biological resources. Each environmental resource section (4.1 through 4.19) contains an analysis of cumulative impacts for that resource. See Section 5, <i>Other CEQA Required Discussions</i> , for details regarding growth-inducing impacts.
Jeff Hansen	The commenter states opposition to the proposed rezoning.	Comment noted. The comment does not pertain to the scope of the EIR. It will be considered by the decision makers prior to a decision on the project.
Jacque Braziel	The commenter states that Forestville Skatespot and Supervisor Hopkins are currently in discussions with about utilizing this site for affordable housing with a public skatepark, and that state funding will be sought later in 2020.	This EIR provides environmental analyses for all 59 Potential Sites. The Board of Supervisors may decide to remove certain sites during the approval process.
Dan Bumgartner	The commenter asks how their property was added for rezoning consideration.	Section 2, <i>Project Description</i> , summarizes the County's process for determining which sites to study in this EIR.

Commenter	Comment/Request	How and Where It Is Addressed
<b>Public Meeting Comments</b>		
Public meeting comments included requests for street addresses, concerns about public transportation and parks, procedural questions regarding CEQA processes, how to opt out of the process, inquiries regarding baseline, alternatives, the scope of the EIR, and questions about the Housing Element and/or General Plan processes. Commenters inquired about assessments of pedestrian and cyclist routes from residences and bus stops, creek locations, access to grocery stores, outcomes of the process, whether the process would accelerate the process for housing proposals. Commenters also asked for clarification on buildout assumptions and zoning, whether parking and traffic would be included in the analysis, whether affordable housing or density bonuses would be included in the project. Commenters also asked about sites within a city's sphere of influence, defining alternatives, and projecting housing need.		

## 1.6 Scope and Content

An NOP was prepared and circulated (Appendix NOP), and responses received on the NOP were considered when setting the scope and content of the environmental information in this Program EIR. Sections 4.1 through 4.19 address the resource areas outlined in the bullet points below. Section 5, *Other CEQA Required Discussions*, covers topics including growth-inducing effects, irreversible environmental effects, and significant and unavoidable impacts. Environmental topic areas that are addressed in this Program EIR include:

1. Aesthetics
2. Agriculture and Forestry Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources
6. Energy
7. Geology and Soils
8. Greenhouse Gas Emissions
9. Hazards and Hazardous Materials
10. Hydrology and Water Quality
11. Land Use and Planning
12. Mineral Resources
13. Noise
14. Population and Housing
15. Public Services and Recreation
16. Transportation
17. Tribal Cultural Resources
18. Utilities and Service Systems
19. Wildfire

In preparing the Program EIR, use was made of pertinent County policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References and Preparers*.

The alternatives section of the Program EIR (Section 6) was prepared in accordance with *CEQA Guidelines* Section 15126.6 and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the “environmentally superior” alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required “No Project” alternative and two alternative development scenarios for the project area.

## 1.7 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The County of Sonoma is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. There are no responsible agencies for the proposed project.

A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no trustee agencies for the proposed project.

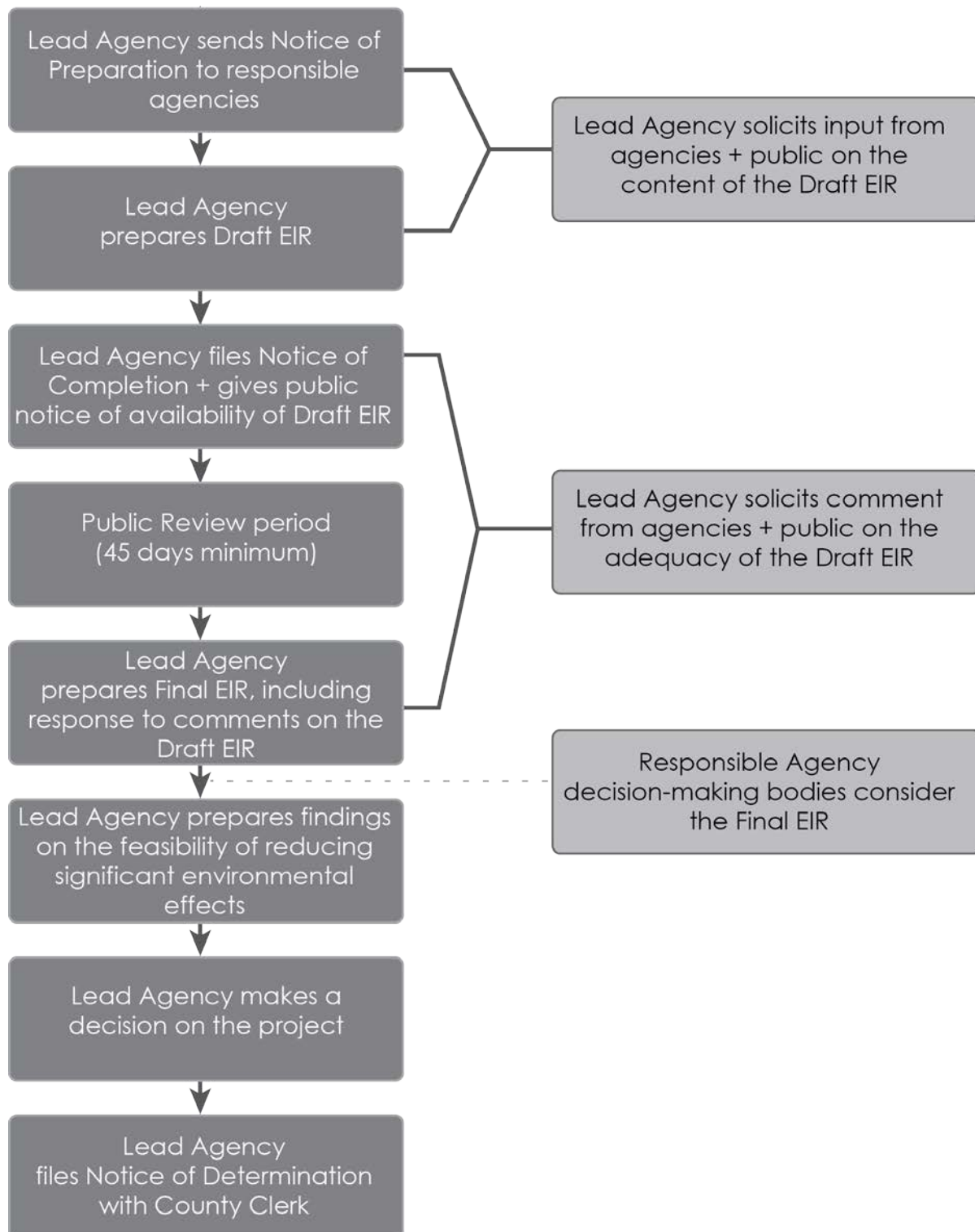
## 1.8 Environmental Review Process

The CEQA environmental impact review process is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency (County of Sonoma) must file a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; PRC Section 21092.2). The NOP must be posted in the County Clerk’s office for 30 days.
2. **Draft Program EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk’s office for 30 days (PRC Section 21091) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (PRC Section 21104 and *CEQA Guidelines* Section 15088). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (PRC Section 21091).
4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final Program EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the

Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).

6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (PRC Section 21167[c]).

**Figure 1-1 Environmental Review Process**



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## 2 Project Description

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This section describes the proposed project, including the project sponsor, the project sites and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

### 2.1 Project Sponsor

Sonoma County Permit and Resource Management Department (Permit Sonoma)  
2550 Ventura Avenue  
Santa Rosa, California 95403  
(707) 565-1236

### 2.2 Lead Agency Contact Person

Nina Bellucci, Project Manager  
Permit Sonoma  
County of Sonoma  
2550 Ventura Avenue  
Santa Rosa, California 95403  
(707) 565-1236

### 2.3 Project Location

The proposed project would potentially rezone up to 59 Potential Sites in the urban areas of unincorporated Sonoma County (Figure 2-1). The Potential Sites to be studied for rezoning are shown in detail in Figure 2-2 through Figure 2-12 and correspond to the list provided in Table 2-1. Not all parcels have street addresses at this time. For details on specific parcels, please use the interactive website located here: <https://bit.ly/3rT937B>. Sites in Geyserville, Larkfield, Santa Rosa, Penngrove, and Petaluma are regionally accessible from Highway 101; sites in Guerneville, Forestville, and Graton are regionally accessible from State Route 116; and sites in Glen Ellen, Agua Caliente, and Sonoma are regionally accessible from State Route 12. All Potential Sites are within General Plan-designated Urban Service Areas,<sup>1</sup> and near incorporated areas, within voter-approved Urban Growth Boundaries.<sup>2</sup>

**Table 2-1 Potential Site Information**

Potential Site	Site Address	Assessor's Parcel Number	Nearest Community	Corresponding Figure No.
GEY-1	21837 Geyserville Ave	140-180-035	Geyserville	2-2
GEY-2	21403 Geyserville Ave	140-150-008	Geyserville	2-2
GEY-3	21413 Geyserville Ave	140-150-004	Geyserville	2-2

<sup>1</sup> Urban Service Areas are the geographical areas within an Urban Service Boundary that is designated for urban development in the County's Land Use Element.

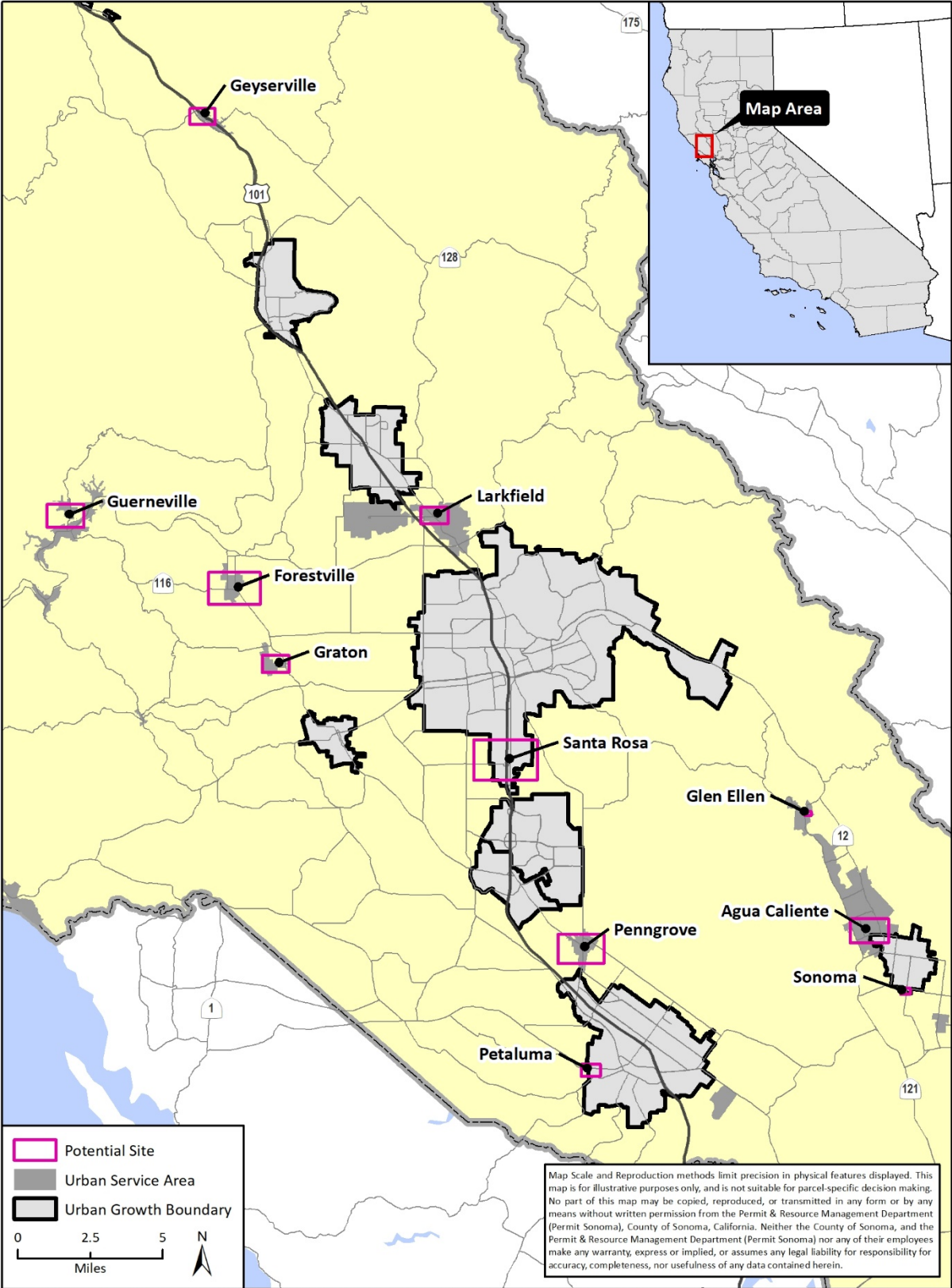
<sup>2</sup> Urban Growth Boundaries are voter designated limits to the urban development of a city.

County of Sonoma  
Rezoning Sites for Housing Project

Potential Site	Site Address	Assessor's Parcel Number	Nearest Community	Corresponding Figure No.
GEY-4	21421 Geyserville Ave	140-150-001	Geyserville	2-2
GUE-1	14156 Sunset Ave	070-070-040	Guerneville	2-3
GUE-2	16450 Laughlin Rd	069-270-002	Guerneville	2-3
GUE-3	16500 Cutten Ct	069-280-043	Guerneville	2-3
GUE-4	16050 Laughlin Road	069-230-007	Guerneville	2-3
LAR-1	5146 Old Redwood Highway	039-320-051	Larkfield	2-4
LAR-2	201 Wikiup Drive	039-040-040	Larkfield	2-4
LAR-3	1 Airport Boulevard	039-025-060	Larkfield	2-4
LAR-4	245 Airport Blvd	039-025-026	Larkfield	2-4
LAR-5	175 Airport Blvd	039-025-028	Larkfield	2-4
LAR-6	145 Wikiup Drive	039-040-035	Larkfield	2-4
LAR-7	5495 Old Redwood Highway	039-380-018	Larkfield	2-4
LAR-8	5224 Old Redwood Hwy	039-390-022	Larkfield	2-4
FOR-1	6555 Covey Rd	083-073-017	Forestville	2-5
FOR-2	6898 Nolan Road	083-120-062	Forestville	2-5
FOR-3	6220 Hwy 116 N	084-020-004	Forestville	2-5
FOR-4	6090 Van Keppel Road	083-073-010	Forestville	2-5
FOR-5	6475 Packing House Road	084-020-003	Forestville	2-5
FOR-6	6250 Forestville St	084-020-011	Forestville	2-5
GRA-1	9001 Donald St	130-165-001	Graton	2-6
GRA-2	3400 Ross Road	130-090-009	Graton	2-6
GRA-3	3155 Frei Rd	130-180-079	Graton	2-6
GRA-4	3280 Hicks Road	130-146-003	Graton	2-6
GRA-5	8525 Graton Road	130-176-013	Graton	2-6
SAN-1	3525 Brooks Avenue	134-132-057	South Santa Rosa	2-7
SAN-2	298 W Robles Avenue	134-111-068	South Santa Rosa	2-7
SAN-3	3569 Brooks Avenue	134-132-056	South Santa Rosa	2-7
SAN-4	3345 Santa Rosa Avenue	043-153-021	South Santa Rosa	2-7
SAN-5	3509 Brooks Avenue	134-132-034	South Santa Rosa	2-7
SAN-6	3824 Dutton Avenue	134-072-040	South Santa Rosa	2-7
SAN-7	3280 Dutton Avenue	134-072-038	South Santa Rosa	2-7
SAN-8	3427 Moorland Avenue	134-111-020	South Santa Rosa	2-7
SAN-9	150 Todd Road	134-171-059	South Santa Rosa	2-7
SAN-10	4020 Santa Rosa Avenue	134-192-016	South Santa Rosa	2-7
GLE-1	950 & 987 Carquinez Avenue 136651 & 13675 Arnold Drive	054-290-057	Glen Ellen	2-8
GLE-2	No Address	054-290-084	Glen Ellen	2-8
AGU-1	188 Academy Ln	056-531-005	Agua Caliente	2-9
AGU-2	211 Old Maple Ave	056-531-006	Agua Caliente	2-9
AGU-3	18621 Railroad Avenue	052-272-011	Agua Caliente	2-9

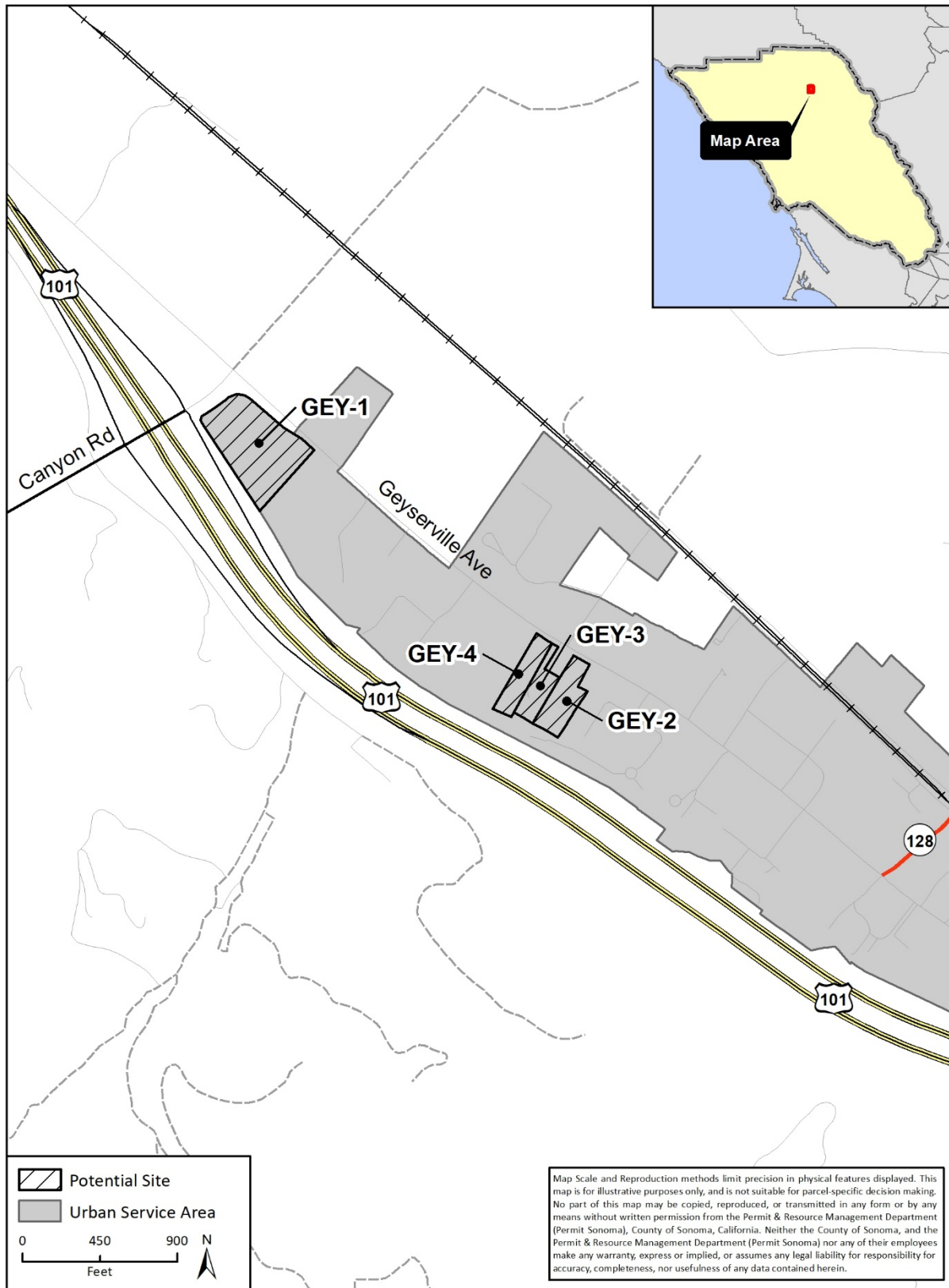
Potential Site	Site Address	Assessor's Parcel Number	Nearest Community	Corresponding Figure No.
PEN-1	10078 Main Street	047-174-009	Penngrove	2-10
PEN-2	No Address	047-152-020	Penngrove	2-10
PEN-3	10070 Main Street	047-174-008	Penngrove	2-10
PEN-4	No Address	047-152-019	Penngrove	2-10
PEN-5	361 Woodward Ave	047-173-011	Penngrove	2-10
PEN-6	355 Adobe Road	047-091-013	Penngrove	2-10
PEN-7	220 Hatchery Road	047-153-004	Penngrove	2-10
PEN-8	206 & 11790 Main Street	047-166-023	Penngrove	2-10
PEN-9	11830 Main Street	047-166-025	Penngrove	2-10
PET-1	1085 Bodega Avenue	019-090-003	Petaluma	2-11
PET-2	1105 Bodega Avenue	019-090-053	Petaluma	2-11
PET-3	1155 Bodega Avenue	019-090-004	Petaluma	2-11
PET-4	1002 Bodega Avenue	019-090-058	Petaluma	2-11
SON-1	20549 Broadway	128-311-015	Sonoma	2-12
SON-2	20561 & 20531 Broadway	128-311-016	Sonoma	2-12
SON-3	20535 & 20539 Broadway	128-311-014	Sonoma	2-12
SON-4	20563 Broadway	128-311-017	Sonoma	2-12

Figure 2-1 Countywide Potential Sites



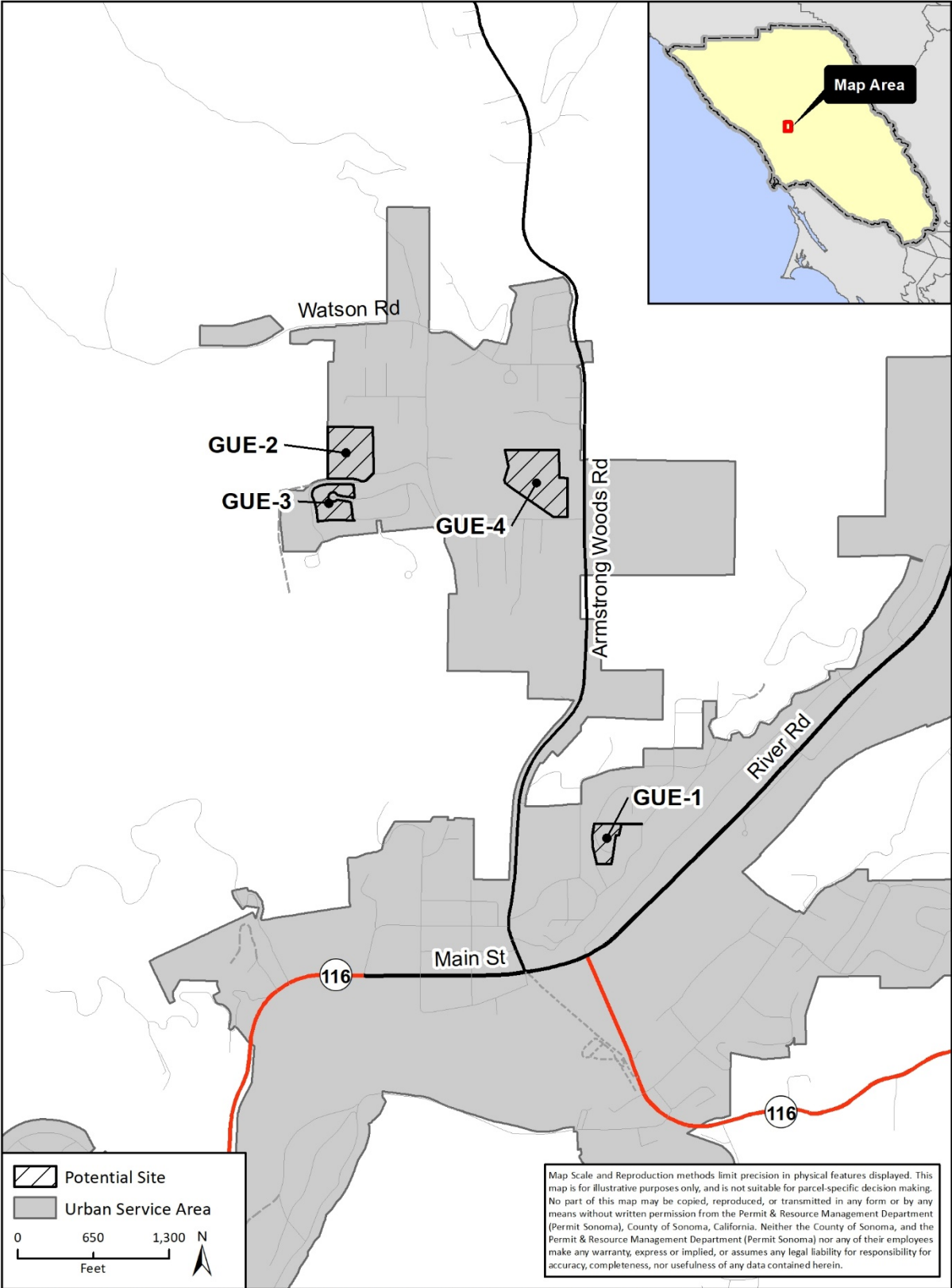
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Figure 2-2 Geyserville Potential Sites



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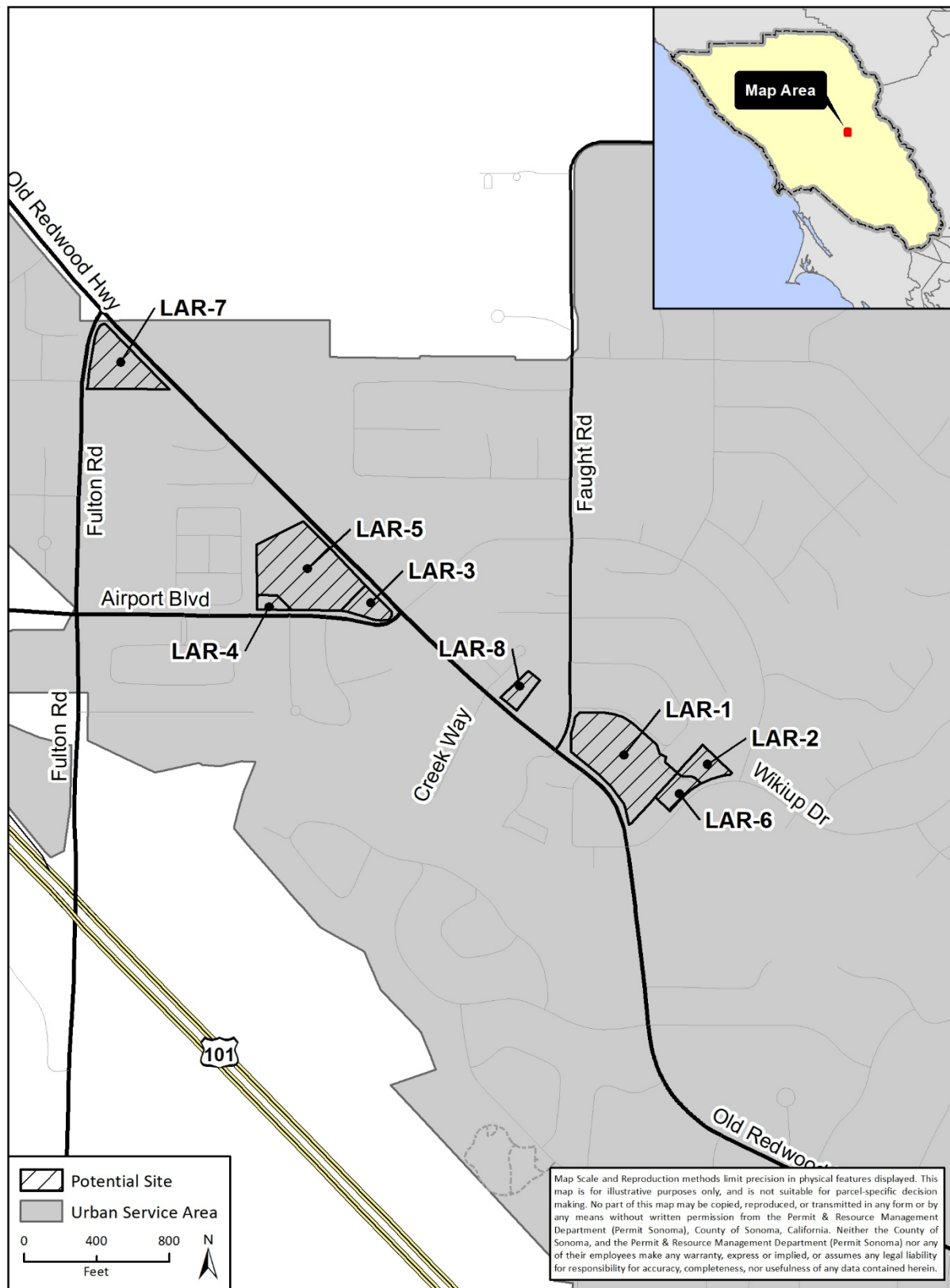
Figure 2-3 Guerneville Potential Sites



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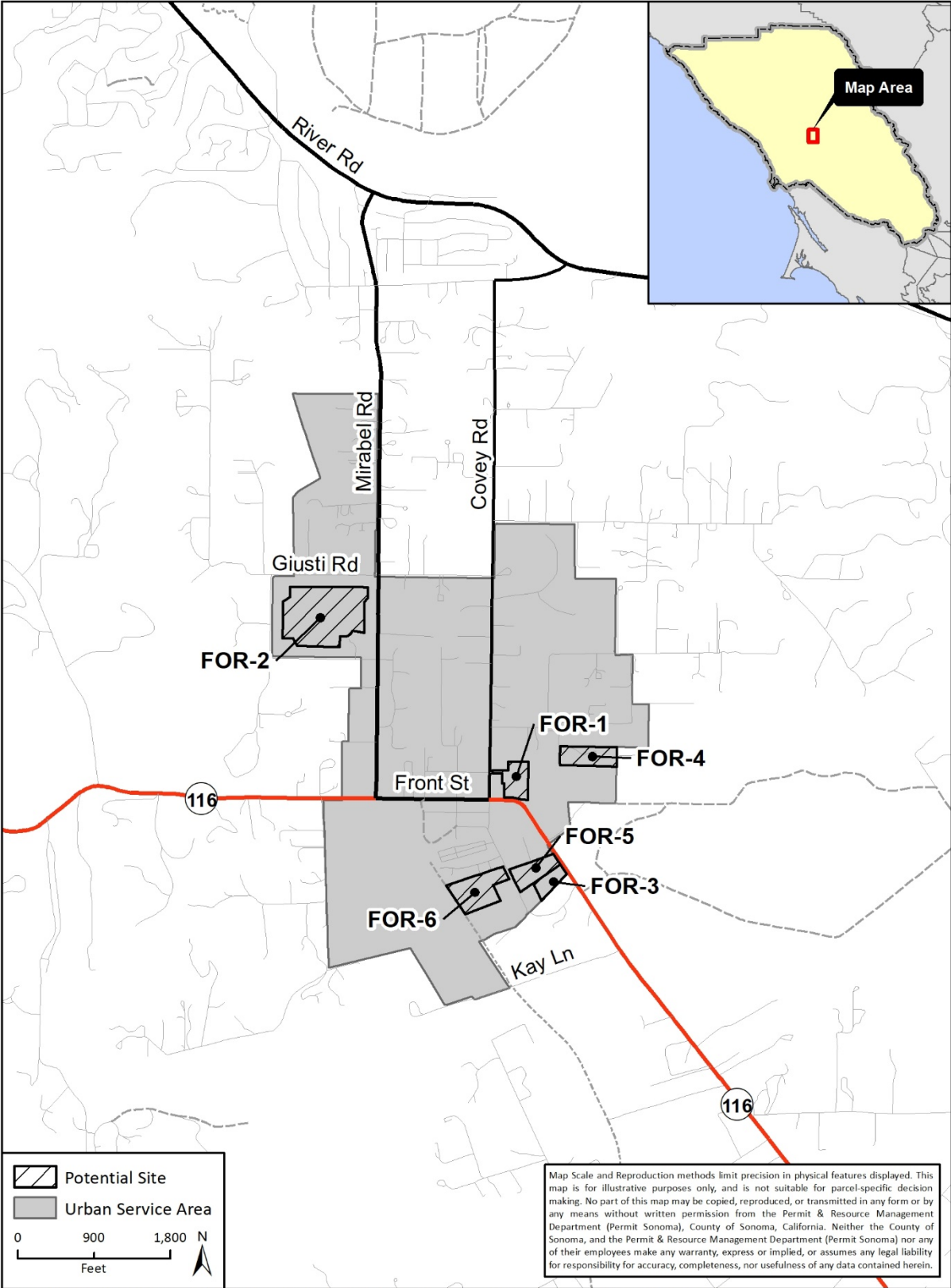
Figure 2-4 Larkfield Potential Sites



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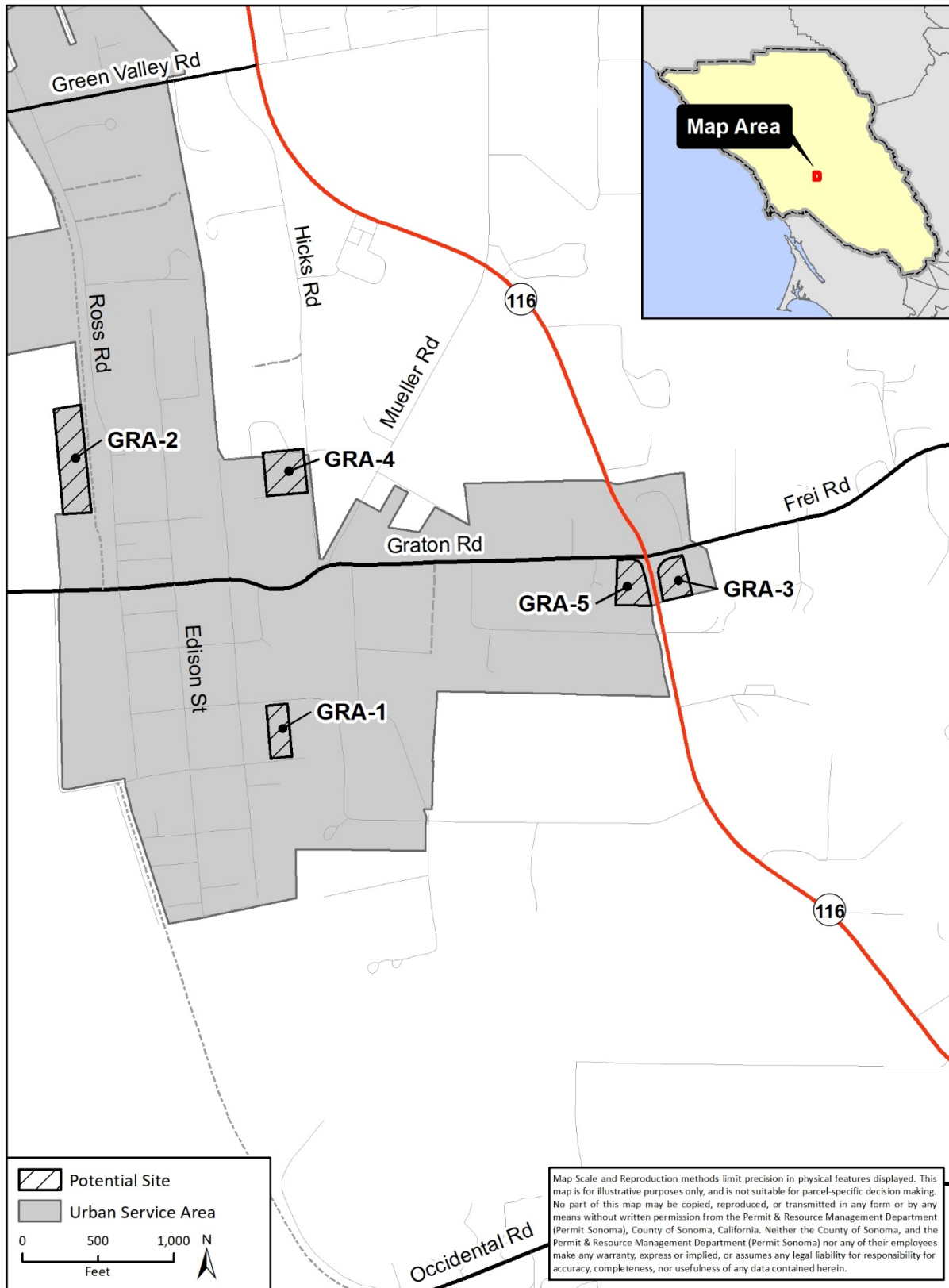


Figure 2-5 Forestville Potential Sites



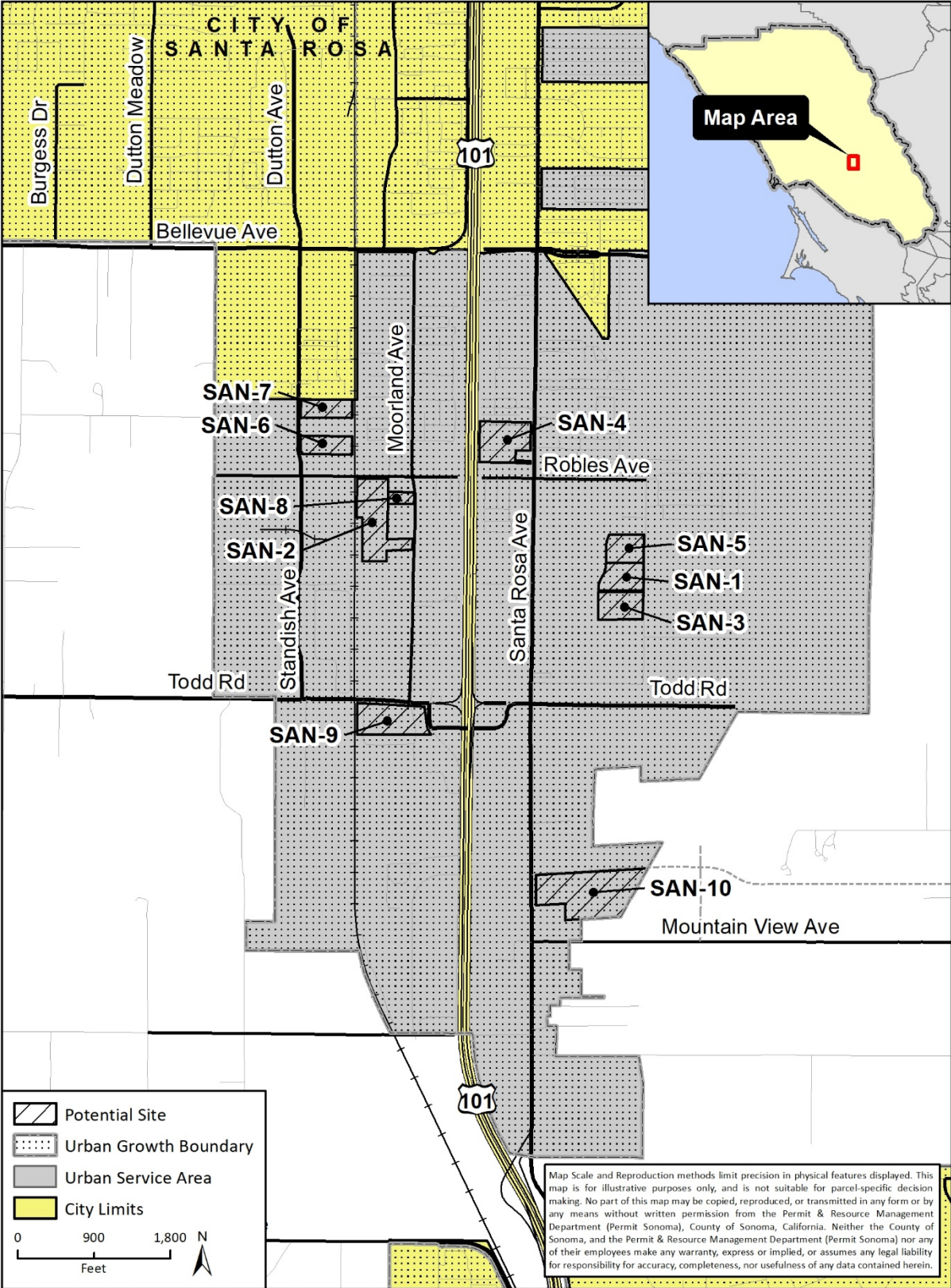
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Figure 2-6 Graton Potential Sites



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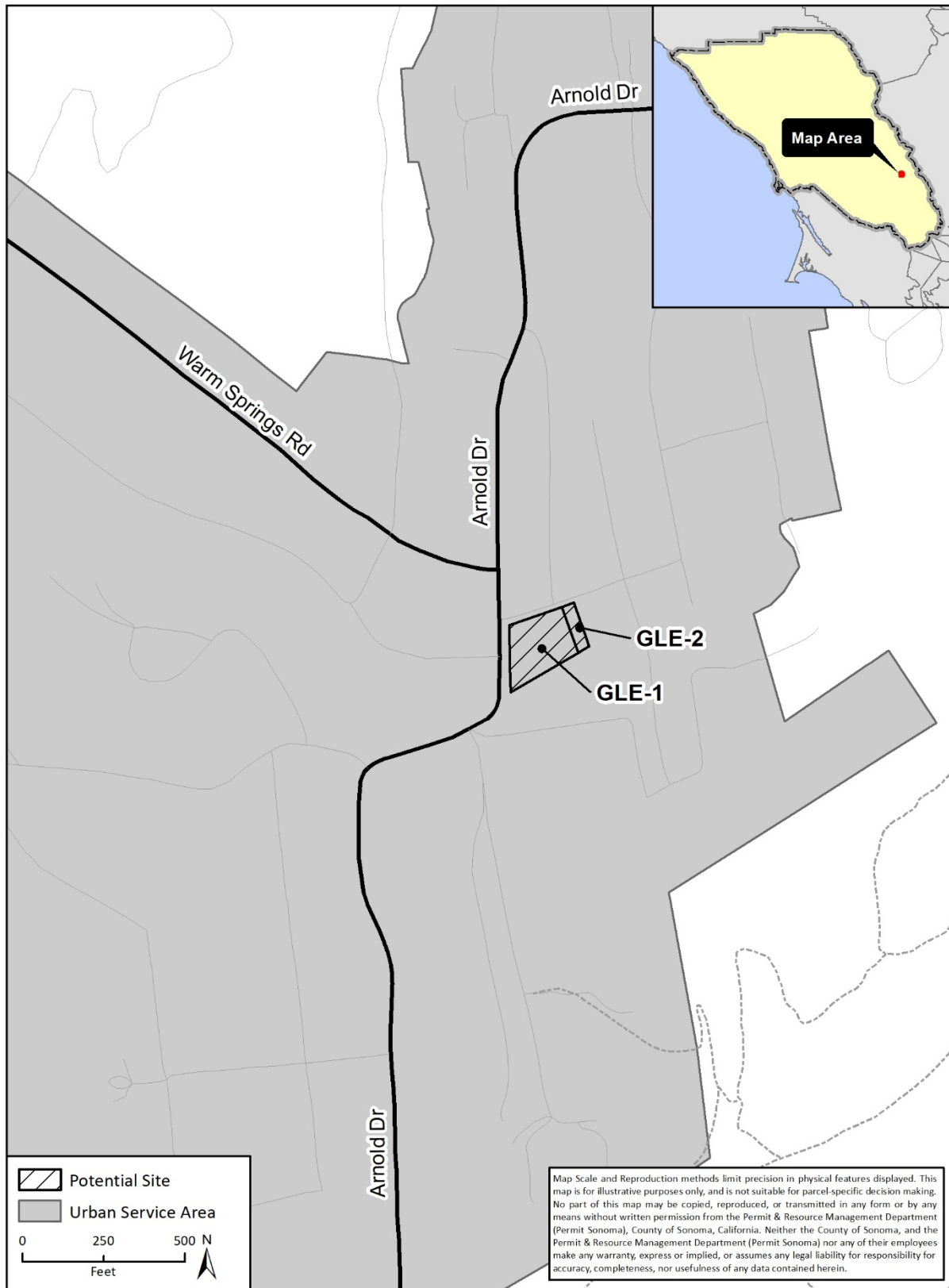
Figure 2-7 Santa Rosa Potential Sites



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Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

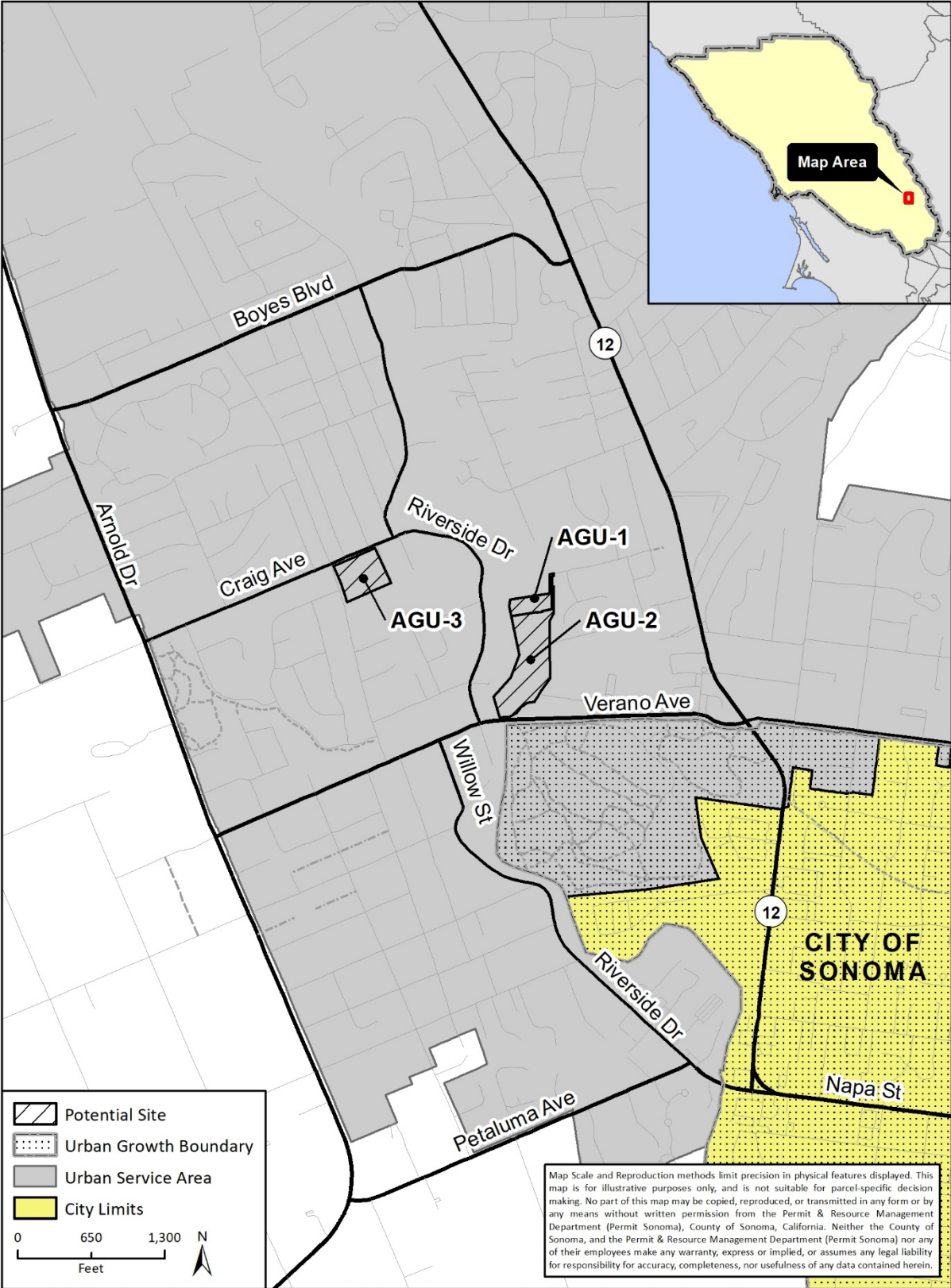


Figure 2-8 Glen Ellen Potential Sites



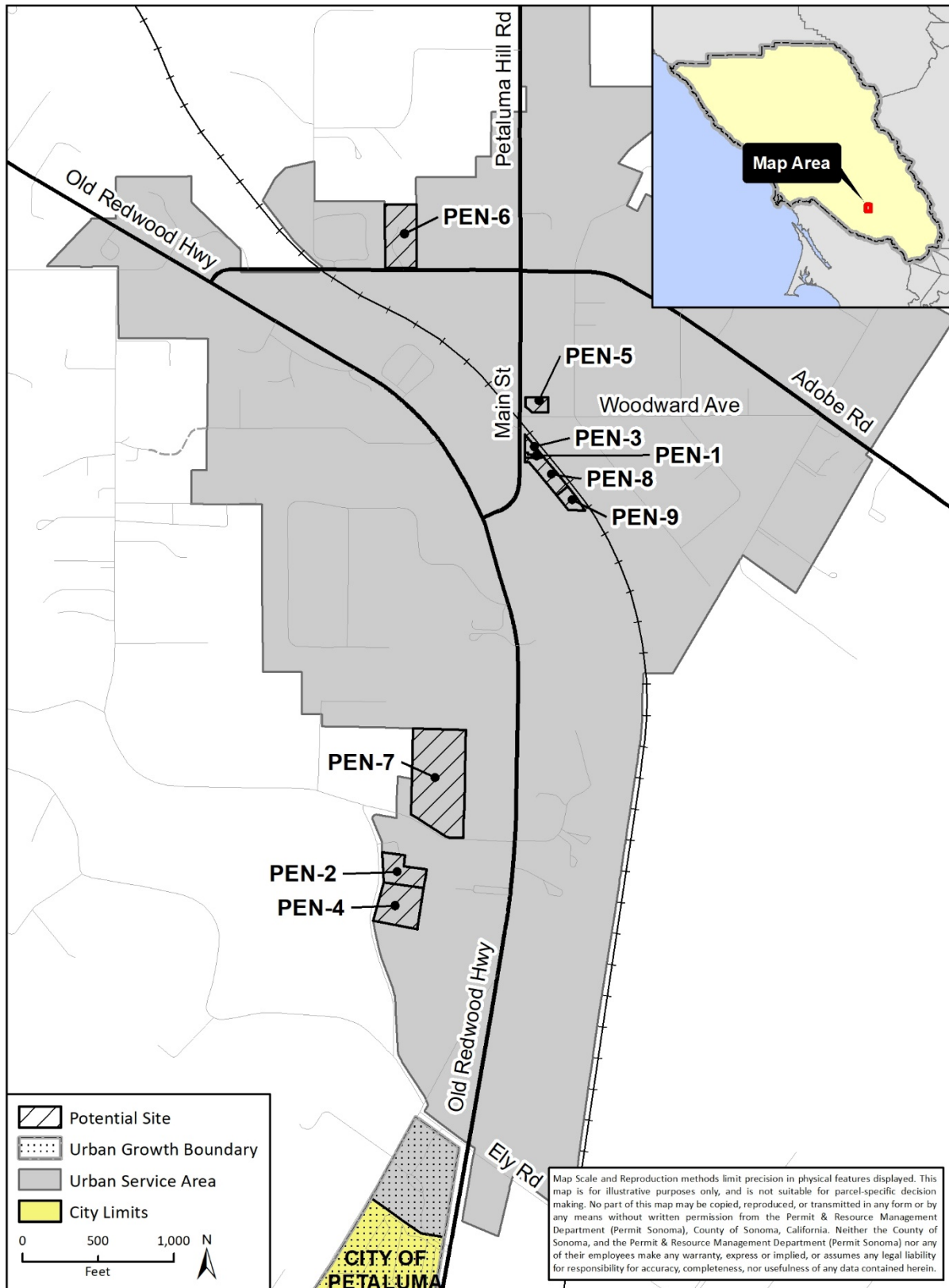
Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
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Figure 2-9 Agua Caliente Potential Sites



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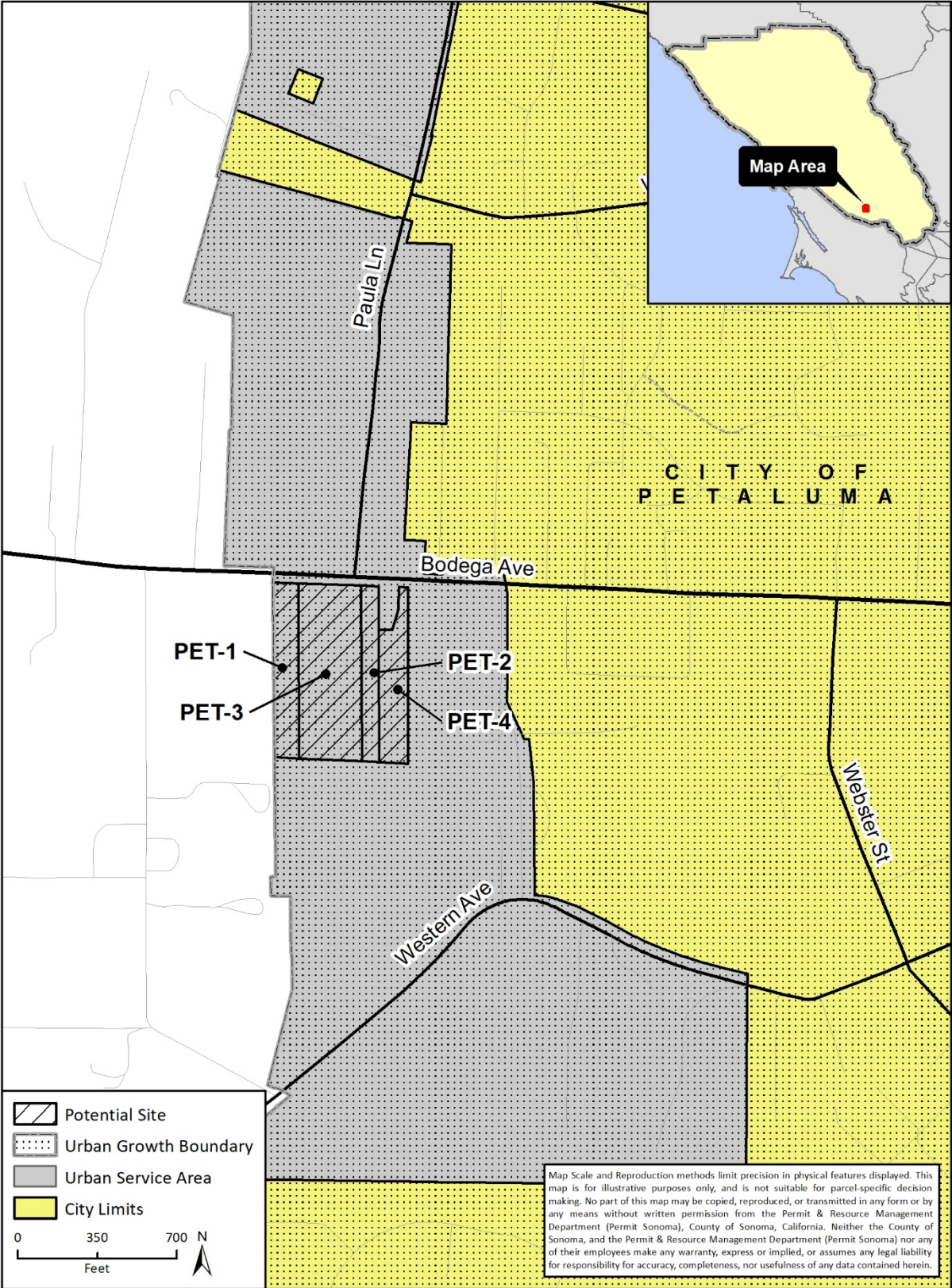
Figure 2-10 Penngrove Potential Sites



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
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Figure 2-11 Petaluma Potential Sites



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Figure 2-12 Sonoma Potential Sites



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## 2.4 Existing Site Characteristics

### 2.4.1 Current Land Use Designation and Zoning

Table 2-2 shows the existing zoning and land use designations for the 59 Potential Sites. As shown therein, these designations include agricultural, residential, commercial, and industrial uses. The sites include both undeveloped and developed parcels.

**Table 2-2 Current Zoning and Land Use Designations**

Site	Existing Zoning Designations (defined below)	Existing General Plan Land Use Designations
GEY-1	LC, AH RC50 SR	Limited Commercial
GEY-2*	R1 B6 4.8 DU	Urban Residential, 4.8 units/acre density
GEY-3*	R1 B6 4.8 DU	Urban Residential, 4.8 units/acre density
GEY-4*	R1 B6 4.8 DU, SR	Urban Residential, 4.8 units/acre density
GUE-1	R1 B6 4 DU, LG/116	Urban Residential, 4 units/acre density
GUE-2	RR B6 2 DU, LG/116 VOH	Urban Residential, 2 units/acre density
GUE-3*	R1 B6 4 DU, F2 LG/116 VOH	Urban Residential, 4 units/acre density
GUE-4	RR B6 2 DU, F1 F2 LG/116 RC50/25 SR VOH	Urban Residential, 2 units/acre density
LAR-1*	LC, PC, VOH	Limited Commercial, Urban Residential; 11 units/acre density
LAR-2	CO, VOH	Limited Commercial
LAR-3	CO, AH VOH	Limited Commercial
LAR-4	R2 B6 9 DU, AH VOH	Urban Residential, 9 units/acre density
LAR-5	R2 B6 9 DU, AH VOH	Urban Residential, 9 units/acre density
LAR-6	CO, VOH	Limited Commercial
LAR-7*	R1 B6 5 DU, VOH	Urban Residential, 5 units/acre density
LAR-8	CO, VOH	Limited Commercial
FOR-1	MP, AH LG/116 SR	Limited Industrial
FOR-2	RR B6 2, LG/116	Urban Residential, 2 units/acre density
FOR-3	R1 B6 2 DU, LG/116 SR	Urban Residential, 2 units/acre density
FOR-4	RR B6 2, LG/116	Urban Residential, 2 units/acre density
FOR-5	R1 B6 2 DU, LG/116 SR	Urban Residential, 2 units/acre density
FOR-6	M1, LG/116	Limited Industrial
GRA-1	R1 B6 5 DU	Urban Residential, 5 units/acre density
GRA-2	M1, F2	General Industrial
GRA-3	RR B6 2, LG/116 SR	Rural Residential, 2 acres/ unit density
GRA-4	RR B6 2 DU	Urban Residential, 2 units/acre density
GRA-5*	RR B6 2 DU, LG/116 SR	Urban Residential, 2 units/acre density
SAN-1	RR B8, RC100/25 VOH	Limited Industrial
SAN-2	M2, RC100/25 VOH	General Industrial
SAN-3	RR B8, RC100/25 VOH	Limited Industrial
SAN-4	PC, SR VOH	General Commercial

Site	Existing Zoning Designations (defined below)	Existing General Plan Land Use Designations
SAN-5	RR B8, RC100/25 VOH	Limited Industrial
SAN-6	M1, RC100/25 VOH	General Industrial
SAN-7	M1, RC100/25 VOH	General Industrial
SAN-8	RR B8, VOH	Urban Residential, 5 units/acre density
SAN-9	M3, RC100/25 VOH	Limited Industrial
SAN-10	M1, RR B6 3, RC100/25 VOH	Limited Industrial; Rural Residential, 3 acres/ unit density
GLE-1	LC, LG/GE1 SR	Limited Commercial
GLE-2	LC, LG/GE1 SR	Limited Commercial
AGU-1	R1 B6 1 DU, F2 RC50/25 VOH X	Urban Residential, 1 unit/acre density
AGU-2	R1 B6 1 DU, F2 RC50/25 VOH X	Urban Residential, 1 unit/acre density
AGU-3	R1 B6 5 DU, RC50/25 X	Urban Residential, 5 units/acre density
PEN-1	C2, HD LG/PNG SR VOH	General Commercial
PEN-2	RR B6 1	Urban Residential, 2 units/acre density
PEN-3	C2, HD LG/PNG SR VOH	General Commercial
PEN-4	RR B6 1	Urban Residential, 2 units/acre density
PEN-5*	LC, HD LG/PNG SR	Limited Commercial
PEN-6	RR B6 1, NONE	Urban Residential, 1 unit/acre density
PEN-7	AH, RR B6 2 DU	Urban Residential, 2 units/acre density
PEN-8	C3, F2 LG/PNG RC50 SR VOH	General Commercial
PEN-9	C3	General Commercial
PET-1	AR B6 1.5, SR	Rural Residential, 1.5 acres/unit density
PET-2	AR B6 1.5, SR	Rural Residential, 1.5 acres/unit density
PET-3	AR B6 1.5, C1 B8, SR	Limited Commercial; Rural Residential, 1.5 acres/unit density
PET-4	AR B6 1.5, SR	Rural Residential, 1.5 acres/unit density
SON-1	RR B6 3, SR VOH	Rural Residential, 3 acres/unit density
SON-2	RR B6 3, SR VOH	Rural Residential, 3 acres/unit density
SON-3	RR B6 3, SR VOH	Rural Residential, 3 acres/unit density
SON-4	RR B6 3, SR VOH	Rural Residential, 3 acres/unit density

\* Site is in current Housing Element inventory

#### Zoning Code Districts

AR = Agricultural and Residential, CO = Administrative and Professional Office, C1 = Neighborhood Commercial, C2 = Retail Business and Service C3 = General Commercial, LC = Limited Commercial, MP = Industrial Park, M1 = Limited Urban Industrial, M2 = Heavy Industrial, M3 = Limited Rural Industrial, PC = Planned Community, RR = Rural Residential, R1 = Low Density Residential, R2 = Medium Density Residential

#### Zoning Combining Districts

AH = Affordable Housing, F1 = Floodway, F2 = Floodplain, HD = Historic, LG = Local Guidelines, SR = Scenic Resources, RC = Riparian Corridor, VOH = Valley Oak Habitat

## 2.4.2 Surrounding Land Uses

Each Potential Site is surrounded by a different combination of land uses, but they generally include residential development, agricultural land, public utilities infrastructure, commercial development,

open space/undeveloped land, religious institutions, educational facilities, and light industrial and warehouse uses.

### 2.4.3 Project Background

Like many other counties in California, Sonoma County is known for its high cost of living and lack of affordable, available housing. New construction in the county has not kept up with housing demand over the last half decade, and recent wildfires have destroyed over 4,000 housing units Countywide, exacerbating an already dire housing crisis. Proper location is an important consideration for new housing in the unincorporated County, as there has been a long-standing Countywide commitment to avoid sprawl and protect agricultural land and open space. The County is largely rural, with limited urban areas. There are strong General Plan policies that protect voter-approved Community Separators and Urban Growth Boundaries, and facilitate city- and community-centered growth within General Plan-designated Urban Service Areas where public sewer and water are available and higher densities of housing could be built. This project will identify sites to be added to the County's Housing Element site inventory to comply with State law, and will implement current General Plan policies and programs that require the County to identify urban sites near jobs and transit which may appropriately accommodate additional housing. It will also identify appropriate sites on which to place the Workforce Housing (WH) Combining District, which would allow the development of jobs and/or housing on the same site or within walking distance from one another.

In late 2018, the County asked for the public's help in identifying sites, and over 100 sites were nominated. County staff evaluated all nominated sites to determine if they met the basic eligibility criteria. Of those original sites, the County narrowed its list to 59 Potential Sites based on meeting these four basic requirements:

1. Site must be located in the unincorporated County.
2. Site must be located within an established Urban Service Area where public sewer and water service is available.
3. Site must not be located within a Community Separator.
4. If a site is near an incorporated city, it must not be located outside of a city's Urban Growth Boundary.

In addition to these criteria, the General Plan sets forth additional criteria to be used in considering which sites to rezone for housing (Housing Element Policy HE-2f and Programs 11 and 20). These factors include proximity to jobs, transit, services, and schools.

Eight sites (identified in Table 2-2, above) that will be evaluated as part of this project are already included in the County's Housing Element site inventory at lower densities; recent changes in State law give increased scrutiny to the continuing identification of sites already in inventory. Upzoning<sup>3</sup> those sites may allow them to remain in inventory. The environmental review process will further refine the list of sites with the potential for rezoning.

## 2.5 Project Characteristics

The proposed project will identify sites to be added to the County's General Plan Housing Element site inventory to comply with State law and will implement current General Plan policies and

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<sup>3</sup> Upzoning is changing the zoning to allow for more dense use (for example, increasing allowable number of dwelling units per acre or increasing allowable floor area).

programs that require the County to identify urban sites near jobs and transit which may appropriately accommodate additional housing. It will also identify appropriate sites on which to place the WH Combining District, which would allow the development of jobs and/or housing on the same site or within walking distance from one another. The WH Combining District is an overlay added to sites with non-residential base zoning to allow for housing to be built on sites containing or adjacent to jobs.

Specifically, project implementation would rezone up to 59 urban sites in General Plan-designated Urban Service Areas throughout unincorporated Sonoma County (as listed in Table 2-1) for by-right, medium-density housing. By-right, medium-density housing means that no discretionary land use approvals and no CEQA review would be required for the development of medium-density (up to 24 units per acre) housing on the sites. Design review approval is still required for all multi-family or mixed-use housing development of more than three units. The project would add sites to the County's Housing Element site inventory to comply with new inventory requirements in Housing Element law; it would implement current General Plan policies and programs, including Policy HE-2f, to consider a variety of sites for higher-density and affordable housing, and Housing Element Programs 11 and 20, which encourage the identification of urban sites near jobs and transit to appropriately accommodate additional housing. The project includes (1) a General Plan Map amendment as necessary and, where applicable, area plan amendments to change land uses and densities on identified sites; (2) rezoning sites to match new General Plan land uses or densities and/or to add the WH Combining District. The project is intended to facilitate and encourage housing development that would be developed over a 10-year period, with full buildout by 2030.

For purposes of the environmental analysis, sites analyzed for rezoning to R2 (Medium-Density Residential), with a base density of 10 or 11 units per acre, were assumed to be rezoned to allow a density of 20 or 22 units per acre, respectively, which represents the maximum buildout potential utilizing the County's Rental Housing Opportunity Program density bonus program, which allows a density bonus of up to 100 percent. Sites analyzed for rezoning to add the WH Combining District were assumed to allow a density of 24 units per acre, the maximum allowed in this district. Table 2-3 provides the proposed modified land use designation, residential density, zoning district, and maximum number of dwelling units allowed for each Potential Site. For purposes of this analysis, it is assumed that no density bonus program would be used on sites with WH Combining District, due to practical limitations of development in the County (few sites in the County to date have been developed at any density greater than 26 units per acre) and it would be speculative to assume a density bonus program would be used. The maximum density bonus available projects approved under the WH Combining District is the 50 percent allowed under State Density Bonus Law (Government Code Section 65915). Overall, the analysis is programmatic and cumulative in nature such that no more than 2,975 units would be developed throughout the Potential Sites even if some sites used a density bonus.

**Table 2-3 Proposed Land Use Designations and Zoning Districts**

<b>Site(s)</b>	<b>Proposed Modification to General Plan Land Use Designation and Density<sup>1</sup> (units/acre)</b>	<b>Proposed New Base Zoning Districts and/or Addition of WH Combining District</b>	<b>Maximum number of dwelling units allowed per acre<sup>2</sup></b>
GEY-1	UR 10	R2	20
GEY-2	UR 10	R2	20
GEY-3	UR 10	R2	20
GEY-4	UR 10	R2	20
GUE-1	UR 10	R2	20
GUE-2	UR 10	R2	20
GUE-3	UR 10	R2	20
GUE-4	UR 10	R2	20
LAR-1	UR 11	R2	22
LAR-2	UR 11	R2	22
LAR-3	UR 11	R2	22
LAR-4	UR 11	R2	22
LAR-5	UR 11	R2	22
LAR-6	UR 11	R2	22
LAR-7	UR 11	R2	22
LAR-8	No change	Add WH	24
FOR-1	No change	Add WH	24
FOR-2	UR 10	R2	20
FOR-3	UR 10	R2	20
FOR-4	UR 10	R2	20
FOR-5	UR 10	R2	20
FOR-6	UR 10	R2	20
GRA-1	UR 10	R2	20
GRA-2	No change	Add WH	24
GRA-3	UR 10	R2	20
GRA-4	UR 10	R2	20
GRA-5	UR 10	R2	20
SAN-1	UR 10	R2	20
SAN-2	No change	Add WH	24
SAN-3	UR 10	R2	20
SAN-4	LC	LC, Add WH	24
SAN-5	UR 10	R2	20
SAN-6	No change	Add WH	24
SAN-7	No change	Add WH	24
SAN-8	UR 10	R2	20
SAN-9	No change	Add WH	24
SAN-10	No change	Add WH	24

Site(s)	Proposed Modification to General Plan Land Use Designation and Density <sup>1</sup> (units/acre)	Proposed New Base Zoning Districts and/or Addition of WH Combining District	Maximum number of dwelling units allowed per acre <sup>2</sup>
GLE-1	No change	Add WH	24
GLE-2	No change	Add WH	24
AGU-1	UR 10	R2	20
AGU-2	UR 10	R2	20
AGU-3	UR 10	R2	20
PEN-1	LC	Add WH	24
PEN-2	UR 10	R2	20
PEN-3	LC	Add WH	24
PEN-4	UR 10	R2	20
PEN-5	No change	Add WH	24
PEN-6	UR 10	R2	20
PEN-7	UR 10	R2	20
PEN-8	No change	C2, Add WH	24
PEN-9	No change	C2, Add WH	24
PET-1	UR 10	R2	20
PET-2	UR 10	R2	20
PET-3	No change	Add WH	24
PET-4	UR 10	R2	20
SON-1	UR 10	R2	20
SON-2	UR 10	R2	20
SON-3	UR 10	R2	20
SON-4	UR 10	R2	20

<sup>1</sup> Commercial land use designations do not have associated residential density.

<sup>2</sup> 100% density bonus program allows for doubled density on R zoned parcels.

General Plan Land Use Designations: UR = Urban Residential, LC = Limited Commercial

Zoning Districts: R2 = Medium Density Residential District, WH = Workforce Housing Combining District

Table 2-4 provides a comparison of the existing potential number of dwelling units and population buildout potential of the 59 identified sites, the proposed dwelling unit and population buildout potential, and the overall change in the buildout population that would result from the project. If all 59 sites are chosen to move forward in the rezoning project studied under this EIR, project implementation could increase the housing availability in the county to accommodate up to 2,975 additional dwelling units and approximately 7,735 additional people.<sup>4</sup>

<sup>4</sup> Calculation based on 2.6 persons per household in unincorporated Sonoma County (California Department of Finance 2019). See Table 4.14-2 in Section 4.14, *Population and Housing*, for more detail.

**Table 2-4 Housing Unit and Population Buildout Potential**

Potential Site	Total Allowable Dwelling Units Under Current Designation	Total Allowable Dwelling Units Under Proposed Designation	Change in Total Allowable Dwelling Units (Buildout Potential)	Total Population Under Current Designation <sup>1</sup>	Total Population Under Proposed Designation <sup>1</sup>	Change in Buildout Population Potential
GEY-1	82	123	41	213	320	107
GEY-2	8	33	25	21	86	65
GEY-3	5	22	17	13	57	44
GEY-4	6	26	20	16	68	52
GUE-1	6	30	24	16	78	62
GUE-2	2	80	78	5	208	203
GUE-3	8	41	33	21	107	86
GUE-4	3	105	102	8	273	265
LAR-1	1	97	96	3	252	250
LAR-2	0	16	16	0	42	42
LAR-3	10	14	4	26	36	10
LAR-4	4	6	2	10	16	5
LAR-5	72	99	27	187	257	70
LAR-6	0	12	12	0	31	31
LAR-7	10	45	35	26	117	91
LAR-8	0	11	11	0	29	29
FOR-1	46	70	24	120	182	62
FOR-2	7	283	276	18	736	718
FOR-3	3	33	30	8	86	78
FOR-4	2	71	69	5	185	179
FOR-5	6	58	52	16	151	135
FOR-6	0	120	120	0	312	312
GRA-1	6	23	17	16	60	44
GRA-2	0	71	71	0	185	185
GRA-3	1	22	21	3	57	55
GRA-4	1	36	35	3	94	91
GRA-5	1	27	26	3	70	68
SAN-1	1	74	73	3	192	190
SAN-2	0	200	200	0	520	520
SAN-3	1	80	79	3	208	205
SAN-4	1	149	148	3	387	385
SAN-5	1	67	66	3	174	172
SAN-6	0	73	73	0	190	190
SAN-7	0	72	72	0	187	187
SAN-8	1	20	19	3	52	49
SAN-9	0	159	159	0	413	413

Potential Site	Total Allowable Dwelling Units Under Current Designation	Total Allowable Dwelling Units Under Proposed Designation	Change in Total Allowable Dwelling Units (Buildout Potential)	Total Population Under Current Designation <sup>1</sup>	Total Population Under Proposed Designation <sup>1</sup>	Change in Buildout Population Potential
SAN-10	3	128	125	8	333	325
GLE-1	1	19	18	3	49	47
GLE-2	1	3	2	3	8	5
AGU-1	1	27	26	3	70	68
AGU-2	7	132	125	18	343	325
AGU-3	16	64	48	42	166	125
PEN-1	0	1	1	0	3	3
PEN-2	1	21	20	3	55	52
PEN-3	0	4	4	0	10	10
PEN-4	2	35	33	5	91	86
PEN-5	1	8	7	3	21	18
PEN-6	2	40	38	5	104	99
PEN-7	18	107	89	47	278	231
PEN-8	0	16	16	0	42	42
PEN-9	0	8	8	0	21	21
PET-1	1	39	38	3	101	99
PET-2	1	27	26	3	70	68
PET-3	1	65	64	3	169	166
PET-4	1	39	38	3	101	99
SON-1	0	19	19	0	49	49
SON-2	0	20	20	0	52	52
SON-3	1	20	19	3	52	49
SON-4	1	19	18	3	49	47
<b>Total</b>	<b>354</b>	<b>3,329</b>	<b>2,975</b>	<b>920</b>	<b>8,655</b>	<b>7,735</b>

Note: Numbers may not add due to rounding.

<sup>1</sup> Population based on 2.6 persons per household in unincorporated Sonoma County (California Department of Finance 2019). For example, for site GEY-1, 41 units buildout potential multiplied by 2.6 persons per unit = 107 persons (rounded).

Physical changes resulting from project implementation may include development of Potential Sites with higher-density housing. This could take the form of more land coverage or taller buildings than currently allowed. Under the proposed project, this increased density would only occur within Urban Service Areas in the County.

## 2.6 Project Objectives

The County has identified the following objectives for the project:

1. Add to the inventory of sites zoned for by-right housing development sufficient for the County to meet its share of the region's projected housing need for the upcoming eight-year housing



element cycle, in compliance with California Housing Element law (Government Code Section 65580 et seq.)

2. Encourage the development of higher-density housing in the County, increasing the overall availability of housing
3. Provide housing development opportunities throughout the urban areas of the unincorporated county near jobs, transit, services, and schools
4. Implement goals, objectives, and policies of the Sonoma County General Plan that focus growth in established Urban Service Areas and encourage the development of infill sites to prevent sprawl and protect agricultural land and open space

## 2.7 Required Approvals

The proposed project would require a General Plan map amendment and/or area plan amendments to change land use designations and densities for identified sites, zone changes for identified sites to new zoning districts and density designations to match new General Plan land uses and densities, and, for select sites, the addition of the WH Combining District. Following hearings before the Planning Commission and the Board of Supervisors, the Board of Supervisors may certify the EIR and approve the project.

## 3 Environmental Setting

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This section provides a general overview of the environmental setting for the proposed project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

### 3.1 Regional Setting

The Potential Sites are located in the County of Sonoma, in portions of the unincorporated County in Geyserville, Guerneville, Larkfield, Forestville, Graton, Santa Rosa, Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma urban service areas. Figure 2-1 in Section 2, *Project Description*, provides an overview of all Potential Site locations, and Figures 2-2 through 2-12 show the specific parcels in each area in the County.

Potential Sites in Geyserville, Larkfield, Santa Rosa, Penngrove, and Petaluma are regionally accessible from Highway 101; sites in Guerneville, Forestville, and Graton are regionally accessible from State Route 116; and Potential Sites in Glen Ellen, Agua Caliente, and Sonoma are regionally accessible from State Route 12.

The Mediterranean climate of the region and the coastal influence produce moderate temperatures year-round, with rainfall concentrated in the winter months. Air quality in the Bay Area Air Quality Management District (southern half of Sonoma County) is in nonattainment for PM<sub>2.5</sub> and ozone, and air quality in the Northern Sonoma Air Quality Management District (northern half of Sonoma County) is in attainment for all air pollutants.

### 3.2 Project Site Setting

As shown in Figures 2-1 through 2-12 in Section 2, *Project Description*, the Potential Sites are located throughout the County in urban service areas. These sites are designated for agricultural, residential, commercial, and industrial uses; and are surrounded by residential development, agricultural land, public utilities infrastructure, commercial development, open space/undeveloped land, religious institutions, educational facilities, and light industrial and warehouse uses. The Potential Sites include both undeveloped and developed parcels.

### 3.3 Cumulative Development

In addition to the specific impacts of individual projects, California Environmental Quality Act (CEQA) requires Environmental Impact Reports (EIR) to consider potential cumulative impacts of the proposed project. CEQA defines “cumulative impacts” as two or more individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be less than significant when analyzed separately but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

CEQA requires cumulative impact analysis in EIRs to consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. Currently planned and pending projects in the unincorporated County are listed in Table 3-1. Only those projects within 1 mile of Potential Sites were included in the analysis.

In addition, buildout of local and regional general plans, including the Sonoma County General Plan 2020, as described in the Housing Element, could result in up to 2,974 total new residences throughout the County (County of Sonoma 2014). Additionally, buildout of adopted specific plans, including the South Santa Rosa Area Plan, are considered cumulative projects for the purpose of this analysis. These projects are considered in the cumulative analyses in Section 4, *Environmental Impact Analysis*.

**Table 3-1 Cumulative Projects List**

Project Name	Project Location	Distance to Potential Site	Proposed Development	Project Status
Sutter Hospital	50 Mark West Springs Road, central Sonoma County	Within 0.5-mile of LAR-1, LAR-2, and LAR-6	Medical campus with hospital building, inpatient facility, outpatient treatment, diagnostic services, medical office building, physician's medical center, helistop, and surface parking	Approved (2010)
Syar Alexander Valley Instream Mining Project	Russian River and Alexander Valley reach from Big Sulphur Creek near Cloverdale to Jintown Bridge, northeastern Sonoma County	Within 1 mile of GEY-1, GEY-2, GEY-3, GEY-4	Instream gravel mining within the Russian River and Alexander Valley reach	Undergoing environmental review
Redwood Apartments	3422 Santa Rosa Avenue, central southern Sonoma County	Within 0.1 to 1 mile of SAN-1 through SAN-10	96-unit affordable apartment complex	Approved (2019)
Springs Specific Plan	178 acres located in central Sonoma Valley immediately north of the city of Sonoma, including portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs	Within 0.5 mile of AGU-1, AGU-2 and AGU-3	677 new housing units, 275,903 sf commercial/office/recreation, 120 hotel rooms	Undergoing environmental review
Airport Area Specific Plan	810 acres south of the Town of Windsor	Within 0.3 mile of LAR-7	Industrial, residential and commercial land uses	Undergoing environmental review
Sonoma Developmental Center Specific Plan	945 acres in Sonoma Valley, south of Glen Ellen and north of Eldridge	Within 1 mile of GLE-1 and GLE-2	Undetermined at this phase	Undergoing development (community input stage)

Project Name	Project Location	Distance to Potential Site	Proposed Development	Project Status
Wikiup Commons, the Inn at Nunes Farm, and the Winery at Saralee's Vineyard	Wikiup Drive and Carriage Lane intersection, former Wikiup Golf Course, and former Nunes cow breeding and feeding operation; in the Larkfield-Wikiup area north of Santa Rosa	Within 1 mile of LAR-1 through LAR-8	29 single-family residential lots, 25-acre park, 50-room hotel with associated amenities, one-story winery with an annual production of 45,000 cases and 200-person promotional events (up to 20 per year)	Undergoing the entitlement process
Verano Hotel and Family Housing Project	6-acre lot between the Finnish American Home Association and the Lazzarotto Mobile Park, northwest of Sonoma	Within 0.5-mile of AGU-1, AGU-2 and AGU-3	70 affordable housing units, 120-room hotel, 10-year buildout	Undergoing design and approval
DRH19-0004	0.23 acre at 13647 Arnold Drive, Glen Ellen	Within 0.1-mile of GLE-1	Mixed use project	Under construction
Los Pinos	3496 Santa Rosa Avenue, Santa Rosa	Within 0.1-mile SAN-5 and SAN-1	50-unit multi-family rental housing (high density)	Undergoing environmental review and design review
Boyes Food Center	CA-12 and Calle Del Monte intersection, Boyes Hot Springs	Within 0.5-mile of AGU-1 and AGU-2	27 residential units and 7,000 sf commercial retail and restaurant	Approved (2020)
Siesta Way	171 Siesta Way, Sonoma	Within 0.4-mile of AGU-1 and AGU-2	Redevelopment of mobile home park with 100% affordable housing	Approved (2021)
Sonoma Golf Club	17700 Arnold Drive, Sonoma	Within 1 mile of AGU sites	Membership expansion of 225 additional members	Pending approval

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## 4 Environmental Impact Analysis

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This section discusses the possible environmental effects of the Rezoning Sites for Housing Project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. A “significant effect” as defined by the *CEQA Guidelines* Section 15382:

means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental and regulatory setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are those criteria adopted by the County and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

1. **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per *CEQA Guidelines* Section 15093.
2. **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under *CEQA Guidelines* Section 15091.
3. **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
4. **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3, *Environmental Setting*. A cumulative impact analysis is presented only where the proposed project would result in either a less significant impact or a significant impact; a cumulative impact analysis is not required or included if the proposed project would result in no impact. The

Executive Summary of this EIR summarizes all impacts and mitigation measures that apply to the proposed project.

## 4.1 Aesthetics

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This section evaluates the proposed project for potential impacts on aesthetics, including scenic vistas, scenic resources, visual character and quality, and light and glare. Sites are grouped by nearest community in unincorporated Sonoma County.

### 4.1.1 Setting

#### Methodology

Evaluating visual impacts can be relatively subjective, but for CEQA analysis, aesthetic impacts are assessed by using methodologies that identify and describe the visual resources, determining the level of quality from public viewing locations, and estimating the level of effect changes to those views would produce. State and federal organizations have developed visual assessment guidelines for various contexts that often provide a basis for the development of local guidelines and standards.<sup>1</sup> Sonoma County published its Visual Assessment Guidelines to provide specific steps and criteria for evaluating aesthetic impacts of development throughout the County (County of Sonoma 2019). In brief, the procedure involves determining public viewing points and describing the existing setting for each site, reviewing photographs of the site to understand potential impacts, characterizing the site's sensitivity following the matrix offered in Table 4.1-1, and determining the potential visual dominance of the proposed project based on criteria described in Table 4.1-4. Based on this evaluation, a potential impact is determined. Where the County's guidelines do not specifically define criteria for aspects such as overall visual unity, intactness, or vividness, described below, the Federal Highway Administration and U.S. Forest Service guidelines are applied to enhance the discussion.

As addressed in this analysis, aesthetics refers to visual impacts to the environment, both natural and built, and includes adverse changes that reduce visual quality along with potential increases in glare or light in a project area. Aesthetics or visual resource analysis assesses the visible change and anticipated viewer response to that change.

This approach is suitable for use in this program-level analysis but can also be applied to specific projects when they are proposed for any of the Potential Sites. The proposed project does not implement specific development projects, but rather would rezone the Potential Sites so that they can be developed with multi-family residential projects. Because no specific development is proposed, this analysis focuses on a "program-level" evaluation that considers what visual impacts might be if development did ensue on a given site, and if it were to fulfill maximum potential size and density. Thus, sensitivity and dominance as they relate to potential visual impacts are estimated conservatively to present maximum case scenarios for each site.

#### Site Sensitivity

The visual sensitivity on the Potential Sites is rated based on the County's criteria that generally characterizes a site relative to its aesthetic value to the surrounding community (County of Sonoma 2019). This determination, then, considers both the site itself and the setting in which the site occurs. Criteria used to determine site sensitivity is presented in Table 4.1-1.

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<sup>1</sup> See for example Bureau of Land Management (1984), Federal Highway Administration (2015), and U.S. Forest Service (1996).



Table 4.1-1 Site Sensitivity Criteria

Site Sensitivity Level	Summary of Site Criteria
Maximum	<ol style="list-style-type: none"><li>1. Designated scenic resource, corridor or landscape unit, or community separator</li><li>2. Natural setting, scenic backdrop</li><li>3. Visible from designated scenic corridor because of slope or situation on a ridgeline</li></ol>
High	<ol style="list-style-type: none"><li>1. Designated scenic resource, corridor or landscape unit, or community separator</li><li>2. Natural setting, scenic backdrop</li><li>3. Visible from scenic corridor, public roads, or other public use areas (parks, trails, etc.) because of slope or situation on a ridgeline</li></ol>
Moderate	<ol style="list-style-type: none"><li>1. Rural land use designation or urban designation that is not low sensitivity, but which has no scenic resource designation</li><li>2. May be near a gateway or include historic resources</li><li>3. Visible because of slope (less than 30 percent) or where significant aesthetic features are visible from public roads or public uses areas (parks, trails, etc.)</li></ol>
Low	<ol style="list-style-type: none"><li>1. In an urban land use designation with no scenic resource zoning protections</li><li>2. Vicinity is characterized by urban development or the site is surrounded by urban zoning designations<ol style="list-style-type: none"><li>a. No historic character</li><li>b. Not a gateway to a community</li></ol></li><li>3. Slope less than 20 percent and not on a prominent ridgeline</li><li>4. No significant natural vegetation of aesthetic value to surrounding community</li></ol>

Source: County of Sonoma 2019

Describing the visual character of a site includes details about the natural and human-built landscape features that contribute to the visual character of an area or view. From that data, the sensitivity rating for a project site can be described, along with the surrounding environment on which the project, when implemented, may have an impact. Aspects considered include geology, water features, plants, wildlife, trails and parks, and architecture and transportation elements (e.g., bridges or city skylines). The way visual character is perceived can vary based on the season, the time of day, the light, and other elements that influence what is visible in a landscape. The basic components used to describe visual character are form, line, color, and texture of landscape features and the level of light and glare under existing conditions (County of Sonoma 2019).

Along with the site sensitivity, the visual quality is assessed to rate that sensitivity. Visual quality is a term that indicates the uniqueness or desirability of a visual resource, within a frame of reference that accounts for the uniqueness and “apparent concern for appearance” by concerned viewers (e.g., residents, visitors, jurisdictions) (U.S. Forest Service 1996). A well-established approach to visual analysis is used to evaluate visual quality, using the concepts of vividness, intactness, and unity (Federal Highway Administration 2015), defined as follows:

1. Vividness describes the memorability of landscape components as they combine in striking patterns.
2. Intactness refers to the visual integrity of the natural and human-built environment.
3. Unity indicates the visual coherence and compositional harmony of the landscape as a whole.

Photographs are used to understand the elements that make up visual character and quality and are provided as both points of reference and data sources that support these evaluations. Because the project does not propose to implement development, only to rezone the Potential Sites for

residential land use, simulations or conceptualizations are not produced in this analysis. Rather, the photographs are used to understand the context in which development could occur when the sites are rezoned, and to estimate the associated impact based on potential visual dominance from public roadways or other public viewing areas, if the sites are built out to the maximum allowable density and height.

## Visual Dominance

After the site sensitivity is determined, visual dominance is determined based on how prominent a project would be when developed. Again, because the project does not propose specific development, this analysis assesses the potential dominance if maximum height and density are built and if most or all existing vegetation is removed. The development dominance criteria are based on the County guidelines, as follows:

1. Dominant: project elements stand out, contrast with the existing landscape (built and natural)
2. Co-Dominant: project elements attract attention equally with other features and are compatible with surroundings
3. Subordinate: project elements can be seen but do not attract attention, repeat forms, colors, textures of surroundings
4. Inevident: project not visible from public view due to intervening natural landforms or vegetation

## Impact Determination

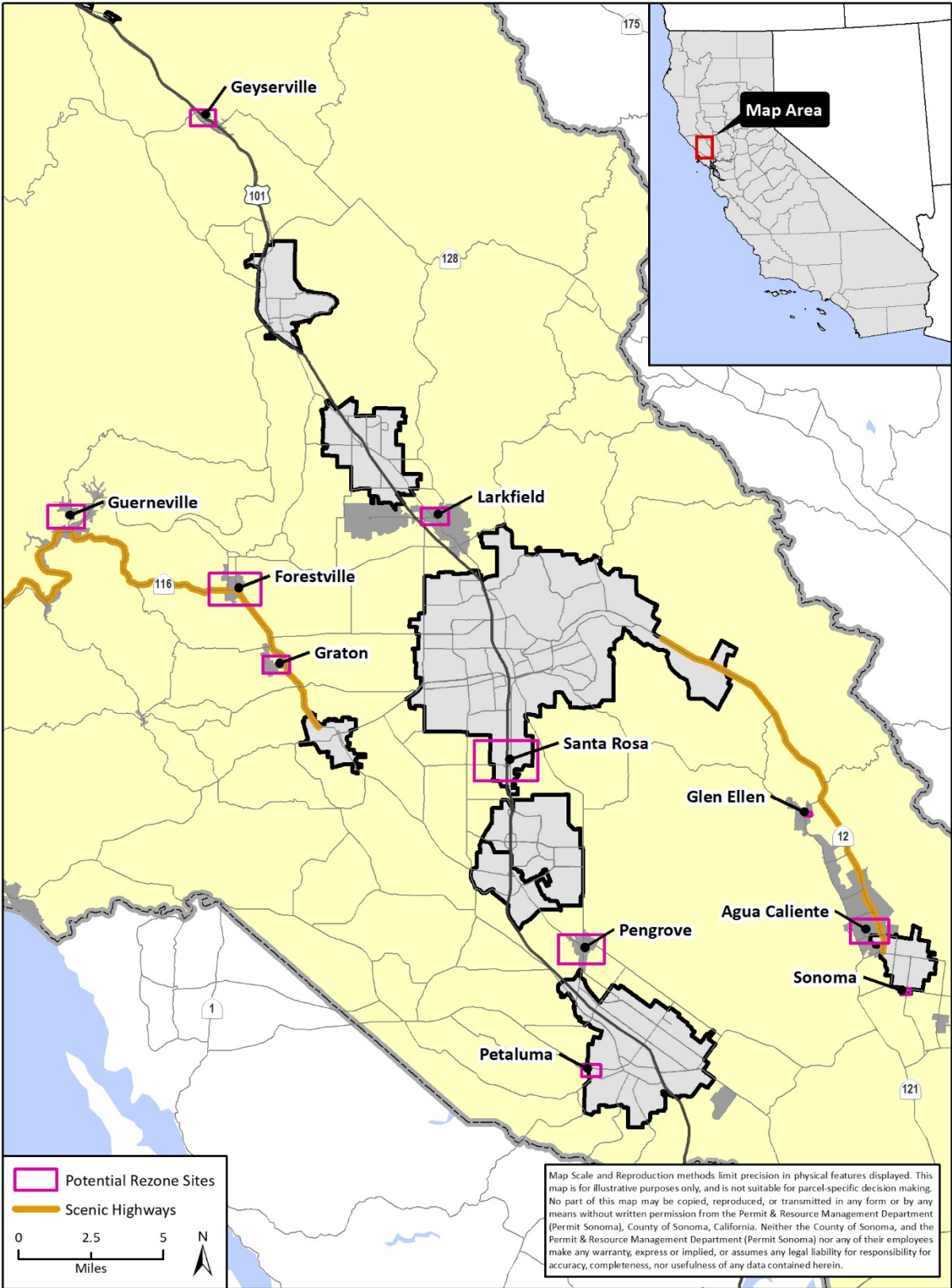
Finally, the visual impact significance is determined by combining the sensitivity with the visual dominance evaluations such that higher levels of sensitivity and dominance combine to create significant impacts and lesser ones to create less than significant impacts. Once the impact is determined, the County Guidelines offer measures designed to reduce impacts through design, landscaping, materials, screening, and limiting lighting. These are applied to potential impacts by sites where impacts could be significant.

CEQA analysis was conducted using knowledge of thresholds that meet the CEQA Guidelines and industry standards for the assessment of visual impacts. These criteria were then framed within the County's Visual Assessment Guidelines language/format; while the language is somewhat different, the process is ostensibly the same as are the conclusions.

### 4.1.2 Scenic Zoning

Many roadways throughout Sonoma County offer views of scenic areas. The General Plan designates an extensive network of scenic corridors and highways that are protected by development standards. Two roadways are officially designated as part of the State Scenic Highway system: State Route 116 from State Route 1 through Guerneville to the Sebastopol city limit, and State Route 12 from Danielli Avenue east of Santa Rosa to London Way near Agua Caliente (Caltrans 2019). Table 4.1-2 indicates the approximate distance of the Potential Sites that occur near scenic highways to that highway. Other County roadways designated as scenic corridors and potentially near the proposed project include Arnold Drive (GLE-1, GLE-2, AGU-1, AGU-2, and AGU-3) Petaluma Hill Road (PEN-5), and Bodega Avenue (PET-1, PET-2, PET-3, and PET-4). Figure 4.1-1 shows the designated scenic highways and indicates their proximity to the Potential Sites.

Figure 4.1-1 Designated Scenic Highways in Sonoma County



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

Fig 4.1-38 Scenic Highways

**Table 4.1-2 Potential Sites Near Designated Scenic Highways**

Potential Site	Nearby Designated Scenic Highway	Approximate Distance
GUE-1	State Route 116	0.6 mile
GUE-4	State Route 116	1.1 miles
FOR-1	State Route 116	adjacent
FOR-3	State Route 116	adjacent
FOR-5	State Route 116	adjacent
GRA-3	State Route 116	adjacent
GRA-5	State Route 116	adjacent
GLE-1	State Route 12	0.1 mile
GLE-2	State Route 12	0.1 mile
AGU-1	State Route 12	0.3 mile
AGU-2	State Route 12	0.3 mile
AGU-3	State Route 12	0.9 mile

The designations have the following intent:

1. **Scenic Resources Combining District (SR):** To preserve the visual character and scenic resources of lands in the county and to implement the provisions of Sections 2.1, 2.2, and 2.3 of the General Plan Open Space Element. SR zoning can indicate that a site is located within a scenic corridor, a scenic landscape unit, or in a community separator as designated in Figures OSRC-5a through OSRC-5i of the Sonoma County General Plan. Regulations for development are contained in Article 64, Section 26-64-020 of the County Zoning Code.
2. **Local Guidelines Combining District (LG):** To identify parcels subject to compliance with Article 90 of the Zoning Code, which implements General Plan Land Use Element policies and programs that protect and enhance the unique character of specific unincorporated communities and area, while allowing for land uses and development authorized in the Land Use Element (Sonoma , Section 26-90-010).
3. **Valley Oak Habitat Combining District (VOH):** To protect and enhance valley oaks and valley oak woodlands and to implement the provisions of Section 5.1 of the General Plan Resource Conservation Element (Sonoma County Code, Section 26-67-005).

While the importance of valley oak woodlands to the environment in the count is discussed in Section 4.4, *Biological Resources*, trees and woodlands are also a distinctive part of the Sonoma County visual landscape and form an important visual resource, where they occur. They also help to soften the effects of urbanization and infill on areas with a more rural character prior to development. Therefore, VOH-zoned Potential Sites were described above, and are discussed later, in the impact analysis, in terms of how tree removal might affect the visual quality of the site. Table 4.1-2 lists Potential Sites near designated scenic highways, and Table 4.1-3 shows sites with zoning or general plan designations that protect visual resources.

**Table 4.1-3 Potential Sites with Zoning and General Plan Designations that Protect Visual Resources**

Potential Site	Scenic Resource Combining District	Local Guidelines Combining District	Valley Oak Habitat
GEY-1	■		
GEY-4	■		
GUE-1		■	
GUE-2		■	■
GUE-3		■	■
GUE-4		■	■
LAR-1			■
LAR-2			■
LAR-3			■
LAR-4			■
LAR-5			■
LAR-6			■
LAR-7			■
LAR-8			■
FOR-1	■	■	
FOR-2		■	
FOR-3	■	■	
FOR-4		■	
FOR-5	■	■	
FOR-6		■	
GRA-3	■	■	
GRA-5	■	■	
SAN-1			■
SAN-2			■
SAN-3			■
SAN-4	■		■
SAN-5			■
SAN-6			■
SAN-7			■
SAN-8			■

Potential Site	Scenic Resource Combining District	Local Guidelines Combining District	Valley Oak Habitat
SAN-9			■
SAN-10			■
GLE-1	■		
GLE-2	■		
AGU-1			■
AGU-2			■
AGU-3			■
PEN-1			■
PEN-3	■		■
PEN-5	■		
PEN-8	■		■
PET-1	■		■
PET-2	■		■
PET-3	■		
PET-4	■		
SON-1	■		■
SON-2	■		■
SON-3	■		■
SON-4	■		■

### 4.1.3 Potential Sites Visual Assessment

The Sonoma County General Plan addresses aesthetic concerns in its Land Use Element. Therein, policies establish that the visual quality of the communities and open spaces throughout the county are tied to natural resources and that protection of these resources is important to the community, both from an economic perspective and in terms of its sense of place. As Sonoma County includes a wide range of landscapes, from agricultural valleys to forested hills and watery marsh lands, the visual character of each community with a Potential Site is unique and is described below. Sites occur in areas near or in the communities of Geyserville, Guerneville, Larkfield, Forestville, Graton, Santa Rosa, Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma. The following discussion describes each Potential Site and offers an assessment of the site sensitivity and estimated dominance of potential development. Table 4.1-4 offers a summary of these determinations.

**Table 4.1-4 Potential Site Sensitivity and Dominance Ratings**

Potential Site	Site Sensitivity	Project Potential Dominance
GEY-1	High	Dominant
GEY-2	Moderate	Co-Dominant
GEY-3	Moderate	Co-Dominant
GEY-4	Moderate	Co-Dominant
GUE-1	Moderate	Co-Dominant
GUE-2	Moderate	Co-Dominant
GUE-3	Moderate	Co-Dominant
GUE-4	Moderate	Dominant
LAR-1	Low	Co-Dominant
LAR-2	Low	Co-Dominant
LAR-3	Low	Co-Dominant
LAR-4	Low	Co-Dominant
LAR-5	Low	Co-Dominant
LAR-6	Low	Co-Dominant
LAR-7	Moderate	Dominant
LAR-8	Low	Co-Dominant
FOR-1	High	Dominant
FOR-2	Moderate	Dominant
FOR-3	High	Dominant
FOR-4	Moderate	Dominant
FOR-5	High	Dominant
FOR-6	High	Dominant
GRA-1	Low	Co-Dominant
GRA-2	Low	Co-Dominant
GRA-3	High	Co-Dominant
GRA-4	Moderate	Co-Dominant
GRA-5	High	Co-Dominant
SAN-1	Low	Subordinate
SAN-2	Low	Co-Dominant
SAN-3	Low	Co-Dominant
SAN-4	Low	Subordinate
SAN-5	Low	Dominant
SAN-6	Low	Co-Dominant
SAN-7	Low	Co-Dominant
SAN-8	Low	Co-Dominant
SAN-9	Low	Subordinate
SAN-10	Low	Co-Dominant
GLE-1	High	Dominant
GLE-2	High	Dominant

Potential Site	Site Sensitivity	Project Potential Dominance
AGU-1	Moderate	Co-Dominant
AGU-2	Moderate	Co-Dominant
AGU-3	Moderate	Co-Dominant
PEN-1	High	Co-Dominant
PEN-2	Moderate	Dominant
PEN-3	High	Co-Dominant
PEN-4	Moderate	Dominant
PEN-5	High	Co-Dominant
PEN-6	Moderate	Co-Dominant
PEN-7	Moderate	Dominant
PEN-8	High	Co-Dominant
PEN-9	High	Co-Dominant
PET-1	High	Dominant
PET-2	High	Dominant
PET-3	High	Dominant
PET-4	High	Dominant
SON-1	Moderate	Co-Dominant
SON-2	Moderate	Co-Dominant
SON-3	Moderate	Co-Dominant
SON-4	Moderate	Co-Dominant

## Geyserville

Geyserville is in the Cloverdale/Northeast County Planning Area. The Mendocino Highlands on the west and the Mayacamas Mountains on the east form the scenic Russian River Valley, including the Dry Creek and Alexander valleys. The area is rich in natural resources and includes streams, riparian benchlands, geothermal steam sites, construction aggregates, and surface waters. Lands outside of the valley floors are wooded and largely void of urbanized features. The Geyserville area is characterized by expansive views of the Alexander Valley and the hills to the east and west. Much of this area is planted in vineyards and other agricultural uses. There are four Potential Sites in Geyserville.

From the first Potential Site in Geyserville (GEY-1), unobstructed views to the northeast feature the signature ridgeline in the background, small rural residences and barns in the middle ground, and agricultural fields throughout (Figure 4.1-2). The visual quality is high at this site because the landscape looking northeast features vivid, intact vistas looking east toward the Sonoma Mountains and foothills from Geyserville Avenue. Existing zoning includes the SR (Scenic Resources) Combining District, and the view from Geyserville Avenue features rural residential development, including structures with limited massing and distinctive rustic style, mature trees near houses that screen them from the roadway. The site is zoned Limited Commercial (LC) and Affordable Housing (AH) Combining District, and because of the degree of open space with views to the hillsides, development on this site would be dominant depending on design, height, and density.

The town has one main road, Geyserville Avenue, off Highway 101 and connects to State Route 128. GEY-2, GEY-3, and GEY-4 are situated close to the northern town boundary, directly adjacent to each



other just south of GEY-1. The long lots are developed with single-family residences that appear to have been constructed in the early twentieth century. They are landscaped with mature trees. Looking west from Geyserville Road, the ridgeline is visible in the near background (Figure 4.1-3). Adjacent uses include a school between GEY-1 and GEY-4, and other single-family homes east of GEY-2. The site sensitivity at GEY-2, GEY-3, and GEY-4 is moderate as the parcels are not zoned in a way to protect scenic resources, but the neighborhood has a high degree of intactness and unity due to maintained landscaping and historic cottage-style homes, and views of the site are framed by the nearby hillside and have a high degree of vividness that defines the sense of place at this location. Current residential development on the sites is co-dominant, and potential development would be co-dominant.

**Figure 4.1-2 GEY-1, Looking Northeast**



Source: Google Earth 2020

**Figure 4.1-3 GEY-2, GEY-3, and GEY-4, Looking Southeast from Geyserville Road**



Source: Google Earth 2020

## Guerneville

Guerneville is a small summer resort town. It includes the neighborhood of Rio Nido located about 1.3 miles to the east. The Russian River parallels State Route 116 through the town and provides an important scenic resource. Land uses in the urbanized area of Guerneville consist mainly of small, single-family residential subdivisions interspersed with recreational and visitor-serving commercial uses on both sides of River Road and State Route 116; local-serving commercial uses concentrated in the blocks leading up to and in the center of Guerneville; and single-family dwellings in Rio Nido and along and near Old Cazadero and Hidden Valley roads. Beyond the urbanized area, small pockets of rural residential development and agricultural and natural resource lands occur (County of Sonoma 2016). The County General Plan notes that the view corridor along State Route 116 contains unique views of orchards, redwood stands, and the Russian River and defines the boundary between Guerneville and other communities.

The Potential Sites in Guerneville are in three locations: GUE-1 is near the Russian River west of River Road; GUE-2 and GUE-3 are northwest of State Route 116; and GUE-4 is off Armstrong Woods Road. GUE-1 is elevated but trees screen the site from the River Road and the Russian River beyond (southeast). Site sensitivity is moderate and the zoning includes the LG/116 (Highway 116 Scenic Corridor) Combining District;<sup>2</sup> from River Road, the visual quality is low as roadwork, highway signage, and construction stockpiles are visible in the foreground, along with above-ground transmission lines disrupting any sense of intactness or visual unity. Despite the dense forestation in the middle ground (Figure 4.1-4), the views lack vividness looking west from the roadway, for the same reasons. Development on the site would be dominant if significant numbers of trees were removed.

GUE-2 and GUE-3 are on undeveloped lands among single-family residences bordered by agricultural lands and wooded hillsides (Figure 4.1-5). Nearby foothills are visible from the street through the undeveloped or sparsely developed adjacent lots. Site sensitivity is moderate and the zoning is LG/116 at both these sites; residential development and parked vehicles reduce the intactness of an otherwise vivid rural residential setting. The neighborhood has moderately high visual quality as residential development has unity in the varied architectural design and mature landscaping; the country lane style roadway has a degree of vividness that further contributes to the overall quality. Development in this area would likely be co-dominant with other residential development.

GUE-4 is a large, flat site situated among single-family residential uses on large lots off Armstrong Woods Road and Laughlin Road. On Armstrong Woods Road, the neighboring houses lack unity of design and landscaping. From Laughlin Road, the visual quality is higher, with more unity of design and landscaping, but the site itself is not visible due to congested vegetation that grows at the southern boundary. Looking northwest from Laughlin Road across the site, the ridgelines are moderately visible in the background (Figure 4.1-6). On the northern border, the Sonoma County Road Department operates a facility that includes industrial structures, a paved lot, and dirt stockpiles. The lot is fenced with chain-link. Visual quality varies and lacks vividness and overall unity, making site sensitivity moderate. Zoning is LG/116. Viewer sensitivity would be moderately high for people traveling through the area to recreate on the Russian River, and development that

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<sup>2</sup> LG zoning is a designation that works to protect and enhance the unique character of specific unincorporated communities and areas, as designated by the Board, while allowing for land uses and development authorized in the General Plan Land Use Element (Sonoma County Zoning Code Section 29-90-010). Character-defining features are considered part of site sensitivity determination for this analysis where parcels are thus zoned.



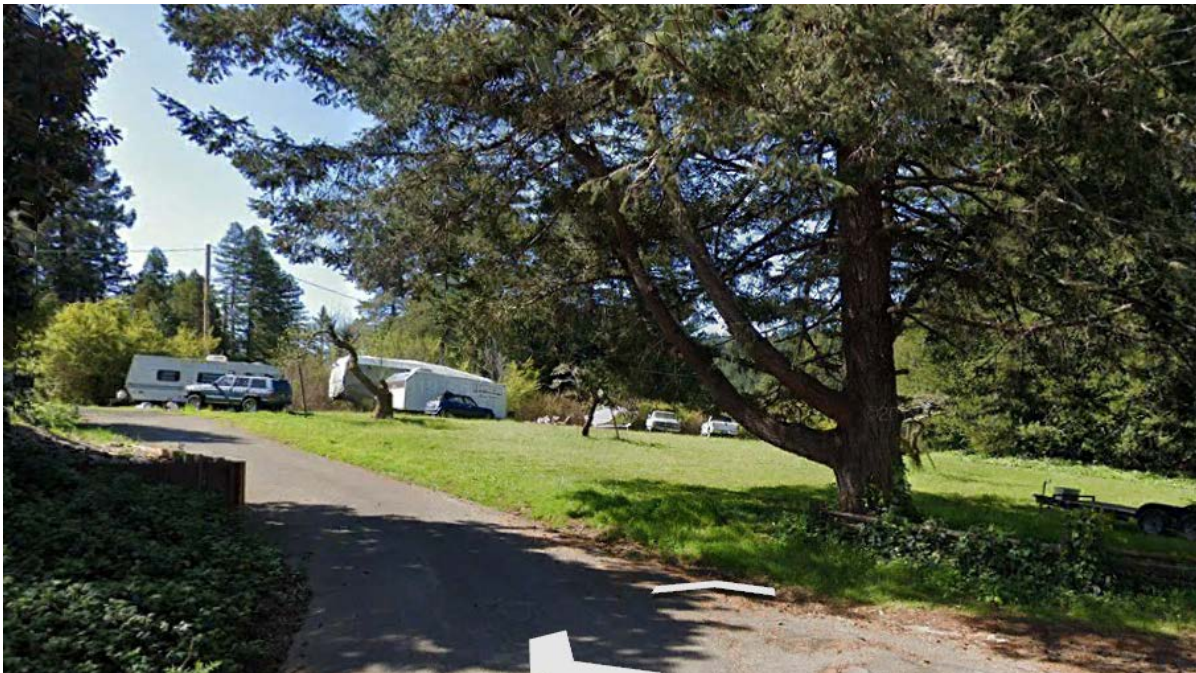
creates a strong contrast with the landscape or existing structures would be dominant, depending on design, height, and density.

**Figure 4.1-4 Site GUE-1 from River Road, Looking West Past Construction Stockpile**



Source: Google Earth 2020

**Figure 4.1-5 GUE-2 and GUE-3 Looking Westward from Cutten Avenue**



Source: Google Earth 2020



Figure 4.1-6 GUE-4 from Laughlin Road, Looking North



Source: Google Earth 2020

## Larkfield-Wikiup

Larkfield-Wikiup is located approximately 5 miles north of Santa Rosa, west of Highway 101. Seven Potential Sites are in the Larkfield area. It features suburban residential development with limited commercial uses, in a valley surrounded by mountains, the ridgelines of which clearly demarcate the background. Most of the Potential Sites occur along Old Redwood Highway and are in developed areas with the VOH (Valley Oak Habitat) Combining District, making existing oak habitat important to the visual character.<sup>3</sup> These are discussed below from north to south.

LAR-7, the northernmost site, is a vacant lot bordered by mature trees (Figure 4.1-7). It is undeveloped except for a small pumphouse situated in the middle of the property. From Old Redwood Highway a vineyard is visible to the northeast, with the Sonoma Mountains in the background. Entering developed areas, a rustic-style commercial structure is across the roadway from LAR-7. Looking southwest from the roadway, the site and its immediate surroundings are characterized by residential development that includes single-family residences that appear to have been built in the early twentieth century. The lots are large and landscaped with mature trees and other vegetation. The older mobile home park on the east side of Old Redwood Highway is screened from the roadway by wooden fencing and dense landscaping near the boundary. The site has moderate sensitivity as adjacent vineyards and the early twentieth century homes give the area a unified rustic character with moderately high visual quality. New development would be dominant, depending on design, height, and density.

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<sup>3</sup> VOH is protected under Section 26-67-005 of the County Zoning Code.

**Figure 4.1-7 LAR-7 Looking Southwest on Old Redwood Highway**



Source: Google Earth 2020

LAR-3 and LAR-5 are at the northwest corner of Old Redwood Highway and Airport Boulevard. They constitute a large, undeveloped area with residential and commercial uses nearby (Figure 4.1-8). These uses are less unified along this stretch of Old Redwood Highway, where there are a mix of single-family and multi-family developments. Landscaping creates a buffer, but the visual character is more urban and less unified, giving the sites a low sensitivity. The area has a moderate level of intactness as denser development encroaches on views beyond and the architecture is not distinctive enough to replace those views. The visual quality is further disrupted by industrial elements such as traffic signals and above-ground transmission lines, and new development would likely be co-dominant.

**Figure 4.1-8 LAR-3 and LAR-5 Looking Southwest**



Source: Google Earth 2020



LAR-4 is west of LAR-5 on Airport Boulevard and is undeveloped. A mobile home residential community is immediately west of the site, and light-industrial and commercial uses are across the street. Looking across the site from Airport Boulevard, the northeastern mountains are visible in the background (Figure 4.1-9). Like LAR-3 and LAR-5, the mix of urbanized development lacks visual unity and industrial features such as power lines disrupt the views, giving the site low sensitivity. New development would likely be co-dominant with surrounding land uses.

**Figure 4.1-9 LAR-4 Looking North from Airport Boulevard**



Source: Google Earth 2020

Further south on Old Redwood Highway, LAR-8 is a small site with adjacent single- and multi-family residential uses. The ridgeline is visible in the background looking through the site, but high-voltage powerlines intervene in the middle ground reducing the intactness of the view (Figure 4.1-10). As with the other sites in this area, the visual quality is moderate as the area lacks unity of design, giving LAR-8 a low site sensitivity. New development would likely be co-dominant.

LAR-1 is on the east side of Old Redwood Highway and is currently developed with a church and a school (Figure 4.1-11). Beyond the site, single-family homes are visible in the middle ground and the ridgeline can be seen in the background. Across Old Redwood Highway, a fence and mature trees shield a planned residential development and common open space area from the roadway. Graffiti on the fence is painted over and high-power transmission lines cross the neighborhood. This part of the roadway lacks unity of design and includes only intermittent longer-range views of the landscape, reducing the intactness and rendering the sense of place negligible and giving the site a low sensitivity rating. New development would likely be co-dominant with existing land uses.

The LAR-2 and LAR-6 sites are on Wikiup Drive, southeast of LAR-1 and next to a school and medical/office uses (Figure 4.1-12). The sites are undeveloped but feature mature trees and vegetation at their boundaries. The adjacent uses are multi-story and consistent with other commercial and office uses in the area, although the vividness is relatively low because of the industrial transportation components and above-ground transmission lines. The area has no distinctive architecture, and development is consistent with typical suburban infill of recent decades, giving the Potential Sites a low sensitivity. New development would likely be co-dominant with existing land uses.

**Figure 4.1-10 LAR-8 with Ridgeline Visible in the Background**



Source: Google Earth 2020

**Figure 4.1-11 LAR-1 at the Corner of Faught Road and Old Redwood Highway**



Source: Google Earth 2020



Figure 4.1-12 LAR-2 and LAR-6 Looking North from Wikiup Drive



Source: Google Earth 2020

## Forestville

Forestville is in central Sonoma County, south of the Russian River. The scenic lowlands and floodplain around the Laguna de Santa Rosa include marsh, swamp, riparian forest, and the hills. State Route 116 defines the community boundary for Forestville, where it transitions into Front Street as it passes through the town core (County of Sonoma 2018a). Views along State Route 116 include orchards, redwood groves, and the Russian River; the roadway is considered part of a scenic corridor and properties along the highway are generally zoned LG/116. The community itself features limited, single-family residential development with some commercial and light industrial such as mini-storage facilities. The small downtown area features shops, restaurants, a post office, and other community-serving businesses. Cultivated agricultural fields are adjacent to the community on each side.

Six Potential Sites are identified in Forestville. FOR-1 is a flat site near the northeast corner of Front Street and Covey Road, where State Route 116 enters the town and is designated as a scenic highway, zoned SR and LG/116, which protects unique community character (Figure 4.1-13). FOR-1 is bordered by residential development to the north and a restaurant to the west. A gateway sign appears at the property boundary, facing Front Street. Surrounding ridgelines are not visible from this point in the road. The site is developed with a residence and numerous outbuildings, although these are not clearly visible from the roadway. FOR-1 is surrounded by existing development, including several churches that appear to have been constructed during the early twentieth century and that are designed in a modified Mission-style or a rustic type of architecture. Similarly, residential development adheres to a cottage-style design with wooden, clapboard-style siding characteristic of rural development from the nineteenth century. Some more recently constructed residences in the immediate neighborhood also use this style. Intermixed with residential development, several commercial and restaurant uses that, while not distinctive in style, are unified with the general style of the residential development. Neutral colors, rustic facades, and murals



contribute to the vividness of the immediate surroundings and give this site a high sensitivity. New development could be dominant, depending on design and situation on the site.

**Figure 4.1-13 FOR-1 Looking Northeast from Front Street**



Source: Google Earth 2020

FOR-2 is a large parcel west of Mirabel Road surrounded by single-family homes on large lots and zoned LG/116 but outside the SR designation. Views of the ridgelines and open spaces are not visible from the streets looking across the lot due to existing residential development, flat topography, and mature vegetation on all sides (Figure 4.1-14). On Giusti Road, residences are large, single-story, and designed in a vernacular suburban ranch style. They are situated close to the roadway and are landscape in a varied but unified manner. On Mirabel Road, a school is directly across the street from FOR-2. The residential development on Mirabel Road features a less unified design than that on Giusti Road, with fewer trees and some intermittent fencing. Residential development on both sides of Nolan Road is like that on Giusti Road, but with less unified design and landscaping. Overall, the area around the site exhibits visual unity as the homes are large and consistently feature mature landscaping. While the unity is high, the level of vividness is lower because the neighborhood does not offer expansive views or feature notable architecture. The site has moderate sensitivity and, depending on density and height, new development could be dominant.

FOR-4 is situated east of FOR-1 in an area accessible only by unpaved roads off Van Keppel Road. It is a large lot, bordered to the north by single-family homes, on the south by an undeveloped field behind the Forestville Elementary School, to the east by vacant and cultivated agricultural fields, and to the west by forested open space with single-family residential development beyond. The parcel has an LG/116 zoning designation. Numerous mature trees are on the site along with two single-family residences and associated structures. The site has moderate sensitivity and development could be dominant if it differs considerably from surrounding land uses.

FOR-5, FOR-3, and FOR-6 are undeveloped parcels with adjacent residential development and a nearby water treatment facility, mini-storage, and other older-appearing industrial structures, with cultivated agricultural fields to the northeast (Figure 4.1-15 and Figure 4.1-16). Views of ridgelines and other natural resources are mostly unavailable from these sites due to the flat topography and intervening development, but the views of vineyards from Gravenstein Highway make the visual quality observed from that roadway vivid and intact. These sites are also zoned SR and LG/116, which protects community character. On Forestville Street, single-family residences are a mix of architectural styles that range from Mission to Ranch hybrids. Because these sites are adjacent to a scenic highway and within a scenic corridor, site sensitivity is high for all three of these Potential Sites and new development could be dominant, depending on density and orientation.

**Figure 4.1-14 FOR-2 Near Mirabel Road with Mature Vegetation in the Left Foreground**



Source: Google Earth 2020

**Figure 4.1-15 FOR-5 from Forestville Street Looking Northeast**



Source: Google Earth 2020



**Figure 4.1-16 FOR-6 from Forestville Street Looking Southwest**



Source: Google Earth 2020

## Graton

Graton is in western Sonoma County, north of the larger city of Sebastopol, just south of Forestville, and about 20 miles east of the Pacific Ocean. Historically, agriculture in the area focused on apple production but like much of Sonoma County, in recent decades the region transitioned to wine grape production. State Route 116 forms the eastern boundary and Atascadero Creek forms the western boundary of the town. Development in the community is characterized by the same type of clustered single-family residential neighborhoods mixed with small farms and orchards as other small, rural communities in Sonoma County. The neighborhoods feature mature trees and other vegetation, narrow streets without sidewalks, and deep setbacks. The small downtown area on Graton Road off State Route 116 is characterized by structures that appear to have been built in the late nineteenth and early twentieth centuries; structures that house small shops, restaurants, and other businesses. Other historic structures appear to house light-industrial businesses or to be unused. Most area residents live in single-family homes in neighborhoods intermixed with apple orchards, vineyards, truck farming, and other agricultural production. Throughout the town, views from roadways are of trees and ridgelines on the distant horizon.

Five Potential Sites are identified throughout Graton. GRA-1 is a vacant lot with limited vegetation, with a wrought-iron fence on the street side (Figure 4.1-17). Across Donald Street, single-family homes are situated on large lots with mature landscaping. Most of these are situated close to the roadway and feature low fences at the property edge. The design of the residences is a mix of styles that, while inconsistent, maintain a sense of unity as a rural residential community that coheres with the narrow roadways and village-style development. East of GRA-1, a preschool occupies a structure that appears to have been constructed during the early twentieth century and that has undergone periodic patching on the clapboard siding where needed. Mature trees occur intermittently along Donald Street, going east, and add to the rural quality of the neighborhood. West of GRA-1, a church with associated outbuildings and parking lot occurs at the corner of Donald Street and South Brush Street. There are no sidewalks, but the area near GRA-1 appears walkable

and has an intimate, human-scale feeling. The site has low sensitivity and new development is likely to be co-dominant.

**Figure 4.1-17 GRA-1 Looking West**



Source: Google Earth 2020

**Figure 4.1-18 GRA-2 from Ross Avenue Looking West (Beyond Bike Path)**



Source: Google Earth 2020

GRA-2 is a large parcel on the northeast edge of town, with what appear to be provisional industrial and residential (mobile home) structures on site. The West County Regional Trail aligns with the front of the property, parallel to Ross Road where a residential property surrounded by trees is also



situated (Figure 4.1-18). Across Ross Road from GRA-2, residential development includes a mix of cottage-style and Modern style architecture that are unified by their shared strength of design, even though the styles themselves are quite different. Landscaping is minimal but in keeping with the design quality. Further along Ross Road, toward the heart of Graton, industrial uses occur in structures that appear to pre-date World War II and thus bring an urban quality to the neighborhood as it transitions into town. Even with the mix of uses, there is a unity to the setting that has a certain level of vividness. The visual quality at the site is low, and the site sensitivity is low. New development is likely to be co-dominant.

GRA-4 is at the southwest corner of Hicks Road and Jeanette Avenue. It is bordered by residential uses that appear to have been constructed in the late nineteenth or early twentieth century, in some cases. Dense landscaping, including box hedges screen most of the properties from the roadway and trees overarch the street, making a shady lane (Figure 4.1-19). Across Jeanette Avenue, a very large residence is situated back from the street and features an ornate, metal gate and mature trees at the border. Next to this house, a small orchard is visible behind a row of box hedges. Along Hicks Road, similarly large houses are set back from the street on large lots and feature mature landscaping. The neighborhood does not feature any sweeping vistas, but displays unity in its design and landscaping, consistent with a rural residential setting. The shady lanes and mix of older and newer development are vivid and intact, although they do not have a strong sense of unity, giving the site moderate sensitivity. New development is likely to be co-dominant.

**Figure 4.1-19 GRA-4 from the Corner of Hicks Road and Jeanette Road, Looking Southeast**



Source: Google Earth 2020

GRA-3 and GRA-5 are adjacent and both front State Route 116/Gravenstein Highway at the southwest and southeast corners (respectively) of its intersection with Graton Road, which is zoned SR as a scenic resource and LG/116, a designation that protects community character. These sites

are close to commercial uses on the northeast side of Graton Road. The commercial uses feature a rustic-style design in keeping with an agricultural community. The structures are close to the roadways with generous landscaping, giving them a sense of unity with their surroundings. On State Route 116, GRA-5 is adjacent to residential uses on Graton Road and State Route 116 that have a farmhouse-style design and densely planted landscape. Some of the houses appear to have been built during the early twentieth century and those built more recently draw on the design of the older structures that unifies the development. GRA-5 also has many mature trees throughout the site, with particularly dense stands between the site and adjacent residences to the south (Figure 4.1-20).

**Figure 4.1-20 GRA-5 from Graton Road Looking South**



Source: Google Earth 2020

Crossing State Route 116, Graton Road becomes Frei Road; GRA-3 occupies the southwest corner and is adjacent to residential uses set back from the roadways on large lots to the south and east. GRA-3 has many mature trees on the site, some of which screen it from the roadways (Figure 4.1-21). Across Frei Road, residential development is set back from the roadway on large lots and designed in a mix of California ranch style, farmhouse-style, and a style that draws on Modern architecture. Densely planted, mature trees overarch the roadway and flowering shrubs and other vegetation form the understory. Overall, the sites have a degree of intactness and vividness based on with the mature, dense landscaping, but lack unity as they offer no long-range views and development is not part of a larger design plan. Nonetheless, as both Potential Sites are zoned LG/116, the site sensitivity is high and new development could be dominant, depending on the design and amount of vegetation removed during project implementation.



**Figure 4.1-21 GRA-3 from Frei Road and State Route 116 Looking Southeast**



Source: Google Earth 2020

## **Santa Rosa**

Santa Rosa is the county seat for Sonoma County and its largest city. It straddles the Highway 101 corridor in the central part of the county and is the commercial, governmental, and cultural hub of a county known for its wineries, restaurants, and cycling and other recreation opportunities. The eastern part of the city includes foothills of the Sonoma Mountains, while the western portion lies within the Santa Rosa Plain. Santa Rosa Creek bisects the city, running east to west into the Laguna de Santa Rosa. Numerous other creeks also run through or near the city limits. Santa Rosa features a wide range of land uses: light industrial, residential, office, and agricultural. Santa Rosa is a visually and culturally rich community with an historic downtown and surrounded by historic residential districts; other development includes low-density hillside neighborhoods and rural vistas on the edges of the city. The Sonoma Mountain foothills are visible from many parts of the city.

The Potential Sites identified in Santa Rosa are all along the Highway 101 corridor, south of the incorporated city limits (see Figure 2-7). Sites are discussed here from north to south, west of Highway 101, and then north to south, east of Highway 101. SAN-7 and SAN-6 are situated west of the Northwest Pacific Railroad tracks, in an area characterized by light industrial, office, and institutional uses development but that is also zoned VOH. SAN-7 is closest to the northern Santa Rosa city limits and is across Standish Avenue from the Amarosa Academy, an alternative high school. The site is an undeveloped field with some mature trees and ruderal vegetation. From Standish Avenue, the hillsides are visible, but the view cannot be characterized as scenic or notable (Figure 4.1-22). Site sensitivity is low and development would be co-dominant. Refer to Section 4.4, *Biological Resources*, for information regarding tree preservation and protection.

SAN-6 is just south of SAN-7, also fronting Standish Avenue. It is currently used to store heavy equipment; it is fenced and developed with some industrial structures. It is also in an area zoned VOH, but oak habitat does not appear present on the sites. Sidewalks and industrial fencing border SAN-6 and adjacent uses include light industrial to the south and a neighborhood park on the east

side of the railroad tracks. The Sonoma Mountains are visible in the background looking across the site, but the view lacks vividness and unity due to industrial context (Figure 4.1-23). Light industrial structures on the west side of Standish Avenue, across from the sites, are low, rectangular structures with corrugated metal siding painted shades of beige, and limited fenestration. Most feature some landscaping, but it is mostly limited to low shrubs and hardscaping, with a few, scattered trees. The structures are consistent in appearance with light industrial uses but feature no distinctive design that might distinguish them from one another. The lack of variety reduces any potential vividness in the area, further reduced by the scattered storage of vehicles and equipment. Views are available across the site but the clutter of the structures and associated industrial components reduces the intactness of those views. Site sensitivity is low and development would be co-dominant.

**Figure 4.1-22 SAN-7 Looking East with Sonoma Mountain Foothills in the Background**



Source: Google Earth 2020

SAN-8 is a large, irregularly shaped site, just southeast of the previous two sites. It is south of Andy's Unity Park, a County park east of the railroad tracks, on Robles Avenue. SAN-8 is developed with industrial structures and is fenced with chain-link fitted with wooden slats. The fencing is painted different shades of light and dark brown. Ruderal vegetation grows intermittently between the fencing and the street. Looking east, the Sonoma Mountain foothills are not visible beyond the developed area and planted trees. Parked storage trailers and other industrial outbuilding-type structures present a cluttered, low-quality visual environment that is incongruous with the adjacent residential and recreational development (Figure 4.1-24). Lack of vividness and intactness and the lack of unity with surrounding development make the visual quality at this site low. Site sensitivity is low and new development would be co-dominant.



**Figure 4.1-23 SAN-6 Looking Southeast**



Source: Google Earth 2020

**Figure 4.1-24 SAN-8 from Andy's Unity Park (Looking Southwest)**



Source: Google Earth 2020

SAN-2 is a small parcel just east of SAN-8, facing Moorland Avenue. It is paved and occupied by residences of modular construction, along with associated outbuildings (e.g., sheds). Mature trees grow along Moorland Avenue and the parcel is zoned VOH. A wooden fence separates the site from the street and adjacent properties (Figure 4.1-25). Opposite the site, the residential properties to the east feature densely planted perimeter trees that screen the site and block views of the distant foothills. Adjacent residences vary in style and include some that appear to have been constructed during the early twentieth century. Others are of newer provenance but designed in a similar

manner with gabled roofs and clapboard-style siding. Mature trees overarch the street, creating a shading lane traveling north on Moorland Avenue. While not particularly unified, the neighborhood has a village character that gives it a degree of vividness and moderate site sensitivity. New development would likely be co-dominant.

**Figure 4.1-25 SAN-2 Looking Southwest from Moorland Avenue**



Source: Google Earth 2020

SAN-9 is the final site on the west side of Highway 101. Located south of Todd Road, it is developed with light industrial uses, including a recycling service and a workshop where art classes are conducted, and studio spaces are made available to local artists. The site features scattered, mature trees and a deep setback from Todd Road (Figure 4.1-26). It is also zoned VOH. Intervening landscaping and other development prevent long-range views of the Sonoma Mountain foothills that are visible from the roadway, looking east. Opposite the site, residential development occurs facing and beyond Todd Road, accessed by small streets. The cottage-style structures have varied massing on adjacent sites, although paint schemes differ widely, and the surrounding fencing creates a solid horizontal plane in the foreground that detracts from the visual quality. Generally, the area has low to moderately low visual quality, as views into the distance, while scenic, are not expansive because of intervening development and much of the existing development does not possess distinction in terms of its form, style, or ability to contribute to a sense of place. The site has low sensitivity and new development would likely be subordinate.



Figure 4.1-26 SAN-9 from Todd Road, Looking Southeast



Source: Google Earth 2020

On the east side of Highway 101, SAN-4 faces Santa Rosa Avenue and is developed partially with a motel, a market/café, and a martial arts school. The site wraps around an adjacent restaurant (fast food) to the south to include a narrow strip of undeveloped land that borders another restaurant along Santa Rosa Avenue. The backside of the site is visible looking east from Highway 101, from which the Sonoma Mountains are partially visible behind intervening structures and scattered palm trees (Figure 4.1-27). From Highway 101, the rectilinear structures create an undifferentiated mass and ruderal vegetation, trash enclosures, and other scattered components add to the lack of unity. These obstruct the views of the mountains to such an extent that the vista is no longer intact, nor do these components contribute to a cogent sense of place. From Santa Rosa Avenue, views across the site are of the existing low-scale urban development (Figure 4.1-28). The structure's massing is disorganized and nondescript, similar to adjacent development patterns. Santa Rosa Avenue is a wide boulevard and the commercial and restaurant uses feature large, expansive parking lots close to the street with low, rectangular structures with flat roofs and rectangular facades closer to the middle or back of the lot. Across Santa Rosa Avenue from the site, a mobile home community, a multi-family residential development, and commercial and restaurant uses line the roadway.

The nearby foothills are visible looking east, but views are not intact due to intervening development. Limited to no landscaping further emphasizes the low horizontal line created by the flat rooftops of the mobile homes and retail uses. The multi-family development, however, introduces varied rooflines as they are two-story structures with staggered, gabled rooflines. The visual quality in this area is moderate to moderately low as many of the commercial and visitor-serving structures are in disrepair; provisional signage, irregular landscaping, and lack of overall unity make the area indistinguishable from any other aging retail corridor. Even though the site is in an SR-zoned area, it lacks unity and vividness and existing development blocks views of the surrounding landscape from Highway 101. Site sensitivity is low and new development is likely to be subordinate with other land uses and the landscape.

Figure 4.1-27 SAN-4 from Highway 101, Looking Northeast Across the Site



Source: Google Earth 2020

Figure 4.1-28 SAN-4 from Santa Rosa Avenue, Looking West



Source: Google Earth 2020

SAN-5, SAN-1, and SAN-3 are the easternmost Potential Sites in Santa Rosa, located off Brooks Avenue, a local access road off East Robles Avenue. This area is also zoned VOH, although oak woodlands are not visible on or near these sites. SAN-5 is undeveloped with some perimeter trees. Views across the site looking west are of limited visual quality due to intervening development (Figure 4.1-28 and Figure 4.1-29). North of the site, residential development near the street gives way to large lots used to store vehicles of various descriptions. Across Brooks Avenue to the east from SAN-5, vacant lots similarly used to store miscellaneous objects and vehicles are the



predominate visual feature. Mobile homes are situated on adjacent lots, along with storage units scattered across the lots. A chain-link fence with red strips inserted into the links surrounds the lot directly across from SAN-5. The area lacks intactness and unity, reducing the otherwise scenic quality of the area. Vividness is moderately low and site sensitivity is low because, although the site is not urbanized, it lacks native vegetation and other distinctive visual attributes. New development is likely to be dominant as the site has no landscaping or nearby development.

**Figure 4.1-29 SAN-5 Looking West**



Source: Google Earth 2020

Moving south, SAN-1 is an undeveloped fenced site used for storing modular home components and vehicles (Figure 4.1-30). Views across the site are limited to the trees near development to the west. Looking east, the foothills are visible behind the residential development across the street from the site, but these are compromised by the prominence of the single-family home and the modular office structures that serve the business next to the home, further contributing to the lack of unity in the area. The sites are not urbanized but site sensitivity is low due to lack of vividness and unity. New development is likely to be dominant, as the site has no landscaping or nearby development.

SAN-3 is an undeveloped lot with a wire fence and a few mature but unmaintained trees (Figure 4.1-31). Looking west, the views are the same as from the other two sites, limited by intervening development. East of the site, the view across another vacant lot offers clear views of the foothills, despite the various vehicles and sheds stored on the lot. The property to the south of SAN-3 is developed with a two-story, single-family home set back far from the street. A wooden fence separates it from SAN-3. The site is not in an urbanized area, but it is not on a prominent ridgeline and has no significant natural vegetation, giving it a low sensitivity. New development is likely to be dominant as the site has no landscaping or nearby development.

**Figure 4.1-30 SAN-1 Looking East**



Source: Google Earth 2020

**Figure 4.1-31 SAN-3 Looking Northeast**



Source: Google Earth 2020

Finally, SAN-10 is northeast of the intersection of Santa Rosa Avenue and Mountain View Avenue. Closest to Santa Rosa Avenue, the site is developed with agricultural industrial uses and is partially paved. The site contains distributed temporary office trailers, tanks, and storage structures, along with parked cars and trucks. A recreational trail adjoins the site. Some mature trees border the property to the north, but the eastern foothills are visible beyond the single-story development and the trees (Figure 4.1-32). The eastern portion of the site is used to store equipment but is otherwise undeveloped. A mature redwood grows at the corner closest to Santa Rosa Avenue. Also zoned



VOH, most of the trees occur along the bike path or at the perimeter of the parcel and not on the site directly.

**Figure 4.1-32 SAN-10 Viewed from the Northern Boundary, Looking East**



Source: Google Earth 2020

Similar views through the sight are visible from the roadway (Figure 4.1-33). A channelized creek lies north of the bike trail that borders the site. Adjacent uses include a landscaping supply company to the north and an automobile dealership with a paved parking area and a barn-like office structure to the south. Across Santa Rosa Avenue, uses include other agriculture and construction-supporting commercial businesses. Adjacent uses include light industrial/retail businesses serving the construction industry. Large yards with material stockpiles surround a small office with large signage on the roof. Opposite this business, another features modular units painted beige with a parking area and chain-linked fence. Beyond that, a used car lot includes a similarly non-descript modular office with large signage and cars parked in the large lot that fronts the property. The area has no sidewalks and limited landscaping. The lack of unity, generally undifferentiated quality of the structures, and stockpiled construction materials render the visual quality is low to moderately low for the area around SAN-10. Site sensitivity is low and new development that replaces existing development will likely be co-dominant with adjacent uses and the landscape.

Figure 4.1-33 SAN-10 Viewed from the Southern Boundary, Looking North



Source: Google Earth 2020

## Glen Ellen/Agua Caliente

Glen Ellen is a roughly 2.1-square mile village along Arnold Drive west of State Route 12, about 6 miles northwest of Sonoma (County of Sonoma 2018a). Situated in the Valley of the Moon, the area is defined by its rural, forested landscape; Sonoma Creek, which runs through town from north to south; and its history. Once the home of the writer Jack London, Glen Ellen features historic structures in its walkable downtown and is the gateway to the Jack London State Historic Park, the Sonoma Valley Regional Park, and the Bouverie Wildflower Preserve. Arnold Drive runs the length of the community, north to south, along the eastern side of the community, and from its intersections with Chauvet Road to Gibson Road features two commercial centers in the town interspersed with single-family, residential development. The County of Sonoma identifies Arnold Drive through Glen Ellen as a Scenic Corridor (County of Sonoma 2020d). The area has dense vegetation along the roadways and in developed areas. Beyond the Urban Service Area, Glen Ellen is surrounded by designated Scenic Landscape Units to the north and west, Community Separators to the south and east, and the parks to the south to the southeast.

Two sites are identified in Glen Ellen for the proposed project: GLE-1 and GLE-2. They are situated behind adjacent properties near the southeast corner of Arnold Drive and Carquinez Avenue in an area zoned SR. The neighborhood features a mix of cottage-style residential development, some of which was constructed in the late nineteenth and early twentieth centuries, retail and restaurant uses, and light-industrial facilities (e.g., car repair, auto body shop), also likely constructed in the early twentieth century. Single-family cottages directly border the site and single-family and multi-family uses are adjacent (i.e., across Carquinez Avenue). The single-family residences are small and close to the street. They are painted white, blue, and other colors that reflect aspects of the surrounding landscape. The multi-family, two-story structure across the street is less distinctive, with simple rectilinear forms interrupted by limited fenestration and other features that appear to have been added after initial construction. The landscaping is dense and features a mix of flowering deciduous trees and evergreens. Nearby businesses occur in small structures that appear to have been constructed in the early twentieth century and which have been renovated to include



landscaping, muted paint colors, and wall murals. From Carquinez Avenue, ridgelines are visible west of Arnold Avenue and rock walls, densely planted, mature trees, and renovated structures create a unified sense of place. GLE-1 and GLE-2 feature mature trees and flowering shrubs at the perimeter (Figure 4.1-34). From some locations in Glen Ellen, the foothills are visible from the roadways. The visual quality is high in this area as the neighborhood adheres to the small, rural village design specified in the community design guidelines. Site sensitivity is high and new development that differs substantially from adjacent uses would be dominant.

**Figure 4.1-34 GLE-1 and GLE-2 Seen through Adjacent Residential Development, from Carquinez Avenue Looking Southwest**



Source: Google Earth 2020

Agua Caliente is approximately 3 miles south of Glen Ellen along State Route 12. Expansive views of the Sonoma-Napa mountains and vineyard covered hillsides are the dominant visual feature where the roadway extends through this community and the Valley of the Moon. Agua Caliente is part of the Sonoma Valley area known as “The Springs,” and is developed at low and medium densities, with planned community residential development mixed with commercial uses along State Route 12.

Three Potential Sites are identified in Agua Caliente. AGU-1 and AGU-2 are situated in an area with residential development on most of its irregular borders, with institutional and office uses situated to the east, along Verano Avenue and is zoned VOH. The residential neighborhood west of the proposed sites features single-family homes set back from the streets with mature trees and other landscaping. The style is a mix of contemporary cottage and ranch, interspersed with some early twentieth century-era bungalows. Two-story, multi-family units are designed in the same manner and cohere in style, with gabled roofs, clapboard-style siding, and grey and white paint schemes. The streets are wide, and trees are planted near property boundaries. Some yards feature low fences and parking is limited to driveways and streets. The medical office complex on the east side of the Potential Sites is a two-story structure with a gabled roof and intermittent balconies that break up the rectilinear massing. It is painted a deep beige color and features mature trees at the

perimeter and throughout the site. AGU-1 and AGU-2 are only visible from Verano Avenue as the backs of adjacent development surrounds the site on all sides. Dense vegetation screens the site from the street (Figure 4.1-35). The general visual quality of the area is high due to the unity of architecture, human scale of development, and mature landscaping. Site sensitivity is moderate and new development on these sites would likely be co-dominant, particularly if limited trees are removed.

**Figure 4.1-35 AGU-1 and AGU-2 Viewed from Verona Avenue Looking Northwest**



Source: Google Earth 2020

AGU-3 is west of the other sites, closer to Arnold Drive, off Craig Avenue and is zoned VOH-X. The site is currently developed with a church and has landscaped trees and lawn throughout (Figure 4.1-36). Other adjacent uses include single- and multi-family residential development with fenced yards and varying degrees of landscaping. Similar to development throughout the community, architectural styles draw on California bungalow and ranch styles popular in the early and mid-twentieth century. Some structures appear to be from this era and others are newer but follow the same style, giving the neighborhood a sense of unity. Even though the eastern foothills are quite close to the town, they are not visible from Craig Avenue due to intervening development and forestation. On Railroad Avenue, however, the eastern ridgeline is visible looking across the site. The visual quality in this neighborhood is high as coherent architectural styles, paint schemes, and landscaping give the area a unified appearance. Site sensitivity is moderate and new development would likely be co-dominant, particularly if limited tree removal occurred.



**Figure 4.1-36 AGU-3 from Railroad Avenue Looking East**



Source: Google Earth 2020

## Penngrove

Penngrove is in central Sonoma County, southeast of Santa Rosa, along the Highway 101 corridor in an area where the Sonoma Mountains form a continuous, visible backdrop. Extensive rural residential development is situated in and around Penngrove, and the small, historic downtown resembles that of other communities in the county. Livestock grazing and forage crops are the predominant type of agriculture view in the rural areas, along with vineyards. Eight Potential Sites are proposed throughout the area. They are described below from north to south.

PEN-6 is at the northernmost boundary of the town in a rural residential area. The site is elevated from the street and currently has several single-family homes, mature trees, and maintained meadow/open space (Figure 4.1-37). Across Old Adobe Road, single-family residential uses feature modular home and outbuildings in a vernacular ranch style painted colors ranging from gray to terracotta. Some structures appear to be from the early twentieth century era but are not maintained. Windmills and water towers are visible from the roadway and add to the rural sense of place. The Penngrove School is situated on a rise in the topography just east of PEN-6 and features a Mission Revival-style architecture. The grounds feature numerous mature oak trees at the perimeter. Overall, the area around PEN-6 lacks visual unity, as the structure's conditions vary, and some paint schemes contrast strongly with the landscape. The vegetation is mature but sporadic, sometimes adding to the visual quality, but other times not as it appears overgrown and lacking maintenance. Site sensitivity is moderate and new development will likely be co-dominant.

Figure 4.1-37 PEN-6 Viewed from Old Adobe Drive Looking North



Source: Google Earth 2020

PEN-5 is situated at the T-intersection of Petaluma Hill Road and Woodward Avenue on the northeast side of the railroad tracks. The lot is developed with a small structure that appears to pre-date the 1950s. The lot is at the beginning of the town's Main Street; adjacent uses include historic-era commercial and mixed-used development. The roadway/transportation infrastructure include overhead signals, railroad crossing protection facilities, and aboveground utility transmission lines. Mature trees grow intermittently, and development is limited. The visual quality is moderate at this site, as the industrial infrastructure does not cohere with the older, historic development (Figure 4.1-38). The site is zoned SR, making site sensitivity high. New development would likely be co-dominant.

PEN-1, PEN-3, PEN-8, and PEN-9 are sited diagonally south of Main Street from PEN-5, on adjacent lots, between Penngrove Park and the railroad tracks. They feature a mix of newer and historic-appearing commercial/light-industrial development. The newer commercial/industrial uses features materials that make them visually compatible with the older structures and with a rural/industrial setting, as befits a depot stop in an historic railroad town (Figure 4.1-39). PEN-9 is beyond the commercial uses and includes a barn and associated structures (Figure 4.1-40). The structure has a character in keeping with the nearby commercial and industrial uses. The undeveloped areas around the structures includes an unpaved driveway and grassy areas. The site appears to be used to store vehicles as well.

Beyond these uses and on the other side of the railroad tracks, a storage facility is directly opposite the tracks, and residential development occurs as the foothills begin to rise. These are the same style of early twentieth century bungalow architecture seen throughout Sonoma County. Mature trees buffer these homes from the railroad traffic, to the extent possible. Along Petaluma Hill Road, commercial uses include single- and two-story structures, with clapboard-like siding, balconies, and attractive signage, adding to the unified feel of the area near the railroad tracks as a rustic depot town. PEN-1, PEN-3, PEN-8, and PEN-9 do not afford views of the nearby mountains due to



intervening development, but mature trees and structures contribute to intactness and vividness throughout. PEN-1, PEN-3, PEN-8, and PEN-9 are zoned SR and VOH, and they are adjacent to development with a distinctive design, making site sensitivity high. New development will likely be co-dominant.

**Figure 4.1-38 PEN-1, PEN-3, and PEN-8 Looking Southeast**



Source: Google Earth 2020

**Figure 4.1-39 PEN-9 Looking Southeast**



Source: Google Earth 2020

PEN-2, PEN-4, and PEN-7 are further south, off Old Redwood Highway. These sites are large, rural/residential plots, with mature trees (Figure 4.1-41), and in the case of PEN-2 and PEN-4, historic-appearing barns. Hillsides are visible from the roadway looking southeast. Surrounding uses are rural-residential with large homes set back from the street on large parcels. Some feature low, split rail fencing and others have solid wood panel fences. Architectural styles vary from large, low

ranch-style to modern redwood bungalow. Some neighboring parcels have small fruit orchards. The visual character is unified, even with the range of architectural styles and fencing treatments. The views of the foothills across the rolling, open landscape have a high degree of intactness, and, thus, the visual quality is high (Figure 4.1-42). None of these sites are zoned in a way that affords visual resources protection, but because of the rural setting and limited development, site sensitivity is moderate. New development would likely be dominant, based on design and building height and development density.

**Figure 4.1-40 PEN-7 from the Northwest, Mature Trees on Horizon, Pasture in Foreground**



Source: Google Earth 2020

**Figure 4.1-41 PEN-2 (PEN-4 Beyond) Looking Southeast Toward the Sonoma Mountains**



Source: Google Earth 2020

## **Petaluma**

Petaluma is in the southern end of the county, 37 miles north of San Francisco. It features with many historic structures including many that date from the late nineteenth and early twentieth



centuries and contribute strongly to its aesthetic. The four sites proposed for rezoning are in the County-designated Urban Service Area, just outside the city limits and just north of the historic downtown area and are zoned SR as part of the scenic corridor along Bodega Avenue. The area is somewhat developed with residential, commercial, and industrial uses, but the edges give way to agricultural uses in a rolling topography with mature trees. PET-1 and PET-3 are developed with commercial and residential uses at the north ends of the parcels (Figure 4.1-43).

**Figure 4.1-42 PET 1 and PET-3 Looking Southwest from Bodega Avenue**



Source: Google Earth 2020

PET-2 is developed closest to Bodega Avenue with multi-family residential development and a paved parking area. The rest of the lot is undeveloped. The structure's envelope occupies a long rectangle with a Western vernacular façade at the end closest to the street. It is painted pale yellow and feature no significant landscaping, particularly trees (Figure 4.1-44). Across the street, a vacant lot is bordered by single-family residences in the same early twentieth century bungalow and later ranch styles as those described above. Associated structures appear to include an accessory dwelling unit and a small barn, all of which are painted different colors from one another.



Figure 4.1-43 PET-2 and PET-4 Looking Southwest from Bodega Avenue



Source: Google Earth 2020

Adjacent to PET-2, PET-4 wraps around a lot developed with a residence that appears to date from the late nineteenth century. The parcel slopes gently southward and mature trees are visible at the top of the hill (Figure 4.1-45). The residence at the front of the site is one story in the Folk Victorian Farmhouse style and appears to be well maintained. The garden is also maintained, and the house is painted in a blue color that reflects its place in the landscape. Other adjacent uses include a pre-World War II era, single-story residence just northwest of the Petaluma city limits, beyond a vacant lot that retains some old barns near the back of the property. On the north side of Bodega Avenue, residences in the style of early twentieth century bungalows line Bodega Avenue, beyond the Petaluma city limits. Large stands of mature trees occur between houses and the roadway.

The area has a moderately high degree of vividness, unity, and intactness, as the views from the roadway are of the surrounding countryside with its classic oak-studded rolling hills. Some historic-era residential structures dominate the built environment views. The landscape, as described above, is quintessentially Californian and western. Site sensitivity is high at all three locations, due to SR zoning and some potentially historic architecture. New development has the potential to be dominant, depending on design, height, and density.

**Figure 4.1-44 PET-4 Visible Beyond Residence near Bodega Avenue**



Source: Google Earth 2020

## Sonoma

Sonoma is an incorporated community in the southeastern portion of Sonoma County, nestled into the foothills of the Sonoma Mountains. Located in a famed part of Sonoma County's vineyard country, the city is known for its historic mission and plaza, its contribution to the regional viticulture, and its low-density mix of rural residential development. The mountain block to the north rises 1,200 feet and provides an important scenic backdrop around which the views of the city's original streetscape were designed.

The Potential Sites are on the southwestern edge of the city, within the City of Sonoma's designated Urban Growth Boundary and County-designated Urban Service Area, and all are zoned SR VOH. The sites comprise adjacent lots on the west side of Broadway. They feature limited residential development on large parcels in the form of one or more single-family homes and associated structures, set back some distance from the street (Figure 4.1-46 and Figure 4.1-47). Except for SON-3, all the sites have some mature trees and paved access roadways and parking areas. Closest to Broadway, SON-1 features a large oak tree, with a canopy that shields the parcel from the street.

Southwest of the intersection of Broadway and Leveroni Road, SON-3 is adjacent to commercial uses in a strip mall development and a big box retail store, with moderate to large structures set back from the street and large parking lots closer to the roadway. Across Broadway from the Potential Sites, a vacant lot is a prominent visual feature adjacent to rural residential development, similarly set back from the roadway and buffered by trees or ruderal vegetation at the property boundary. The residence is designed in a vernacular ranch style with an accessory dwelling unit and a six-foot wooden fence around most of the property. Beside this residence, the open land appears to have been cultivated with row crops. From Broadway, looking northeast, the Sonoma Mountains are visible on the distant horizon, but intervening development limits these views from the Potential Sites themselves (Figure 4.1-48).

Despite the views of the mountains from Broadway and the large, mature oak trees, the area around the Potential Sites in Sonoma lack a degree of vividness due to the low level of unity among the architectural styles, the weedy frontages, and various abandoned furniture and other debris



along the roadway. The rural residential style of development is variably maintained and thus lacks a coherent, unified appearance, making the overall visual quality moderate. These Potential Sites have high site sensitivity and new development would likely be co-dominant.

**Figure 4.1-45 SON-1 and SON-3, Looking Southwest**



Source: Google Earth 2020

**Figure 4.1-46 SON-2 and SON-4, Looking Southwest**



Source: Google Earth 2020

**Figure 4.1-47 View of Sonoma Mountains from Broadway, Looking Northeast with SON-1, SON-2, SON-3, and SON-4 to the Left**



Source: Google Earth 2020

#### 4.1.4 Greenbelts, Greenways, and Expanded Greenbelts

Although they are not officially designated as protected areas, greenbelts are discussed in the General Plan EIR as “areas that function as open space buffers around cities and county urbanized areas, much like Community Separators” (County of Sonoma 2006:4-11.5). These areas are eligible for protection as they can contribute to scenic preservation, among other things. Priority greenbelts were identified in the General Plan, corresponding to scenic landscape units throughout the county.

Expanded greenbelts are those rural, open space lands that provide a 1-mile buffer beyond cities that generally serve to preserve the rural character of the region. They comprise a continuous, 1-mile band along major roadways and urbanized areas in the county along State Route 12, Highway 101, and State Route 116. None of the Potential Sites occur within greenbelts, greenways, or expanded greenbelts.

#### 4.1.5 Community Separators

Community Separators are a characteristic that distinguishes Sonoma County from many other parts of the Bay Area. These are rural open spaces, agricultural lands, and other natural resource lands that separate cities and other communities, prevent sprawl and protect natural resources. They occur throughout the county and are protected by goals and policies in the General Plan Land Use Element and Open Space and Resources Element. The Potential Sites are not situated within any Community Separator in the County.

#### 4.1.6 Light and Glare

For purposes of this analysis, light refers to light emissions (brightness) generated by a source of light. Stationary sources of light include exterior parking lots and security lighting; moving sources of light include the headlights of vehicles driving on roadways near the Potential Sites. Streetlights and other security lighting also serve as sources of light in the evening hours. Highly visible lights at night can disrupt views of the night sky and have the potential to be seen for miles if geography or vegetation do not intervene. Moving sources of light (i.e., vehicles) easily catch the eye and are difficult to ignore.

Light pollution is an adverse effect of man-made light and can include urban sky glow, glare, and light trespass. Excessive lighting of this type can significantly change the character of rural and natural areas by making the built environment more prominent at night and creating visual clutter (International Dark Sky Association 2020).

The current conditions in the more rural areas include limited light from moving vehicles, street lighting, and structure lighting (both interior lights that emanate from windows and exterior lights in place for security or safety). There is little light spillage from developed uses onto adjacent uses and very little interference with night sky viewing. In more developed areas, lighting is consistent with urban and suburban development, including some streetlights and external security lighting. In developed rural residential areas, light conditions are more intense than the rural areas but less than the sites at the edges of larger cities (e.g., Santa Rosa, Sonoma).

Glare is defined as focused, intense light emanated directly from a source or indirectly when light reflects from a surface. Daytime glare is caused in large part by sunlight shining on highly reflective surfaces at or above eye level. Reflective surfaces are associated with structures that have expanses of polished or glass surfaces, light-colored pavement, and the windshields of parked cars.

Throughout the county, glare is limited by various factors: forestation, limited large or expansive parking lots, and design guidelines in the General Plan that regulate the character of new development and that include placing parking areas out of the view of newly implemented streetscaping (County of Sonoma 2018a).

#### 4.1.7 Regulatory Setting

##### a. Federal Regulations

No existing federal regulations pertain to the visual resources in the project area.

##### b. State Regulations

##### State Scenic Highway Program

Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way, that traverses an area of exceptional scenic quality. Suitability for designation as a State scenic highway is based on vividness, intactness, and unity (Caltrans 2008):

1. Vividness is the extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements. A vivid landscape makes an immediate and lasting impression on the viewer.
2. Intactness is the integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions (e.g., buildings, structures, equipment, grading).



3. Unity is the extent to which development is sensitive to and visually harmonious with the natural landscape.

Two State-designated scenic highways are in Sonoma County, as described above, and portions of these travel near some of the Potential Sites, with those in scenic resource areas being listed in Table 4.1-2.

### c. Local

## Sonoma County General Plan

The Scenic Resources section of the Open Space & Resource Conservation Element of the General Plan provides the following goals and policies concerning aesthetics, visual resources, and community design; they apply to the Potential Sites throughout the county, where appropriate.

### **Goal OSRC-1: Preserve the visual identities of communities by maintaining open space areas between cities and communities.**

**Objective OSRC-1.1:** Preserve important open space areas in the Community Separators shown on Figures OSRC-5a through OSRC-5i of the Open Space and Resource Conservation Element.

**Objective OSRC-1.2:** Retain a rural character and promote low intensities of development in Community Separators. Avoid their inclusion in City Urban Growth Boundaries or Spheres of Influence. Avoid their inclusion within Urbans Service Areas for unincorporated communities.

**Objective OSRC-1.3:** Preserve existing groundwater recharge and stormwater detention areas within Community Separators.

**Objective OSRC-1.4:** Preserve existing specimen trees and tree stands within Community Separators.

### **Goal OSRC-2: Retain the largely open, scenic character of important scenic landscape units.**

**Objective OSRC-2.1:** Retain a rural, scenic character in Scenic Landscape Units with very low intensities of development. Avoid their inclusion within spheres of influence for public service providers.

**Objective OSRC-2.2:** Protect the ridges and crests of prominent hills in Scenic Landscape Units from the silhouetting of structures against the skyline.

**Objective OSRC-2.3:** Protect hills and ridges in Scenic Landscape Units from cuts and fills.

Policy OSRC-2a: Avoid amendments to increase residential density in Scenic Landscape Units in excess of one unit per ten acres. The land use plan may designate a lower density or larger minimum lot size.

Policy OSRC-2b: Avoid commercial or industrial uses in Scenic Landscape Units other than those that are permitted by the agricultural or resource land use categories.

Policy OSRC-2d: Unless there are existing design guidelines that have been adopted for the affected area, require that new structures in Scenic Landscape Units meet the following criteria:

- (1) Site and design structures to take maximum advantage of existing topography and vegetation to substantially screen them from view from public roads.
- (2) Minimize cuts and fills on hills and ridges.
- (3) Minimize the removal of trees and other mature vegetation. Avoid removal of specimen trees, tree groupings, and windbreaks.

- (4) Where existing topography and vegetation would not screen structures from view from public roads, install landscaping consisting of native vegetation in natural groupings that fits with the character of the area to substantially screen structures from view. Screening with native, fire retardant plants may be required.
- (5) Design structures to use building materials and color schemes that blend with the natural landscape and vegetation.
- (6) On hills and ridges, avoid structures that project above the silhouette of the hill or ridge against the sky as viewed from public roads and substantially screen driveways from view where practical.
- (7) To the extent feasible, cluster structures on each parcel within existing built areas and near existing natural features such as tree groupings.

Policy OSRC-2e: Use the following standards in addition to those of Policy OSRC-2d for subdivisions in Scenic Landscape Units:

- (1) Establish building envelopes for structures and consider use of height limitations if necessary to further mitigate visual impacts.
- (2) Use clustering to reduce visual impact where consistent with the Land Use Element.
- (3) Locate building sites and roadways to preserve significant existing tree stands and significant oak trees.

Policy OSRC-2f: Identify critical scenic areas within designated Scenic Landscape Units. To the extent allowed by law, consider requiring dedication of a permanent scenic or agricultural easement at the time of subdivision for properties within these critical scenic areas.

Policy OSRC-2g: Consider voluntary transfer of development rights and purchase of development rights programs and make Scenic Landscape Units eligible with owner consent.

Policy OSRC-2h: For development on parcels located both within Scenic Landscape Units and adjacent to Scenic Corridors, apply the more restrictive siting and setback policies to preserve visual quality.

**Goal OSRC-3: Identify and preserve roadside landscapes that have a high visual quality as they contribute to the living environment of local residents and to the County's tourism economy.**

**Objective OSRC-3.1:** Designate the Scenic Corridors on Figures OSRC-5a through OSRC-5i along roadways that cross highly scenic areas, provide visual links to major recreation areas, give access to historic areas, or serve as scenic entranceways to cities.

**Objective OSRC-3.2:** Provide guidelines so future land uses, development and roadway construction are compatible with the preservation of scenic values along designated Scenic Corridors.

Policy OSRC-3a: Apply the Scenic Resources combining district to those portions of properties within Scenic Corridor setbacks.

Policy OSRC-3b: For development on parcels located both within Scenic Landscape Units and adjacent to Scenic Corridors, apply the more restrictive siting and setback policies to preserve visual quality.

Policy OSRC-3c: Establish a rural Scenic Corridor setback of 30 percent of the depth of the lot to a maximum of 200 feet from the centerline of the road unless a different setback is provided in the Land Use Policies for the Planning Areas. Prohibit development within the setback with the following exceptions:



- (1) New barns and similar agricultural support structures added to existing farm complexes on parcels in the Diverse Agriculture, Land Extensive Agriculture, Land Intensive Agriculture, and Resources and Rural Development land use categories, and on parcels in the Rural Residential land use category with Agriculture and Residential (AR) Zoning, provided that such structures proposed within a State Scenic Highway or where local design review exists by community choice in an adopted specific or area plan are subject to administrative design review.
- (2) New barns and similar agricultural support structures that do not require a use permit in the Development Code on parcels in the Diverse Agriculture, Land Extensive Agriculture, Land Intensive Agriculture, and Resources and Rural Development land use categories, and on parcels in the Rural Residential land use category with Agriculture and Residential (AR) Zoning, provided that such structures proposed within a State Scenic Highway or where local design review exists by community choice in an adopted specific or area plan are subject to administrative design review.
- (3) Maintenance, restoration, reconstruction, or minor expansion of existing structures.
- (4) Telecommunication facilities that meet the applicable criteria established in the Development Code.
- (5) Other new structures if they are subject to design review and (a) they are associated with existing structures, (b) there is no other reasonable location for the structure, (c) the location within the setback is necessary for the use, or (d) existing vegetation and topography screen the use.
- (6) Compliance with the setback would render the parcel unbuildable.
- (7) Satellite dishes that are not visible from the roadway.

Policy OSRC-3e: In conjunction with Section 2.5 “Policy for Urban Design”, incorporate design criteria for Scenic Corridors in urban areas.

Policy OSRC-3g: Avoid freeway-oriented billboards along designated Scenic Corridors. Establish design criteria for consideration of new freestanding outdoor advertising structures or signs along designated Scenic Corridors to retain visual quality. Consider amortization of existing signs subject to the limitations of State law as a condition of approval for discretionary permits.

**Goal OSRC-4: Preserve and maintain views of the nighttime skies and visual character of urban, rural and natural areas, while allowing for nighttime lighting levels appropriate to the use and location.**

**Objective OSRC-4.1:** Maintain nighttime lighting levels at the minimum necessary to provide for security and safety of the use and users to preserve nighttime skies and the nighttime character of urban, rural and natural areas.

**Objective OSRC-4.2:** Ensure that nighttime lighting levels for new development are designed to minimize light spillage offsite or upward into the sky.

Policy OSRC-4a: Require that all new development projects, County projects, and signage utilize light fixtures that shield the light source so that light is cast downward and that are no more than the minimum height and power necessary to adequately light the proposed use.

Policy OSRC-4b: Prohibit continuous all-night exterior lighting in rural areas, unless it is demonstrated to the decision-making body that such lighting is necessary for security or operational purposes or that it is necessary for agricultural production or processing on a

seasonal basis. Where lighting is necessary for the above purposes, minimize glare onto adjacent properties and into the night sky.

Policy OSRC-4c: Discourage light levels that are in excess of industry and State standards.

**Goal OSRC-5: Retain and enhance the unique character of each of the County's unincorporated communities, while accommodating projected growth and housing needs.**

**Objective OSRC-5.1:** Develop Urban Design Guidelines on a community by community basis to achieve the following: compatibility with and connections to surrounding development; community interaction and pedestrian activity; attractive public views; safe and comfortable infrastructure and streetscape improvements for bikes and pedestrians; increased public safety.

**Objective OSRC-5.2:** Establish community character as a primary criterion for review of projects in Urban Service Areas.

Policy OSRC-5a: Develop Urban Design Guidelines appropriate for each Urban Service Area in unincorporated Sonoma County that reflect the character of the community.

Policy OSRC-5b: Use the following general urban design principles until Urban Design Guidelines specific to each Urban Service Area are adopted.

- (1) Promotion of pedestrian and/or bicycle use
- (2) Compatibility with adjacent development
- (3) Incorporation of important historical and natural resources
- (4) Complementary parking out of view of the streetscape
- (5) Opportunities for social interaction with other community members
- (6) Promotion of visible access to buildings and use areas
- (7) Appropriate lighting levels

**Goal OSRC-6: Preserve the unique rural and natural character of Sonoma County for residents, businesses, visitors, and future generations.**

**Objective OSRC-6.1:** Develop Rural Character Design Guidelines to achieve the following: preservation of existing site features contributing to rural character; siting of buildings and development features to blend in with the surrounding landscape; and allowance for rural design features in rural areas.

**Objective OSRC-6.2:** Establish Rural Character as a primary criterion for review of discretionary projects, but not including administrative design review for single family homes on existing lots outside of Urban Service Areas.

Policy OSRC-6a: Develop design guidelines for discretionary projects in rural areas, but not including administrative design review for single family homes on existing lots, that protect and reflect the rural character of Sonoma County. Use the following general design principles until these Design Guidelines are adopted, while assuring that Design Guidelines for agricultural support uses on agricultural lands are consistent with Policy AR-9h of the Agricultural Resources Element.

- (1) New structures blend into the surrounding landscape, rather than stand out.
- (2) Landscaping is included and is designed to blend in with the character of the area.
- (3) Paved areas are minimized and allow for informal parking areas.
- (4) Adequate space is provided for natural site amenities.

- (5) Exterior lighting and signage are minimized.

The Land Use Element also includes policies that affect the visual character of new development in the county.

**Goal LU-3: Locate future growth within the cities and unincorporated Urban Service Areas in a compact manner using vacant “infill” parcels and lands next to existing development at the edge of these areas.**

Policy LU-3e: Until December 31, 2036, the boundaries of Urban Service Areas of unincorporated communities as shown on the Land Use Maps shall not be amended to include lands within the Community Separators as shown on the Open Space Maps unless such amendment is approved by the voters of Sonoma County.

**Objective LU-15.4** Maintain the “rural village” character of Forestville through design development standards that support small-scale development with substantial open space and native landscaping.

Policy LU-15b: Require design review for major subdivisions within the Forestville Urban Service Boundary. Design review approval shall assure that:

- (1) Project scale and design is consistent with existing rural village character,
- (2) Project design gives priority to natural landscape over development, and preserves and enhances significant natural features,
- (3) The project retains open space amenities associated with a rural lifestyle,
- (4) The project provides for a variety of housing types and costs,
- (5) Where appropriate to the natural terrain, houses are clustered to maximize open space. To the extent allowed by law, require a long-term scenic easement for the undeveloped portion of the property, and
- (6) The project includes pedestrian access connecting new homes in a nearby commercial area.

**Objective LU-20.4:** Implement the Sonoma Valley Redevelopment Plan and the General Plan in a consistent manner. Encourage private redevelopment by providing flexibility in the range of land uses within the Redevelopment Area.

Policy LU-20hh: All new development in the Glen Ellen area (as designated in the Glen Ellen Development and Design Guidelines) shall comply with the Glen Ellen Development and Design Guidelines, which are part of the County Development Code.

## Sonoma County Code

Article IV of the County Code provides general development standards that govern design, lighting, landscaping, and integration into the visual context of the area for new development. This section also details limitations on grading, removal of existing landscaping, and limitations on height and mass of buildings and structures so they do not obstruct views of the landscape where it is designated as scenic. Section 7D3 of the Sonoma County Code requires a landscape plan check for project to ensure their compliance with the Water Efficient Landscape Ordinance. The County provides pre-approved, scalable templates to ensure design and plant choice conform to the preferred and adopted protocols for residential landscaping.

Section 26-64-010 et seq. provides general direction on development in the Scenic Resources (SR) Combining District including scenic corridors, community separators, and scenic landscape units. It specifies general limitations on scale, massing, density, and design, subject to design review.

The VOH-zoned areas are subject to ordinances that govern tree removal as follows:

Except as provided in subsection (b), when any person cuts down or removes any large valley oak, or any small valley oaks having a cumulative diameter at breast height greater than 60 inches, on any property within the VOH district, such person shall mitigate the resulting valley oak loss by one of the following measures: (1) retaining other valley oaks on the subject property, (2) planting replacement valley oaks on the subject property or on another site in the county having the geographic, soil, and other conditions necessary to sustain a viable population of valley oaks, (3) a combination of measures (1) and (2), or (4) paying an in-lieu fee, which shall be used exclusively for valley oak planting programs in the county. (Article 67, Section 26-67-030)

Finally, some landscape units and scenic corridors are subject to lighting and signage regulations that include limits on intensity, size, and design. These are subject to review and approval based on compliance with the County Code. Throughout the County Code, night sky ordinances govern the degree to which development can be lighted at night, and include stipulations about shielding, orientation, and luminosity.

## **Community Separators Protection Ordinance**

Community Separators are open space or agricultural lands that separate cities and other communities, contain urban development, and provide city and community identity by offering visual relief from continuous urbanization. On November 8, 2016, the Community Separators Protection Ordinance, commonly called Measure K, passed with 81.1 percent approval. Measure K extends voter protections to Community Separator lands for 20 years.

## **Glen Ellen Design Guidelines**

The community of Glen Ellen has specific design guidelines that govern development in the area. Key goals and policies address maintaining the natural environment, enhancing the image and aesthetic character, and preserving historic places, structures, and artifacts (County of Sonoma 1997).

## **Penngrove Main Street Design Guidelines**

The Penngrove Main Street Design Guidelines were developed to preserve the historic resources and the traditional character of Penngrove's Main Street and promote a walkable, mixed-use, and economically viable commercial district. The guidelines were adopted with the expectation that they would encourage investment in the community's business district by providing some assurance that future development would occur consistent with the goals of preserving and improving Penngrove's Main Street (County of Sonoma 2010). The document offers clear, concise design guidance to assist property owners, business owners, architects, and designers in the development of project plans. County staff use the guidelines during project review and decision making boards and commissions use them as a tool to evaluate development proposals and provide direction to applicants.

## Sonoma 116 Scenic Highway Corridor Study

In 1983, the State legislature passed Assembly Bill (AB) 1026, that added State Route 116 from Highway 101 near Cotati to State Route 1 near Jenner in Sonoma County to the Master Plan of the State Highways Eligible for Scenic Highway Designation. The County had already designated State Route 116 as a scenic corridor, and following the passage of AB 1026, the Sonoma County Board of Supervisors passed a resolution to request that Caltrans conduct studies leading to designation of the route as an Official State Scenic Highway. The ensuing report Caltrans published offers visual quality assessments for scenic corridor segments that include areas where State Route 116 passes close to the Potential Sites.

### 4.1.8 Impact Analysis

The following section discusses the *CEQA Guidelines* Appendix G thresholds for aesthetics impacts and includes an evaluation of the setting described above relative to the thresholds listed below.

### Project Characteristics and Design Review Process

Sonoma County's design review process for includes evaluation of project plans by the Sonoma County Design Review Committee, which may recommend design revision before permits are issued. Specific design guidelines exist for the community of Glen Ellen, and development there would be subject to those (County of Sonoma 1990, County Zoning Code Section 26-90-060). The Sonoma County General Plan specifies design guidelines for development in areas of Forestville considered scenic corridors. Penngrove has many historic parcels, which affect design requirements for development on adjacent parcels. Otherwise, the General Plan is silent on the detailed requirements for community design county-wide. Guerneville, Forestville, and Graton have LG/SR 116 zoned areas that are subject to Section 26-64-010 et seq. of the County's zoning code, which specifies development criteria, including building massing, oak tree protection, and restrictions on scale and intensity.

#### a. Methodology and Thresholds of Significance

##### Methodology

Aesthetics impact assessments involve qualitative analysis that is subjective but informed by the County guidelines detailed above. Reactions to the same aesthetic conditions vary according to viewer taste and interests but are basically governed by the visual compatibility with the surroundings and existing development, coherence with design guidelines established by the jurisdiction, and use of high-quality materials that blend into the landscape. Ultimately, development decisions that prescribe aesthetic or design treatments for specific projects fall under the purview of the Sonoma County Planning Division and appointed or elected bodies charged with overseeing development permits. This project involves a county-wide rezone of properties in unincorporated areas of Sonoma County, and does not constitute a specific development proposal. This analysis focuses, therefore, on a general discussion of the aesthetic impacts on the Potential Sites by type, (i.e., rural, residential, industrial), in terms of the arrangement of built space to open space, the density and intensity of development, and how new development might visually fit with the existing landscape characteristic of the area. The impacts on visual character or quality attributable to projects that could be implemented after the rezone occurs were evaluated relative to visual conditions under buildout, estimated by those experienced from existing development in

and around the county. Photographs and Google Earth imagery of each Potential Site were reviewed in preparation of this analysis.

The existing conditions discussed in Section 4.1.2 have been evaluated using the County's guidelines and sites with potentially significant impacts have been assigned mitigation measures, as illustrated in the matrix in Table 4.1-5. This is summarized in Table 4.1-6 and discussed in detail below for each CEQA issue.

**Table 4.1-5 Sonoma County Visual Analysis Significance Matrix**

<b>Sensitivity</b>	<b>Dominant</b>	<b>Co-Dominant</b>	<b>Subordinate</b>	<b>Inevident</b>
Maximum	Significant	Significant	Significant	Less than significant
High	Significant	Significant	Less than significant	Less than significant
Moderate	Significant	Less than significant	Less than significant	Less than significant
Low	Less than significant	Less than significant	Less than significant	Less than significant

Source: County of Sonoma 2019



Table 4.1-6 Site Impacts and Recommended Mitigation Summary

Potential Site	Site Sensitivity	Project Potential Dominance	Potential Impact*	Required Mitigation Measure Number(s)
GEY-1	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
GEY-2	Moderate	Co-Dominant	Less than significant	AES-5
GEY-3	Moderate	Co-Dominant	Less than significant	AES-5
GEY-4	Moderate	Co-Dominant	Less than significant	AES-5
GUE-1	Moderate	Co-Dominant	Less than significant	AES-5
GUE-2	Moderate	Co-Dominant	Less than significant	AES-5
GUE-3	Moderate	Co-Dominant	Less than significant	AES-5
GUE-4	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
LAR-1	Low	Co-Dominant	Less than significant	AES-1, AES-2, AES-3, AES-4
LAR-2	Low	Co-Dominant	Less than significant	AES-5
LAR-3	Low	Co-Dominant	Less than significant	AES-5
LAR-4	Low	Co-Dominant	Less than significant	AES-5
LAR-5	Low	Co-Dominant	Less than significant	AES-5
LAR-6	Low	Co-Dominant	Less than significant	AES-5
LAR-7	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
LAR-8	Low	Co-Dominant	Less than significant	AES-5
FOR-1	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
FOR-2	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
FOR-3	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
FOR-4	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
FOR-5	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
FOR-6	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
GRA-1	Low	Co-Dominant	Less than significant	AES-5
GRA-2	Low	Co-Dominant	Less than significant	AES-5
GRA-3	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
GRA-4	Moderate	Co-Dominant	Less than significant	AES-5

Potential Site	Site Sensitivity	Project Potential Dominance	Potential Impact*	Required Mitigation Measure Number(s)
GRA-5	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
SAN-1	Low	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
SAN-2	Low	Co-Dominant	Less than significant	AES-5
SAN-3	Low	Dominant	Less than significant	AES-5
SAN-4	Low	Co-Dominant	Less than significant	AES-5
SAN-5	Low	Dominant	Less than significant	AES-5
SAN-6	Low	Co-Dominant	Less than significant	AES-5
SAN-7	Low	Co-Dominant	Less than significant	AES-5
SAN-8	Low	Co-Dominant	Less than significant	AES-5
SAN-9	Low	Co-Dominant	Less than significant	AES-5
SAN-10	Low	Co-Dominant	Less than significant	AES-5
GLE-1	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
GLE-2	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
AGU-1	Moderate	Co-Dominant	Less than significant	AES-1, AES-2, AES-5
AGU-2	Moderate	Co-Dominant	Less than significant	AES-1, AES-2, AES-5
AGU-3	Moderate	Co-Dominant	Less than significant	AES-5
PEN-1	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-2	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-3	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-4	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-5	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-6	Moderate	Co-Dominant	Less than significant	AES-5
PEN-7	Moderate	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-8	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PEN-9	High	Co-Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PET-1	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PET-2	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5

Sonoma County  
Rezone Sites for Housing Project

Potential Site	Site Sensitivity	Project Potential Dominance	Potential Impact*	Required Mitigation Measure Number(s)
PET-3	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
PET-4	High	Dominant	Significant	AES-1, AES-2, AES-3, AES-4, AES-5
SON-1	Moderate	Co-Dominant	Less than significant	AES-5
SON-2	Moderate	Co-Dominant	Less than significant	AES-5
SON-3	Moderate	Co-Dominant	Less than significant	AES-5
SON-4	Moderate	Co-Dominant	Less than significant	AES-5

\*The potential impact statement listed in this table coincides with the impact evaluation decision matrix in the County's Visual Assessment Guidelines (2019) and does not apply to every CEQA issue for every site. Potentially significant impacts are indicated for specific sites and mitigation measures reiterated by CEQA issue area.

## CEQA Significance Thresholds

The following thresholds of significance are based on *CEQA Guidelines* Appendix G. For purposes of this Program EIR, implementation of the proposed project may have a significant adverse impact if it would do any of the following:

1. Have a substantial adverse effect on a scenic vista
2. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
3. In non-urbanized areas, substantially degrade existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality
4. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

<b>Threshold:</b> Would the project have a substantial adverse effect on a scenic vista?
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**Impact AES-1** THE PROPOSED PROJECT WILL FACILITATE DEVELOPMENT IN SOME AREAS OF THE COUNTY WITH VIEWS OF SURROUNDING HILLSIDES, FORESTED LANDS, AND AREAS NEAR SCENIC VISTAS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION MEASURES INCORPORATED.

Scenic vistas are considered expansive views from elevated positions, such as those from a roadway in the mountains, or views provided from a public place where the landscape is visible into the distance (e.g., looking at mountains across a field with little intervening development or vegetation). Sonoma County is characterized by a unique scenic beauty that combines agriculture and viticulture in flat valley floors extending into the rolling terrain of the foothills, redwood forests, and grazing lands. The Open Space and Resource Conservation Element of the 2020 General Plan designates several types of scenic resources, including Community Separators, Scenic Landscape Units, Scenic Corridors, and Scenic Highways (County of Sonoma 2008). These designated resources are discussed above; some of the Potential Sites are near these resources and have the potential to be affected by development that occurs because of the proposed project.

The project intends to rezone the Potential Sites so that they can be developed with various types of residential uses in the future, including multi-family units. The proposed project does not implement any development, but by changing the land use designation, it facilitates higher density residential development to occur.

Most Potential Sites are in an Urban Service Area of the unincorporated county where public views would not be obstructed due to intervening development or mature vegetation. A few sites are in areas zoned SR but new development has the potential to affect public views of scenic vistas at only four sites, by introducing structures with height, massing, and orientation that could obstruct those views or blocks them entirely. The following Potential Sites would require Mitigation Measures AES-1 and AES-2 to reduce impacts to scenic vistas.

1. GEY-1
2. SAN-4
3. PEN-2
4. PEN-7

## Mitigation Measures

### *AES-1 Project Design Constraints*

Through the design review process, the project applicant shall site and design projects such that the amount of grading, numbers of tree removed, amount of cut and fill, length of roadways, height of retaining walls, and size of areas for structure envelopes is as minimal as possible without reducing the density of the project. For discretionary projects, the County may impose conservation easements to protect viewsheds and sensitive visual resources, to the extent feasible. Project designs showing that the aforementioned project elements meet these criteria shall be reviewed and approved by the County prior to building permit issuance.

### *AES-2 Structure Envelope Constraints*

The project applicant shall adjust or move structure envelopes to avoid the locations most visible from public roads, and/or reduce the size of structures to the extent that vegetation that may screen structures is protected but project density is not reduced. Other architectural design measures can also be used to increase density but visually decrease mass (e.g., variations in roofline, fenestration, exterior finishes, and landscaping). Project designs showing these constraints shall be reviewed and approved by the County prior to building permit issuance.

## Significance After Mitigation

With the implementation of Mitigation Measures AES-1 and AES-2, impacts to scenic vistas at GEY-1, SAN-4, PEN-2, and PEN-7 would be reduced to less than significant.

<b>Threshold:</b>	Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
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**Impact AES-2** POTENTIAL SITES IN FORESTVILLE AND GRATON BORDER A STATE SCENIC HIGHWAY, AND POTENTIAL SITES IN GUERNEVILLE AND GLEN ELLEN ARE PROXIMATE TO STATE SCENIC HIGHWAYS. THEREFORE, SCENIC RESOURCES COULD BE AFFECTED IF INDIVIDUAL PROJECTS ARE VISIBLE FROM THESE ROADWAYS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION MEASURES INCORPORATED.

Sonoma County conducts design review in accordance with Article 82 of the Sonoma County Zoning Code. The project may include evaluation of project plans by the Sonoma County Design Review Committee, which may recommend design revision before permits are issued, when design review is a component of project approval. Design review may also be done administratively at the staff level. Specific design guidelines exist for the communities of Glen Ellen and Penngrove, and development in those areas would be subject to the relevant design guidelines (County of Sonoma 1990). Potential Sites that fall within the LG/SR 116 zoning will be subject to design review according to the zoning code. Stipulations about development close to historic sites in Penngrove are also in place. The Sonoma County General Plan specifies design guidelines for development in areas of Forestville considered scenic corridors.

Most Potential Sites are in the Urban Service Area of the unincorporated county where public views would not be obstructed due to intervening development or mature vegetation. A few sites have the potential to affect public views of scenic vistas by introducing height, massing, and orientation that could obstruct those views or blocks them entirely.

Potential Sites in Guerneville, Forestville, Graton, and Glen Ellen border or are close to State-designated scenic highways (State Route 116 and State Route 12). Because the projects considered on some of the Potential Sites could create significant impacts, at the locations discussed below, mitigation measures AES-1 and AES-2 would be necessary to reduce impacts.

Potential Sites close enough to a state-designated scenic highway that project implementation could result in a significant impact are as follows:

1. GUE-1
2. FOR-1
3. FOR-3
4. FOR-5
5. GRA-3
6. GRA-5
7. GLE-1
8. GLE-2
9. AGU-1
10. AGU-2

Mitigation Measures AES-1 and AES-2 would be necessary to prevent removal of or damage to visual resources in a state-designated scenic roadway.

### Significance After Mitigation

Implementation of Mitigation Measures AES-1 and AES-2 for GUE-1, FOR-1, FOR-3, FOR-5, GRA-3, GRA-5, GLE-1, GLE-2, AGU-1, and AGU-2 would prevent removal or damage to scenic resources within a State-designated highway, particularly by changing the character of visual resources. Impacts would be reduced to less than significant.

<b>Threshold:</b>	Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
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**Impact AES-3** INDIVIDUAL PROJECTS IMPLEMENTED ON POTENTIAL SITES HAVE THE POTENTIAL TO ADVERSELY AFFECT PUBLIC VIEWS AND COMMUNITY AESTHETIC CHARACTER. IN URBANIZED AREAS, THE PROJECT WOULD CONFLICT WITH REGULATIONS THAT GOVERN DEVELOPMENT DESIGN STANDARDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION MEASURES INCORPORATED.

The project would facilitate development projects at some sites that could introduce incongruous styles and massing or could degrade visual character through the necessary removal of existing, mature trees. New development that is incompatible with the natural and built conditions as they exist could cause a significant impact to the visual quality by changing the visual nature of the site from open space to densely developed residential properties, or by introducing structures with unremarkable design into a neighborhood with a distinctive character informed, in part, by the architecture.

The Potential Sites with high site sensitivity and where development would be dominant or co-dominant, and sites with moderate sensitivity where development would be dominant are as follows:

1. GEY-1
2. GUE-4
3. LAR-7
4. FOR-1
5. FOR-2
6. FOR-3
7. FOR-4
8. FOR-5
9. FOR-6
10. GRA-3
11. GRA-5
12. GLE-1
13. GLE-2
14. PEN-1
15. PEN-2
16. PEN-3
17. PEN-4
18. PEN-5
19. PEN-7
20. PEN-8
21. PEN-9
22. PET-1
23. PET-2
24. PET-3
25. PET-4

Development projects at all these sites would be subject to Mitigation Measures AES-1 and AES-2, listed above, and AES-3 and AES-4 described below.

## Mitigation Measures

Mitigation Measures AES-1 and AES-2, as detailed above, would be required, in addition to the following.

### *AES-3 Material Color and Texture*

Projects shall be designed with exterior finishes in colors and textures consistent with the surrounding environment. Projects shall be designed with non-reflective surfaces and darker colors to avoid glare and contrast. Project designs detailing proposed materials shall be approved by the County prior to building permit approval.



#### *AES-4 Screening Vegetation*

Project landscape plans shall be designed with screening vegetation, to the extent feasible. Project landscape plans shall be approved by the County prior to building permit approval.

### **Significance After Mitigation**

With implementation of Mitigation Measures AES-1, AES-2, AES-3, and AES-4 impacts would be reduced to less than significant at the sites listed above.

**Threshold:** Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

**Impact AES-4** DEVELOPMENT FACILITATED BY THE PROJECT WOULD CREATE NEW SOURCES OF LIGHT OR GLARE THAT COULD ADVERSELY AFFECT THE VISUAL ENVIRONMENT. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION MEASURES INCORPORATED.

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In rural areas where Potential Sites occur, very limited light and glare sources are present. In suburban areas, increased light emanates at night from streetlights, signage, and from light that spills from windows of residential and commercial uses. In more urbanized areas like Santa Rosa, a greater amount of nighttime light is present from the concentration of denser built areas and street and highway systems, all which cumulatively add to light spillage. Similarly, in areas with more vehicular travel (cities, highways), there is more glare from headlights at night over that in rural or semi-rural areas. Commercial districts with large parking lots and limited tree plantings would generate glare during the day as the sun reflects off car windshields. Furthermore, if structures are painted light colors or have extensive fenestration, and if grounds have sparse landscaping (see for example Figure 4.1-23, Figure 4.1-26, and Figure 4.1-43), then there would be an increased potential for glare to occur on a sunny day.

New development would have the potential to increase light and glare in and around the Potential Sites. Increased population would have associated increases in vehicular travel, potentially adding to the light conditions (headlights) and glare conditions (when cars are parked) in a manner that could be substantial. The County General Plan Goal OSRC-4 details the requirements to limit excess light generated by new development, preserve night sky visibility, and maintain lighting levels appropriate to rural residential uses. Nonetheless, implementation of projects at all the Potential Sites, over the course of time, would result in additional light from exterior lighting, interior light that spills from windows, and from increased vehicular travel at night associated with the increase in population. Even with the population growth anticipated by the General Plan and other regional planning documents, the impacts of complete build-out of the Potential Sites could be significant regarding light and glare. Mitigation Measure AES-5 would be required to reduce the effects of light and glare.

### **Mitigation Measure**

#### *AES-5 Exterior Lighting Requirements*

Project designs shall incorporate exterior lighting plans meeting the following minimum requirements.

1. Lighting shall be mounted low, downward casting, and fully shielded to prevent glare.
2. Lighting shall not wash out structures or any portions of the site.

3. Light fixtures shall not be located at the periphery of the property and shall not spill over onto adjacent properties or into the sky.
4. Flood lights are not permitted.
5. Parking lot fixtures shall be limited to 20 feet in height.
6. All parking lot and/or streetlight fixtures shall use full cut-off fixtures.
7. Lighting shall shut off automatically after businesses close and security lighting shall be motion-sensor activated.
8. Lighting plans should be designed to meet the appropriate Lighting Zone standards from Title 24 effective October 2005 (LZ1 for dark areas, LZ2 for rural, LZ3 for urban) or successor regulations.

### Significance After Mitigation

With implementation of Mitigation Measure AES-5, impacts from light and glare would be reduced to less than significant.

#### 4.1.9 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future project (*CEQA Guidelines* Section 15065[a][3]).

The geographic unit for cumulative aesthetics and visual quality impacts is the unincorporated county, especially areas in the vicinity of the Potential Sites. Cumulative development includes development associated with buildout of the County's General Plan and adjacent incorporated city general plans, as well as foreseeable future projects from Table 3-1 that could have a direct connection to the proposed project from the perspective of visual resources. Cumulative impacts to visual resources could be cumulative considerable if project implementation would impact those resources. Projects would be subject to individual design review and environmental review that would mitigate impacts to visual resources to less than significant, as anticipated by the General Plan EIR.

Past, present, and reasonably foreseeable projects would have limited, site-specific impacts on public viewsheds and scenic resources throughout the County. Most of the projects listed in Table 3-1 would not impact public viewsheds or scenic resources given the proposed massing and heights of structures, or the proposed locations within developed areas with comparable structures. Similar to the project, those projects would undergo design review or environmental review to mitigate impacts to the extent feasible.

As discussed under the impact analysis above, Impact AES-1 would be less than significant with mitigation. Development facilitated by the project would be required to adhere to applicable zoning and development regulations and General Plan policies to mitigate environmental impacts where feasible and would undergo environmental and design review, including consideration of whether the projects would affect scenic resources in any of the scenic corridors, highways, greenbelts, or other resources defined in the General Plan. Project implementation and development on the Potential Sites could contribute to these cumulatively considerable impacts.

Scenic highways do traverse the county in some areas, near and beyond the Potential Sites. Other project-level developments would be required to adhere to applicable zoning and development regulations and General Plan policies to mitigate environmental impacts where feasible and

discretionary projects would undergo environmental as well as design review, including consideration of whether the projects would affect visual resources within a state scenic highway. While cumulative impacts could be considerable, the project would not contribute to these cumulative impacts to visual resources in a scenic highway as the Potential Sites would be subject to the regulations and mitigation measures described above.

As described in Impact AES-3, the visual character of rural areas could change with development on specific Potential Sites. In some cases, effects of project implementation to aesthetic resources would be less than significant with mitigation. Projects implemented on the Potential Sites would contribute to cumulative impacts. Other project-level developments would be required to adhere to applicable zoning and development regulations and General Plan policies and would undergo design review to mitigate environmental impacts where feasible and would undergo environmental and design review, including consideration of whether the projects would affect aesthetic resources. With these considerations prior to project approval, cumulative impacts related to aesthetics would be less than significant and the proposed project's contribution to potentially significant cumulative impacts related to visual quality would be cumulatively less than significant.

An increase in light and glare could be cumulative considerable as the County continues to be built out, as envisioned under the General Plan. Regulations that govern light and glare would apply to these projects, which would undergo individual environmental review. Potential impacts would similarly be mitigated to the extent feasible to prevent significant impacts. As described under Impact AES-4, the proposed project would increase the level of light and glare throughout the county and would require mitigation. Other project-level developments would be required to undergo environmental review, including consideration of whether the projects would increase light and glare. With these considerations prior to project approval and implementation of mitigation described above, or similar, cumulative impacts related to light and glare would be less than significant. Furthermore, the proposed project's contribution to less than significant cumulative impacts related to light and glare would be less than cumulatively considerable.

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## 4.2 Agriculture and Forestry Resources

This section evaluates impacts to agriculture and forestry resources from implementation of the proposed project, including direct impacts associated with the conversion of agricultural land to non-agricultural use and potential indirect impacts to adjacent agricultural operations.

### 4.2.1 Setting

#### a. Overview of Regional Agriculture

Agriculture is one of the main industries in Sonoma County and provides a very significant base to the County's economy. Sonoma County can be divided into seven agricultural regions: West County, Russian River to Dry Creek, Santa Rosa Plain, Sonoma Valley, Sebastopol, Petaluma to Cotati, and West Petaluma to Sonoma Coast (County of Sonoma 2018).

Total production value for the County's agricultural sector in 2018 was more than \$1.1 billion, a 24 percent increase from 2017 (County of Sonoma 2019). The wine grape crop is the most profitable and benefits from excellent growing conditions, including mild weather and a long growing season. This crop amounts to roughly 70 percent of the gross value of agricultural commodities grown in the county. Other prominent crops include milk, poultry, cattle, nursery products, and vegetables. Table 4.2-1 lists the top agricultural commodities and their approximate values for 2018.

**Table 4.2-1 2018 Sonoma County Crop Values**

Crop	Value
Wine grapes – All	\$777,675,300
Milk	\$141,249,300
Miscellaneous Livestock and Poultry	\$41,027,300
Miscellaneous Livestock and Poultry Products	\$38,930,800
Cattle and Calves	\$20,727,500
Nursery – Ornamentals	\$20,406,500
Nursery – Miscellaneous	\$18,121,900
Sheep and Lambs	\$11,279,700
Vegetables	\$8,383,100
Nursery – Cut Flowers	\$6,145,800
Nursery – Bedding Plants	\$5,635,900
Apples – Late Varieties	\$2,419,200
Rye and Oat Silage Crops	\$1,494,200
Apples – Gravenstein	\$1,247,900
Rye and Oat Hay Crops	\$1,200,200

Source: County of Sonoma 2019

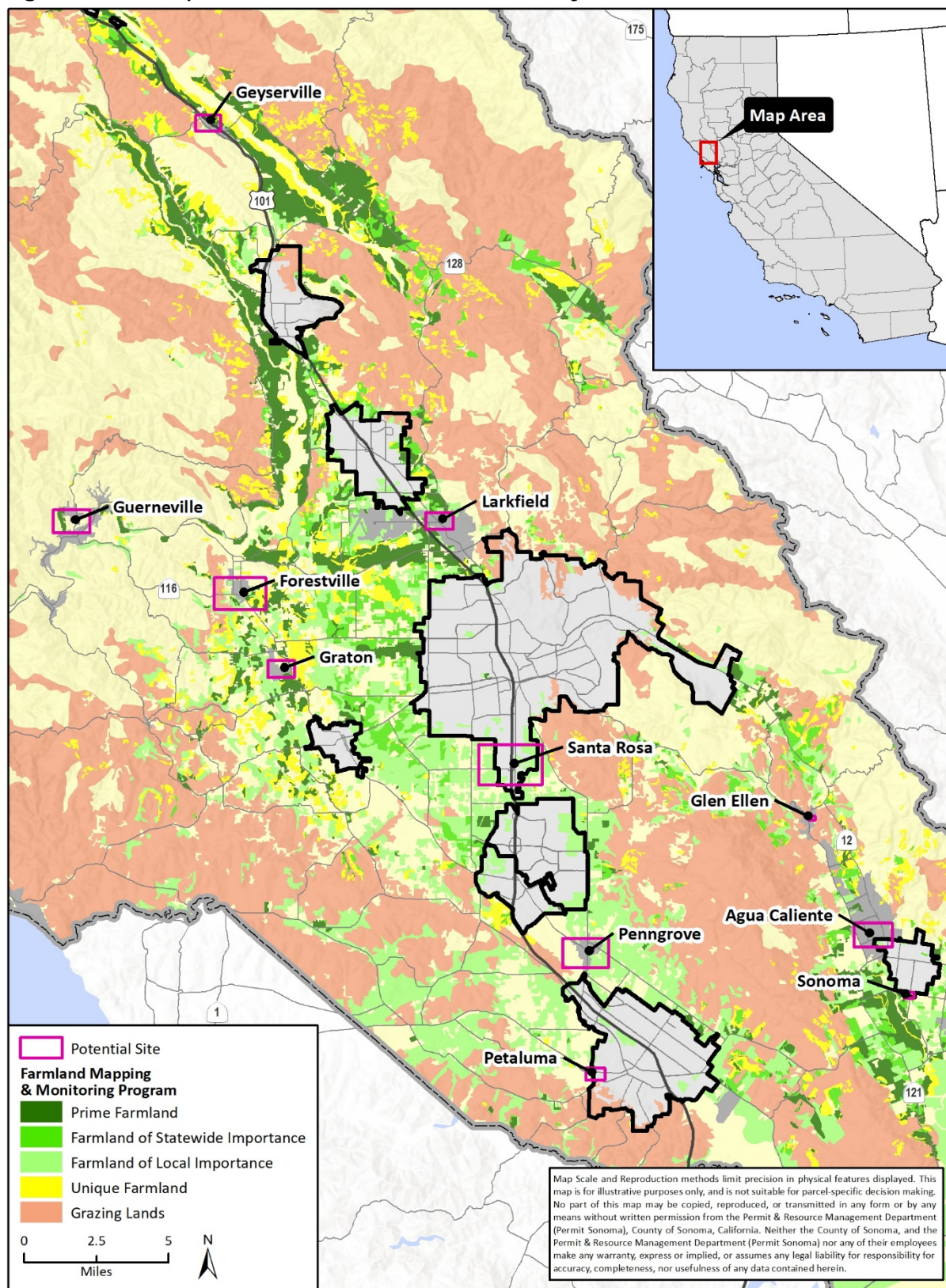
## Important Farmlands

The U.S. Soil Conservation Service Important Farmlands Inventory system accounts for lands with agricultural value across the nation. This system divides farmland into five classes based on the productive capability of the land in addition to their soil conditions, as described below. Figure 4.2-1 shows where the farmland types occur in Sonoma County, when they are present.

1. **Prime Farmland.** Prime farmland is land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production during the four years prior to the mapping date (the most recent map update for the region is 2016).
2. **Farmland of Statewide Importance.** Farmland of statewide importance is like Prime Farmland but with minor shortcomings, such as greater slope or less ability to store moisture. Land must have been used for irrigated agricultural production during the four years prior to the mapping date.
3. **Unique Farmland.** Unique farmland is of lesser quality soil and is usually irrigated but may include no irrigated orchards or vineyards. Land must have been cropped at some time during the four years prior to the mapping date.
4. **Farmland of Local Importance.** Farmland of local importance is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. In some counties, Confined Animal Agriculture facilities are part of Farmland of Local Importance, but they are shown separately.
5. **Grazing Land.** Grazing land is land on which the existing vegetation is suited to livestock grazing. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in grazing activities.

The California Department of Conservation (DOC) maintains a Farmland Mapping and Monitoring Program (FMMP) to quantify economically important farmland and the extent of its conversion. The FMMP Important Farmland Maps account for soil quality and production capacity along with land use information that targets the potential of conversion of these lands to non-agricultural uses. Mapped farmland in Sonoma County accounts for about 56.2 percent of the County land area (DOC 2016a, County of Sonoma 2020). The breakdown of farmlands and other lands is provided in Table 4.2-2.

Figure 4.2-1 Important Farmlands in Sonoma County



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; Department of Conservation.

Fig 4.2-1 FMMP



**Table 4.2-2 Sonoma County Farmland Mapping and Monitoring Program Distribution**

FMMP Type	Acres	Portion of Total County Land Area
Prime Farmland	29,856.56	2.9%
Farmland of Statewide Importance	17,482.12	1.7%
Farmland of Local Importance	79,913.90	7.8%
Unique Farmland	34,042.05	3.3%
Grazing Land	415,429.16	40.5%
Developed and Other Lands	449,364.98	43.7%
<b>Total County Land Area</b>	<b>1,026,090.76</b>	<b>100.0%*</b>
<b>Total Mapped Farmlands of Importance</b>	<b>576,723.76</b>	<b>56.2%</b>

Source: County of Sonoma 2020

\* Total may not add due to rounding.

The FMMP survey also identifies urban and built-up lands, other land, and water, described as follows.

1. **Urban and Built-up Land.** Urban and built-up land is land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
2. **Other Land.** Other land includes low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded by urban development and greater than 40 acres is also mapped as Other Land.
3. **Water.** Water is a category encompassing perennial water bodies with an extent of at least 40 acres.

### *Regional Conversion of Farmland*

Urban development and the creation of small residential lots in areas normally dedicated to agricultural production threatens to reduce the amount of productive agricultural land in the county. When development extends into areas previously used for farmland, it often results in permanent conversion of agricultural land and reduction of agricultural production. In Sonoma County, conversion has a noteworthy impact when it reduces the capacity for agriculture to contribute the county's economy. As part of the FMMP, maps are updated every two years to provide land use conversion information for decision-makers to use when planning for the present and future of California's agricultural land resources. The latest inventory concluded that over one million acres were converted between 2014 and 2016. Table 4.2-3 shows the area lost or gained in each land use category. As shown in Table 4.2-3, the net loss of agricultural land was 1,006 acres between 2014 and 2016.

**Table 4.2-3 Sonoma County Farmlands Change by Land Use Category from 2014-2016**

Land Use Category	Total Acres Lost	Total Acres Gained	Net Change
Prime Farmland	-412	372	-38
Farmland of Statewide Importance	-359	637	278
Unique Farmland	-416	1,060	644
Farmland of Local Importance	-1,952	926	-1,026
<b>Important Farmland Subtotal</b>	<b>-3,139</b>	<b>2,995</b>	<b>-142</b>
Grazing Land	-1,102	238	-864
<b>Agricultural Land Subtotal</b>	<b>-4,241</b>	<b>3,233</b>	<b>-1,006</b>
Urban and Built-up Land	-37	240	203
Other Land	-416	2,233	1,817
Water Area	-1,961	949	-1,012
<b>Total Area Inventoried</b>	<b>-6,655</b>	<b>6,655</b>	<b>-0</b>

Source: DOC 2016b

## Timber Resources

Most of the timberland resources in Sonoma County are concentrated in the western or coastal area and are therefore addressed in the County's Local Coastal Program (County of Sonoma 2001). Forests provide commercial timber as a renewable resource in Sonoma County, and form a part of the local economy. They also contribute to the scenic quality and sense of place that make Sonoma County an important tourist destination (see Section 4.1, *Aesthetics*). In 2018, 19.9 million board-feet of lumber was harvested in Sonoma County, valued at roughly 8.9 million dollars. This represents a 7 percent increase in value of timber immediately before cutting over that harvested in 2017 (County of Sonoma 2019).

### *Timberland Conversion*

Timberland is not included in the farmland mapping programs, and the County has different land use policies for agriculture and timber-producing lands. Converting timberland to an agricultural use is distinct from agricultural crop rotation, as once the effort and expense is made to convert timberland to cropland, it is seldom converted back. Most recent timberland-to-agriculture conversion requests were to accommodate vineyards (County of Sonoma 2006).

## Project Sites Setting

Many Potential Sites are in urbanized areas. Others are located in areas zoned Rural Residential (RR) or Agriculture and Residential (AR) and are either in some degree of agricultural cultivation or are adjacent to lands under cultivation. Mature orchards and evidence of animal husbandry exist on some lots developed with single-family homes. Elsewhere, the adjacent lands are entirely cultivated, mostly with vineyards. Sites with adjacent or surrounding agricultural uses are summarized in Table 4.2-4. Potential Sites which are not adjacent to or surrounded by agricultural uses are not listed.

**Table 4.2-4 Potential Sites with Adjacent/Surrounding Agricultural Uses<sup>†</sup>**

Site Number	Location	Adjacent and Nearby Uses
GEY-1	Geyserville	Grazing land, small-scale, residential agriculture
GEY-2, GEY-3, GEY-4	Geyserville	Small-scale, residential agriculture; vineyards; orchards
GUE-2, GUE-3	Guerneville	Residential agriculture (adjacent), larger scale, cultivated fields to the northwest
LAR-7	Larkfield-Wikiup	Vineyards across Old Redwood Highway
FOR-3, FOR-4, FOR-5	Forestville	Residential agriculture to the northwest, extensive vineyards beyond (northeast)
GRA-2	Graton	Residential agriculture with evidence of farm animal occupation*
GRA-4	Graton	Residential agriculture with small fruit orchards east and west of the project site from Hicks Road
GRA-3, GRA-5	Graton	Residential agriculture, vineyards
SAN-1, SAN-3, SAN-5, SAN-10	Santa Rosa	Residential agriculture, open space that could be used for cultivation but does not appear to be so used at the time of this report**
SON-1, SON-2, SON-3, SON-4	Sonoma	Residential agriculture across Broadway with vineyards and cultivated flowers

<sup>†</sup> Sites not listed do not have adjacent or nearby agricultural uses.

\* Farm animals may be present as evidenced by cattle fencing and gates, feed and water troughs, and structures compatible with animal raising activities

\*\* Based on review of aerial images available May 2020 (Source: Google Earth 2020)

Effects associated with these activities could include periodic increases in dust and noise, along with pesticide drift if spray application is employed.

## 4.2.2 Regulatory Setting

### a. Federal Regulations

#### Federal Farmland Protection Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local governments, and private programs and policies that protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are reviewed by a federal agency or with assistance from a federal agency. Under FPPA, farmland includes Prime Farmland, Land of Statewide or Local Importance, and Unique Farmland. Farmland subject to FPPA requirements does not have to be currently used for crop production, but can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The Natural Resource Conservation Service administers the Farmland Protection Program and uses a land evaluation and site assessment system to establish a farmland conversion impact rating score on proposed sites of federally funded or assisted projects. This score is an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level.

## **Farm Bill Conservation Programs**

The Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill) designated funding for Natural Resource Conservation Service farmland conservation programs, including the Farm and Ranch Lands Protection Program, Wetland Reserve Program, Grassland Reserve Program, Conservation of Private Grazing Land Program, Conservation Reserve Program, Conservation Stewardship Program, Environmental Quality Incentives Program, Agricultural Water Enhancement Program, and Wildlife Habitat Incentives Program.

## **U.S. Department of Agriculture, U.S. Forest Service**

The U.S. Department of Agriculture, U.S. Forest Service is a federal agency that manages public lands in national forests and grasslands. The U.S. Forest Service provides technical and financial assistance to state and private agencies whose purpose it is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

### **b. State Regulations**

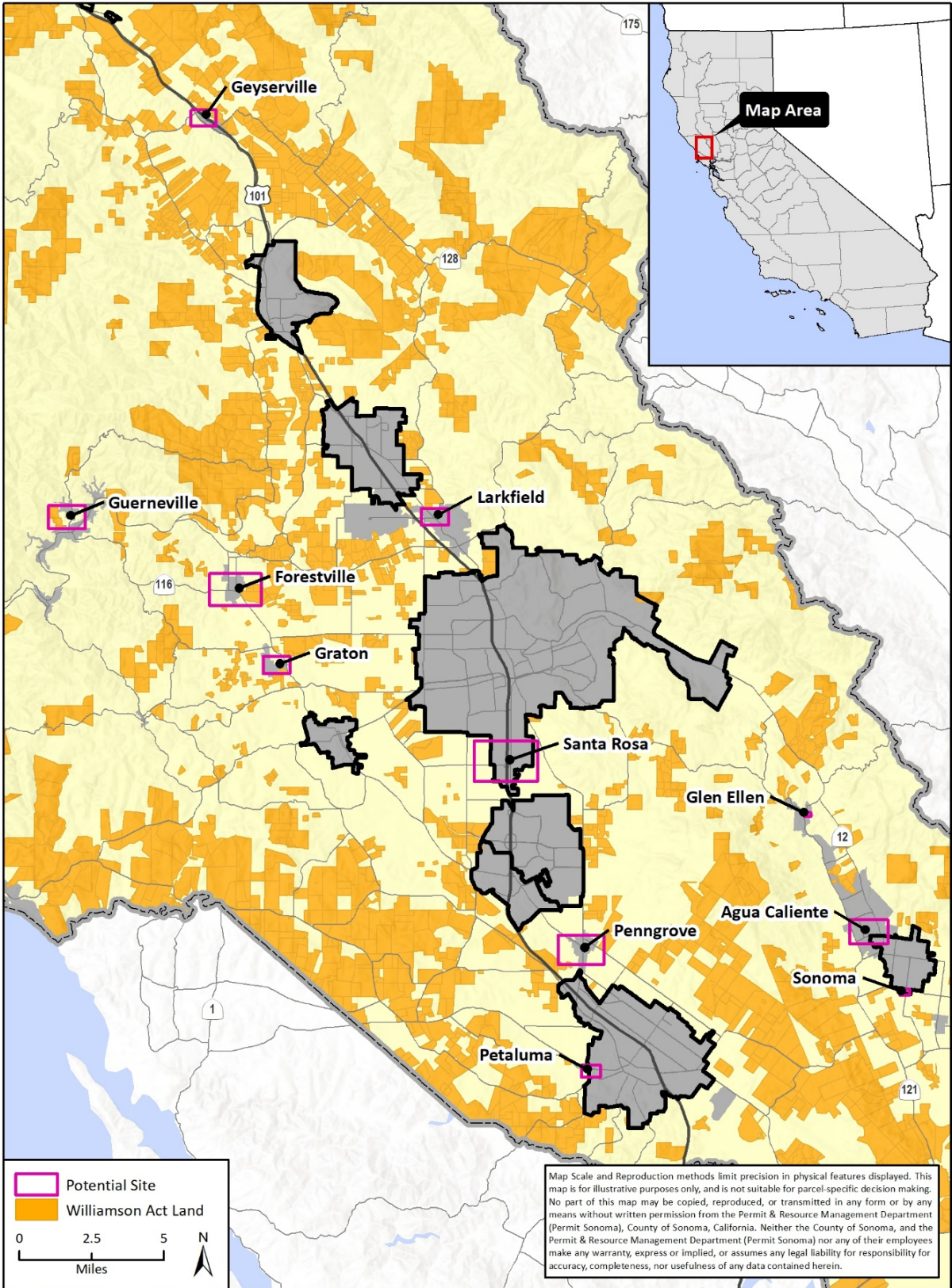
#### **Farmland Mapping and Monitoring Program**

Under the Division of Land Resource Protection, the DOC developed the FMMP to monitor the conversion of farmland to and from agricultural use in California. Data is collected at the county level to produce a series of maps identifying eight land use classifications. The program produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status, with the best quality land being called Prime Farmland, following the federal classifications described above (DOC 2019).

#### **Williamson Act**

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use through a tax incentive model. The intent of the program is to preserve actively productive agricultural lands by discouraging their premature and unnecessary conversion to urban uses. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Landowners may apply to contract with the County to voluntarily restrict their land to agricultural and compatible uses. Restrictions are enforced through a rolling 10-year term contract. Unless the landowner or the County files a notice of nonrenewal, the 10-year contract is automatically renewed at the beginning of each year. In return for the voluntary restriction, contracted parcels are assessed for property tax purposes at a rate consistent with their actual (agricultural) use, rather than potential market value. Lands under Williamson Act contracts in Sonoma County appear in Figure 4.2-2. The Sonoma County Board of Supervisors has adopted regulations for administration of the County's Williamson Act program.

Figure 4.2-2 Williamson Act Contract Lands in Sonoma County



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

Fig 4.2-2 Williamson Act

## Land Evaluation and Site Assessment Model

The DOC also employs a land evaluation and site assessment model that incorporates that of the federal model and adds factors to evaluate a given project's size, the soil resource quality at the project site, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. These factors are rated, weighted, and combined into a numeric score that provides the basis for determining a project's potential significance relative to agricultural land conversion.

## California Timberland Productivity Act

To assure that timber resource lands are available in the future, the California Timberland Productivity Act of 1982 (California Government Code, Section 65302) requires the County to designate timberlands in the General Plan and to establish "Timberland Production" zones where uses are limited to timber production.

## Forest Practice Act

The Forest Practice Act of 1973 ensures logging is done in a manner that preserves and protects fish, wildlife, forests, and streams in the state. The California Department of Forestry and Fire Protection (CAL FIRE) implements and enforces this and associated rules that protect these resources.

CAL FIRE ensures that private landowners abide by these laws when harvesting trees. Although there are specific exemptions in some cases, compliance with the Forest Practice Act and Forest Practice Rules adopted by the Board of Forestry apply to all commercial harvesting operations for landowners of small parcels, to ranchers owning hundreds of acres, and large timber companies with thousands of acres. The Timber Harvesting Plan is the environmental review document landowners present to CAL FIRE, and it outlines what will be harvested, how it will be harvested, and the steps that will be taken to prevent damage to the environment.

## c. Local Regulations

### Agricultural Preserve and Open Space District

The Agricultural Preservation and Open Space District is a special district aimed at to protect agricultural, open space, natural resource, and recreational lands that is funded by a 0.25 percent sales tax.

As of 2020, the Sonoma County Agricultural Preservation and Open Space District has preserved 32,500 acres of agricultural lands via conservation easements throughout (see Figure 4.2-2).

### Sonoma County Local Agency Formation Commission (Agricultural Lands Policy)

The Sonoma County Local Agency Formation Commission (LAFCO) is established under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56000, et seq.). The LAFCO's function is to "review and approve with or without amendment, wholly, partially, or conditionally, or disapprove proposals for changes of organization or reorganization, consistent with written policies, procedures, and guidelines adopted by the commission." (Government Code Section 56375). This gives LAFCO exclusive power to consider city incorporations, city annexations, and the creation of or addition to special districts. Sonoma LAFCO's Agricultural Lands Policy

requires that, in addition considering the policies in Government Code Section 56377, the Commission shall conform to the following policies in reviewing and approving or disapproving proposals that may result in the conversion of agricultural land to non-agricultural uses:

1. Agricultural significance of the subject territory and adjacent areas relative to other agricultural lands in the region
2. Use of the subject territory and adjacent areas
3. Whether public facilities for proposed development would be a) sized or situated to facilitate conversion of adjacent or nearby agricultural land, or b) extended through agricultural lands that lie between the project site and existing facilities
4. Whether uses incompatible with adjacent agricultural uses are expected to result from the proposal and whether natural or man-made barriers would buffer adjacent or nearby agricultural lands from the effects of proposed development or other incompatible uses
5. Whether the subject territory is located within the sphere of influence of a city or district providing sewer and/or water service or in an "Urban Service Area" designation of the Sonoma County General Plan
6. Provisions of applicable general plan open space and land use elements, growth management policies, or other statutory provisions designed to protect agriculture

The Sonoma County LAFCO is mandated to discourage development that would likely convert to urban uses those lands identified by the County General Plan as suitable for long-term agricultural or open space use or identified by the Sonoma County Agricultural Preservation and Open Space District Acquisition Plan as a priority for acquisition or protection in cooperation with willing landowners (Sonoma LAFCO 2013).

## Sonoma County General Plan

The Sonoma County General Plan Agricultural Resources Element promotes and protects local agriculture and forestry. The Agricultural Resources Element defines agriculture as an industry that produces and processes food, fiber, and plant materials, or includes the raising and maintaining of farm animals. The element establishes policies to ensure the stability and productivity of the County's agricultural lands and industries and provides guidelines for decisions in agricultural areas. Goals, objectives, and policies that apply to the proposed project are as follows.

**Goal AR-2: Maintain for the timeframe of this [General Plan] agricultural production on farmlands at the edges but beyond the Urban Service Areas, to minimize the influence of speculative land transactions on the price of farmland and to provide incentives for long term agricultural use.**

**Objective AR-2.1:** Limit intrusion of urban development into agricultural areas.

**Objective AR-2.2:** Maintain the Urban Service Boundaries to protect agricultural lands at the urban fringe for continued agricultural production.

**Objective AR-2.3:** Limit extension of urban services such as sewer beyond the Urban Service Boundaries.

**Objective AR-2.4:** Reduce economic pressure for conversion of agricultural land to non-agricultural use.

Policy AR-2a: Apply agricultural land use categories based on the capability of the land to produce agricultural products. Unless allowed by the Public Facilities and Services Element, limit



extension of sewer service to these lands except by out-of-district agreement to solve a health and safety problem.

Policy AR-2b: Prepare a written report to the Local Agency Formation Commission (LAFCO) regarding the consistency with the General Plan of any proposed changes in the sphere of influence or other urban boundaries for governmental entities that provide water or sewer services.

Policy AR-2c: Encourage LAFCO to consider the impacts of annexations on nearby agricultural lands, and to avoid expansion of spheres of influence or annexations onto agricultural lands outside of the designated Urban Service Areas.

Policy AR-2d: Use voluntary purchase or voluntary transfer of development rights programs to limit intrusion of residential development into agricultural lands. If these programs are used, amendments of the Land Use Map or rezoning shall not be used to lower density in anticipation of conferring transfer or purchase rights.

**Goal AR-3: Maintain the maximum amount of land in parcel sizes that a farmer would be willing to lease or buy for agricultural purposes.**

**Objective AR-3.1:** Avoid the conversion of agricultural lands to residential or nonagricultural commercial uses.

**Objective AR-3.2:** Maintain, in those agricultural land use categories where small parcels may be permitted, the largest land area for agricultural use. Limit the number of clustered lots in any one area to avoid the potential conflicts associated with residential intrusion.

Policy AR-3a: In the "Land Intensive Agriculture" category, new parcels shall not be created which are smaller than 20 acres.

Policy AR-3b: In considering subdivision of lands within "Land Extensive Agriculture" areas except those lands under Williamson Act contract, one-half or three of the permitted residential lots (whichever is greater), may be clustered. These clustered parcels may be as small as one one-half acres but no larger than ten acres. No future subdivision of these small parcels shall be permitted. All other parcels created in this category shall have a minimum lot size at least as large as the maximum density specified by the Land Use Map or Policy AR-8c, whichever is more restrictive. Lands subject to a Williamson Act contract are restricted from incompatible development under the County's rules for administration of Agricultural Preserves, as amended from time to time.

Policy AR-3c: Where clustered subdivision is permitted, separate clusters on one site from those on another site unless it is clearly demonstrated that the resulting lots will not create the appearance of, or conflicts associated with, residential intrusion. Any subdivision which proposes to cluster parcels of 10 acres or less shall locate those lots around existing residences on the parcel being subdivided. The intent of this policy is to minimize the impact of residential parcels on adjacent agricultural operations.

Policy AR-3d: Wherever practical, where clustered subdivision is permitted, use natural features such as ridge tops, creeks, and substantial tree stands to separate the small parcels from the farming areas.

Policy AR-3e: Where clustered subdivision is permitted, to the extent allowed by law, place an agricultural easement in perpetuity on the residual farming parcel(s) at the time that the subdivision occurs. The easement shall be conveyed to the County or other appropriate nonprofit organizations.

Policy AR-3f: Avoid amendments of the land use map from an agricultural to a non-agricultural use category for the purpose of allowing increased residential density which may conflict with agricultural production.

Policy AR-3g: Develop regulations restricting the size and extent of non-agricultural development on agricultural lands to be included in the Development Code.

**Goal AR-4: Allow farmers to manage their operations in an efficient, economic manner with minimal conflict with nonagricultural uses.**

**Objective AR-3.1:** Apply agricultural land use categories only to areas or parcels capable of the commercial production of food, fiber, and plant material, or the raising and maintaining of farm animals including horses, donkeys, mules, and similar livestock. Establish agricultural production as the highest priority use in these areas or parcels. The following policies are intended to apply primarily to lands designated within agricultural land use categories.

Policy AR-4a: The primary use of any parcel within the three agricultural land use categories shall be agricultural production and related processing, support services, and visitor serving uses. Residential uses in these areas shall recognize that the primary use of the land may create traffic and agricultural nuisance situations, such as flies, noise, odors, and spraying of chemicals.

Policy AR-4b: Apply agricultural zoning districts only to lands in agricultural land use categories to implement the policies and provisions of the Agricultural Resources Element.

Policy AR-4c: Protect agricultural operations by establishing a buffer between an agricultural land use and residential interface. Buffers shall generally be defined as a physical separation of 100 to 200 feet and/or may be a topographic feature, a substantial tree stand, water course or similar feature. In some circumstances a landscaped berm may provide the buffer. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of farmable land.

Policy AR-4d: Apply the provisions of the Right to Farm Ordinance to all lands designated within agricultural land use categories.

Policy AR-4e: Recognize provisions of existing State nuisance law (Government Code Section 3482.5).

Policy AR-4f: Anticipated conflicts between a proposed new agricultural use and existing agricultural activities shall be mitigated by the newer use or application.

**Goal AR-7: Support efficient management of local agricultural production activities by the development of adequate amounts of farm worker and farm family housing in agricultural areas.**

**Objective AR-7.1:** Encourage farm operators to provide sufficient housing in addition to housing permitted by applicable density for permanent and seasonal agricultural employees and for family members to maintain agricultural production activities.

**Objective AR-7.2:** Locate agricultural employee housing where it promotes efficiency of the farming operation and has minimal impact on productive farmland.

**Objective AR-7.3:** Assist nonprofit organizations or agencies in their efforts to establish a program to provide safe and adequate housing for farm workers.

**Objective AR-7.4:** Permit a limited number of farm family housing units in addition to the number of dwellings allowed by the density.

Policy AR-7a: Permit permanent employee housing in addition to permitted density according to the needs of a particular sector of the agricultural industry. Express in the Development Code specific criteria to establish the number of agricultural employee units.

Policy AR-7d: Assist the Community Development Commission and other appropriate agencies in developing funding and programs for farm worker housing.

The General Plan Land Use Element provides the distribution, location, and extent of uses of land for housing, business, industry, open space, agriculture, natural resources, recreation and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other uses. For each appropriate land use category, it includes standards for population density and building intensity. Generally, the element includes goals to protect agricultural resources and to maintain opportunities for diverse rural and urban residential environments, among others. Potential Sites occur in the Russian River Area, Santa Rosa and Environs, Sebastopol and Environs, Rohnert Park-Cotati and Environs, and Petaluma and Environs. The element addresses growth patterns that conserve agricultural and resource lands and preserves the rural character of the county. Those objectives and policies that support land use goals related to agriculture and timberland follow.

**Goal LU-9: Protect lands currently in agricultural production and lands with soils and other characteristics that make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.**

**Objective LU-9.1:** Avoid conversion of lands currently used for agricultural production to non-agricultural use.

**Objective LU-9.2:** Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.

**Objective LU-9.3:** Agricultural lands not currently used for farming, but which have soils or other characteristics that make them suitable for farming shall not be developed in a way that would preclude future agricultural use.

**Objective LU-9.4:** Discourage uses in agricultural areas that are not compatible with long term agricultural production.

Policy LU-9a: Limit extensions of sewer service into any agricultural production area to parcels with a health or safety problem. Out-of-service-area agreements are the preferred method of extending service in such cases.

Policy LU-9b: Apply a base zoning district of agriculture for any land area designated on the Land Use Map for agriculture. Other overlay zoning districts may be applied where allowed by the agricultural land use category.

Policy LU-9c: Use rezonings, easements and other methods to ensure that development on agricultural lands does not exceed the permitted density except where allowed by the policies of the Agricultural Resources Element.

Policy LU-9d: Deny General Plan amendments that convert lands outside of designated Urban Service Areas with Class I, II, or III soils (USDA) to an urban or rural residential, commercial, industrial, or public/quasi-public category unless all of the following criteria, in addition to the designation criteria for the applicable land use category, are met:

- (1) The land use proposed for conversion is not in an agricultural production area and will not adversely affect agricultural operations

- (2) The supply of vacant or underutilized potential land for the requested use is insufficient to meet projected demand
- (3) No areas with other soil classes are available for non-resource uses in the planning area
- (4) An overriding public benefit will result from the proposed use

## Sonoma County Zoning Code

Sonoma County Zoning Regulations include three agricultural use categories: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), and Diverse Agriculture (DA). Each category permits the full range of agricultural uses. The categories differ primarily in the types and intensities of agricultural support services, visitor-serving uses, and residential densities. In addition, the County also has an Agriculture and Residential District (AR) which allows for raising of crops and farm animals in areas designated primarily for rural residential uses. The County's Timberland Production (TP) Zone identifies land consistent with the Timberland Productivity Act. Most timberland and forest land not zoned TP is zoned Resources and Rural Development (RRD), which allows land management for commercial production, and timber management for noncommercial purposes including harvesting and incidental milling, subject to the requirements of CAL FIRE.

### *Right to Farm Ordinance (Sonoma County Code Chapter 30, Article II)*

Sonoma County's Right to Farm ordinance was originally adopted in 1988 and revised in 1999 to include stronger disclosure requirements. The basic intention of the ordinance is to provide public policy support for maintaining the viability of agriculture in Sonoma County. Two of the major features of the Right to Farm ordinance are the farmers' right to conduct agricultural operations, and that legal, properly conducted agricultural operations will not be considered a nuisance. The protections afforded by the ordinance apply only to agricultural operations on land designated as LIA, LEA, or DA (Sonoma County Code Chapter 30, Article II).

### *Vineyard & Orchard Development and Agricultural Grading and Draining (VESCO)*

Sonoma County's VESCO ordinance (codified as Sonoma County Code Chapter 36) regulates new vineyard and orchard development, vineyard and orchard replanting, agricultural grading and draining within the unincorporated county. It sets ministerial standards for specific activities related to erosion, draining, and protection of water resources. VESCO is designed to protect water quality and conserve soil through the use of riparian setbacks, maximum slope allowed for vineyard planting, and other requirements (Sonoma County Code Chapter 36, as amended by Ord. No. 6331, Exhibit A, December 15, 2020).

### *Agricultural Setbacks*

The County Zoning Code establishes agricultural setbacks that provide a buffer between agricultural operations on lands designated agricultural in the existing General Plan and adjacent non-agricultural land uses. Generally, the buffer is defined as a physical separation of 100 to 200 feet on the development side (Sonoma County Code Section 26-88-040(f)).

### 4.2.3 Impact Analysis

#### a. Methodology and Significance Thresholds

Agricultural impacts were evaluated based upon review of DOC farmland classifications, regulatory requirements that apply to the various agricultural lands within the county, and the potential of future development to create an agricultural/urban interface. For analysis purposes, “important farmlands” include the following DOC classifications: Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Significance criteria found in *CEQA Guidelines* Appendix G provide the means to identify where potentially significant impacts might occur. Impacts to agriculture and forestry resources would be significant if implementation of the project would:

- 1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to nonagricultural use
- 2) Conflict with existing zoning for agricultural use, or a Williamson Act contract
- 3) Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production
- 4) Result in the loss of forest land or conversion of forest land to non-forest use
- 5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use

#### b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
<b>Threshold:</b>	Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

**Impact AG-1** NONE OF THE POTENTIAL SITES OCCUR ON LAND DESIGNATED AS PRIME FARMLAND, UNIQUE FARMLAND, OR FARMLAND OF STATEWIDE IMPORTANCE. THEREFORE, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT CONVERT THESE TYPES OF LANDS TO NON-AGRICULTURAL USE. NONE OF THE LANDS ARE UNDER WILLIAMSON ACT CONTRACT AND THUS, THESE LANDS UNDER THIS PROTECTION WOULD NOT BE CONVERTED TO NON-AGRICULTURAL USE. NO IMPACT WOULD OCCUR.

All Potential Sites occur in County-designated Urban Service Areas, defined in the 2020 General Plan as geographical areas within the urban growth boundary of a city that are designated for urban development. Many of the identified parcels and their adjacent uses are currently zoned for rural residential or limited density, which in some cases means agricultural cultivation is currently underway; nonetheless, none of these lands are considered prime or important farmlands, as designated by the FMMP mapping program. The Potential Sites were selected out of dozens of possible sites in part specifically because rezoning them for higher density residential development would not convert productive, prime agricultural lands. Furthermore, none of these sites are under Williamson Act contracts and thus the protections that program affords valuable agricultural lands would not be violated by development facilitated by the project. There would be no impact.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

No impact would occur, and mitigation is not required.

<b>Threshold:</b>	Would the project result in the loss of forest land or conversion of forest land to non-forest use?
<b>Threshold:</b>	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

**Impact AG-2** NONE OF THE POTENTIAL SITES ARE SITUATED IN AREAS ZONED FOR TIMBERLAND PRODUCTION (TPZ) AND, THEREFORE, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT CONFLICT WITH EXISTING ZONING FOR, OR CAUSE REZONING OF, FORESTLAND, TIMBERLAND, OR TIMBERLAND ZONED TIMBERLAND PRODUCTION. DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN THE LOSS OF FOREST LAND OR CONVERSION OF FOREST LAND TO NON-FOREST USE. THERE WOULD BE NO IMPACT.

The Potential Sites do not include existing zoning for timberland, forest land, or timberland zoned Timberland Production. None of the Potential Sites are zoned TP or RRD, nor are lands adjacent to the Potential Sites zoned TP. TP and RRD encompass most forest land as defined in Public Resources Code Section 12220(g) and timberland as defined by Public Resources Code Section 4526 that is not in a TP zone. Accordingly, development facilitated by the project would not conflict with existing zoning for, or cause rezoning of, land zoned as forest land, timberland, or Timberland Production. Therefore, no impact would occur.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

No impacts would occur, and mitigation is not required.

<b>Threshold:</b>	Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?
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**Impact AG-3** THE PROJECT WOULD REZONE SOME SITES THAT ARE CURRENTLY ZONED FOR LOW DENSITY, RESIDENTIAL AGRICULTURE, RESULTING IN THE CONVERSION OF POTENTIALLY VIABLE FARMLAND TO NON-AGRICULTURAL USE. IMPLEMENTATION OF COUNTY BUFFERS WOULD REDUCE THIS IMPACT TO LESS THAN SIGNIFICANT.

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Several Potential Sites are located adjacent to agriculturally zoned properties, listed in Table 4.2-4. The Right to Farm ordinance and the provisions for maintaining agricultural land in the 2030 General Plan support the continued use of these lands for agricultural production to both retain the agricultural character of the county and to stabilize agricultural uses at the urban fringe (County of Sonoma 2016). While the General Plan anticipates the conversion of the Potential Sites from their current zoning to one that supports increased residential density, when the site is adjacent to ongoing cultivation conflicts may occur. It is possible that adjacent agricultural uses could continue to be cultivated with associated activities including plowing and mowing, applying pesticides, and using farm equipment. Potential effects might include those arising from the use of farm equipment (e.g., noise, dust) and drift from periodic pesticide application. Furthermore, during harvest seasons, there could be increased traffic and noise in the vicinity. All of this has the potential to pressure adjacent uses to curtail or cease agricultural production if the effects of their ongoing cultivation become a nuisance or produce adverse effects (e.g., poor air quality) that impact people living next to or nearby the agricultural lands.

While these potential effects are purely speculative, it is possible the implementing high-density residential development next to agricultural uses could change the existing environment by exerting pressure to make it more hospitable to residential occupation. Thus, changes to the existing environment might arise through pressure to reduce agricultural activities in such a way that productivity is reduced, and farmland becomes more valuable if it is converted to residential or commercial uses.

Potential Sites with larger, adjacent agricultural uses that fall under the Right to Farm ordinance and thus, could be in conflict include the following:

1. GEY-2, GEY-3, GEY-4
2. GUE-2, GUE-3
3. LAR-7
4. FOR-3, FOR-4, FOR-5
5. GRA-3, GRA-5
6. SAN-1, SAN-3, SAN-5, SAN-10
7. SON-1, SON-2, SON-3, SON-4

Changes to the environment that results from development of these sites could have a significant impact to adjacent lands, as described above. However, most of the sites listed above would be subject to the agricultural protection buffer described in 26-88-040(f) of the County Zoning Code, which states, “generally, buffers are defined as a physical separation of 100 feet to 200 feet,” depending on the how close the residential uses are. In addition, data show that buffers such as vegetative barriers, field borders, riparian buffers, contour grass strips, and herbaceous wind barriers, reduce the movement of sediment, nutrients, and pesticides within farm fields and from



farm fields to adjacent properties. Buffers also reduce noise and odor that may otherwise impact adjacent non-agriculture uses (USDA 2020).

### **Mitigation Measure**

No mitigation measures would be required.

### **Significance After Mitigation**

Impacts would be less than significant without mitigation.

## **4.2.4 Cumulative Impacts**

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative agricultural and forest resource impacts is Sonoma County. Adjacent development considered part of the cumulative analysis includes buildout of the County General Plan and areas adjacent to the Potential Sites, some of which may include lands currently zoned for agricultural production (including residential agriculture), including development of surrounding areas in specific development proposals for nearby properties as described in Table 3-1 of Section 3, *Environmental Setting*.

Development facilitated by the project and other cumulative projects could result in incompatibilities between new residences and adjacent agricultural uses resulting in the potential conversion of farmland to non-agricultural uses. Development facilitated by the project would be required to implement agricultural setbacks as required by County code to avoid potential conflicts associated with future Potential Sites GEY-2, GEY-3, GEY-4, GUE-2, GUE-3, LAR-7, FOR-3, FOR-4, FOR-5, SAN-1, SAN-3, SAN-5, SAN-10, SON-1, SON-2, SON-3, and SON-4 and adjacent agricultural operations and avoid conversion of farmland to non-agricultural use. Therefore, the project's contribution to cumulative agricultural resource impacts would be less than significant.

## 4.3 Air Quality

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This section analyzes the potential air quality impacts associated with construction and operation of the project, including from conflicts with applicable air quality plans, exceedance of air quality standards from criteria pollutant emissions, exposure of sensitive receptors to substantial pollutant concentrations, and odor emissions. The analysis in this section is based in part on modeling using the California Emissions Estimator Model (CalEEMod); modeling outputs are included in Appendix AQ of this document.

### 4.3.1 Setting

#### a. Existing Air Quality Setting

##### Local Climate and Meteorology

The southern portion of Sonoma County (from approximately Windsor to the southern County border) is in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This includes the Larkfield, Graton, Santa Rosa, Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma sites as shown in Figure 2-1. The northern portion of Sonoma County (from approximately north of Windsor to the northern County border) is in the North Coast Air Basin (NCAB), is under the jurisdiction of the Northern Sonoma County Air Pollution Control District (NSCAPCD). This includes the Geyserville, Forestville, and Guerneville sites as shown in Figure 2-1. Air quality in these basins is affected by the region's emission sources and by natural factors. Topography, wind speed and direction, and air temperature gradient all influence air quality. The basins are affected by a Mediterranean climate, with warm, dry summers and cool, damp winters.

Stationary and mobile sources generate air pollutant emissions in the basins. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and are generated by residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products, among other things. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

The portion of Sonoma County in the SFBAAB typically has higher concentrations of pollutants due to its higher population density and proximity to the Bay Area's major metropolitan areas. The part of Sonoma County in the NCAB has lower pollutant concentrations and typically good air quality due to its lower population density, proximity to the coast, and large mountain ranges.

##### Air Quality Standards

The federal and state governments have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while the California Air Resources

Board (CARB) is the State equivalent in the California Environmental Protection Agency (CalEPA). The BAAQMD and NCSAPCD provide local management of air quality in the County. CARB has established air quality standards and is responsible for the control of mobile emission sources, while the BAAQMD and NCSAPCD are responsible for enforcing standards and regulating stationary sources.

The USEPA has set primary national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM<sub>10</sub>), fine particulate matter with an aerodynamic diameter equal to or less than 2.5 microns (PM<sub>2.5</sub>), and lead. Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards. Table 4.3-1 lists the current federal and State standards for regulated pollutants.

**Table 4.3-1 Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	—	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	—	—
	24-Hour	—	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM <sub>10</sub>	Annual	—	20 µg/m <sup>3</sup>
	24-Hour	150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>
	24-Hour	35 µg/m <sup>3</sup>	—
Lead	30-Day Average	—	1.5 µg/m <sup>3</sup>
	3-Month Average	0.15 µg/m <sup>3</sup>	—

ppm = parts per million

µg/m<sup>3</sup> = micrograms per cubic meter

Source: CARB 2016

As local air quality management agencies, the BAAQMD and NSCAPCD must monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet them. Depending on whether standards are met or exceeded, a local air basin is classified as in “attainment” or “non-attainment.” The SFBAAB is in non-attainment for the federal standards for ozone and PM<sub>2.5</sub> and in non-attainment for the State standard for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>. The NCAB is in attainment for all standards.

### Air Quality Pollutants of Primary Concern

The federal and State clean air acts mandate the control and reduction of certain air pollutants. Under these laws, USEPA and CARB have established ambient air quality standards for certain

criteria pollutants. Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant emissions, and by the climate and topographic influences discussed above. Proximity to major sources is the primary determinant of concentrations of non-reactive pollutants, such as CO and suspended particulate matter. Ambient CO levels usually follow the spatial and temporal distributions of vehicular traffic. A discussion of each primary criterion pollutant is provided below.

### *Ozone*

Ozone is produced by a photochemical reaction (i.e., triggered by sunlight) between nitrogen oxides ( $\text{NO}_x$ ) and reactive organic gases (ROG).<sup>1</sup>  $\text{NO}_x$  is formed during the combustion of fuels, while ROG is formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in substantial concentrations between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

### *Carbon Monoxide*

CO is an odorless, colorless gas and causes health problems such as fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels by on-road vehicles and at power plants is a major cause of CO, which is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the State CO standards are associated generally with major roadway intersections during peak-hour traffic conditions.

Localized CO “hotspots” can occur at intersections with heavy peak-hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high that the local CO concentration exceeds the NAAQS of 35.0 ppm or the CAAQS of 20.0 ppm.

### *Nitrogen Dioxide*

$\text{NO}_2$  is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. Nitric oxide is the principal form of nitrogen oxide produced by combustion, but nitric oxide reacts rapidly to form  $\text{NO}_2$ , creating the mixture of NO and  $\text{NO}_2$  commonly called  $\text{NO}_x$ . Nitrogen dioxide is an acute irritant. A relationship between  $\text{NO}_2$  and chronic pulmonary fibrosis may exist, and an increase in bronchitis may occur in young children at concentrations below 0.3 ppm. Nitrogen dioxide absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of  $\text{PM}_{10}$  and acid rain.

### *Suspended Particulate Matter*

$\text{PM}_{10}$  is particulate matter measuring no more than 10 microns in diameter;  $\text{PM}_{2.5}$  is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust

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<sup>1</sup> CARB defines VOC and ROG similarly as, “any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions (CARB 2009). For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions and the term ROG is used in this report.[1] CARB defines VOC and ROG similarly as, “any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions (CARB 2009). For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions and the term ROG is used in this report.

particles, nitrates, and sulfates. Both  $PM_{10}$  and  $PM_{2.5}$  are by-products of fuel combustion and wind erosion of soil and unpaved roads and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates (those 2.5 microns and below) can be very different.

The small particulates generally come from windblown dust and dust kicked up by mobile sources. The fine particulates are generally associated with combustion processes, and form in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

### *Toxic Air Contaminants*

The California Health and Safety Code defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." Most of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel particulate matter (DPM) from diesel-fueled engines. According to CARB, diesel engine emissions are believed to be responsible for about 70 percent of California's estimated known cancer risk attributable to TACs and they make up about 8 percent of outdoor  $PM_{2.5}$  (CARB 2020a).

### *Lead*

Lead is a metal found in the environment and in manufacturing products. Historically, the major sources of lead emissions have been mobile and industrial sources. In the early 1970s, the USEPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA completed the ban prohibiting the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 due to the removal of lead from gasoline sold for most highway vehicles. Because of phasing out leaded gasoline, metal processing is now the primary source of lead emissions. The highest level of lead in the air is found generally near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers.

## **Current Air Quality**

There are two air quality monitoring stations currently in operation in Sonoma County: the Healdsburg-Municipal Airport station, located in the NSCAPCD, and the Sebastopol-103 Morris Street station, located in the BAAQMD. The Healdsburg-Municipal Airport station only monitors ozone; the Sebastopol-103 Morris Street station monitors ozone, particulate matter, and  $NO_2$ . Table 4.3-2 indicates the number of days that each of the air quality standards have been exceeded at the stations during the monitoring period from 2016 through 2018.

**Table 4.3-2 Ambient Air Quality at Sonoma County Monitoring Stations**

Pollutant	2016	2017	2018
<b>Sebastopol-103 Morris Street Station</b>			
8-Hour Ozone (ppm), maximum	0.064	0.071	0.053
Number of days of State exceedances (>0.070)	0	1	0
Number of days of federal exceedances (>0.070)	0	1	0
1-hour ozone (ppm), maximum	0.073	0.087	0.071
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of federal exceedances (>0.112 ppm)	0	0	0
Nitrogen dioxide (ppb) - 1-Hour Maximum	31.8	34.5	65.1
Number of days of State exceedances (>0.18 ppm)	0	0	0
Number of days of federal exceedances (0.10 ppm)	0	0	0
Particulate matter <2.5 microns, $\mu\text{g}/\text{m}^3$ , 24-hour maximum	18.7	81.8	175.3
Number of days above federal standard (>35 $\mu\text{g}/\text{m}^3$ )	0	4	13
<b>Healdsburg-Municipal Airport Station</b>			
8-hour ozone (ppm), 8-hour maximum	0.066	0.069	0.061
Number of days of State exceedances (>0.070)	0	0	0
Number of days of federal exceedances (>0.070)	0	0	0
Ozone (ppm), 1-hour maximum	0.072	0.083	0.075
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of federal exceedances (>0.112 ppm)	0	0	0

Source: CARB 2020b

## Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient to protect public health and welfare, with a margin of safety. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14, the elderly over 65, persons engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. Therefore, most of the sensitive receptor locations are schools, hospitals, senior living centers, and residences.

### 4.3.2 Regulatory Setting

#### a. Federal Regulations

##### Federal Clean Air Act

The USEPA is charged with implementing national air quality programs. USEPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), passed in 1963 by the U.S. Congress and amended several times. The 1970 federal CAA amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including non-attainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration program. The 1990 federal CAA amendments represent the latest in a series of federal efforts to regulate air quality in the United States.

## **National Ambient Air Quality Standards**

The federal CAA requires USEPA to establish primary and secondary NAAQS for several criteria air pollutants. The air pollutants for which standards have been established are considered the most prevalent air pollutants known to be hazardous to human health. NAAQS have been established for ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and Pb.

### **b. State Regulations**

#### **California Clean Air Act**

The California CAA, signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. CARB is the State air pollution control agency and is a part of CalEPA. CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California, and for implementing the requirements of the California CAA. CARB oversees local district compliance with federal and California laws, approves local air quality plans, submits the State implementation plans to the USEPA, monitors air quality, determines and updates area designations and maps, and sets emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

#### **California Ambient Air Quality Standards**

The California CAA requires CARB to establish ambient air quality standards for California, known as CAAQS. Similar to the NAAQS, CAAQS have been established for criteria pollutants and standards are established for vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates. In general, the CAAQS are more stringent than the NAAQS on criteria pollutants. The California CAA requires all local air districts to endeavor to achieve and maintain the CAAQS by the earliest practical date. The California CAA specifies that local air districts focus attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources.

### **c. Local Regulations**

#### **Bay Area Air Quality Management District**

The BAAQMD is the agency primarily responsible for assuring national and State ambient air quality standards are attained and maintained in the SFBAAB. The BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. The BAAQMD has jurisdiction over much of the nine-county Bay Area, including the southern portion of Sonoma County.

The BAAQMD adopted the 2017 Clean Air Plan as an update to the 2010 Clean Air Plan. The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To fulfill State ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors—ROG and NO<sub>x</sub>—and reduce transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Clean Air Plan builds upon and enhances



the BAAQMD's efforts to reduce emissions of fine particulate matter and toxic air contaminants (BAAQMD 2017a).

## Northern Sonoma County Air Pollution Control District

NSCAPCD is the agency primarily responsible for attaining and maintaining the NAAQS and CAAQS in the NCAB portion of the County. NSCAPCD is responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, and monitoring ambient air quality and meteorological conditions. NCAB is in attainment for all federal ambient air quality standards, and, as such, the NSCAPCD is not required to prepare or implement an air quality plan.

Specific NSCAPCD rules applicable to development under the project would include:

1. **Rule 400 – General Limitations.** The general limitations rule ensures that a person may not create a public nuisance by discharging quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. NSCAPCD has established a nuisance rule to address odor issues. Rule 400 states that air contaminants will not be discharged in quantities sufficient to constitute a public nuisance to any considerable number of persons or the public or that would endanger the comfort or repose of any person or the public. Odors would be considered a nuisance by NSCAPCD if a complaint is received from a significant number of people and the odor issue is verified upon inspection.
2. **Rule 410 – Visible Emissions.** The visible emissions rule ensures that a person may not create a public nuisance by discharging into the atmosphere from any source whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringlemann Chart, as published by the United States Bureau of Mines or of such opacity as to obscure an observer's view to a degree equal to or greater than Ringlemann 2 or 40 percent opacity.
3. **Rule 420 – Particulate Matter.** The particulate matter rule ensures that no person may discharge particulate matter into the atmosphere causing a public nuisance or causing an exceedance of State or national ambient air quality standards. Various emission limits are defined in the rule governing particulate emissions from different sectors of industry.
4. **Rule 430 – Fugitive Dust Emissions.** The fugitive dust rule ensures that the handling, transporting, or open storage of materials in such a manner which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. The rule also defines a set of reasonable precautions designed to aid in preventing violation the rule.
  - a. **Regulation II – Open Burning.** This regulation prohibits the use of open outdoor fires within the Basin with certain exemptions as outlined in the regulation.
  - b. **Regulation IV – Control Measure for Wood-Fired Appliance Emissions.** This regulation is intended to limit and/or reduce particulate emissions caused by the use of wood-fired appliances, which must be EPA or District certified, and emit less than or equal to 7.5 grams particulate per hour for a non-catalytic, wood-fired appliance or 4.1 grams per hour for a catalytic wood fired appliance.

## Sonoma County General Plan 2020

Section 8 of the Open Space and Resource Conservation Element of the Sonoma County General Plan 2020 contains air pollution goals, objectives, and policies for the County, including:

**Goal OSRC-16: Preserve and maintain good air quality and provide for an air quality standard that will protect human health and preclude crop, plant, and property damage in accordance with the requirements of the Federal and State Clean Air Acts.**

**Objective OSRC-16.1:** Minimize air pollution and greenhouse gas emissions.

**Objective OSRC-16.2:** Encourage reduced motor vehicle use as a means of reducing resultant air pollution. The following policies, in addition to those of the Circulation and Transit Element, shall be used to achieve these objectives:

Policy OSRC-16a: Require that development projects be designed to minimize air emissions. Reduce direct emissions by utilizing construction techniques that decrease the need for space heating and cooling.

Policy OSRC-16b: Encourage public transit, ridesharing, and van pooling, shortened and combined motor vehicle trips to work and services, use of bicycles, and walking. Minimize single passenger motor vehicle use.

Policy OSRC-16c: Refer projects to the local air quality districts for their review.

Policy OSRC-16d: Review proposed changes in land use designations for potential deterioration of air quality and deny them unless they are consistent with the air quality levels projected in the General Plan EIR.

Policy OSRC-16e: Cooperate with the local air quality district to monitor air pollution and enforce mitigations in areas affected by emissions from fireplaces and woodburning stoves.

Policy OSRC-16f: Encourage the adoption of standards, the development of new technology, and retrofitting to reduce air pollution resulting from geothermal development.

Policy OSRC-16g: Residential units shall be required to only install fireplaces, woodstoves or any other residential wood-burning devices that meet the gram-per-hour EPA or Oregon DEQ wood heater emissions limits (exempt devices are not allowed).

Policy OSRC-16h: Require that development within the BAAQMD that generates high numbers of vehicle trips, such as shopping centers and business parks, incorporate air quality mitigation measures in their design.

Policy OSRC-16i: Ensure that any proposed new sources of toxic air contaminants or odors provide adequate buffers to protect sensitive receptors and comply with applicable health standards. Promote land use compatibility for new development by using buffering techniques such as landscaping, setbacks, and screening in areas where such land uses abut one another.

Policy OSRC-16j: Require consideration of odor impacts when evaluating discretionary land uses and development projects near wastewater treatment plant or similar uses.

Policy OSRC-16k: Require that discretionary projects involving sensitive receptors (facilities or land uses that include members of the population sensitive to the effects of air pollutants such as children, the elderly, and people with illnesses) proposed near the Highway 101 corridor include an analysis of mobile source toxic air contaminant health risks. Project review should, if necessary, identify design mitigation measures to reduce health risks to acceptable levels.

Policy OSRC-16l: Work with the applicable Air Quality districts to adopt a diesel particulate ordinance. The ordinance should prioritize on site over off site mitigation of diesel particulate emissions to protect neighboring sensitive receptors from these emissions.

Policy OSRC-16m: Provide education and outreach to the public regarding the Air Quality Districts' "Spare the Air" Programs.

### 4.3.3 Impact Analysis

#### a. Thresholds of Significance

To determine whether a project would result in a significant impact to air quality, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

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

#### BAAQMD Significance Thresholds

This analysis uses the BAAQMD's May 2017 *CEQA Air Quality Guidelines* to evaluate air quality. The plan-level thresholds specified in the May 2017 BAAQMD *CEQA Air Quality Guidelines* were used to determine whether the proposed project impacts exceed the thresholds identified in *CEQA Guidelines* Appendix G.

##### *Consistency with Air Quality Plan*

Under BAAQMD's methodology, a determination of consistency with *CEQA Guidelines* thresholds should demonstrate that a project:

1. Supports the primary goals of the 2017 Clean Air Plan
2. Includes applicable control measures from the 2017 Clean Air Plan
3. Does not disrupt or hinder implementation of any 2017 Clean Air Plan control measures

##### *Short-Term Emissions Thresholds*

The BAAQMD's May 2017 *CEQA Air Quality Guidelines* have no plan-level significance thresholds for construction air pollutants emissions. However, they do include project-level screening and emissions thresholds for temporary construction-related emissions of air pollutants. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions and are discussed in detail below (BAAQMD 2017b).

The BAAQMD developed screening criteria in the 2017 *CEQA Air Quality Guidelines* to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant air quality impacts. The screening criteria for residential land uses are shown in Table 4.3-3.

**Table 4.3-3 BAAQMD Criteria Air Pollutant Screening Levels**

Land Use Type	Operational Criteria Pollutant Screening Size (du)	Construction Criteria Pollutant Screening Size (du)
Single-family	325 (NO <sub>x</sub> )	114 (ROG)
Apartment, low-rise	451 (ROG)	240 (ROG)
Apartment, mid-rise	494 (ROG)	240 (ROG)
Apartment, high-rise	510 (ROG)	249 (ROG)
Condo/townhouse, general	451 (ROG)	240 (ROG)
Condo/townhouse, high-rise	511 (ROG)	252 (ROG)
Mobile home park	450 (ROG)	114 (ROG)
Retirement community	487 (ROG)	114 (ROG)
Congregate care facility	657 (ROG)	240 (ROG)
du = dwelling unit; NO <sub>x</sub> = oxides of nitrogen; ROG = reactive organic gases		
Source: BAAQMD 2017b		

If a project meets the screening criteria, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. These screening levels are generally representative of new development on greenfield sites without any form of mitigation measures taken into consideration (BAAQMD 2017b).

In addition to the screening levels above, several additional factors are outlined in the 2017 *CEQA Air Quality Guidelines* that construction activities must satisfy for a project to meet the construction screening criteria:

1. All basic construction measures from the 2017 CEQA Guidelines must be included in project design and implemented during construction
2. Construction-related activities would not include any of the following:
  - a. Demolition
  - b. Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously)
  - c. Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development)
  - d. Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity

For projects that do not meet the screening criteria above, the BAAQMD construction significance thresholds for criteria air pollutants, shown in Table 4.3-3, are used to evaluate a project's potential air quality impacts.

**Table 4.3-4 BAAQMD Criteria Air Pollutant Significance Thresholds**

<b>Pollutant</b>	<b>Construction Thresholds Average Daily Emissions (lbs/day)</b>	<b>Operational Threshold Average Daily Emissions (lbs/day)</b>	<b>Operational Threshold Maximum Annual Emissions (tons/year)</b>
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub>	82 (exhaust)	82	15
PM <sub>2.5</sub>	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	Not Applicable
Source: BAAQMD 2017b			

For all projects in the SFBAAB, the BAAQMD 2017 *CEQA Air Quality Guidelines* recommends implementation of the Basic Construction Mitigation Measures listed in Table 8-2 of the Guidelines (BAAQMD 2017b). For projects that exceed the thresholds in Table 4.3-4, the BAAQMD 2017 *CEQA Air Quality Guidelines* recommends implementation of the Additional Construction Mitigation Measures listed in Table 8-3 of the Guidelines (BAAQMD 2017b).

#### *Long-Term Emissions Thresholds*

The BAAQMD's 2017 *CEQA Air Quality Guidelines* contain specific operational plan-level significance thresholds for criteria air pollutants. Plans must show the following over the planning period:

1. Consistency with current air quality plan control measures
2. Vehicle miles traveled (VMT) or vehicle trips (VT) increase is less than or equal to the plan's projected population increase

If a plan can demonstrate consistency with both criteria, then impacts are considered less than significant. The current air quality plan is the 2017 Clean Air Plan.

For project-level thresholds, the screening criteria for operational emissions are shown in Table 4.3-3. For projects that do not meet the screening criteria, the BAAQMD operational significance thresholds for criteria air pollutants, shown in Table 4.3-4, are used to evaluate a project's potential air quality impacts.

#### *Carbon Monoxide Hotspots*

BAAQMD provides a preliminary screening methodology to conservatively determine whether a proposed project would exceed CO thresholds. If the following criteria are met, a project would result in a less than significant impact related to local CO concentrations:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. Project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

### Odors

The BAAQMD provides minimum distances for siting of new odor sources shown in Table 4.3-5. A significant impact would occur if the project would result in other emissions (such as odors) affecting substantial numbers of people or would site a new odor source as shown in Table 4.3-5 within the specified distances of existing receptors.

**Table 4.3-5 BAAQMD Odor Source Thresholds**

Odor Source	Minimum Distance for Less than Significant Odor Impacts
Wastewater treatment plant	2 miles
Wastewater pumping facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles

Source: BAAQMD 2017b

### NSCAPCD Significance Thresholds

NSCAPCD has not established numerical standards of significance for emissions from construction or operational activities. In lieu of quantitative standards for projects in the NSCAPCD, the County has determined that using BAAQMD thresholds for the criteria pollutant and odor impact analysis would be most appropriate.

#### b. Methodology

##### Short-Term Emissions

Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts. Construction of development associated with the proposed project would generate temporary emissions from three primary sources: the operation of construction vehicles (e.g., scrapers, loaders, dump trucks, etc.); ground disturbance during site preparation and grading, which creates fugitive dust; and the application of asphalt, paint, or other oil-based substances. Program-level construction impacts from the proposed project are discussed qualitatively. In addition, construction emissions are compared to the project-level thresholds for a 38-unit Potential Site<sup>2</sup> to determine the number of dwelling units that would exceed project-level thresholds.

Construction emissions for the 38-unit Potential Site were modeled with CalEEMod, Version 2016.3.2. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (BREEZE Software 2017). CalEEMod output files for development facilitated by the project are included in Appendix AQ of this Program EIR.

<sup>2</sup> As described under Impact AQ-2, it was determined that a project that is 38 units or fewer would not exceed BAAQMD thresholds.

Construction input data for CalEEMod include but are not limited to: (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; (3) areas to be excavated and graded; and (4) volumes of materials to be exported from and imported to the project site. The analysis assessed maximum daily emissions from individual construction activities, including demolition, site preparation, grading, building construction, paving, and architectural coating. Construction equipment estimates are based on surveys of construction projects within California conducted by members of the California Air Pollution Control Officers Association (CAPCOA) (BREEZE Software 2017).

Demolition modeling assumed that demolition of all structures would be required on a given site, (even if demolition of all structures would not be required for project implementation) with SAN-4 being the Potential Site with the highest potential estimated amount, using imagery on Google Earth. The site contains an approximately 48,000-square foot, two-story motel and 31,000-square foot, one-story retail building, for a total 79,000 square feet that would be demolished under project implementation.

Cut and fill estimates were based on the approximate size of the 38-unit Potential Sites (PEN-6, PET-1, and PET-4) of 2 acres. It was assumed that there would be 90 percent building coverage on the 2 acres (1.8 acres of building space). The buildings were assumed to have a 10-foot cut depth for the square footage, and that 20 percent of the soil would be exported and imported. For the modeled project, this would result in 5,808 cubic yards of import and 5,808 cubic yards of export. This would result in 1,452 hauling trips; the grading period was extended to 60 days for a realistic timeframe to move the amount of soil with 24 hauling trips per day.

## Long-Term Emissions

Per plan-level guidance from the BAAQMD 2017 *CEQA Air Quality Guidelines*, long-term operational emissions associated with implementation of the proposed project are analyzed qualitatively by comparing the proposed project to the 2017 Clean Air Plan goals, policies, and control measures. In addition, comparing the rate of increase of plan VMT and population is recommended by BAAQMD for determining significance of criteria pollutants impacts. If the proposed project does not meet either screening criterion then impacts would be potentially significant.



### c. Impact Analysis

<b>Threshold:</b>	Would the project conflict with or obstruct implementation of the applicable air quality plan?
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**Impact AQ-1** THE PROJECT WOULD SUPPORT THE PRIMARY GOALS OF THE 2017 CLEAN AIR PLAN, WOULD IMPLEMENT APPLICABLE CONTROL MEASURES FOR THE 2017 CLEAN AIR PLAN, AND WOULD NOT DISRUPT OR HINDER IMPLEMENTATION OF ANY 2017 CLEAN AIR PLAN CONTROL MEASURES. THE PROJECT'S VMT INCREASE WOULD BE LESS THAN THE POPULATION INCREASE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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#### Air Quality Plans

The NSCAPCD is in attainment for all pollutants and therefore is not required to develop and does not have an air quality plan; therefore, the project would not conflict with an air quality plan in the NSCAPCD.

The most recently adopted air quality plan in the SFBAAB is the 2017 Clean Air Plan. The 2017 Clean Air Plan is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of O<sub>3</sub> and O<sub>3</sub> precursors to neighboring air basins. The 2017 Clean Air Plan control strategy includes stationary-source control measures to be implemented through the BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the Metropolitan Transportation Commission (MTC), local governments, transit agencies, and others. The 2017 Clean Air Plan also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard. Under BAAQMD's methodology, a determination of consistency with *CEQA Guidelines* thresholds should demonstrate that a project:

1. Supports the primary goals of the 2017 Clean Air Plan,
2. Includes applicable control measures from the 2017 Clean Air Plan, and
3. Does not disrupt or hinder implementation of any 2017 Clean Air Plan control measures.

The following includes a discussion of consistency with these criteria.

The primary goals of the 2017 Clean Air Plan are to:

1. Protect air quality and health at the regional and local scale; and
2. Protect the climate.

Any project that would not support these goals would not be considered consistent with the 2017 Clean Air Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support for the 2017 Clean Air Plan goals. The nature of development facilitated by the project is to accommodate additional housing on Potential Sites in urban areas, near jobs, services, and transit. By allowing for the easier use of alternative methods of transportation, development facilitated by the project would increase use of alternative transportation. In addition, development facilitated by the project would comply with the latest Title 24 regulations. Therefore, the project would have the effect of reducing mobile emissions

compared to the existing conditions that would protect air quality and health on a regional and a local scale and would protect the climate.

The 2017 Clean Air Plan includes 85 control measures under the following sectors: stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Many of these measures are industry-specific and would not be applicable to development facilitated by the project (e.g., stationary sources, agriculture, and natural and working lands). Measures from transportation, energy, building, water, waste, and super-GHG pollutants sectors are focused on larger-scale planning efforts (e.g., transit funding, utility energy procurement, regional energy plans) and would not directly apply to development facilitated by the project. The project would be consistent with the overall goal of these measures as development facilitated by it would comply with the latest Title 24 regulations and would increase density in urban areas, allowing for greater use of alternative modes of transportation. Development facilitated by the project does not contain elements that would disrupt or hinder implementation of any 2017 Clean Air Plan control measures. Therefore, the project would conform to this determination of consistency for the 2017 Clean Air Plan.

### Project VMT and Population

According to the BAAQMD 2017 *CEQA Air Quality Guidelines*, the threshold for criteria air pollutants and precursors includes an assessment of the rate of increase of plan VMT and population. As discussed above, to result in a less than significant impact, the analysis must show that over the planning period, the proposed plan's projected VMT increase is less than or equal to its projected population increase. The existing zoning of the Potential Sites would result in a population of 920; the project would result in a population of 8,655, for an approximate 841 percent increase (see Section 4.14, *Population and Housing*).

Vehicle trips for development facilitated by the project were calculated using the daily VMT and are expected to increase over existing zoning by 93,260 VMT, a number developed during the transportation assessment (Appendix TRA). Given that development facilitated by the project could increase housing by 2,975 dwelling units, 93,260 VMT was divided by 2,975 to determine an approximate VMT per dwelling unit; the result was that an increase would occur of approximately 31.35 VMT per day over existing conditions per dwelling unit. Assuming 31.35 VMT per day per dwelling unit for the existing zoning's 354 units, this would result in 11,097 VMT for existing conditions. Thus, the project would increase VMT approximately 740 percent over existing conditions.

The proposed net percentage VMT increase associated with the proposed project (approximately 740 percent) would be less than the net percentage population increase (approximately 841 percent), therefore, the project's VMT increase would not conflict with the BAAQMD's 2017 *CEQA Air Quality Guidelines* operational plan-level significance thresholds for criteria air pollutants, would be consistent with the 2017 Clean Air Plan. Accordingly, impacts would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
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**Impact AQ-2** PROJECT CONSTRUCTION WOULD TEMPORARILY INCREASE AIR POLLUTANT EMISSIONS, POSSIBLY CREATING LOCALIZED AREAS OF UNHEALTHY AIR POLLUTION LEVELS OR AIR QUALITY NUISANCES. IMPACTS WOULD BE POTENTIALLY SIGNIFICANT.

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## Construction

### *Plan-level*

The SFBAAB is in non-attainment for the federal standards for ozone and PM<sub>2.5</sub> and in non-attainment for the state standard for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>. The NCAB is in attainment for all standards. Construction activity associated with the proposed project may involve activities that result in air pollutant emissions. Construction activities such as demolition, grading, construction worker travel, delivery and hauling of construction supplies and debris, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants, particularly during site preparation and grading. The extent of daily emissions, particularly ROG and NO<sub>x</sub> emissions, generated by construction equipment, would depend on the quantity of equipment used and the hours of operation for each project. The extent of PM<sub>2.5</sub> and PM<sub>10</sub> emissions would depend upon the following factors: 1) the amount of disturbed soils; 2) the length of disturbance time; 3) whether existing structures are demolished; 4) whether excavation is involved; and 5) whether transporting excavated materials offsite is necessary. Dust emissions can lead to both nuisance and health impacts. According to the 2017 BAAQMD *CEQA Air Quality Guidelines*, during construction PM<sub>10</sub> is the greatest pollutant of concern.

The BAAQMD has also identified feasible fugitive dust control measures for construction activities. These Basic Construction Mitigation Measures are recommended for all projects (BAAQMD 2017b). Project construction would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution levels or air quality nuisances. BAAQMD has identified feasible fugitive dust control measures for construction activities because PM<sub>10</sub> is the greatest pollutant of concern (BAAQMD 2017b). Therefore, impacts related to construction emissions would be significant for all projects and mitigation that would implement the Basic Construction Mitigation Measures would be required.

### *Project-level*

The BAAQMD 2017 *CEQA Air Quality Guidelines* also include project-level thresholds for construction emissions. If a project does not meet BAAQMD construction screening levels (see Table 4.3-3) or the project's construction emissions exceed the project-level thresholds (see Table 4.3-4), the project's emissions would be significant and mitigation that would implement the BAAQMD 2017 *CEQA Air Quality Guidelines'* Additional Construction Mitigation Measures would be required.

A summary of Potential Sites requiring Additional Construction Mitigation Measures is included in Table 4.3-6. Details on how these Potential Sites were determined are discussed below.

**Table 4.3-6 Potential Sites Requiring Additional Construction Mitigation Measures**

Requirement <sup>1</sup>	Potential Site
Requires Additional Construction Mitigation Measures if development of Potential Site results in an increase of greater than 114 dwelling units over existing conditions	FOR-2, SAN-2, SAN-4, and AGU-2
Regardless of dwelling units, requires Additional Construction Mitigation Measures if development of Potential Site includes demolition, simultaneous occurrence of more than two construction phases simultaneous construction of more than one land use type, or extensive material transport of more than 10,000 cubic yards.	GUE-2, GUE-4, LAR-1, FOR-4, FOR-5, FOR-6, GRA-2, SAN-1, SAN-3, SAN-5, SAN-6, SAN-7, SAN-9, SAN-10, AGU-3, PEN-7, and PET-3

<sup>1</sup> Requirements are from BAAQMD 2017 CEQA Air Quality Guidelines (BAAQMD 2017b).

As discussed in Section 4.3.3, *Short-Term Emissions Thresholds*, the BAAQMD has construction screening levels based upon number of dwelling units that screens a project from a construction or operation criteria pollutants emissions analysis. Projects below that number of units would be considered to have less than significant criteria pollutant impacts and would not have to implement Additional Construction Mitigation Measures. For construction, the screening level would be 114 dwelling units for a residential project, regardless of the parcel size. Sites that would not be under the screening level, as they include an increase of greater than 114 dwelling units over existing conditions, would include FOR-2, SAN-2, SAN-4, and AGU-2.

Regardless of number of dwelling units, a Potential Site would also exceed the screening level if it would exceed project-level thresholds (see Table 4.3-4) and include at least one of the following:

1. Demolition
2. Simultaneous occurrence of more than two construction phases
3. Simultaneous construction of more than one land use type
4. Extensive material transport of more than 10,000 cubic yards

To determine which of the Potential Sites may fall within this category, a modeled project was analyzed to determine the maximum dwelling unit increase for a Potential Site that would remain under the BAAQMD thresholds. It was determined that a project that is 38 units or less would not exceed BAAQMD thresholds. Table 4.3-7 summarizes the estimated maximum daily emissions of pollutants associated with construction that could result from a project with a net increase of 38 single-family residential units. As shown in the table, ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions would not exceed BAAQMD thresholds for a 38-unit single-family residential project. A project that would be greater than 38 units would potentially exceed BAAQMD thresholds and thus those Potential Sites greater than 38 units would be a potentially significant impact requiring Additional Construction Mitigation Measures (Mitigation Measure AQ-2). As listed in Table 4.3-6, this would include the following Potential Sites: GUE-2, GUE-4, LAR-1, FOR-4, FOR-5, FOR-6, GRA-2, SAN-1, SAN-3, SAN-5, SAN-6, SAN-7, SAN-9, SAN-10, AGU-3, PEN-7, and PET-3.

**Table 4.3-7 Modeled Project (38 Units) Construction Emissions**

	ROG <sup>1</sup>	NO <sub>x</sub> <sup>1</sup>	CO <sup>1</sup>	SO <sub>2</sub> <sup>1</sup>	PM <sub>10</sub> <sup>1</sup>	PM <sub>2.5</sub> <sup>1</sup>
Construction Year 2021	5	53	33	<1	20	12
Construction Year 2022	48	16	17	<1	1	1
Maximum Emissions	48	53	33	<1	20	12
BAAQMD Thresholds	54	54	N/A	N/A	82 (exhaust)	54 (exhaust)
Threshold Exceeded?	No	No	No	No	No	No

<sup>1</sup> Maximum emissions (lbs/day)

ROG = reactive organic gases, NO<sub>x</sub> = nitrogen oxides, CO = carbon monoxide, SO<sub>2</sub> = sulfur dioxide, PM<sub>10</sub> = particulate matter 10 microns in diameter or less, PM<sub>2.5</sub> = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day, BAAQMD = Bay Area Air Quality Management District

N/A = Not available. The BAAQMD has not established recommended quantitative thresholds for CO and SO<sub>2</sub>.

Notes: See Appendix AQ for modeling results. Some numbers may not add up precisely due to rounding considerations.

### *Fugitive Dust*

Site preparation and grading may generate wind-blown dust that could contribute particulate matter into the local atmosphere. The BAAQMD has not established a quantitative threshold for fugitive dust emissions but rather states that projects that incorporate best management practices for fugitive dust control during construction would have a less than significant impact related to fugitive dust emissions. Development facilitated by the project would be conditioned as required by Mitigation Measure AQ-1 to include these measures; therefore, this impact would be less than significant with mitigation.

### **Operation**

BAAQMD has developed specific plan-level impact threshold for operational emissions. As stated in the BAAQMD May 2017 *CEQA Air Quality Guidelines*, the operational threshold for plans (e.g., general plans, community plans, specific plans, etc., which this project would be similar to) within the SFBAAB is consistency with the current (2017) Clean Air Plan and whether projected VMT or vehicle trip increase is less than or equal to projected population increase. As discussed under Impact AQ-1, the proposed project would be consistent with the 2017 Clean Air Plan and the increase in VMT would not exceed the projected population increase per the BAAQMD CEQA Guidelines for operational emissions from plans. Therefore, impacts to operational emissions would be less than significant.<sup>3</sup>

<sup>3</sup> The project-level screening criteria for operational emissions is 325 dwelling units for single-family residences and 451 dwelling units for multi-family residences (low-rise apartments). The greatest change in allowable dwelling units would occur under FOR-2 with an increase of 283 dwelling units. Therefore, on a project by project level, no development facilitated by the project would exceed either the single-family or multi-family residential screening criteria threshold for operational emissions. As stated in the BAAQMD CEQA Air Quality Guidelines, if the project meets the screening criteria, the project would not result in the generation of operational-related criteria air pollutants that exceed the thresholds of significance shown in Table 4.3-4. Therefore, operational criteria pollutant impacts from development facilitated by the project would be less than significant.

## Mitigation Measure

The BAAQMD 2017 *CEQA Air Quality Guidelines* Basic Construction Mitigation Measures would be required for all projects to reduce temporary construction impacts through implementation of Mitigation Measure AQ-1.

### *AQ-1 Basic Construction Mitigation Measures*

All development facilitated by the project shall be required to reduce construction emissions of reactive organic gases, nitrogen oxides, and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) by implementing the BAAQMD's Basic Construction Mitigation Measures (described below) or equivalent, expanded, or modified measures based on project and site specific conditions.

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, with priority given to the use of recycled water for this activity when feasible.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

### *AQ-2 Additional Construction Mitigation Measures*

In addition to implementation of Mitigation Measure AQ-1, for any project that meets the following conditions and as listed in Table 4.3-6, the County shall condition development facilitated by the project to implement BAAQMD CEQA Air Quality Guidelines' Additional Construction Mitigation Measures:

1. Exceed the BAAQMD construction screening threshold of a change in allowable dwelling units of 114 dwelling units for single-family residences or 240 dwelling units for multi-family residences
2. Would result in a change in allowable dwelling units of more than 38 units
3. Would require demolition or simultaneous occurrence of more than two construction phases

4. Simultaneous construction of more than one land use type (e.g., a mixed-use project involving commercial and residential)
5. Extensive material transport of more than 10,000 cubic yards

In addition to implementation of Mitigation Measure AQ-1, for any Potential Sites that meet the criteria listed above, the following measures (or equivalent, expanded, or modified measures based on project- and site-specific conditions) shall be implemented throughout construction of the project:

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel-powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO<sub>x</sub> reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO<sub>x</sub> and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.

### Significance After Mitigation

For Potential Sites listed in Table 4.3-6, impacts would be less than significant with implementation of Mitigation Measures AQ-1 and AQ-2. For Potential Sites not identified Table 4.3-6, impacts would be less than significant with implementation of Mitigation Measure AQ-1 which would require



implementation of BAAQMD Basic Construction Mitigation Measures for all projects at the Potential Sites.

<b>Threshold:</b>	Would the project expose sensitive receptors to substantial pollutant concentrations?
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**Impact AQ-3** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS FROM CO HOTSPOTS OR TACs. IN ADDITION, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT SITE NEW SENSITIVE LAND USES NEAR SUBSTANTIAL POLLUTANT GENERATING LAND USES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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## Carbon Monoxide Hotspots

As identified in the BAAQMD 2017 *CEQA Air Quality Guidelines*, a project would result in a less than significant impact related to CO concentrations if it is consistent with an applicable congestion management program; would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and would not increase traffic volumes at affected intersections more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The busiest intersection identified in the Traffic Memorandum under the Cumulative Plus Project scenario is at Airport Boulevard and Fulton Road, near the Larkfield Potential Sites, with 4,246 vehicle turning motions through the intersection per PM peak hour (Appendix TRA). This would be substantially below the 44,000 vehicle per hour threshold described above. Therefore, development facilitated by the project would not result in individually or cumulatively significant impacts from CO emissions, and impacts would be less than significant.

## Toxic Air Contaminants

### *Construction*

Construction-related activities would result in short-term emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation (e.g., excavation, grading, and clearing), building construction, and other miscellaneous activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential non-cancer<sup>4</sup> health impacts (CARB 2020a).

Generation of DPM from construction typically occurs in a single area for a short period. Construction of development facilitated by the project would occur over approximately a decade but use of diesel-powered construction equipment in any one area would likely occur for no more than a few years for an individual project and would cease when construction is completed in that area. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors

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<sup>4</sup> Non-cancer risks include premature death, hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma, increased respiratory symptoms, and decreased lung function (CARB 2020a).

to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the development (OEHHA 2015).

The maximum PM<sub>2.5</sub> emissions, which is used to represent DPM emissions for this analysis, would occur during site preparation and grading activities. While site preparation and grading emissions represent the worst-case condition, such activities would not be expected to last longer than a year for the largest development. A construction period of one year would represent a small percentage of the typical health risk calculation periods. PM<sub>2.5</sub> emissions would decrease for the remaining construction period because construction activities such as building construction and paving would require less construction equipment. Therefore, DPM generated by construction from development facilitated by the project is not expected to create conditions where the probability that the maximally exposed individual would contract cancer is greater than 10 in one million or to generate ground-level concentrations of noncarcinogenic TACs that exceed a hazard index greater than one for the maximally exposed individual. This impact would be less than significant.

### *Operation*

In the Bay Area, there are several urban or industrialized communities where the exposure to TACs is relatively high in comparison to others. However, according to the BAAQMD CEQA Guidelines (Figure 5-1), none of the Potential Sites are in an impacted community. (There are no impacted sites in Sonoma County.) Sources of TAC's include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities (BAAQMD 2017b). Operation of development facilitated by the project does not involve any of these uses; therefore, it is not considered a source of TACs. This impact would be less than significant.

### **Asbestos**

BAAQMD Regulation 11, Rule 2 is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities (BAAQMD 2017). The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires the Lead Agency and its contractors to notify BAAQMD of any regulated renovation or demolition activity. This notification includes a description of structures and methods utilized to determine whether asbestos-containing materials are potentially present. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with BAAQMD Regulation 11, Rule 2, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos. Therefore, projects that comply with Regulation 11, Rule 2 would ensure that asbestos-containing materials would be disposed of appropriately and safely. By complying with BAAQMD Regulation 11, Rule 2, thereby minimizing the release of airborne asbestos emissions, demolition activity would not result in a significant impact to air quality. Per the BAAQMD Guidelines, because BAAQMD Regulation 11, Rule 2 is in place, no further analysis about the demolition of asbestos-containing materials is needed in a CEQA document (BAAQMD 2017).

### **Project Siting**

Development facilitated by the project would occur under both the jurisdictions of BAAQMD and NSCAPCD. To provide a consistent analysis between Potential Sites in both regions, CARB screening

methodology for project siting is used in this analysis. In 2005, CARB issued recommendations to avoid siting new residences within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day or close to known stationary TAC sources (CARB 2005). According to the project Traffic Memorandum, the busiest intersection near Potential Sites would be Airport Boulevard and Fulton Road with 4,426 vehicle turning movements during the PM hour (Appendix TRA). Assuming this represents 10 percent of average daily traffic on the roadways, this would equal an approximate total of 44,260 average daily traffic on the busiest non-freeway roadways near Potential Sites, which would not exceed CARB siting recommendations to avoid urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day. Development facilitated by the project could place sensitive receptors living in housing within approximately 500 feet of freeways such as Highways 101, 116, 128, and 12. The Potential Sites within 500 feet of a freeway include the following: GEY-1 through GEY-4, FOR-1, FOR-3, FOR-5, GRA-3, SAN-4, SAN-9, and SON-1 through SON-4.

CARB released a technical advisory on reducing air pollution near high-volume roadways to clarify the 500-foot recommendation from 2005 due to the increased focus on and benefits from infill development, which can often occur within 500 feet of a major roadway (CARB 2017). As described in the technical advisory, California has implemented various measures to improve air quality and reduce exposure to traffic emissions. These include the Diesel Risk Reduction Plan, which aims to reduce particulate matter emissions from diesel vehicles. The continued electrification of California's vehicle fleet would also reduce PM<sub>2.5</sub> levels, and ongoing efforts to reduce emissions from cars and trucks and to move vehicles towards "zero emission" alternatives will continue to drive down traffic pollution (CARB 2017).

As shown in Table 4.3-2, the nearest monitoring stations to the Potential Sites have shown the area to have relatively clean air, with only one exceedance of ozone and a handful of exceedances of PM<sub>2.5</sub>. Development facilitated by the project would comply with the residential indoor air quality requirements in the 2019 Title 24 Building Energy Efficiency Standards, which require Minimum Efficiency Reporting Value 13 (or equivalent) filters for heating/cooling systems and ventilation systems in residences (Section 150.0[m]), or would implement future standards that would be anticipated to be equal to or more stringent than 2019 standards. Therefore, the project would not expose its future sensitive receptors to substantial pollutant concentrations.

## Mitigation Measures

Mitigation measures are not required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b> Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?
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**Impact AQ-4** IMPLEMENTATION OF THE PROJECT WOULD NOT CREATE OBJECTIONABLE ODORS THAT COULD AFFECT A SUBSTANTIAL NUMBER OF PEOPLE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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Table 4.3-5 provides BAAQMD odor screening distances for land uses with the potential to generate substantial odor complaints. Those uses include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants. As development facilitated by the project is residential, none of the uses identified in the table would occur on the sites. Therefore, development facilitated by the project would not generate objectionable odors affecting a substantial number of people during operation.

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust both during normal use and when idling. However, these odors would be temporary and transitory and would cease upon completion. Therefore, development facilitated by the project would not generate objectionable odors affecting a substantial number of people. This impact would be less than significant.

### Mitigation Measures

Mitigation measures are not required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

## 4.3.4 Cumulative Impacts

The cumulative context for air quality is regional. The SFBAAB is in non-attainment for federal standards of ozone and PM<sub>2.5</sub> and in non-attainment for the State standard for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>. The SFBAAB is in attainment of all other federal and State standards, and the NCAB is in attainment for all federal and State standards. Development facilitated by the project would contribute particulate matter and the ozone precursors ROG and NO<sub>x</sub> to the area during construction and operation. As described under Impact AQ-1, the project would be consistent with the overall goal of the 2017 Clean Air Plan control measures as development facilitated by it would comply with the latest Title 24 regulations and would increase density in urban areas, allowing for greater use of alternative modes of transportation. Development facilitated by the project does not contain elements that would disrupt or hinder implementation of any 2017 Clean Air Plan control measures. In addition, the project would support the primary goals of the 2017 Clean Air Plan. Discussion of these impacts considers the cumulative nature of criteria pollutants in the region; therefore, the project would not result in a cumulatively considerable contribution to a conflict with or obstruction of implementation of the applicable air quality plan.

As described under Impact AQ-2, project construction would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution levels or air quality nuisances. BAAQMD has identified feasible fugitive dust control measures for construction activities because PM<sub>10</sub> is the greatest pollutant of concern. These temporary impacts would be mitigated with Mitigation Measures AQ-1 and AQ-2. Discussion of these impacts considers the cumulative nature

of criteria pollutants in the region; therefore, with mitigation the project would not result in a cumulatively considerable net increase of a criteria pollutant from construction emissions.

As described under Impact AQ-2, the proposed project would be consistent with the 2017 Clean Air Plan and the increase in VMT would not exceed the projected population increase per the BAAQMD *CEQA Air Quality Guidelines* for operational emissions from plans. Discussion of these impacts considers the cumulative nature of criteria pollutants in the region; therefore, with mitigation the project would not result in a cumulatively considerable net increase of a criteria pollutant from operational emissions.

As identified under Impact AQ-3, development facilitated by the project would not have a significant impact from CO hotspots or TACs. Discussion of these impacts considers the cumulative nature of the pollutants in the region; e.g., the cancer risk and non-cancer risk thresholds have been set per existing cancer risks in the area and exceeding those thresholds would be considered a cumulative impact. As development facilitated by the project does not exceed those thresholds, it would not expose sensitive receptors to a cumulatively considerable amount of substantial pollutant concentrations from CO hotspots or TACs.

As identified under Impact AQ-4, development facilitated by the project would not have a significant impact from odor emissions. The consideration of cumulative odor impacts is limited to cases when projects constructed simultaneously are within a few hundred yards of each other because of the short range of odor dispersion. It is unlikely that construction of Potential Sites would occur within a few hundred yards of major off-site construction. Therefore, development facilitated by the project would not result in a cumulatively considerable odor impact.

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## 4.4 Biological Resources

This section evaluates the potential for significant impacts to biological resources in and around the Potential Sites that would result from development facilitated by the project. The Biological Resources Assessment (BRA) evaluated the potential for biological conditions within the Biological Study Area (BSA) (i.e., plant and wildlife species, vegetation communities, jurisdictional waters, wildlife movement areas, and other sensitive habitats) and assessed the potential for significant impacts to biological resources as a result of project implementation. The BRA was completed by Rincon Consultants, Inc. in June 2020, and is included as Appendix BIO. A summary of the results of the BRA are presented in this section, and the impacts analysis presented in this section is based on the findings of the BRA. The BSAs defined in the BRA includes the minimum boundary of all Potential Sites in each of the 11 Urban Service Areas and is described further below.

### 4.4.1 Existing Conditions

A description of the Urban Service Areas containing the Potential Sites is provided below. The BSAs evaluated for this analysis include the minimum bounding rectangle for all Potential Sites in each of the 11 Urban Service Areas, along with a 500-foot buffer to encompass potential impacts to biological resources, as shown in Figure 4.4-1 through Figure 4.4-11. A summary of the total acreage of each BSA is presented below in Table 4.4-1.

**Table 4.4-1 Total Acreage of 11 Biological Study Areas**

BSA	Total Acreage
Geyserville	129.4
Guerneville	367.6
Larkfield	212.4
Forestville	459.9
Graton	368.3
Santa Rosa	829.1
Glen Ellen	30.1
Agua Caliente	156.6
Penngrove	306.1
Petaluma	60.8
Sonoma	41.2

### Geyserville

The Geyserville Urban Service Area, located in northern Sonoma County, in northern Geyserville, contains four Potential Sites: GEY-1 through GEY-4. The sites are situated between Highway 101 to the south, Geyserville Avenue to the north, Canyon Road to the west, and urban development to the east. The Potential Sites within the BSA are comprised of a fallow field and rural residential areas. Fallow agricultural land is also located north of the BSA. Wood Creek runs through the BSA, between the Potential Sites.



Figure 4.4-1 Biological Study Area – Geyserville





Figure 4.4-2 Biological Study Area – Guerneville





Figure 4.4-3 Biological Study Area – Larkfield





Figure 4.4-4 Biological Study Area – Forestville





Figure 4.4-5 Biological Study Area – Graton





Figure 4.4-6 Biological Study Area – Santa Rosa

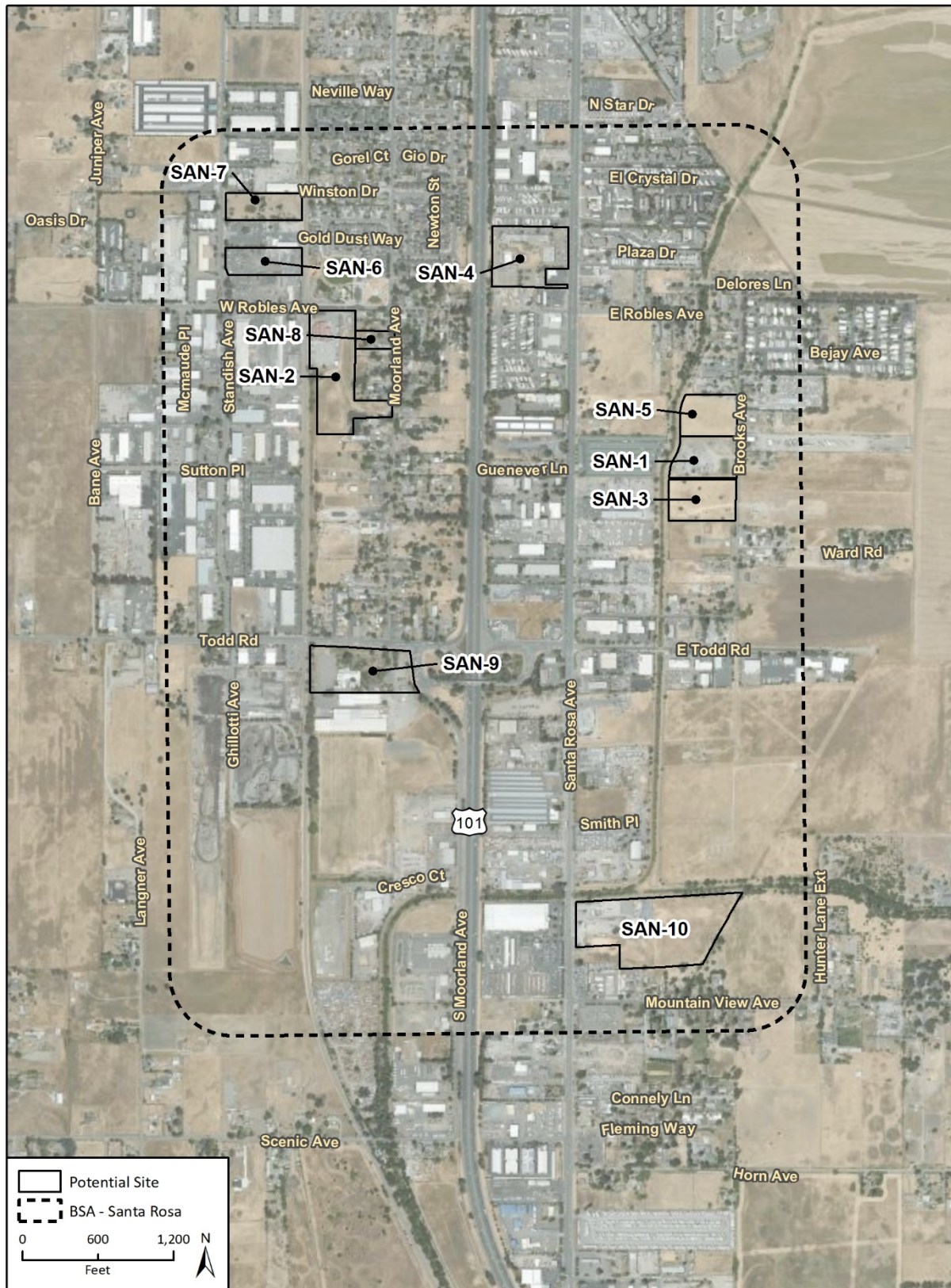


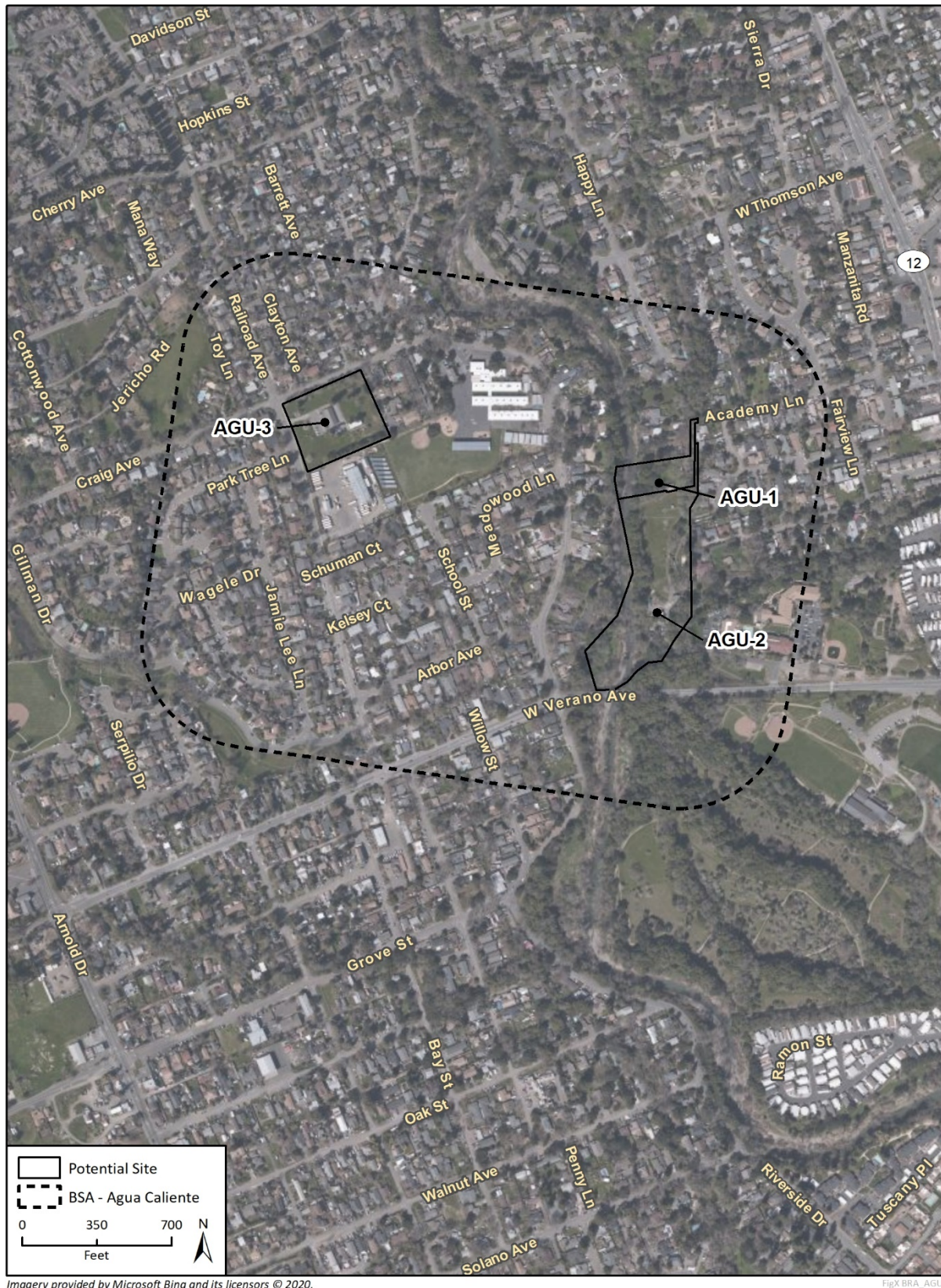


Figure 4.4-7 Biological Study Area – Glen Ellen





Figure 4.4-8 Biological Study Area – Agua Caliente



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Figure 4.4-9 Biological Study Area – Penngrove





Figure 4.4-10 Biological Study Area – Petaluma





Figure 4.4-11 Biological Study Area – Sonoma



Imagery provided by Microsoft Bing and its licensors © 2020.  
Additional data provided by Sonoma County Water Agency, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Vegetation Mapping and LiDAR Program.

## **Guerneville**

The Guerneville Urban Service Area is located in Guerneville between Armstrong Redwoods State Natural Reserve and the Sonoma Coast State Park. Four Potential Sites are envisioned for this service area (GUE-1 through GUE-4). The BSA is located within urban development, with woodland habitat to the north and east, the Russian River approximately 300 feet to the south, and fallow agricultural land surrounded by woodland habitat to the west. Fife Creek runs through the southeast portion of the BSA. The Potential Sites within the BSA are comprised of rural residential areas and undeveloped land.

## **Larkfield**

The Larkfield Urban Service Area, located in central Sonoma County, includes eight Potential Sites (LAR-1 through LAR-8). The BSA is situated in urban development. All Potential Sites are surrounded by urban development, including roads, commercial development, and residential homes. Mark West Creek runs through the southern portion of the BSA's buffer zone. The Potential Sites within the BSA are comprised of developed areas, fallow agricultural fields, and undeveloped land.

## **Forestville**

The Forestville Urban Service Area is located in central Sonoma County and contains six Potential Sites (FOR-1 through FOR-6). The BSA is situated in urban development interspersed with woodland habitat. Urban development, including roads, commercial development, and residential homes, is located to the north and east, fallow agricultural lands are located to the south, and woodland habitat is located to the west of the BSA. Green Valley Creek runs through the buffer zone on the southeast side of the BSA. A freshwater pond is located in the buffer zone to the south. The Potential Sites within the BSA are comprised of rural residential areas and undeveloped land.

## **Graton**

The Graton Urban Service Area, located in central Sonoma County, in northeastern Graton, includes five Potential Sites (GRA-1 through GRA-5). The BSA is situated in an urban setting; all but one site would be surrounded by urban development. Site GRA-2 is situated in riparian habitat, adjacent to Atascadero Creek. Atascadero Creek runs through the BSA's buffer zone on the western portion of the BSA. The western portion of the BSA contains riparian habitat, and the southeastern portion contains lands historically used for agricultural purposes that have since become overgrown with vegetation.

## **Santa Rosa**

The Santa Rosa Urban Service Area, located south of the City of Santa Rosa, contains 10 Potential Sites (SAN-1 through SAN-10). The BSA is situated in an urbanized area, and all Potential Sites would be surrounded by urban development, including roads, commercial development, and residential homes. Highway 101 bisects the BSA. The Potential Sites within the BSA are comprised of developed areas, fallow agricultural fields, and undeveloped land.

## **Glen Ellen**

The Glen Ellen Urban Service Area is located in southeastern Sonoma County, situated between Jack London State Historic Park and Sonoma Valley Regional Park. This service area contains two Potential Sites (GLE-1 and GLE-2). The Potential Sites would be surrounded by urban development,

including Arnold Drive to the west, commercial and residential developments to the north and east, and Carquinez Ave to the south. Calabazas Creek runs through the western portion of the BSA's buffer zone, where it meets with the Sonoma Creek and continues through the southern portion of the buffer zone. Trees are interspersed throughout the BSA. Sonoma Valley Regional Park is located approximately 0.25-mile northeast of the BSA and includes Suttonfield Lake, located approximately 0.6-mile northeast of the BSA.

## **Agua Caliente**

The Agua Caliente Urban Service Area is located in southeastern Sonoma County, north of the City of Sonoma and contains three Potential Sites (AGU-1 through AGU-3). Sonoma Creek and Agua Caliente Creek are located within the BSA on the eastern portion of the site. Site AGU-2 is located in the stream. The other two Potential Sites are located in rural residential areas and undeveloped land. The northern, western, and southern portion of the BSA contains urban development, including roads, commercial development, and residential homes.

## **Penngrove**

The Penngrove Urban Service Area, located between the cities of Santa Rosa and Petaluma in southern Sonoma County, includes nine Potential Sites (PEN-1 through PEN-9). The BSA is situated in an urbanized area, and all Potential Sites are surrounded by urban development, including roads, commercial development, and residential homes. Open, fallow agricultural land is located east of the BSA. Lichau Creek runs through the center/eastern portion of the BSA, connecting to the Petaluma River to the south. The Potential Sites within the BSA are comprised of developed and rural residential areas, and undeveloped land.

## **Petaluma**

The Petaluma Urban Service Area is located adjacent to the City of Petaluma in southern Sonoma County and includes four Potential Sites (PET-1 through PET-4). The Potential Sites would be situated together and surrounded by urban development, with Bodega Avenue to the north, commercial and residential developments to the east, Western Avenue to the south, and Cleveland Lane to the west. The southern portion of the BSA's buffer zone contains open, fallow agricultural land. The Potential Sites within the BSA are comprised of rural residential areas and undeveloped land.

## **Sonoma**

The Sonoma Urban Service Area is located on the southern border of the City of Sonoma in southeastern Sonoma County. The study area includes four Potential Sites (SON-1 through SON-4). The Potential Sites would be located in a developed area, and surrounded by urban development, including Leveroni Road to the north, Broadway to the east, and commercial and residential developments to the south and to the west. The Potential Sites within the BSA are comprised of rural residential and developed areas.

## **Vegetation Communities and Land Cover Types**

A total of 32 terrestrial vegetation communities or other land cover types were mapped within the BSAs based on the Sonoma County Vegetation Mapping and LiDAR Program. See Appendix BIO for a complete summary of the methods, and Figure 3 of Appendix BIO for mapping of the various

vegetation communities and land cover types that occur within BSAs. The following vegetation communities (including some subset communities) were mapped within the BSA:

1. Pacific Madrone (*Arbutus menziesii*); 12.8 acres in the GUE BSA
2. Barren; 2.6 acres in the GEY and SAN BSAs
3. California Annual and Perennial Grassland; 612.4 acres in all BSAs
4. Deciduous Orchard; 71.7 acres in the GEY, GUE, FOR, and GRA BSAs
5. Deciduous Orchard, Vineyard, Irrigated Row and Field Crops; 2.9 acres in the GRA BSA
6. Eucalyptus (*Eucalyptus* spp.), tree of heaven (*Ailanthus altissima*), black locust (*Robinia pseudoacacia*); 8.5 acres in the GRA, SAN, PEN, and PET BSAs
7. Irrigated Hayfield; 14.1 acres in the GUE and SAN BSAs
8. Irrigated Row and Field Crops; 1.4 acres in the LAR, SAN, and SON BSAs
9. Non-native Forest & Woodland; 112.8 acres in the GEY, GUE, LAR, FOR, GRA, SAN, GLE, PEN, and SON BSAs
10. Non-native Shrub; 5.4 acres in the GUE, FOR, and GRA BSAs
11. Tanoak (*Notholithocarpus densiflorus*); 5.6 acres in the GUE BSA
12. Fremont cottonwood (*Populus fremontii*); 11.5 acres in the GUE, LAR, FOR, and AGU BSAs
13. Douglas fir (*Pseudotsuga menziesii*); 16.4 acres in the GUE, FOR, and GRA BSAs
14. Oak (*Quercus agrifolia*, *Q. douglasii*, *Q. garryana*, *Q. kelloggii*, *Q. lobata*, *Q. wislizeni*); 37.2 acres in the LAR, FOR, GRA, and GLE BSAs
15. Coast live oak (*Quercus agrifolia*); 35.5 acres in the GEY, GUE, LAR, GRA, SAN, and PEN BSAs
16. Blue oak (*Quercus douglasii*); <0.1 acre in the GEY BSA
17. Oregon oak (*Quercus garryana*) (tree); 8.5 acres in the FOR BSA
18. Valley oak (*Quercus lobata*); 38.0 acres in the LAR, FOR, GRA, GLE, AGU, and SON BSAs
19. Himalayan blackberry (*Rubus armeniacus*), rattlebox (*Sesbania punicea*), common fig (*Ficus carica*); 5.4 acres in the GUE, FOR, GRA, and PEN BSAs
20. Coast redwood (*Sequoia sempervirens*); 166.5 acres in the GUE, FOR, and GRA BSAs
21. Southwestern North American Riparian Evergreen and Deciduous Woodland; 30.1 acres in the GUE, LAR, FOR, AGU, and PEN BSAs
22. Southwestern North American Riparian/Wash Scrub; 43.1 acres in the GUE, FOR, GRA, and SAN BSAs
23. Temperate Forest; 38.9 acres in the GEY, GUE, LAR, FOR, GRA, SAN, GLE, PEN, PET, and SON BSAs
24. California bay (*Umbellularia californica*); 8.2 acres in the FOR and AGU BSAs
25. Urban; 1,501.0 acres in all BSAs
26. Vancouverian Riparian Deciduous Forest; 56.9 acres in the GEY, GUE, LAR, FOR, GRA, GLE, AGU, and PEN BSAs
27. Vineyard; 108.5 acres in the GEY, GUE, LAR, FOR, GRA, PEN, PET, and SON BSAs
28. Water; 0.2 acre in the GUE, LAR, GLE, AGU, and PEN BSAs
29. Water Treatment Pond; 2.7 acres in the FOR BSA
30. Western North America Vernal Pool; 4.8 acres in the SAN and PEN BSAs

31. Western North American Freshwater Aquatic Vegetation; 0.1 acre in the FOR BSA
32. Western North American Freshwater Marsh; 12.9 acres in the GUE, FOR, GRA, SAN, and PEN BSAs

Descriptions of each vegetation community type is provided in Appendix BIO.

## Special Status Species

A total of 132 special status plant species known to occur in the region were evaluated for their potential to occur in the BSA (Appendix BIO). Based on the size of the BSA and the types and quality of natural vegetation communities with the BSA, 52 special status plant species could be excluded based on the lack of species-specific habitat features within the BSAs. The specific habitat features absent from the BSAs include, but are not limited to coastal dunes, salt marsh, chaparral, and closed-cone coniferous forest. Special status plants generally have a low potential to occur within the BSAs due to the developed nature of most of the sites; however, many of the BSAs are located adjacent to undeveloped areas and overlap some portion of natural habitats and aquatic features. A total of 80 special status plant species have potential to occur within the BSA (Appendix BIO). Those plants that are federally and/or state listed as endangered or threatened, or are presumed present are discussed in detail in Table 4.4-2, Table 4.4-2, and Table 4.4-3 below. Four species have been documented within the BSAs, including one federally endangered species (Table 4.4-3). The remaining 55 species with potential to occur have a California Rare Plant Rank (CRPR) of 1B to 2B (Appendix BIO).

**Table 4.4-2 Federal and State Listed Plant Species with Potential to Occur in the BSA**

Common Name	Scientific Name	Status	Potential to Occur	BSA
Baker's manzanita	<i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i>	SR	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Clara Hunt's milk-vetch	<i>Astragalus claranus</i>	FE/ST	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Vine Hill clarkia	<i>Clarkia imbricata</i>	FE/SE	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Baker's larkspur	<i>Delphinium bakeri</i>	FE/SE	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Roderick's fritillary	<i>Fritillaria roderickii</i>	SE	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Geysers panicum	<i>Panicum acuminatum</i> var. <i>thermale</i>	SE	Low	GEY, PET, SON
two-fork clover	<i>Trifolium amoenum</i>	FE	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Sonoma alopecurus	<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE	Moderate	GUE, LAR, GRA, SAN, GLE, AGU, PEN, SON
Sonoma sunshine	<i>Blennosperma bakeri</i>	FE/SE	Moderate	SAN, PEN

Common Name	Scientific Name	Status	Potential to Occur	BSA
Pitkin Marsh paintbrush	<i>Castilleja uliginosa</i>	SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Loch Lomond button-celery	<i>Eryngium constancei</i>	FE/SE	Moderate	SAN, PEN
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Burke's goldfields	<i>Lasthenia burkei</i>	FE/SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Contra Costa goldfields	<i>Lasthenia conjugens</i>	FE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Pitkin Marsh lily	<i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	FE/SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Sebastopol meadowfoam	<i>Limnanthes vinculans</i>	FE/SE	Moderate	SAN, PEN
many-flowered navarretia	<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	FE/SE	Moderate	SAN, PEN
Geysers panicum	<i>Panicum acuminatum</i> var. <i>thermale</i>	SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Hickman's cinquefoil	<i>Potentilla hickmanii</i>	FE/SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Kenwood Marsh checkerbloom	<i>Sidalcea oregana</i> ssp. <i>valida</i>	FE/SE	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Pacific Grove clover	<i>Trifolium polyodon</i>	SR	Moderate	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON

Notes: FE = Federal Endangered; SR = State Rare; ST = State Threatened; SE = State Endangered

Source: Appendix BIO, Table 4

**Table 4.4-3 Special Status Plants Documented in the BSA**

Common Name	Scientific Name	Status	BSA
congested-headed hayfield tarplant	<i>Hemizonia congesta</i> ssp. <i>congesta</i>	1B.2	LAR, GLE, AGU, SON
Sonoma alopecurus	<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE	FOR
holly-leaved ceanothus	<i>Ceanothus purpureus</i>	1B.2	GUE
pappose tarplant	<i>Centromadia parryi</i> ssp. <i>parryi</i>	1B.2	PEN

Source: Appendix BIO, Table 5



## Special Status Animal Species

A total of 51 special status animal species known to occur in the region were evaluated for their potential to occur on the project site (Appendix BIO). Based on the size of the BSA and the types and quality of natural vegetation communities within the BSA, only 19 special status animal species could be excluded based on the lack of species-specific habitat features present within the BSAs. These species generally occur in marine or salt marsh habitats, or the BSA is outside of the species known range. Special status animals generally have a low potential to occur within the BSAs due to the developed nature of most of the sites; however, many of the BSAs are located adjacent to undeveloped areas and overlap some portion of natural habitats and aquatic features. Thirty-one special status animal species have some potential to occur in the BSA, including 20 federal- or state-listed species (Table 4.4-4).

**Table 4.4-4 Federal and State Listed Animal Species with Potential to Occur in the BSA**

Common Name	Scientific Name	Status	Potential to Occur	BSA
Crotch bumble bee	<i>Bombus crotchii</i>	SC	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, PET, SON
western bumble bee	<i>Bombus occidentalis</i>	SC	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, PET, SON
California freshwater shrimp	<i>Syncaris pacifica</i>	FE, SE	Low	GUE, LAR, GRA, GLE, PEN
coho salmon - central California coast ESU	<i>Oncorhynchus kisutch</i>	FE, SE	Low	GLE, AGU, PEN, SON
steelhead – central California DPS	<i>Oncorhynchus mykiss irideus</i> pop. 8	FT	Low	GRA, SON
chinook salmon - California coastal ESU	<i>Oncorhynchus tshawytscha</i>	FT	Low	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST	Low	GUE, LAR, FOR, GRA, GLE, AGU, PET, SON
California red-legged frog	<i>Rana draytonii</i>	FT	Low	GEY, LAR, FOR, GRA, SAN, GLE, AGU, PEN, PET, SON
tricolored blackbird	<i>Agelaius tricolor</i>	ST	Low	GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
Swainson's hawk	<i>Buteo swainsoni</i>	ST	Low	GEY, GUE, LAR, FOR, GRA, SAN, GLE, AGU, PEN, SON
northern spotted owl	<i>Strix occidentalis cauring</i>	FT/ST	Low	GUE, FOR
coho salmon – central California coast ESU	<i>Oncorhynchus kisutch</i> pop. 4	FE, SE	Moderate	GRA
steelhead – central California DPS	<i>Oncorhynchus mykiss irideus</i> pop. 8	FT	Moderate	LAR, GLE, AGU, PEN
foothill yellow-legged frog	<i>Rana boylei</i>	SC	Moderate	GUE, LAR, PEN
California red-legged frog	<i>Rana draytonii</i>	FT	Moderate	GUE
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST	High	PEN
California freshwater shrimp	<i>Syncaris pacifica</i>	FE, SE	Present	AGU
coho salmon - central California coast ESU	<i>Oncorhynchus kisutch</i>	FE, SE	Present	GUE, LAR

Common Name	Scientific Name	Status	Potential to Occur	BSA
steelhead – central California DPS	<i>Oncorhynchus mykiss irideus</i> pop. 8	FT	Present	GUE
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST	Present	SAN

Notes: ESU = Evolutionarily Significant Unit; FT = Federal Threatened; FE = Federal Endangered; ST = State Threatened; SE = State Endangered; SC = State Candidate  
Source: Appendix BIO, Table 6

## Nesting Birds

Non-game migratory birds protected under the California Fish and Game Code (CFGF) Section 3503 have the potential to breed throughout the BSA. Native avian species common to oak woodland, riparian and coastal scrub, grasslands, landscaping, developed and ruderal areas have the potential to breed and forage throughout the BSA. Species of birds common to the area that typically occur in the region, including red-tailed hawk, California quail, California scrub jay, black phoebe (*Sayornis nigricans*), Anna’s hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), American crow, and turkey vulture, were detected from online database sources, including iNaturalist and eBird. Nesting by a variety of common birds protected by CFGF Section 3503 could occur in virtually any location throughout the BSA.

## Sensitive Communities and Critical Habitat

### *Sensitive Communities*

Plant communities are considered sensitive biological resources if they have limited distribution, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. California Department of Fish and Wildlife (CDFW) ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in California Natural Diversity Database (CNDDB). The following six sensitive natural communities are known to occur within 5 miles of the BSAs:

1. Northern Vernal Pool
2. Coastal and Valley Freshwater Marsh
3. Northern Hardpan Vernal Pool
4. Valley Needlegrass Grassland
5. Coastal and Valley Freshwater Marsh
6. Coastal Brackish Marsh

The vegetation communities mapped in the SAN and PEN BSAs include Western North America Vernal Pool, which may be considered sensitive as a wetland. Additionally, many of the specific vegetation alliances in the BSAs may be considered sensitive under CDFW’s revised ranking methodology, including the *Populus fremontii* – Forest Alliance, many *Quercus* sp. alliances, and the *Sequoia sempervirens* Forest & Woodland Alliance.

### *Critical Habitat*

The following eight federally designated critical habitats occur within 5 miles of the BSAs:

1. Marbled murrelet

2. Northern spotted owl
3. California tiger salamander (CTS)
4. California red-legged frog
5. Coho salmon – central California coast Evolutionarily Significant Unit (ESU)
6. Steelhead – central California DPS
7. Green sturgeon – southern DPS (*Acipenser medirostris*)
8. Chinook salmon – California coastal ESU (*Oncorhynchus tshawytscha*)

The BSAs distance in miles from each of the eight critical habitats is shown in Table 4.4-5 below. Critical habitat for CTS, coho salmon, and steelhead occur within some of the BSAs. Descriptions of each federally designated critical habitat are discussed in Appendix BIO.

**Table 4.4-5 BSA Distance (miles) from Federally Designated Critical Habitats**

BSA	Marbled Murrelet	Northern Spotted Owl	CTS	CRLF	Coho Salmon	Steelhead	Green Sturgeon	Chinook Salmon
GEY	–	–	–	–	1.94	0.88	–	0.38
GUE	0.88	–	–	–	Within	Within	–	–
FOR	–	–	2.55	–	Within	0.16	–	–
LAR	–	–	0.31	–	Within	Within	–	–
GRA	–	–	1.45	–	Within	Within	–	–
SAN	–	–	Within	4.29	2.6	–	–	–
PEN	–	–	Within	3.22	–	0.09	–	–
PET	–	–	2.98	0.97	–	1.02	2.75	–
GLE	–	–	–	3.26	–	Within	–	–
AGU	–	3.42	–	3.61	–	Within	–	–
SON	–	4.01	–	–	–	0.11	–	–

Notes: CTS = California tiger salamander; CRLF = California red-legged frog

## Jurisdictional Waters and Wetlands

Potentially jurisdictional areas in the BSA include streams located at various locations within the 11 Urban Service Areas. There are 10 streams in the 11 Urban Service Areas: Sonoma Creek, Green Valley Creek, Wood Creek, Calabazas Creek, Atascadero Creek, Fife Creek, Mark West Creek, Petaluma River, Fife Creek, and Lichau Creek (U.S. Geological Survey 2020). One freshwater pond is located in the FOR BSA. There are no jurisdictional waters or wetlands within the SAN, PET, or SON BSAs. These features are potentially subject to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and California Coastal Commission oversight. The lakes and many of the wetlands are permanently wet and have a direct hydrologic connection to the Pacific Ocean (a traditional navigable water as defined by USACE).

## Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animals

populations or those populations that are at risk of becoming isolated. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity Project, commissioned by the California Department of Transportation and CDFW, identifies “natural Landscape Blocks” that support native biodiversity and the “Essential Connectivity Areas” which link them (Spencer et al. 2010).

Wildlife movement corridors can be both large and small in scale. Riparian corridors and waterways including the Russian River, Petaluma River, Wood Creek, Mark West Creek, Sonoma Creek, Atascadero Creek, Fife Creek, Green Valley Creek, Calabazas Creek, and Lichau Creek provide local scale opportunities for wildlife movement throughout the 11 BSAs. Existing trails and roads within the BSAs also act as corridors for wildlife movement, particularly for relatively disturbance-tolerant species such as red fox, coyote, raccoon, skunk, deer, and bobcat. On a larger scale, one of the 11 BSAs is mapped in an Essential Connectivity Area in the Biogeographic Information and Observation System (CDFW 2020). The GUE BSA is mapped within an Essential Connectivity Area connecting two natural land blocks, Armstrong Redwoods State Preserve at the northern extent and the Sonoma Coast State Park to the south along the coast. None of the other 10 BSAs are mapped in an Essential Connectivity Area or Natural Landscape Block. The GUE BSA is surrounded by a large area of undisturbed natural habitat, including woodland habitat in the southeastern portion of the BSA. Overall, this area represents important natural habitat for a wide range of species and supports genetic connectivity and movement along much of the northern California coast, including into the Mendocino National Forest. The GLE BSA lies outside a Natural Landscape Block, the Sonoma Valley Regional Park, approximately 0.2 mile south of the site.

There is potential for movement from local waterways, including the Russian River and Fife Creek in the GUE BSA, the Petaluma River and Lichau Creek in the PEN BSA, Wood Creek in the GEY BSA, Mark West Creek in the LAR BSA, Sonoma Creek in the AGU BSA, Green Valley Creek in the FOR BSA, Sonoma Creek and Calabazas Creek in the GLE BSA, and Atascadero Creek in the GRA BSA. The riparian corridors of these waterways are a significant corridor for wildlife movement in Sonoma County. The areas surrounding the rivers and creek are primarily developed areas, including urban residential, commercial, and industrial development. Furthermore, most wildlife species that would utilize such connections are likely urban, disturbance tolerant species such as raccoon, skunk, opossum, and black tailed deer.

Developed areas of the BSA where Potential Sites would intersect an urban area do not function as essential connectivity areas or as important wildlife corridors due to previous use and disturbance.

#### 4.4.2 Regulatory Setting

The following is a summary of the regulatory context under which biological resources are regulated at the federal, state, and local level. Agencies and regulatory documents pertaining to the protection of biological resources include:

1. U.S. Fish and Wildlife Service (USFWS; federally listed species and migratory birds)
2. USACE (wetlands and other waters of the U.S.)
3. CDFW (waters of the state, state-listed and fully protected species, and other sensitive plants and wildlife)

4. RWQCB (waters of the state)
5. Sonoma County General Plan (2016)
6. Sonoma County Code (Chapter 26D, *Heritage or Landmark Trees*; Chapter 26, Article 67, *Valley Oak Habitat Combining District*; Section 26-64)
7. Santa Rosa Plain Conservation Strategy (2005)

The following discussion provides a summary of those agencies and regulatory documents that are most relevant to biological resources.

## **a. Federal Regulations**

### **U.S. Fish and Wildlife Service**

The USFWS implements the Bald and Golden Eagle Protection Act (16 United States Code [USC] Sections 668-668d) and the Migratory Bird Treaty Act (MBTA, 16 USC Sections 703-712). The Bald and Golden Eagle Protection Act prohibits the take of bald eagle and golden eagle without a permit. The MBTA prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. The USFWS shares responsibility for implementation of the Federal Endangered Species Act (FESA; 16 USC Section 1531) with the National Marine Fisheries Service (NMFS; National Oceanic and Atmospheric Administration [NOAA Fisheries]). USFWS generally implements the FESA for land and freshwater species, while NOAA Fisheries implements FESA for marine and anadromous species.

The FESA prohibits the unpermitted take of federally listed threatened or endangered species. Take under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NOAA Fisheries advise project applicants that they could be elevated to listed status at any time.

Projects that would result in incidental take of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NOAA Fisheries through either Section 7 (interagency consultation if there is a federal nexus) or Section 10 (incidental take permit/Habitat Conservation Plan [HCP]) of the FESA. The Section 7 consultation process, which applies to both listed animal and plant species, is designed to ensure that the federal agency action does not jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. An HCP prepared under Section 10 outlines conservation measures to minimize the impacts of incidental take to listed species, including measures to maintain, enhance and protect the species' habitat.

### **U.S. Army Corps of Engineers**

Under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act, the USACE has authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the U.S. Perennial and intermittent creeks and adjacent wetlands are considered waters of the U.S. and are within the regulatory jurisdiction of the USACE. The USACE implements the federal policy embodied in Executive Order (EO) 11990, which, when implemented, is intended to result in no net loss of wetland values or acres. In achieving the goals of the CWA, the USACE seeks to avoid adverse impacts and to offset unavoidable adverse

impacts on existing aquatic resources. Any fill or adverse modification of wetlands or waters of the U.S. would require a permit from the USACE prior to the start of work. Typically, permits issued by the USACE are a condition of a project as mitigation to offset unavoidable impacts on wetlands and other waters of the U.S. in a manner that achieves the goal of no net loss of wetland acres or values.

Under Section 404 of the CWA, the USACE has authority to regulate activity that could discharge fill or dredged material into wetlands or other waters of the U.S. Perennial and intermittent creeks and adjacent wetlands are considered waters of the U.S. and are within the regulatory jurisdiction of the USACE. The USACE implements the federal policy embodied in EO 11990, which, when implemented, is intended to result in no net loss of wetland values or acres. In achieving the goals of the CWA, the USACE seeks to avoid adverse impacts and to offset unavoidable adverse impacts on existing aquatic resources. Any fill waters of the U.S., including wetlands, would require a permit from the USACE prior to the start of work. In response to EO 13778, the USACE and Environmental Protection Agency (EPA) proposed a rule on December 11, 2018 to revise the definition of waters of the U.S. subject to federal regulation under the CWA. The proposed definition includes “traditional navigable waters, including the territorial seas; tributaries that contribute perennial or intermittent flow to such waters; certain ditches; certain lakes and ponds; impoundments of otherwise jurisdictional waters; and wetlands adjacent to other jurisdictional waters.” This new definition became effective on June 22, 2020. The USACE is expected to assert jurisdiction under Section 404 of the CWA over stream, lake, and wetland features to the ordinary high water mark, and to the edge of those wetlands with all three criteria that define federal wetlands: hydric soils, hydrophytic vegetation, and wetland hydrology.

## **b. State Regulations**

### **California Department of Fish and Wildlife**

CDFW derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of State-listed threatened or endangered. Take under CESA is restricted to direct mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

CFGF Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of birds, nests, and eggs. Section 3503 prohibits the take of nests or eggs of any bird. Section 3503.5 protects all birds-of-prey and their eggs and nests against take. Section 3513 prohibits the take of migratory nongame birds as designated in the MBTA except as provided by the MBTA.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered indicators of regional habitat changes or are considered potential future protected species. SSC do not have any special legal status except that which may be afforded by the CFGF as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands.

The CDFW also administers the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.). The California Native Plant Protection Act prohibits importation of rare and endangered plants into California, “take” of rare and endangered plants, and sale of rare and endangered plants.



Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the CFGC (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend on either side of the stream bank to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake.

## Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local RWQCB have jurisdiction over “waters of the State,” pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction). The RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

### c. Local Regulations

## Sonoma County General Plan

The current Sonoma County General Plan contains the following goals and objectives related to biological resources:

### **Goal OSRC-7: Protect and enhance the County's natural habitats and diverse plant and animal communities.**

**Objective OSRC-7.1:** Identify and protect native vegetation and wildlife, particularly occurrences of special status species, wetlands, sensitive natural communities, woodlands, and areas of essential habitat connectivity.

**Objective OSRC-7.5:** Maintain connectivity between natural habitat areas.

**Objective OSRC-7.6:** Establish standards and programs to protect native trees and plant communities.

**Objective OSRC-7.7:** Support use of native plant species and removal of invasive exotic species.

**Objective OSRC-7.9:** Preserve and restore the Laguna de Santa Rosa, San Pablo Bay and Petaluma marshes and other major marshes and wetlands

**Policy OSRC-7k:** Require the identification, preservation and protection of native trees and woodlands in the design of discretionary projects, and, to the maximum extent practicable, minimize the removal of native trees and fragmentation of woodlands, require any trees removed to be replaced, preferably on the site, and provide permanent protection of other existing woodlands where replacement planting does not provide adequate mitigation.

**Policy OSRC-7l:** Identify important oak woodlands, assess current protection, identify options to provide greater protection of oak woodlands and their role in connectivity, water quality and scenic resources, and develop recommendations for regulatory protection and voluntary programs to protect and enhance oak woodlands through education, technical assistance, easements and incentives.

Policy OSRC-7o: Encourage the use of native plant species in landscaping. For discretionary projects, require the use of native or compatible non-native species for landscaping where consistent with fire safety. Prohibit the use of invasive exotic species.

**Goal OSRC-8: Protect and enhance Riparian Corridors and functions along streams, balancing the need for agricultural production, urban development, timber and mining operations, and other land uses with the preservation of riparian vegetation, protection of water resources, flood control, bank stabilization, and other riparian functions and values.**

**Objective OSRC-8.3:** Recognize and protect riparian functions and values of undesignated streams during review of discretionary projects.

Policy OSRC-8e: Prohibit, except as otherwise allowed by Policy OSRC-8d, grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots within any streamside conservation area. Consider an exception to this prohibition if:

- (1) It makes a lot unbuildable and vegetation removal is minimized,
- (2) The use involves the minor expansion of an existing structure where it is demonstrated that the expansion will be accomplished with minimum damage to riparian functions,
- (3) The use involves only the maintenance or restoration of an existing structure or a nonstructural use,
- (4) It can be clearly demonstrated through photographs or other information that the affected area has no substantial value for riparian functions, or
- (5) A conservation plan is approved that provides for the appropriate protection of the biotic resources, water quality, flood management, bank stability, groundwater recharge, and other applicable riparian functions. Until the County adopts mitigation standards and procedures for specific uses and riparian functions, prior to approving the conservation plan, consult on areas of concern with the Resource Conservation District, Agricultural Commissioner, and resource agencies that are applicable to the proposed plan.

Policy OSRC-8i: As part of the environmental review process, refer discretionary permit applications near streams to CDFG and other agencies responsible for natural resource protection.

## Sonoma County Code

The Sonoma County Code Section 26D, *Heritage or Landmark Trees*, provides standards for the removal, protection, and preservation of trees. The ordinance requires a tree permit for any heritage or landmark tree to be removed or damaged during project construction. In addition to requiring tree removal permits, the ordinance also requires measures to protect existing trees during project construction. Sonoma County Zoning Code Article 88, Section 26-88-010(m), *Tree Protection Ordinance*, requires projects to be designed to minimize the removal of protected trees that meet size and species criteria specified in the ordinance, and replanting for trees removed.

Additionally, Article 67, *Valley Oak Habitat Combining District*, of the Sonoma County Zoning Code provides for protection and enhancement of oak woodland habitats. Removal of oak trees in this zoning district requires mitigation measures including retention of other oaks, replacement plantings, and/or an in-lieu fee.

Riparian corridors are protected by Article 65, *Riparian Corridor Combining Zone*. This combining zone protects County-designated streams, including the bed, bank, and adjacent streamside

conservation areas as measured from the top of bank or the outer drip line of the riparian trees. Specific setbacks are determined based on the affected river or stream and site-specific conditions but generally include a 25- to 200-foot setback.

## **Santa Rosa Plain Conservation Strategy**

The LAR BSA, SAN BSA, and portions of the PEN BSA are in the Santa Rosa Plain Conservation Strategy Area (2005). The goal of the Conservation Strategy is to aid in the conservation of listed species and vernal pools by providing local governments and developers a way to obtain authorization for incidental take of federally listed species for development. Species covered under the Conservation Strategy Area include CTS, Burke's goldfields, Sonoma sunshine, Sebastopol meadowfoam, and many-flowered navarretia.

### **4.4.3 Impact Analysis**

#### **a. Methodology and Significance Thresholds**

##### **Methodology**

The analysis presented in this section is based on literature/database reviews. Project impacts to flora and are focused upon rare, threatened, endangered species, as defined under *CEQA Guidelines* Section 15380. A substantial adverse effect as defined under Threshold 1 to federal- or state-listed, or fully protected species would be considered significant if any individual animal or plant would be affected. A substantial adverse effect as defined under Threshold 1 to CRPR 1B and 2B plants are generally considered significant under CEQA if the loss of individuals on represented a population-level impact that resulted in a loss of a local or regional population, or risked the long-term viability of a local or regional population.

##### *Definition of Special Status Species*

For the purposes of this analysis, special status species include:

1. Species listed as threatened or endangered under the FESA; species that are under review may be included if there is a reasonable expectation of listing within the life of the project
2. Species listed as candidate, threatened, or endangered under the CESA
3. Species designated as Fully Protected, SSC, or Watch List by CDFW
4. Species designated as sensitive by the U.S. Forest Service or Bureau of Land Management, if the project would affect lands administered by these agencies
5. Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy
6. Species designated with a CRPR of 1B or 2B

##### *Environmental Statutes*

For the purpose of this analysis, potential impacts to biological resources were analyzed based on the following statutes (Appendix BIO):

1. California Environmental Quality Act (CEQA)
2. FESA
3. CESA

4. Federal CWA
5. CFGC Section 3503
6. MBTA
7. The Bald and Golden Eagle Protection Act
8. Porter-Cologne Water Quality Control Act
9. Santa Rosa Plain Conservation Strategy Area
10. Sonoma County Code
11. Sonoma County General Plan (2016)

### Significance Thresholds

The following threshold criteria, as defined by the *CEQA Guidelines* Appendix G Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

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

## b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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### **Impact BIO-1** FUTURE DEVELOPMENT FACILITATED BY THE PROJECT COULD IMPACT SPECIAL STATUS SPECIES AND THEIR HABITAT DURING CONSTRUCTION AND/OR OPERATION. IMPACTS WOULD BE SIGNIFICANT AND MITIGATION MEASURES WOULD BE REQUIRED.

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A total of 132 special status plants and 51 special status animals are known to occur or have the potential to occur in the BSAs. Of these, 80 special status plants have the potential to occur in the BSAs, of which 22 are state or federally listed. There are 31 special status animal species with some potential to occur in the BSAs, including 20 federally or state-listed species (Appendix BIO).

Development facilitated by the project would include both redevelopment of existing urban structures and loss of undeveloped habitat. Construction-related disturbances may also occur at staging areas and access corridors. These activities could result in significant impacts to special status species through injury or mortality from construction activity. Additionally, construction in the immediate vicinity of creeks or streams could result in loss or degradation of aquatic habitat (e.g., by erosion, sedimentation, pollution, or tampering by the public).

Impacts to CRPR 1B.1 or 1B.2 plant species would only be considered significant if the loss of individuals in the BSAs represented a population-level impact that resulted in a loss of or risk to the entire regional population. Given the size of the BSAs, quality of habitat, and small impact area for the types of projects proposed (i.e., re-development of the Potential Sites), there is low potential for impacts on a population level. Impacts to individuals of state and federally listed species, or population-level adverse effects to non-listed species would be considered significant but can be reduced through the design of project elements to avoid special status plants and sensitive vegetation communities. Impacts to federally or state-listed species from ground-disturbing activity or vegetation removal would be considered significant.

Special status animal species are most likely to occur in native vegetation communities and natural habitats in the BSAs, but many species may use more disturbed areas as upland or foraging habitat and may occur transiently in the BSAs. Impacts to special status animal species could occur if individuals were present in the BSA at the time of construction through direct injury or mortality. Disturbance may also occur because of construction noise and human presence. Development facilitated by the project may also decrease available foraging habitat for some special status birds. These impacts would be considered significant.

Given that most of the BSAs are in medium or low density residential and rural areas, impacts are expected to be low, but development facilitated by the project would require ground disturbance or vegetation removal have potential to adversely affect special status species wherever they occur in the BSAs. Avoidance and minimization measures can be applied for a variety of species to reduce the potential impact to less than significant. For development facilitated by the project that is not expected to result in any ground disturbance or very small disturbance (e.g., installation of signage, utility improvements that do not involve ground disturbance outside of paved areas, etc.) and no vegetation removal, no mitigation would be required. For those projects that would result in ground disturbance through clearing/grading or vegetation trimming or removal (e.g., demolition of existing

buildings and redevelopment construction, etc.), a project-specific biological assessment (Mitigation Measure BIO-1) would be required. Additional mitigation measures would then be required based on the results of the project-specific biological analysis and may include one or more of the measures outlined below (Mitigation Measures BIO-2 through BIO-12) to reduce the impact to less than significant.

## Mitigation Measures

### *BIO-1 Biological Resources Screening and Assessment*

For projects in the BSAs that would require ground disturbance through clearing/grading or vegetation trimming, the project applicant shall engage a qualified biologist (having the appropriate education and experience level) to perform a preliminary Biological Resources Screening and Assessment to determine whether the project has any potential to impact special status biological resources, inclusive of special status plants and animals, sensitive vegetation communities, jurisdictional waters (including creeks, drainages, streams, ponds, vernal pools, riparian areas and other wetlands), critical habitat, wildlife movement area, or biological resources protected under local or regional (City or County) ordinances or an existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan, including the Santa Rosa Plain Conservation Strategy. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a project-specific biological analysis to document the existing biological resources within a project footprint plus a minimum buffer of 500 feet around the project footprint, as is feasible, and to determine the potential impacts to those resources. The project-specific biological analysis shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities, critical habitats, and other resources judged to be sensitive by local, state, and/or federal agencies. If the project would have the potential to impact these resources, the following mitigation measures (Mitigation Measures BIO-2 through BIO-12) shall be incorporated, as applicable, to reduce impacts to a less than significant. Pending the results of the project-specific biological analysis, design alterations, further technical studies (e.g., protocol surveys) and consultations with the USFWS, NMFS, CDFW, and/or other local, state, and federal agencies may be required. Note that specific surveys described in the mitigation measures below may be completed as part of the project-specific biological analysis where suitable habitat is present.

### *BIO-2 Special Status Plant Species Surveys*

If the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1) determines that there is potential for significant impacts to federally or state-listed plants or regional population level impacts to species with a CRPR of 1B or 2B from project development, a qualified biologist shall complete surveys for special status plants prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific biological analysis. All plant surveys shall be conducted by a qualified biologist during the blooming season prior to initial ground disturbance. All special status plant species identified on site shall be mapped onto a site-specific aerial photograph or topographic map with the use of Global Positioning System unit. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist.



A report of the survey results shall be submitted to the County, and the CDFW and/or USFWS, as appropriate, for review and/or approval.

*BIO-3 Special Status Plant Species Avoidance, Minimization, and Mitigation*

If federally and/or state-listed or CRPR 1B or 2 species are found during special status plant surveys (pursuant to Mitigation Measure BIO-2), and would be directly impacted, or there would be a population-level impact to non-listed sensitive species, then the project shall be re-designed to avoid impacting those plant species, where feasible. Rare and listed plant occurrences that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm.

For projects in BSAs located within the Santa Rosa Plain Area, protocol rare plant surveys shall be conducted, and impacts to suitable rare plant habitat mitigated, in accordance with the 2007 USFWS Santa Rosa Plain Programmatic Biological Opinion, as amended in 2020.

*BIO-4 Restoration and Monitoring*

Development and/or restoration activities shall be conducted in accordance with a site-specific Habitat Restoration Plan. If federally or state-listed plants or non-listed special status CRPR 1B and 2 plant populations cannot be avoided, and will be impacted by development, all impacts shall be mitigated by the applicant at a ratio not lower than 1:1 and to be determined by the County (in coordination with CDFW and USFWS as and if applicable) for each species as a component of habitat restoration. A qualified biologist shall prepare and submit a restoration plan to the County for review and approval. (Note: if a federally and/or state-listed plant species will be impacted, the restoration plan shall be submitted to the USFWS and/or CDFW for review, and federal and/or state take authorization may be required by these agencies.) The restoration plan shall include, at a minimum, the following components:

1. Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)
2. Goal(s) of the compensatory mitigation project (type[s] and area[s]) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type[s] to be established, restored, enhanced, and/or preserved)
3. Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions, and values)
4. Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan)
5. Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule)
6. Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports)
7. Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type or other industry standards as determined by a qualified restoration specialist
8. An adaptive management program and remedial measures to address any shortcomings in meeting success criteria

9. Notification of completion of compensatory mitigation and agency confirmation
10. Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

*BIO-5 Endangered/Threatened Species Habitat Assessments and Protocol Surveys*

Specific habitat assessments and survey protocols are established for several federally- and state-listed endangered or threatened species. If the results of the project-specific biological analysis determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW, NMFS, and/or USFWS protocols prior to issuance of any construction permits. If projects are located within the Santa Rosa Plain Area, surveys shall be conducted for CTS in accordance with the Santa Rosa Plain Conservation Strategy (2005). If through consultation with the CDFW, NMFS, and/or USFWS it is determined that protocol habitat assessments/surveys are not required, the applicant shall complete and document this consultation and submit it to the County prior to issuance of any construction permits. Each protocol has different survey and timing requirements. The applicant shall be responsible for ensuring they understand the protocol requirements and shall hire a qualified biologist to conduct protocol surveys.

*BIO-6 Endangered/Threatened Animal Species Avoidance and Minimization*

The following measures shall be applied to aquatic and/or terrestrial animal species as determined by the project-specific Biological Resources Screening and Assessment required under Mitigation Measure BIO-1.

1. Ground disturbance shall be limited to the minimum necessary to complete the project. A qualified biologist shall flag the project limits of disturbance. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance.
2. All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species. Any work outside these dates would require project-specific approval from the County and may be subject to regulatory agency approval.
3. All projects occurring within or adjacent to sensitive habitats that may support federally and/or state-listed endangered/threatened species shall have a CDFW- and/or USFWS-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW, NMFS, and/or USFWS, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are fully implemented.
4. No endangered/threatened species shall be captured and relocated without express permission from the CDFW, NMFS, and/or USFWS.
5. If at any time during project construction an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and USFWS, as appropriate, to determine whether it was safe for project activities to resume.

6. For all projects occurring in areas where endangered/threatened species may be present and are at risk of entering the project site during construction, the applicant shall install exclusion fencing along the project boundaries prior to start of construction (including staging and mobilization). The placement of the fence shall be at the discretion of the CDFW/USFWS-approved biologist. This fence shall consist of solid silt fencing placed at a minimum of three feet above grade and two feet below grade and shall be attached to wooden stakes placed at intervals of not more than five feet. The applicant shall inspect the fence weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete.
7. All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body, including seasonal wetland features. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.
8. No equipment shall be permitted to enter wetted portions of any affected drainage channel.
9. If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.
10. If water is to be diverted around work sites, the applicant shall submit a diversion plan (depending upon the species that may be present) to the CDFW, RWQCB, USFWS, and/or NMFS for their review and approval prior to the start of any construction activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.
11. At the end of each workday, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.
12. All trenches, pipes, culverts, or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.
13. The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.
14. Considering the potential for projects to impact federally and state-listed species and their habitat, the applicant shall contact the CDFW and USFWS to identify mitigation banks within Sonoma County during project development. If the results of the project-specific biological analysis (Mitigation Measure BIO-1) determine that impacts to federally and state threatened or endangered species habitat are expected, the applicant shall explore species-appropriate mitigation bank(s) servicing the region for purchase of mitigation credits. If projects are located within the Santa Rosa Plain Area, mitigation for impacts to CTS shall be implemented in accordance with the Santa Rosa Plain Conservation Strategy (2005).
15. For projects occurring in the Petaluma BSA (PET-1 through PET-4), prior to grading and construction in natural areas of containing suitable upland habitat, a qualified biologist shall conduct a preconstruction survey for CTS. The survey should include a transect survey over the entire project disturbance footprint (including access and staging areas), and mapping of burrows that are potentially suitable for salamander occupancy. If any CTS are detected, no work shall be conducted until the individual leaves the site of their own accord, unless federal and state "take" authorization has been issued for CTS relocation. Typical preconstruction survey procedures, such as burrow scoping and burrow collapse, cannot be conducted without federal and state permits. If any life stage of CTS is found within the survey area, the applicant

shall consult with the USFWS and CDFW to determine the appropriate course of action to comply with the FESA and CESA, if permits are not already in place at the time of construction.

*BIO-7 Non-Listed Special Status Animal Species Avoidance and Minimization*

The project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1) shall identify some or all the below measures that will be required and applicable to the individual project:

1. For non-listed special status terrestrial amphibians and reptiles, a qualified biologist shall complete coverboard surveys within 14 days of the start of construction. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground as determined by the project-specific biological assessment (pursuant Mitigation Measure BIO-1). The qualified biologist shall check the coverboards once per week for each week after placement up until the start of vegetation removal. The biologist shall capture all non-listed special status and common animals found under the coverboards and shall place them in five-gallon buckets for transportation to relocation sites. The qualified biologist shall review all relocation sites and those sites shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by project construction. Relocation shall occur on the same day as capture. The biologist shall submit CNDDDB Field Survey Forms to the CDFW for all special status animal species observed.
2. Prior to construction, a qualified biologist shall conduct a survey of existing buildings to determine if bats are present. The survey shall be conducted during the non-breeding season (November through March). The biologist shall have access to all structures and interior attics, as needed. If a colony of bats is found roosting in any structure, further surveys shall be conducted sufficient to determine the species present and the type of roost (day, night, maternity, etc.).
3. If bats are roosting in the building during the daytime but are not part of an active maternity colony, then exclusion measures must include one-way valves that allow bats to get out but are designed so that the bats may not re-enter the structure. Maternal bat colonies shall not be disturbed.
4. A qualified biologist shall conduct pre-construction clearance surveys within 14 days of the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 200-foot buffer, if feasible, and shall identify all special status animal species that may occur on-site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion. The biologist shall submit a report of the pre-construction survey to the County for their review and approval prior to the start of construction.
5. A qualified biologist shall be present during all initial ground-disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities.
6. Project activities shall be restricted to daylight hours.
7. Upon completion of the project, a qualified biologist shall prepare a Final Compliance Report documenting all compliance activities implemented for the project, including the pre-construction survey results. The report shall be submitted to the County within 30 days of completion of the project.

8. If special status bat species may be present and impacted by the project, a qualified biologist shall conduct, within 30 days of the start of construction, presence/absence surveys for special status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a qualified biologist determines a roost is used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultation with CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.

*BIO-8 Western Pond Turtle Avoidance and Minimization*

For projects located in the Penngrove BSA (PEN-1 through PEN-9), a qualified biologist shall conduct pre-construction clearance surveys for western pond turtle within 14 days prior to the start of construction (including staging and mobilization) in areas of suitable habitat. The biologist shall flag limits of disturbance for each construction phase. Areas of special biological concern within or adjacent to the limits of disturbance should have highly visible orange construction fencing installed between said area and the limits of disturbance. If western pond turtles are observed, they shall be allowed to leave the site on their own.

*BIO-9 American Badger Avoidance and Minimization*

For projects located in the Petaluma BSA (PET-1 through PET-4), a qualified biologist shall conduct surveys of the grassland habitat on-site to identify any American badger burrows/dens. These surveys shall be conducted not more than 14 days prior to the start of construction. Impacts to active badger dens shall be avoided by establishing exclusion zones around all active badger dens, within which construction related activities shall be prohibited until denning activities are complete or the den is abandoned. A qualified biologist shall monitor each den once per week in order to track the status of the den and to determine when a den area has been cleared for construction.

*BIO-10 Pre-construction Surveys for Nesting Birds for Construction Occurring within Nesting Season*

For projects that require the removal of trees or vegetation, construction activities shall occur outside of the nesting season wherever feasible (September 16 to January 31), and no mitigation activity is required. If construction activities must occur during the nesting season (February 1 to September 15), a qualified biologist shall conduct surveys for nesting birds covered by the CGFC no more than 14 days prior to vegetation removal. The surveys shall include the entire disturbance area plus a 200-foot buffer around the site as feasible. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest

prior to removal of the buffer. The biologist shall submit a report of these preconstruction nesting bird surveys to the County to document compliance within 30 days of its completion.

#### *BIO-11 Worker Environmental Awareness Program*

If potential impacts to special status species are identified in the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend Worker Environmental Awareness Program training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the BSAs for the project. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of projects. All employees shall sign a form documenting provided by the trainer indicating they have attended the Worker Environmental Awareness Program and understand the information presented to them. The form shall be submitted to the County to document compliance.

#### *BIO-12 Invasive Weed Prevention and Management Program*

For those projects where activity would occur within or adjacent to sensitive habitats, as determined by the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), prior to start of construction a qualified biologist shall develop an Invasive Weed Prevention and Management Plan to prevent invasion of native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan. Landscape species shall not include noxious, invasive, and/or non-native plant species that are recognized on the federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Moderate and High Risk Lists.

### **Significance After Mitigation**

Implementation of Mitigation Measures BIO-1 through BIO-12 would reduce potential impacts to special status species to less than significant levels by requiring a Biological Resources Screening and Assessment for future development on Potential Sites that would require ground disturbance through clearing/grading or vegetation trimming. Following this Biological Resources Screening and Assessment, special status plant surveys, habitat assessments and protocol surveys, nesting bird pre-construction surveys, avoidance and minimization measures, restoration and monitoring, worker training, and invasive weed management may also be required.



<b>Threshold:</b>	Would the project 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 Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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**Impact BIO-2** FUTURE DEVELOPMENT FACILITATED BY THE PROJECT COULD IMPACT RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITIES DURING CONSTRUCTION AND/OR OPERATION. IMPACTS WOULD BE SIGNIFICANT AND MITIGATION MEASURES WOULD BE REQUIRED.

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Sensitive natural communities known to occur within the BSA which may be impacted by development facilitated by the project include riparian and vernal pool habitat and riparian corridors protected by the Sonoma County zoning ordinance (Section 26-65). Other natural communities included in the California Sensitive Natural Communities List are also likely to be present in the BSAs but have not been mapped on a broad scale. Additionally, federally designated critical habitat units for steelhead, coho salmon, and CTS occur in the BSAs and may be affected by the project. Direct impacts to sensitive habitats and critical habitats could occur through direct conversion of habitats to development. Projects facilitated by rezoning with potential to adversely affect sensitive or critical habitat are those projects that would include ground disturbance or vegetation removal adjacent to critical habitat in the GUE, LAR, FOR, GRA, SAN, GLE, PEN, and PET BSAs. Development facilitated by the project would be required to comply with existing County standards and processes, including Section 26-65 protecting riparian corridors. However, significant indirect impacts could also occur through the establishment of non-native invasive species, and mitigation measures would be required.

## Mitigation Measures

### *BIO-13 Sensitive Natural Community Avoidance*

If sensitive natural communities are identified through the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), the project shall be designed to avoid those communities to the maximum extent possible and all project elements associated with development shall be situated outside of sensitive habitats. Bright orange protective fencing installed at least 30 feet beyond the extent of the sensitive natural community during construction, or other distance as approved by a qualified biologist, to protect them from harm.

### *BIO-14 Restoration for Impacts to Sensitive Natural Communities*

Impacts to sensitive natural communities (including riparian areas and waters of the state or waters of the U.S. under the jurisdiction of the CDFW, USFWS or RWQCB) shall be mitigated through the funding of the acquisition and in-perpetuity management of similar habitat. The applicant shall provide funding and management of off-site mitigation lands through purchase of credits from an existing, approved mitigation bank or land purchased by the County and placed into a conservation easement or other covenant restricting development (e.g., deed restriction). Internal mitigation lands (internal to the Potential Sites), or in lieu funding sufficient to acquire lands, shall provide habitat at a minimum 1:1 ratio for impacted lands, comparable to habitat to be impacted by individual project activity. The applicant shall submit documentation of mitigation funds to the County.

1. **Restoration and Monitoring.** If sensitive natural communities cannot be avoided and will be impacted by future projects, a compensatory mitigation program shall be implemented by the

applicant in accordance with Mitigation Measure BIO-4 and the measures set forth by the regulatory agencies during the permitting process. All temporary impacts to sensitive natural communities shall be fully restored to natural condition.

2. **Sudden Oak Death.** The applicant shall inspect all nursery plants used in restoration for sudden oak death. Vegetation debris shall be disposed of properly and vehicles and equipment shall be free of soil and vegetation debris before entering natural habitats. Pruning tools shall be sanitized.

## Significance After Mitigation

Implementation of Mitigation Measures BIO-13 and BIO-14 would reduce potential impacts to riparian habitats or sensitive natural communities to less than significant levels by requiring avoidance of sensitive natural communities where such communities are identified during implementation of Mitigation Measure BIO-1, and by requiring restoration and monitoring of sensitive natural communities.

<b>Threshold:</b>	Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
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**Impact BIO-3** FUTURE DEVELOPMENT FACILITATED BY THE PROJECT COULD IMPACT JURISDICTIONAL STATE OR FEDERALLY PROTECTED WETLANDS DURING CONSTRUCTION AND/OR OPERATION. IMPACTS WOULD BE SIGNIFICANT AND MITIGATION MEASURES WOULD BE REQUIRED.

Wetlands and waters cross many of the BSAs and may be affected by development facilitated by the project that would occur within the limits of, or adjacent to, jurisdictional waters. The project is not expected to directly impact jurisdictional features but development facilitated by the project may result in runoff from construction sites or unintentional spills. There are eight creeks located within the BSAs: Sonoma Creek, Green Valley Creek, Wood Creek, Atascadero Creek, Mark West Creek, Lichau Creek, Fife Creek, and Calabazas Creek. In addition, vernal pool habitat was mapped at the PEN and SAN BSAs. These wetlands and non-wetland waters may be subject to USACE jurisdiction under the CWA, RWQCB jurisdiction under the CWA and Porter-Cologne, and CDFW jurisdiction under the CFGC. Because of the programmatic nature of this rezoning project, a precise, project-level analysis of the specific impacts associated with individual projects on potential wetlands is not possible at this time and site-specific analysis is needed to verify if wetlands are present. If development facilitated by the project would impact wetlands, the development would either be designed to avoid impacts to federal and state waters or would be subject to Mitigation Measure BIO-15. If, based on the results of the jurisdictional delineation, it is determined that project activity would result in either direct or indirect impacts to waters of the state or waters of the U.S., then Mitigation Measure BIO-16 would be required to ensure no net loss of wetlands functions and ensure impacts to waters of the state or waters of the U.S. are less than significant.

## Mitigation Measures

### *BIO-15 Jurisdictional Delineation*

If potentially jurisdictional wetlands are identified by the project-specific Biological Resources Screening and Assessment (Mitigation Measure BIO-1), a qualified biologist shall complete a jurisdictional delineation. The jurisdictional delineation shall determine the extent of the jurisdiction

for CDFW, USACE, and/or RWQCB, and shall be conducted in accordance with the requirement set forth by each agency. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the County, USACE, RWQCB, and CDFW, as appropriate, for review and approval. Jurisdictional areas shall be avoided to the maximum extent possible. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirement permit and/or Section 401 Water Quality Certification (depending upon whether the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Lake or Streambed Alteration Agreement pursuant to Section 1600 et seq. of the CFGC would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the CWA would be required. Furthermore, a compensatory mitigation program shall be implemented by the applicant in accordance with Mitigation Measure BIO-4 and the measures set forth by the regulatory agencies during the permitting process. Compensatory mitigations for all permanent impacts to waters of the U.S. and waters of the state shall be completed at a ratio as required in applicable permits. All temporary impacts to waters of the U.S. and waters of the state shall be fully restored to natural condition.

#### *BIO-16 General Avoidance and Minimization*

Projects shall be designed to avoid potential jurisdictional features identified in jurisdictional delineation reports. Projects that may impact jurisdictional features shall provide the County with a report detailing how all identified jurisdictional features will be avoided, including groundwater draw down.

1. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls (non- monofilament), covers, sand/gravel bags, and straw bale barriers, as appropriate.
2. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.
3. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

#### **Significance After Mitigation**

Implementation of Mitigation Measures BIO-15 and BIO-16 would reduce potential impacts to federally or state-protected wetlands to less than significant levels by requiring a jurisdictional delineation be conducted on sites where wetlands are identified during implementation of Mitigation Measure BIO-1, and by requiring avoidance and minimization measures where jurisdictional features may be affected by development.

<b>Threshold:</b>	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
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**Impact BIO-4** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT IMPACT WILDLIFE MOVEMENT DUE TO THE LOCATION OF THE POTENTIAL SITES IN AREAS OF EXISTING DEVELOPMENT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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The GUE BSA is mapped in an Essential Connectivity Area connecting two natural land blocks; however, the development facilitated by the project would occur in the community of Guerneville in a largely developed area that does not function as a corridor for movement. The remaining BSAs are also located in rural/residential areas with varying degrees of existing development. Additionally, development facilitated by the project would not affect the function of creeks and riparian areas in the BSAs as local corridors for wildlife movement; therefore, impacts would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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**Impact BIO-5** DEVELOPMENT FACILITATED BY THE PROJECT WOULD BE SUBJECT TO THE COUNTY'S ORDINANCES AND REQUIREMENTS PROTECTING BIOLOGICAL RESOURCES, SUCH AS TREES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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The Potential Sites fall under the jurisdiction of Sonoma County, which provides protection for biological resources through the implementation of its General Plan and Zoning Code.

The Sonoma County General Plan 2020 (County of Sonoma 2008) includes policies to guide decisions on future growth, development, and conservation of resources through 2020. This includes the Open Space and Resource Conservation Elements which aims to preserve natural and scenic resources.

The Sonoma County Zoning Code Chapter 26D and Sonoma County Zoning Code Article 88, Section 26-88-010(m), *Tree Protection Ordinance*, provides for the protection of heritage and landmark trees. Article 67, *Valley Oak Habitat Combining District*, of the Sonoma County Zoning Code provides protection for oak woodland habitats, and Article 65, *Riparian Corridor Combining Zone*, of the Sonoma County Zoning Code provides protection for riparian corridors.

Trees to be removed have not yet been identified because individual projects have not been developed yet; however, development facilitated by the project would potentially require some tree removal, which would be determined during the project's application process. Additionally, some loss of habitat and biological resources is expected. Development facilitated by the project would be required to comply with these goals policies and measures, including via the application for tree removal permits and compliance with associated requirement (e.g., tree replacement) where applicable. Compliance with these regulations would reduce impacts to less than significant.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

**Threshold:** Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

**Impact BIO-6** DEVELOPMENT FACILITATED BY THE PROJECT WITHIN THE SANTA ROSA PLAIN CONSERVATION STRATEGY AREA COULD CONFLICT WITH THE PLAN. IMPACTS WOULD BE SIGNIFICANT AND REQUIRE MITIGATION.

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The LAR BSA, SAN BSA, and portions of the PEN BSA are located within the Santa Rosa Plain Conservation Strategy Area (2005). The LAR BSA is located outside the Windsor Urban growth boundary, to the south. The SAN BSA is located at the southern end of the Santa Rosa urban growth boundary, with some edges outside the boundary. The western half of the PEN BSA is within the Conservation Strategy Area outside of the Cotati urban growth boundary, to the south. The Conservation Strategy urban growth boundaries were designed to limit development in natural habitats and focus future growth within previously developed areas. The Conservation Strategy does allow for some development outside of the urban growth boundaries as long as it does not change land use appreciably, and impacts are adequately mitigated. Because the Potential Sites are individually small and most of the BSAs would remain under the current agricultural, residential, commercial, and industrial zoning, the project would not likely to change land use appreciably and could be sufficiently mitigated in accordance with the Sonoma County General Plan (refer to Section 4.4.2[c] and Impacts BIO-1 through BIO-5 for mitigation measures that are consistent with the General Plan).

The USFWS has issued a programmatic Biological Opinion (BO) to the USACE for projects that may affect listed species on the Santa Rosa Plain (1998; updated 2007). In 2016 USFWS issued the Santa Rosa Plain Recovery Plan to provide a framework for the recovery of CTS, Burke's goldfields, Sonoma sunshine, and Sebastopol meadowfoam (USFWS 2016). If development facilitated by the project would affect listed species in the Santa Rosa Plain there would be the potential for conflict with these plans and conservation strategies. This would be a significant impact and would require mitigation measures.

## Mitigation Measure

*BIO-17 Consistency with the Santa Rosa Plain Conservation Strategy*

For sites SAN-1 through SAN-10, the Biological Resources Screening and Assessment (Mitigation Measure BIO-1) shall assess projects for impacts to listed species included in the Santa Rosa Plain Conservation Strategy. Impacts to these species should be evaluated and mitigated per the mitigation measures included in Chapter 5 of the Conservation Strategy.

## Significance After Mitigation

Implementation of Mitigation Measure BIO-17 would reduce impacts resulting from conflicts with the provisions of the Santa Rosa Plain Conservation Strategy to less than significant levels by ensuring the Biological Resources Screening and Assessment conducted for Mitigation Measure BIO-1 on Potential Sites SAN-1 through SAN-10 also includes an assessment of the Santa Rosa Plain Conservation Strategy.

### 4.4.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative biological resources impacts includes the areas surrounding the Potential Sites, including incorporated and unincorporated Sonoma County lands. This geographic scope is appropriate for biological resources because it encompasses the mosaic of representative land cover and habitat types (and associated biological resources) affected by the project, including primarily urban, residential, commercial, and industrial development with areas of natural habitats. Development that is considered part of the cumulative analysis includes buildout of the County and City General Plans.

Cumulative development in the area could contribute to the loss of habitat for special status species; contribute to the decline of special status species; cause further fragmentation of habitat and isolation of populations; and decrease movement opportunities. Together, cumulative projects (both individual projects and full buildout of County and local general plans) cover a substantial area, primarily within or along the edges of previously developed areas. Cumulative impacts to biological resources would be potentially significant.

Development facilitated by the project would increase density and intensity of existing land uses, although development in natural habitats would be low. As discussed under Impact BIO-1, the project would have a substantial adverse effect on species identified as candidate, sensitive, or special status. However, Mitigation Measures BIO-1 through BIO-12 would reduce project-level impacts to a less than significant level through direct avoidance, minimization, restoration, monitoring and compensation. Therefore, with mitigation, the project would not have a cumulatively considerable contribution to the significant cumulative impact related to sensitive or special status species.

Development facilitated by the project would not have a substantial adverse effect on any riparian habitat or sensitive natural community following avoidance and restoration required by Mitigation Measures BIO-13 and BIO-14, which require avoidance and restoration of sensitive natural communities. Similarly, development facilitated by the project would not result in impacts to state or federally protected wetlands, following completion of jurisdictional delineations, avoidance, and minimization required by Mitigation Measures BIO-15 and BIO-16, which require jurisdictional delineations, avoidance, and minimization of impacts to wetlands. Therefore, with mitigation, the project would not have a cumulatively considerable contribution to the significant cumulative impact related to these resources.

The project would not impact the movement of any native resident or migratory fish or wildlife species, or impede the use of wildlife nursery sites, as discussed under Impact BIO-4. The project would be required to comply with tree protection ordinances and requirements, as discussed under



Impact BIO-5. Therefore, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to these resources.

Lastly, as discussed under Impact BIO-6, with implementation of Mitigation Measure BIO-17, development facilitated by the project would not conflict with the Santa Rosa Plain Conservation Strategy. It is anticipated that other cumulative development projects within the Santa Rosa Plain Conservation Area would be analyzed for biological resources impacts and would incorporate similar mitigation to ensure consistency with the Conservation Strategy. This cumulative impact is therefore less than significant, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to conservation plans.

## 4.5 Cultural Resources

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The analysis in this section has been prepared in accordance with *CEQA Guidelines* Section 15064.5 and considers potential impacts to archaeological, historic, and paleontological resources. This section includes a summary of cultural resources background information and a review of known archaeological and built environment resources; it also discusses the proposed project's potential impacts on these resources. Potential impacts to tribal resources are addressed in Section 4.17, *Tribal Cultural Resources*.

### 4.5.1 Setting

#### Pre-European Contact History

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes within all or portions of northern California (c.f., Jones and Klar 2007: 308-312; Moratto 1984: 248-250). Sonoma County is situated in portions of the North Coast archaeological region and the San Francisco Bay archaeological region (Moratto 1984). Following Milliken et al. (2007:101-103), the prehistoric cultural chronology for the region can be generally divided into five periods: the Early Holocene (8,000 to 3,500 BCE), Early Period (3,500 to 600 BCE), Lower Middle Period (500 BCE to 430 CE), the Upper Middle Period (430 to 1050 CE), and the Late Period (1050 CE to European contact).

It is presumed that early Paleoindian groups lived in the area prior to 8,000 BCE but, no evidence that supports this assumption has been discovered in the area to date (Milliken et al. 2007:114). Because sea level was much lower prior to 8,000 BCE, it is likely that any such sites may now be underwater. For this reason, the terminal Pleistocene to earliest Holocene Period (ca. 11,700-8,000 BCE) is not discussed here.

##### *Early Holocene (8,000- 3,500 BCE)*

The Early Holocene in the North Coast and Bay Area is characterized by a mobile forager pattern and the presence of millingslabs, handstones, and a variety of leaf-shaped projectile points, though evidence that dates to this period is limited. It is likely that Holocene alluvial deposits buried many prehistoric sites in the area (Ragir 1972; Moratto 1984).

##### *Early Period (3,500- 600 BCE)*

The Early Period saw increased sedentism from the Early Holocene as indicated by new ground stone technologies (introduction of the mortar and pestle), an increase in regional trade, and the earliest cut-bead horizon. A shift to a sedentary or semi-sedentary lifestyle is marked by the prevalence of mortars and pestles, ornamental grave associations, and shell mounds. By 1,500 BCE, mortars and pestles had almost completely replaced millingslabs and handstones. The earliest cut bead horizon that dates to this period is represented by rectangular *Haliotis* (abalone) and *Olivella* (snail) beads from several sites (Milliken et al. 2007:114-115). The advent of the mortar and pestle indicates a greater reliance on processing nuts such as acorns. Faunal evidence from various sites suggests a diverse diet of mussel and other shellfish, marine mammals, terrestrial mammals, and birds (D'Oro 2009).

#### *Lower Middle Period (500 BCE -430 CE)*

The Lower Middle Period saw numerous changes from the previous period. Rectangular shell beads, common during the Early Period, disappear completely and are replaced by split-beveled and saucer *Olivella* beads. In addition to the changes in beads, *Haliotis* ornaments, bone tools and ornaments, and basketry awls that indicate coiled basket manufacture appear. Mortars and pestles continue to be the dominant grinding tool (Milliken et al. 2007:115). Evidence for the Lower Middle Period in the San Francisco Bay Area comes from sites such as the Emeryville shell mound (ALA-309) and Ellis Landing (CCO-295). ALA-309 is one of the largest shell mounds in the Bay Area and contains multiple cultural sequences. The lower levels of the site, dating to the Middle Period, contain flexed burials with bone implements, chert bifaces, charmstones, and oyster shells (Moratto 1984).

#### *Upper Middle Period (430-1,050 CE)*

Around 430 CE, *Olivella* saucer bead trade networks established during earlier periods collapse and over half of known sites occupied during the Lower Middle Period are abandoned. *Olivella* saucer beads are replaced with *Olivella* saddle beads. New items appear, including elaborately decorated blades, fishtail charmstones, new *Haliotis* ornament forms, and mica ornaments. Sea otter bones appear more frequently than they did during earlier periods (Milliken et al. 2007:116). Subsistence analysis at various sites dating to this period indicates a diverse diet that included several species of fish, mammal species, bird species, shellfish, and plant resources that differed by location (Hylkema 2002).

#### *Late Period (1,050 CE- contact)*

The Late Period brings an increase in social complexity, indicated by differences in burial techniques, and a greater degree of sedentism over that of preceding periods. Small, finely worked projectile points associated with bow and arrow technology appear around 1,250 CE. *Olivella* shell beads disappear and are replaced with clamshell disk beads. The toggle harpoon, hopper mortar, and magnesite tube beads also appear (Milliken et al. 2007:116-117). This period sees an increase in the intensity of resource exploitation that correlates with an increase in population. Many of the sites occupied in earlier periods are abandoned during this time, possibly due to fluctuating climate and drought that occurred throughout the Late Period (Lightfoot and Luby 2002).

### **Regional Post-European Contact History**

#### *Spanish Period (1769-1822)*

For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968:16-56; Rolle 2003:20-39). In 1579, Francis Drake landed in what was most likely San Francisco Bay. In 1595, Sebastian Cermeño landed in Drake's Bay before returning south (Bean 1968:22).

Gaspar de Portolá and Franciscan Father Junípero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. Portolá continued north, reaching the San Francisco Bay in 1769. Short on food and supplies, the expedition turned back to San Diego. In 1770, Pedro Fages began his expedition, reaching the San Francisco Bay Area and exploring the region in 1772 (Bean 1968).

In 1770, the mission and presidio at Monterey were founded and three years later Juan Bautista de Anza proposed to open a land route from Sonora to Monterey. The viceroy at the time, Antonio de Bucareli, sanctioned Anza's expedition and proposed he extend it to form a settlement at the bay of San Francisco. Anza's first expedition traveled from Mexico City to Monterey. During this time, various sea expeditions from Monterey resulted in the discovery of Nootka Sound, the Columbia River, and the Golden Gate. Anza's second expedition began in 1775 and led to the establishment of the presidio and Mission Dolores at San Francisco, (Bean 1968:43-44). Spanish colonial activity in the Bay Area concentrated on Mission Dolores and the presidio. Mission San Francisco Solano was founded in Solano during the Mexican Period, in 1823, and was the last California mission established (California Mission Resource Center 2016).

#### *Mexican Period (1822-1848)*

The Mexican Period commenced when news of the success of the Mexican Revolution (1810-1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2006).

The Mexican Period saw an increased importance of sea trade and an influx of American settlers, which motivated the United States to expand its territory into California. The United States supported a small group of insurgents from Sonoma during the Bear Flag Revolt, during which the Bear Flaggers captured Sonoma in June 1846. The next month, Commodore John Drake Sloat landed in Monterey and proceeded to take Yerba Buena, Sutter's Fort, Bodega Bay, and Sonoma. Fighting between American and Mexican forces continued until Mexico surrendered in 1847 (Rolle 2003).

#### *American Period (1848-Present)*

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory that included California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of California continued to increase during the early American Period. Many ranchos in Sonoma County were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush (Guinn 1976; Workman 1936:26) and California's population grew exponentially. During this time, San Francisco became California's first true city, growing from a population of 812 to 25,000 in only a few years (Rolle 2003:113).

### **SONOMA COUNTY**

The following excerpt from the County of Sonoma Historic Resources web page offers an overview of the county's history since the nineteenth century.

Before the European settlement, [the Pomo, (Coast) Miwok, and Kashaya Indians inhabited] what is today Sonoma County. In 1812, the Russians established the short-lived Fort Ross along the coast north of the Russian River. Further east, the Sonoma Mission was established during the Mexican period in 1823. Shortly afterwards, Sonoma became the county's first town, a pueblo, under General Mariano Vallejo. During that time, sections of the county were

transformed into vast land-grant ranchos, such as Vallejo's holdings that extended from today's Petaluma to the town of Sonoma. Most of the construction during the first half of the nineteenth century was adobe and wood. These construction methods drew on the Mexican tradition while incorporating some of the features and floor plans of the Anglo Americans.

After statehood, logging along the coast hills, cattle ranching, wheat and potato farming, and the early development of the wine industry supported the sparsely settled county. During this time, commercial and industrial buildings used local stone or brick, while most residences were built of wood. During the 1860s to the 1890s, Petaluma, at the head of navigation on the Petaluma Creek, enjoyed rapid economic growth that fueled the construction of [its] downtown with sophisticated iron-front commercial buildings and elegant residences nearby.

Later the railroads facilitated the movement of goods and people leading to the establishment of processing plants and factories along the rail lines.

Around the turn of the century, the Russian River developed as a vacation resort, a destination for those in the San Francisco Bay Area. During this time, Santa Rosa also enjoyed an increase in population and importance as the center of finance and county government. Until World War II, the poultry industry, the processing of local fruit, and the production of hops sustained the economy throughout the county. In 1935, Sonoma County ranked tenth in the nation in overall agricultural production.

During the first half of the twentieth century, many of the stylish buildings were designed by local architects such as Brainerd Jones in Petaluma and William Herbert in Santa Rosa. After World War II, Clarence Caulkins and J. Clarence Felciano worked on many projects in the county. With reference to residential, commercial, and industrial architecture, many of the towns still retain excellent examples of both high style and vernacular building examples from the nineteenth and early twentieth centuries.

Today the southwestern part of the county continues to support cattle grazing and dairy farms. Toward the north many of the ranches and orchards have been replaced with acres of vineyards and thriving winery operations that rival Napa County. Over the years many of the poultry farms, fruit growers, and dairy operations have relocated to the Central Valley or sold their businesses completely. In their place, small specialty farms and ranches now operate sustainable and organic endeavors. Dotting the countryside throughout the county are modern residences where rural homesteads used to be. The Russian River area still caters to vacationers, but on a smaller scale, and the cities along the freeway continue to expand to provide housing and services with new subdivisions, business parks, and strip-mall shopping centers.

With 467,000 residents, the county has doubled its population since 1980. Part of the challenge has been to retain its agricultural and small-town character while providing for the livelihood of the expanding population. Related to this is the specific challenge of encouraging new development that complements both the physical beauty of the countryside and the county's rich heritage. (Hurley 2020)

## Existing Conditions

Due to the programmatic and high-level nature of this project, a records search at the Northwest Information Center has not been conducted. However, archaeological sites are present throughout Sonoma County. Areas most likely to be sensitive for archaeological sites include landforms near fresh water sources.

A review of available listings of the National Register of Historic Places (NRHP), California Office of Historic Preservation, and Sonoma County Historic Landmarks failed to identify any known historical resources or historic districts in the Potential Sites that are designated at the federal, state, or local levels. A review of historic aerial photographs and information on file with the Sonoma County Assessor does indicate, however, that there are built environment properties that are 45 years of age or older, such as buildings and/or structures on the Potential Sites or adjacent parcels (NETR Online 2020; Parcelquest 2020). According to guidance from the California Office of Historic Preservation, built environment features over 45 years of age maybe considered for federal, state and/or local designation (California Office of Historic Preservation n.d., 1995). Table 4.5-1 lists Potential Sites and indicates those that may contain historic-age buildings and/or structures on site.

**Table 4.5-1 Potential Sites with Historic-Age Buildings**

Potential Site	Nearest Community	Historic-Age Buildings
GEY-1	Geyserville	No
GEY-2	Geyserville	Yes
GEY-3	Geyserville	Inconclusive*
GEY-4	Geyserville	Yes
GUE-1	Guerneville	Yes
GUE-2	Guerneville	Yes
GUE-3	Guerneville	Yes
GUE-4	Guerneville	Yes
LAR-1	Larkfield	No
LAR-2	Larkfield	No
LAR-3	Larkfield	No
LAR-4	Larkfield	No
LAR-5	Larkfield	No
LAR-6	Larkfield	No
LAR-7	Larkfield	Yes
LAR-8	Larkfield	No
FOR-1	Forestville	Yes
FOR-2	Forestville	Yes
FOR-3	Forestville	No
FOR-4	Forestville	Yes
FOR-5	Forestville	No
FOR-6	Forestville	No
GRA-1	Graton	No
GRA-2	Graton	No
GRA-3	Graton	No
GRA-4	Graton	Yes
GRA-5	Graton	No
SAN-1	Santa Rosa	No
SAN-2	Santa Rosa	Yes

Sonoma County  
Rezoning Sites for Housing Project

Potential Site	Nearest Community	Historic-Age Buildings
SAN-3	Santa Rosa	No
SAN-4	Santa Rosa	Yes
SAN-5	Santa Rosa	No
SAN-6	Santa Rosa	No
SAN-7	Santa Rosa	No
SAN-8	Santa Rosa	Yes
SAN-9	Santa Rosa	Yes
SAN-10	Santa Rosa	Inconclusive*
GLE-1	Glen Ellen	Yes
GLE-2	Glen Ellen	Yes
AGU-1	Agua Caliente	Yes
AGU-2	Agua Caliente	Yes
AGU-3	Agua Caliente	Yes
PEN-1	Penngrove	No
PEN-2	Penngrove	Yes
PEN-3	Penngrove	Yes
PEN-4	Penngrove	Yes
PEN-5	Penngrove	Yes
PEN-6	Penngrove	Yes
PEN-7	Penngrove	Yes
PEN-8	Penngrove	Yes
PEN-9	Penngrove	Yes
PET-1	Petaluma	Yes
PET-2	Petaluma	No
PET-3	Petaluma	Yes
PET-4	Petaluma	Yes
SON-1	Sonoma	Yes
SON-2	Sonoma	Yes
SON-3	Sonoma	Yes
SON-4	Sonoma	Yes

NETR Online 2020; Parcelquest 2020; California Office of Historic Preservation n.d. and 1995

\*Properties in this table are identified as “inconclusive” for the presence of historic-age buildings if sources consulted for this EIR, such as county assessor data and historic aerial photographs, did not definitively indicate whether historic-age buildings were present.



## 4.5.2 Regulatory Setting

### a. Federal Regulations

#### National Register of Historic Places

The National Historic Preservation Act of 1966 established the NRHP as “an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (36 Code of Federal Regulations 60.2). To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A:** It is associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B:** It is associated with the lives of persons who are significant in our past.
- Criterion C:** It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D:** It has yielded, or may be likely to yield, information important in prehistory or history.

### b. State Regulations

#### California Register of Historical Resources

CEQA requires that a lead agency determine whether a project could have a significant effect on historical resources and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is one listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR; PRC Section 21084.1), a resource included in a local register of historical resources (PRC Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (PRC Section 15064.5[a][3]).

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state’s historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, as enumerated according to CEQA below:

*PRC 15064.5(a)(3) [...] 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 (PRC Section 5024.1; Title 14 CCR Section 4852) including the following:*

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

- (2) Is associated with the lives of persons important in our past
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- (4) Has yielded, or may be likely to yield, information important in prehistory or history

*PRC 15064.5(a)(4)* The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1[g] of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

*PRC Section 15064.5(b)* A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

If a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be demonstrated clearly that, without merely adding to the current body of knowledge, there is a high probability that it does one or more of the following:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*CEQA Guidelines* Section 15064.5[b][1]). Material impairment is defined as demolition or alteration in an adverse manner of those characteristics of an historical resource that convey its historical significance and that justify its inclusion or eligibility for inclusion in the CRHR (*CEQA Guidelines* Section 15064.5[b][2][A]).

## California Public Resources Code

Section 5097.5 of the California PRC states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

As used in this PRC section, “public lands” means lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC Section 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

## Codes Governing Human Remains

The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98 and falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the county coroner must be notified within 48 hours, and there should be no further disturbance to the site where the remains were found. If the coroner determines the remains are Native American, the coroner is responsible to contact the NAHC within 24 hours. Pursuant to PRC Section 5097.98, the NAHC will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

## c. Local Regulations

### Sonoma County Landmarks Commission

The Sonoma County Landmarks Commission was established in 1974 and charged with the authority to designate Historic Landmarks and Historic Districts zoning. Sonoma County Code Section 26-68-005 states:

**Intent and Purpose.** The Board of Supervisors finds and declares that the preservation of structures, sites, and areas of historical, architectural, and aesthetic interest promotes the general welfare of the citizens of Sonoma County. The purpose of this district is to protect those structures, sites, and areas that are reminders of past eras, events and persons important in local, state, or national history, or which provide significant examples of architectural styles of the past, or which are unique and irreplaceable assets to the county and its communities, or which provide for this and further generations examples of the physical surroundings in which past generations lived, so that they may serve an educational and cultural function for the citizens of Sonoma County and for the general public.

All structures, sites, and areas associated with significant events or persons, or that are important examples of architectural styles, are eligible for consideration as a Sonoma County Historic Landmark. As revised in 2008, the following criteria, which are based on NRHP and CRHR designation criteria, are used by the Landmark Commission for designation (Sonoma County Landmarks Commission, adopted April 3, 1978; revised June 30, 2008).

The quality of significance in Sonoma County, California, or American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and one or more of the following:

- a) that are associated with events that have made a significant contribution to the broad patterns of our history
- b) that are associated with the lives of persons significant in our past
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- d) that have yielded, or may be likely to yield, information important in prehistory or history

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible as an Historic Landmark. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a) A religious property deriving primary significance from architectural or artistic distinction or historical importance
- b) A building or structure removed from its original location, but that is significant primarily for architectural value, or which is the surviving structure most importantly associated with an historic person or event
- c) A birthplace or grave of an historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life
- d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with an historic event
- e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived within that area
- f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance
- g) A property achieving significance within the past 50 years, if it is an important element to the environment of a particular community.

## Sonoma County General Plan

The current Sonoma County General plan contains the following goals and objectives related to cultural resources:

**Goal OSRC-19: Protect and preserve significant archaeological and historical sites that represent the ethnic, cultural, and economic groups that have lived and worked in Sonoma County, including Native American populations. Preserve unique or historically significant heritage or landmark trees.**

**Objective OSRC-19.1:** Encourage the preservation and conservation of historic structures by promoting their rehabilitation or adaptation to new uses.

**Objective OSRC-19.2:** Encourage preservation of historic building or cemeteries by maintaining a Landmarks Commission to review projects that may affect historic structures or other cultural resources.

**Objective OSRC-19.3:** Encourage protection and preservation of archaeological and cultural resources by reviewing all development projects in archaeologically sensitive areas.

**Objective OSRC-19.4:** Identify and preserve heritage and landmark trees.

**Objective OSRC-19.5:** Encourage the identification, preservation, and protection of Native American cultural resources, sacred sites, places, features, and objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites. Ensure appropriate treatment of Native American and other human remains discovered during a project.

### 4.5.3 Impact Analysis

The significance thresholds used in this analysis are based on Appendix G of the *CEQA Guidelines*. For the purposes of this EIR, a significant impact would occur if implementation of the proposed project would result in any of the following conditions:

1. Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5
3. Disturb any human remains, including those interred outside of dedicated cemeteries

<b>Threshold:</b> Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?
---

**Impact CUL-1** THE PROJECT HAS THE POTENTIAL TO CAUSE A SIGNIFICANT IMPACT ON A HISTORIC RESOURCE IF DEVELOPMENT FACILITATED BY THE PROJECT WOULD CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF THAT RESOURCE. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Although the project does not in itself include any construction activities, development facilitated by the project would have a significant impact on historical resources if such activities would cause a substantial adverse change in the significance of a historical resource, which as defined below would include the demolition or substantial alteration of a resource such that it would no longer be able to convey its significance. Historical resources include properties eligible for listing in the NRHP or CRHR or as a Sonoma County Historic Landmark. As explained in PRC Section 15064.5, “[s]ubstantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.”

Although there are no known historical resources on the Potential Sites, 35 of the sites contain buildings and/or structures that are over 45 years of age and may not have been evaluated previously for historical resources eligibility (Table 4.5-1 above). Development facilitated by the project could impact presently unknown historical resources at these sites through demolition, construction, and reconstruction activities associated with the project. Therefore, mitigation measures would be required.

## Mitigation Measures

### *CUL-1 Architectural History Evaluation*

For any future project proposed on or adjacent to a property that includes buildings, structures, objects, sites, landscape/site plans, or other features that are 45 years of age or older at the time of or permit application, the project applicant shall hire a qualified architectural historian to prepare an historical resources evaluation. The qualified architectural historian or historian shall meet the Secretary of the Interior's (SOI) Professional Qualifications Standards (PQS) in architectural history or history. The qualified architectural historian or historian shall conduct an intensive-level evaluation in accordance with the guidelines and best practices recommended by the State Office of Historic Preservation to identify any potential historical resources in the proposed project area. Under the guidelines, properties 45 years of age or older shall be evaluated within their historic context and documented in a technical report and on Department of Parks and Recreation Series 523 forms. The report will be submitted to the County for review prior to any permit issuance. If no historic resources are identified, no further analysis is warranted. If historic resources are identified by the Architectural History Evaluation, the project shall be required to implement Mitigation Measure CUL-2.

### *CUL-2 Architectural History Mitigation*

If historical resources are identified in an area proposed for redevelopment as the result of the process described in Mitigation Measure CUL-1, the project applicant shall reduce impacts to the extent feasible (as defined in *CEQA Guidelines* Section 15364). Application of mitigation shall generally be overseen by a qualified architectural historian or historic architect meeting the PQS, unless unnecessary in the circumstances (e.g. preservation in place). In conjunction with any project that may affect the historical resource, the project applicant shall provide a report identifying and specifying the treatment of character-defining features and construction activities to the County for review and approval, prior to permit issuance, to avoid or substantially reduce the severity of the proposed activity on the historical qualities of the resource. Any and all features and construction activities shall become Conditions of Approval for the project and shall be implemented prior to issuance of construction (demolition and grading) permits.

Mitigation measures may include but are not limited to compliance with the Secretary of the Interior's Standards for Treatment of Historic Properties and documentation of the historical resource in the form of a Historic American Building Survey (HABS)-like report. The HABS report shall comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation and shall generally follow the HABS Level III requirements, including digital photographic recordation, detailed historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the PQS and submitted to the County prior to issuance of any permits for demolition or alteration of the historical resource.

## Significance After Mitigation

Even with implementation of Mitigation Measures CUL-1 and CUL-2, it is possible that development facilitated by the project may not be able to avoid impacts to a historical resource. Should a future project result in the demolition or substantial alteration of a historical resource, it would have the potential to materially impair the resource. Therefore, even with mitigation such as HABS, impacts

may not be reduced to a less than significant level, and the impact would remain significant and unavoidable.

<b>Threshold:</b> Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
--

**Impact CUL-2** THE PROJECT HAS THE POTENTIAL TO CAUSE A SIGNIFICANT IMPACT ON ARCHAEOLOGICAL RESOURCES IF DEVELOPMENT FACILITATED BY THE PROJECT WOULD CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF AN ARCHAEOLOGICAL RESOURCE, INCLUDING THOSE THAT QUALIFY AS HISTORICAL RESOURCES. THIS IMPACT WOULD BE SIGNIFICANT AND MITIGATION IS REQUIRED.

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Ground-disturbing activities associated with development facilitated by the project have the potential to damage or destroy historic-age or prehistoric archaeological resources that may be present on or below the ground surface, particularly in areas not studied in a cultural resources investigation or when excavation depths exceed those attained previously for past development. Each of the Potential Sites has the potential to contain archaeological resources. Consequently, damage to or destruction of known or previously unknown, archaeological resources could occur because of the project. Therefore, mitigation measures would be required.

## Mitigation Measures

### *CUL-3 Phase I Archaeological Resources Study*

Prior to project approval, the project applicant shall investigate the potential to disturb archaeological resources. If the project will involve any ground disturbance, a Phase I cultural resources study shall be performed by a qualified professional meeting the SOI's PQS for archaeology (National Park Service 1983). If a project would solely involve the refurbishment of an existing building and no ground disturbance would occur, this measure would not be required. A Phase I cultural resources study shall include a pedestrian survey of the project site and sufficient background research and field sampling to determine whether archaeological resources may be present. Archival research shall include a records search of the Northwest Information Center no more than two years old and a Sacred Lands File search with the NAHC. The Phase I technical report documenting the study shall include recommendations that must be implemented prior to and/or during construction to avoid or reduce impacts on archaeological resources, to the extent that the resource's physical constituents are preserved or their destruction is offset by the recovery of scientifically consequential information. The report shall be submitted to the County for review and approval, prior to the issuance of any grading or construction permits, to ensure that the identification effort is reasonable and meets professional standards in cultural resources management. Recommendations in the Phase I technical report shall be made Conditions of Approval and shall be implemented throughout all ground disturbance activities.

### *CUL-4 Extended Phase I Testing*

For any projects proposed within 100 feet of a known archaeological site and/or in areas identified as sensitive by the Phase I study (Mitigation Measure CUL-3), the project applicant shall retain a qualified archaeologist to conduct an Extended Phase I (XPI) study to determine the presence/absence and extent of archaeological resources on the project site. XPI testing should comprise a series of shovel test pits and/or hand augured units and/or mechanical trenching to establish the boundaries of archaeological site(s) on the project site. If the boundaries of the archaeological site are already well understood from previous archaeological work and is clearly



interpretable as such by a qualified cultural resources professional, an XPI will not be required. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with local California Native American tribe(s) and any XPI work plans may be combined with a tribal cultural resources plan prepared under Mitigation Measure TCR-3. If applicable, a Native American monitor shall be present in accordance with Mitigation Measure TCR-4.

All archaeological excavation shall be conducted by a qualified archaeologist(s) under the direction of a principal investigator meeting the SOI's PQS for archaeology (National Park Service 1983). If an XPI report is prepared, it shall be submitted to Sonoma County for review and approval prior to the issuance of any grading or construction permits. Recommendations contained therein shall be implemented for all ground disturbance activities.

#### *CUL-5 Archaeological Site Avoidance*

Any identified archaeological sites (determined after implementing Mitigation Measures CUL-3 and/or CUL-4) shall be avoided by project-related construction activities, where feasible. A barrier (temporary fencing) and flagging should be placed between the work location and any resources within 60 feet of a work location to minimize the potential for inadvertent impacts.

#### *CUL-6 Phase II Site Evaluation*

If the results of any Phase I and/or XPI (Mitigation Measures CUL-3 and/or CUL-4) indicate the presence of archaeological resources that cannot be avoided by the project (Mitigation Measure CUL-5) and that have not been adequately evaluated for CRHR listing at the project site, the qualified archaeologist will conduct a Phase II investigation to determine if intact deposits remain and if they may be eligible for the CRHR or qualify as unique archaeological resources. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with local California Native American tribe(s) and any Phase II work plans may be combined with a tribal cultural resources plan prepared under Mitigation Measure TCR-3. If applicable, a Native American monitor shall be present in accordance with Mitigation Measure TCR-4.

A Phase II evaluation shall include any necessary archival research to identify significant historical associations and mapping of surface artifacts, collection of functionally or temporally diagnostic tools and debris, and excavation of a sample of the cultural deposit. The sample excavation will characterize the nature of the sites, define the artifact and feature contents, determine horizontal and vertical boundaries, and retrieve representative samples of artifacts and other remains.

If the archeologist and, if applicable, a Native American monitor (see Mitigation Measure TCR-4) or other interested tribal representative determine it is appropriate, cultural materials collected from the site shall be processed and analyzed in a laboratory according to standard archaeological procedures. The age of the materials shall be determined using radiocarbon dating and/or other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the sites shall be evaluated according to the criteria of the CRHR. The results of the investigations shall be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)." The report shall be submitted to Sonoma County for review and approval prior to the issuance of any grading or construction permits. Recommendations in the Phase II report shall be implemented for all ground disturbance activities.

#### *CUL-7 Phase III Data Recovery*

Should the results of the Phase II site evaluation (Mitigation Measure CUL-6) yield resources that meet CRHR significance standards and if the resource cannot be avoided by project construction in accordance with Mitigation Measure CUL-5, the project applicant shall ensure that all feasible recommendations (as defined in *CEQA Guidelines* Section 15364) for mitigation of archaeological impacts are incorporated into the final design and approved by the County prior to construction. Any necessary Phase III data recovery excavation, conducted to exhaust the data potential of significant archaeological sites, shall be carried out by a qualified archaeologist meeting the SOI standards for archaeology according to a research design reviewed and approved by the County prepared in advance of fieldwork and using appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5 (1991), *Guidelines for Archaeological Research Design*, or the latest edition thereof. If the archaeological resource(s) of concern are Native American in origin, the qualified archaeologist shall confer with local California Native American tribe(s) and any Phase III work plans may be combined with a tribal cultural resources plan prepared under Mitigation Measure TCR-3. If applicable, a Native American monitor shall be present in accordance with Mitigation Measure TCR-4.

As applicable, the final Phase III Data Recovery reports shall be submitted to Sonoma County prior to issuance of any grading or construction permit. Recommendations contained therein shall be implemented throughout all ground disturbance activities.

#### *CUL-8 Cultural Resources Monitoring*

If recommended by Phase I, XPI, Phase II, or Phase III studies (Mitigation Measures CUL-3, CUL-4, CUL-6, and/or CUL-7), the project applicant shall retain a qualified archaeologist to monitor project-related, ground-disturbing activities. If archaeological resources are encountered during ground-disturbing activities, Mitigation Measures CUL-5 through CUL-7 shall be implemented, as appropriate. The archaeological monitor shall coordinate with any Native American monitor as required by Mitigation Measure TCR-4.

#### *CUL-9 Unanticipated Discovery of Archaeological Resources*

If archaeological resources are encountered during ground-disturbing activities, work within 60 feet shall be halted and the project applicant shall retain an archaeologist meeting the SOI's PQS for archaeology (National Park Service 1983) immediately to evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work may be warranted, such as data recovery excavation, to mitigate any significant impacts to historical resources. If the resource is of Native American origin, implementation of Mitigation Measures TCR-1 through TCR-4 may be required. Any reports required to document and/or evaluate unanticipated discoveries shall be submitted to the County for review and approval. Recommendations contained therein shall be implemented throughout the remainder of ground disturbance activities.

### **Significance After Mitigation**

Implementation of Mitigation Measures CUL-3 through CUL-9 would reduce impacts to archaeological resources to less than significant levels by ensuring the avoidance of archaeological resources to the extent feasible, or by identifying, evaluating, and conducting data recovery archaeological resources that may be impacted by future projects in a timely manner.

<b>Threshold:</b> Would the project disturb any human remains, including those interred outside of formal cemeteries?
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**Impact CUL-3** THE DISCOVERY OF HUMAN REMAINS IS ALWAYS A POSSIBILITY DURING GROUND-DISTURBING ACTIVITIES. GROUND DISTURBANCE ASSOCIATED WITH DEVELOPMENT FACILITATED BY THE PROJECT MAY DISTURB OR DAMAGE KNOWN OR UNKNOWN HUMAN REMAINS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH ADHERENCE TO EXISTING REGULATIONS.

Regulations exist to address the discovery of human remains. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If an unanticipated discovery of human remains occurs, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a most likely descendant, who shall complete an inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access. With adherence to existing regulations, the archaeological resources mitigation measures identified above, program and project impacts would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Compliance with existing regulations and archaeological resources mitigation measures would reduce project impacts to human remains to less than significant levels by ensuring proper identification and treatment of any human remains that may be present on the Potential Sites.

## 4.5.4 Cumulative Impacts

Buildout of the project, in conjunction with other nearby past, present, and reasonably foreseeable probable future projects in the region could adversely impact cultural resources. Cumulative development in the region would continue to disturb areas with the potential to contain historical resources, archaeological resources, and human remains. For other developments that would have significant impacts on cultural resources, similar conditions and mitigation measures described herein would be imposed on those other developments consistent with the requirements of CEQA, along with requirements to comply with all applicable laws and regulations governing said resources.

Buildout of the project, in conjunction with cumulative projects throughout the county, would result in significant cumulative impacts to unknown historical resources. Development facilitated by the project would implement Mitigation Measures CUL-1 and CUL-2 to ensure impacts to unknown historical resources are adequately mitigated. Similarly, cumulative projects are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exists. It is possible that future cumulative projects would result in impacts to known or unknown cultural resources. While impacts to such resources would be addressed on a case-by-case basis, and would likely be subject to mitigation measures similar to those imposed for development facilitated by the project, cumulative development may result in the destruction of historical resources such that the resulting impact is cumulatively considerable. As such, cumulative historical impacts would be significant and unavoidable, and even after

implementation of Mitigation Measures CUL-1 and CUL-2, the project's contribution would remain be cumulatively considerable.

Buildout of the project, in conjunction with cumulative projects throughout the county as listed in Table 3-1, would result in significant cumulative impacts to unknown archaeological resources. However, development facilitated by the project would implement Mitigation Measures CUL-3 through CUL-9 to ensure impacts to unknown archaeological resources are adequately mitigated, and the current Sonoma County General Plan includes policies for the protection of archaeological resources from unnecessary impacts. Similarly, cumulative projects are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exists. In the event that future cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis, and would likely be subject to mitigation measures similar to those imposed for development facilitated by the project. As such, cumulative archaeological impacts would be less than significant with mitigation. After implementation of Mitigation Measures CUL-3 through CUL-9, the project's contribution would not be cumulatively considerable.

Future projects and cumulative projects in the region would involve ground-disturbing activities which could encounter human remains. If human remains are found, the proposed project and cumulative projects would be required to comply the State of California Health and Safety Code Section 7050.5, as described in Impact CUL-3, above. With adherence to existing regulations relating to human remains, cumulative impacts would be less than significant, and the project's impacts would not be cumulatively considerable.

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## 4.6 Energy

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This section evaluates the proposed project for the inefficient, wasteful, and unnecessary consumption of energy.

### 4.6.1 Setting

Energy relates directly to environmental quality as energy use can adversely affect air quality and other natural resources. Fossil fuels are burned to create electricity to power homes and vehicles, which creates heat. A discussion of transportation energy use relates to the fuel efficiency of cars and trucks, and the availability and use of public transportation, the choice of different travel modes (auto, carpool, and public transit), and the miles traveled by these modes. Construction and routine operation and maintenance of infrastructure also consume energy, as do residential land uses, typically in the form of natural gas and electricity.

#### a. Energy Supply

Natural gas-fired generation has dominated electricity production in California for many years. In 2017, however, the two largest sources of energy produced in California were crude oil at approximately 996.4 trillion British thermal units (Btu), and renewable energy sources at approximately 1,085.5 trillion Btu, while natural gas production was 240.2 trillion Btu. Other sources of energy produced in California include geothermal, nuclear power, natural gas, and biofuel (Energy Information Administration [EIA] 2017a). Sonoma County has two inactive Petaluma and Cotati Gas oil fields, and the Geysers geothermal well area that extends into Lake and Mendocino counties (California Department of Conservation, Division of Oil, Gas & Geothermal Resources 2020).

#### b. Energy Consumption and Sources

Total energy consumption in the United States (U.S.) in 2018 was approximately 101.3 quadrillion Btu (EIA 2019a). In 2018, petroleum provided approximately 36 percent of that energy, with other sources of energy coming from natural gas (approximately 31 percent), coal (approximately 13 percent), total renewable sources (approximately 11 percent), and nuclear power (approximately 8 percent). On a per capita basis in 2017, California was ranked the fourth lowest state in terms of total energy consumption (200.0 million Btu [MMBtu] per person), or about 33 percent less than the U.S. average per capita consumption of 300.2 MMBtu per person (EIA 2017b).

### Electricity and Natural Gas

Most of the electricity generated in California is from natural gas-fired power plants, which provided approximately 35 percent of total electricity generated in 2018 (California Energy Commission [CEC] 2018d). In 2018, California produced 68 percent of the electricity it used and imported the rest from outside the state. In the same year, California used 288,256 gigawatt hours (GWh) of electricity, with 195,265 GWh produced in-state (EIA 2018).

Sonoma County as a whole consumed approximately 111 million therms of natural gas in 2018 in both residential and non-residential uses (CEC 2018a). Sonoma County also consumed approximately 2,928 GWh of electricity in 2018 from residential and non-residential uses (CEC 2018b).

Two electricity providers serve Sonoma County: Sonoma Clean Power (SCP) and Pacific Gas and Electric Company (PG&E). PG&E is also the natural gas provider for the entire county. SCP provides clean energy that is 97 percent carbon free, sourced from renewable energy (25 percent wind, 18 percent geothermal, and 8 percent solar), carbon-free hydroelectric power (46 percent), and general system power (3 percent) (SCP 2020). In conjunction with the utility companies, the California Public Utilities Commission (CPUC) is involved in energy conservation programs.

## Petroleum

Energy consumed by the transportation sector accounts for roughly 40.3 percent of California's energy demand, amounting to approximately 3,172.2 trillion Btu in 2017 (EIA 2017c). Petroleum-based fuels are used for approximately 98.4 percent of the state's transportation activity (EIA 2017d). Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulations required by the California Air Resources Board (CARB). California's transportation sector, including on-road and rail transportation, consumed approximately 683 million barrels of petroleum fuels in 2017 (EIA 2020).

As shown in Table 4.6-1, approximately 214 million gallons of fuel were consumed in the county in 2018, of which approximately 192 million gallons were gasoline and approximately 22 million gallons were diesel fuel (CEC 2018c). This equates to approximately 0.59 million gallons of fuel per day or 1.2 gallons of fuel per person per day, based on a 2018 countywide population of 502,866 people (California Department of Finance 2019).

**Table 4.6-1 Annual and Daily Transportation Energy Consumption in Sonoma County**

<b>Fuel Type</b>	<b>2018 Annual Fuel Use (million gallons)</b>	<b>2018 Daily Fuel Use (million gallons)</b>	<b>2018 Daily Energy Use (billions of Btu)</b>	<b>2018 Daily per Capita Energy Use (thousands of Btu)</b>
Gasoline	192	0.53	57.7	114.7
Diesel	22	0.06	7.7	15.3
<b>Total</b>	<b>214</b>	<b>0.59</b>	<b>65.4</b>	<b>130.0</b>

Notes: Btu = British thermal units  
Source: CEC 2018c

According to the CEC, one gallon of gasoline is equivalent to approximately 109,786 Btu, while one gallon of diesel is equivalent to approximately 127,460 Btu (Schremp 2017). Based on this formula, approximately 65.4 billion Btu in transportation fuel were consumed per day in 2018 in Sonoma County (see Table 4.6-1).

## Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various statewide regulations and plans (e.g., Low Carbon Fuel Standard and Health and Safety Code Section 38566 [Senate Bill (SB) 32]). Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with many alternative fuels including the following:

*Hydrogen* is being explored for use in combustion engines and fuel cell electric vehicles. The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential



for domestic production, and the fuel cell vehicle's potential for high efficiency (two to three times more efficient than gasoline vehicles). Currently, 41 open hydrogen refueling stations are in California, but none are in Sonoma County (California Fuel Cell Partnership 2020).

*Biodiesel* is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Biodiesel can run in any diesel engine generally without alterations but fueling stations have been slow to make it available. There are 30 biodiesel refueling stations in California, six of which are in Sonoma County (Drive Biodiesel 2020).

*Electricity* can be used to power electric and plug-in hybrid electric vehicles directly from the power grid. The electricity grid usually provides electricity used to power vehicles, which store it in the vehicle's batteries. The electricity provided by SCP is 97 percent carbon free (SCP 2020). Fuel cells are being explored to use electricity generated on board the vehicle to power electric motors. Electrical charging stations are throughout Sonoma County, including in Bodega Bay, Cotati, Forestville, Fulton, Geyserville, Glen Ellen, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and Windsor (County of Sonoma 2020).

### c. Energy and Fuel Efficiency

Though the demand for gasoline and diesel fuel is rising because of population growth and limited mass transit, the increase in demand can be offset partially by efficiency improvements. Land use policies that encourage infill and growth near transit centers (e.g., following SB 375, the Sustainable Communities and Climate Protection Act of 2008), improvements to fuel efficiency, and gradual replacement of the vehicle fleet with new, more fuel-efficient cars will all reduce fuel use. In the future, increasing gasoline prices may apply downward pressure to gasoline demand in the state.

## 4.6.2 Regulatory Setting

Programs and policies at the state and national levels have emerged to bolster the previous trend towards energy efficiency, as discussed below.

### a. Federal Regulations

#### Energy Policy Conservation Act and Corporate Average Fuel Economy

The Energy Policy Conservation Act (Corporate Average Fuel Economy [CAFE]) of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, 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 CAFE program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. 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 U.S.

#### National Energy Policy Act of 1992

The National Energy Policy Act of 1992 (EPACT92) calls for programs that promote efficiency and the use of alternative fuels. EPACT92 requires certain federal, state, and local governments and private operators to stock vehicle fleets with a percentage of light duty alternative fuel vehicles each year. In addition, EPACT92 has financial incentives: federal tax deductions will be allowed for businesses

and individuals to cover the incremental cost of alternative fuel vehicles. EPACT92 also requires states to consider a variety of incentive programs to help promote alternative fuel vehicles.

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

The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as 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 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It expands the production of renewable fuels, reducing dependence on oil, and confronting global climate change. Specifically, it does the following:

1. Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels
2. Reduces 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 of 40 percent over those in 2007

### **Safer Affordable Fuel-Efficient Vehicles Rule**

The Safer Affordable Fuel-Efficient Vehicles Rule, issued March 31, 2020, sets fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 through 2026. These standards apply to both passenger cars and light trucks and are a reduction in stringency from the 2012 standards which would have required increases of about 5.0 percent per year. This rule is anticipated to result in a 40.4 mile per gallon industry average for 2026.

## **b. State Regulations**

### **Warren-Alquist Act**

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the CEC. The Act established a State policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields.

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

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000; codified as Public Resources Code Sections 25720-25721), the CEC and CARB prepared and adopted in 2003 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 vehicle miles traveled (VMT). One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand. Furthermore, in response to the CEC's 2003 and 2005 Integrated Energy Policy reports, the Governor directed the CEC to take the lead in developing a long-term plan to increase alternative fuel use.

## **Integrated Energy Policy Report**

SB 1389 (Chapter 568, Statutes of 2002) requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and price to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.

## **California Renewables Portfolio Standard Program**

In 2018, the California Renewables Portfolio Standard (SB 100) was signed into law, which increased the renewable portfolio standard (RPS) to 60 percent by 2030 (i.e., that 60 percent of electricity retail sales must be served by renewable sources by 2030) and requires all the state's electricity to come from carbon-free resources by 2045.

## **Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015**

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. The Act also requires doubled energy efficiency savings in electricity and natural gas for retail customers through increased efficiency and conservation by December 31, 2030.

## **Assembly Bill 1493: Reduction of Greenhouse Gas Emissions**

AB 1493 (Chapter 200, Statutes of 2002), known as the "Pavley bill," amended Health and Safety Code sections 42823 and 43018.5 and requires CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of greenhouse gas (GHG) emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required the State of California to apply for a waiver under the federal Clean Air Act. Although the U.S. Environmental Protection Agency (USEPA) initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions (CARB 2020).

## **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 (CPUC, CEC, 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. They emphasized the importance of the impacts of energy policy on California's environment.

In the October 2005 EAP II, the CEC and CPUC 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 CEC adopted an update to the EAP II in February 2008 that supplements earlier EAPs and examines the State's ongoing actions in the context of global climate change.

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

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare a State plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with CARB and in consultation with other State, federal, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative, nonpetroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

### **Bioenergy Action Plan, Executive Order S-06-06**

Executive Order (EO) S-06-06, April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050. EO S-06-06 also calls for the State to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so that the State can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

1. Increase environmentally and economically sustainable energy production from organic waste
2. Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
3. Create jobs and stimulate economic development, especially in rural regions of the State
4. Reduce fire danger, improve air and water quality, and reduce waste

### **Title 24, California Code of Regulations (CCR)**

California Code of Regulations (CCR), Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. The CEC established Title 24 in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. The standards are updated on an approximately three-year cycle to allow consideration and possible incorporation of new efficient technologies and methods. In 2019, the CEC updated Title 24 standards with more stringent requirements effective January 1, 2020. All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The next update is expected in 2022. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The building efficiency standards are enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably

necessary due to local climatologic, geologic, or topographic conditions, provided that these standards exceed those provided in Title 24.

### California Green Building Standards Code (2019), CCR Title 24, Part 11

California's green building code, referred to as CALGreen, was developed to provide a consistent approach to green building within the State. CALGreen lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety, and general welfare by promoting a more sustainable design.

## c. Local Regulations

### Sonoma County General Plan

The Sonoma County General Plan Open Space and Resource Conservation Element includes goals and policies that would reduce energy use in the County. Goals and policies from the County General Plan are provided below.

**Goal OSRC-14: Promote energy conservation and contribute to energy demand reduction in the County.**

**Objective OSRC-14.2:** Encourage County residents and businesses to increase energy conservation and improve energy efficiency.

**Objective OSRC-14.3:** Reduce the generation of solid waste and increase solid waste reuse and recycling.

Policy OSRC-14d: Support project applicants in incorporating cost effective energy efficiency that may exceed State standards.

Policy OSRC-14f: Use the latest green building certification standards, such as the Leadership in Energy and Environmental Design (LEED) standards, for new development.

**Goal OSRC-15: Contribute to the supply of energy in the County primarily by increased reliance on renewable energy sources.**

**Objective OSRC-15.2:** Promote the use of renewable energy and distributed energy generation systems and facilities in new development in the County.

## 4.6.3 Impact Analysis

### a. Methodology and Significance Thresholds

#### Significance Thresholds

An energy-related impact is considered significant if the proposed project would result in one or more of the following conditions:

1. Wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency

## Methodology

Public Resources Code Section 21100(b)(3) states that an EIR shall include “mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy.” The physical environmental impacts associated with the use of energy, including the generation of electricity and burning of fuels, have been accounted for in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*.

Energy consumption is analyzed herein in terms of construction and operational energy. Construction energy demand accounts for anticipated energy consumption during construction of development facilitated by the proposed project, such as fuel consumed by construction equipment and construction workers’ vehicles traveling to and from the construction site. Operational energy demand accounts for the anticipated energy consumption during operation of the development facilitated by the project, such as fuel consumed by cars, trucks, and public transit; natural gas consumed for on-site power generation and heating building spaces; and electricity consumed for building power needs, including, but not limited to lighting, water conveyance, and air conditioning.

The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to approximate emissions resulting from the proposed project. The CalEEMod results (Appendix AQ) provide the average travel distance, vehicle trip numbers, and vehicle fleet mix during construction and operation of development facilitated by the project, which were based on the VMT provided by Fehr & Peers (Appendix TRA) as described in Section 4.16, *Transportation*. The CalEEMod input data is described in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*. They also provide estimated gross electricity and natural gas consumption by land use during operation of the proposed project. The values in the CalEEMod data are used in this analysis to anticipate energy consumption during construction and operation of development facilitated by the project.

This analysis considers the equipment and processes employed during construction of housing development facilitated by the project and the land uses, location, and VMT per service population (residents plus employees) of the proposed project to qualitatively determine whether energy consumed during construction and operation would be wasteful, inefficient, or unnecessary.

## b. Project Impacts and Mitigation Measures

**Threshold:** Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

**Impact E-1** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN A SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO THE WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

### Demolition and Construction

Demolition and construction activities associated with development facilitated by the project would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary power may be provided for construction trailers and electric construction equipment. Table 4.6-2 summarizes the anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the Potential Sites. Construction of development facilitated by the project would also use building materials, the manufacture and procurement of which would require energy use, but the California Natural Resources Agency's Final Statement of Reasons notes that "a full 'lifecycle' analysis that would account for energy used in building materials and consumer products will generally not be required" (California Natural Resources Agency 2018). Furthermore, it is reasonable to assume that manufacturers of concrete, steel, lumber, or other building materials would employ energy conservation practices to minimize their cost of doing business. It also is reasonable to assume that non-custom building materials, such as drywall and standard-shaped structural elements, will be manufactured regardless of the project and, if not used for the project, would be used elsewhere. Therefore, the consumption of energy required for the manufacturing of building and construction material is not part of the quantitative analysis.

**Table 4.6-2 Project Construction Energy Usage**

Source	Gasoline (gallons)	Diesel (gallons)
Construction Equipment & Vendor/Hauling Trips	–	714,519
Construction Worker Vehicle Trips	510,632	–

See Appendix AQ for CalEEMod default values for fleet mix and average distance of travel and Appendix NRG for energy calculation sheets.

As shown in Table 4.6-2, demolition and construction activities from development facilitated by the project would require approximately 510,632 gallons of gasoline and 714,519 gallons of diesel fuel. Energy use during demolition and construction would be temporary, and construction equipment used would be typical of similar-sized construction projects in the region. Development facilitated by the project would utilize construction contractors that comply with applicable CARB regulations such as accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment, and restricted idling of heavy-duty diesel motor vehicles. Construction contractors are required to comply with the provisions of CCR Title 13, sections 2449 and 2485, prohibiting diesel-fueled commercial and off-road vehicles from idling for more than five minutes, minimizing unnecessary fuel consumption. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would minimize inefficient fuel consumption. These construction equipment standards (i.e., Tier 4 efficiency requirements) are



contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068. Electrical power would be consumed during demolition and construction activities, and the demand, to the extent required, would be supplied from existing electrical infrastructure in the area.

Overall, demolition and construction activities would not have any adverse impact on available electricity supplies or infrastructure. Demolition and construction activities would utilize fuel-efficient equipment consistent with State and federal regulations and would comply with state measures to reduce the inefficient, wasteful, or unnecessary consumption of energy. Per applicable regulatory requirements such as 2019 or later CALGreen, development facilitated by the project would comply with construction waste management practices to divert construction and demolition debris from landfills. These practices would result in efficient use of energy by construction facilitated by the project.

Furthermore, in the interest of cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. The project is a response to housing demand that, if not fulfilled by the project, would likely result in new construction elsewhere, with associated increased in commuter VMT. The energy used to construct the project is necessary because the project is intended to meet existing housing demands. Therefore, project demolition and construction activities would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

## Operation

Energy demand from project operation would include fuel consumed by passenger vehicles; natural gas consumed for heating and cooking in residential buildings; and electricity consumed by residential buildings including, but not limited to lighting, water conveyance, and air conditioning.

The project aims to provide housing opportunities in urbanized areas near jobs, transit, services, and schools, limiting the increase in travel required by new residents. The project also identified Potential Sites in existing Urban Service Areas and would encourage development on infill sites, which similarly would ensure that new residences are proximate to commercial, retail, and employment destinations, limiting the number and length of typical residential vehicle trips.

As shown in Table 4.6-3, vehicle trips related to the project would require approximately 1,411,818 gallons of gasoline and 398,360 gallons of diesel fuel, or 205,773 MMBtu annually (see Appendix NRG for energy calculation sheets). This equates to a 72.9 thousands of Btu (kBtu) per capita daily transportation energy use for the project.<sup>1</sup> This is substantially lower than the County's 2018 average daily per capita transportation energy use of 130.0 kBtu (refer to Table 4.6-1). Gasoline and diesel fuel demands would be met by existing gasoline stations in the vicinity of the Potential Sites. Furthermore, vehicles driven by future residents of development facilitated by the project would be subject to increasingly stringent State fuel efficiency standards, thereby minimizing the potential for the inefficient consumption of vehicle fuels. As a result, vehicle fuel consumption resulting from the project would not be wasteful, inefficient, or unnecessary.

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<sup>1</sup> Calculation: Annual fuel consumption (205,773 MMBtu, or 205,773,000 kBtu) divided by 365 days and divided by the total new residents (7,735 residents).

Table 4.6-3 Project Operational Energy Usage

Source	Energy Consumption	Energy Consumption (in MMBtu)
<b>Vehicle Trips</b>		
Gasoline	1,411,818 gallons	154,998
Diesel	398,360 gallons	50,775
<b>Built Environment</b>		
Electricity	16,623,500 kWh	56,719
Natural Gas Usage	86,468,600 kBtu	86,469

Note: MMBtu = millions of British thermal units; kWh = kilowatt-hours; kBtu = thousands of British thermal units.  
See Appendix AQ for CalEEMod default values for fleet mix and average distance of travel and Appendix NRG for energy calculation sheets.

As shown in Table 4.6-3, in addition to transportation energy use, development facilitated by the projects would require permanent grid connections for electricity and natural gas. Development facilitated by the project would consume approximately 216,623,500 kilowatt-hours (kWh), or 56,719 MMBtu per year of electricity for lighting and large appliances, and approximately 86,468,600 kBtu, or 86,469 MMBtu per year of natural gas for heating and cooking (see Appendix AQ for CalEEMod results). Electricity would be provided by on-site solar, SCP (the default electricity provider in the County), and/or PG&E. SCP provides electricity from cleaner power sources with lower GHG emissions than PG&E, although customers can opt out of SCP service and be provided electricity from PG&E. PG&E would supply natural gas. As discussed in detail in Section 4.8, *Greenhouse Gas Emissions*, the 2019 Building Energy Efficiency Standards require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less to supply much of the on-site electricity demand. Given historic electricity use, CEC's and CPUC's long-range planning efforts, and future on-site solar generation, there would be adequate capacity to meet demand for electricity. Furthermore, California natural gas demand, including volumes not served by utility systems, is expected to decrease at a rate of 0.5 percent per year from 2018 to 2035; therefore, the incremental increase in natural gas consumption from development facilitated by the project would not indirectly result in the need to secure additional natural gas supplies or construct new or expanded natural gas processing plants (California Gas and Electric Utilities 2018).

Development facilitated by the project would comply with the 2019 California Building Energy Efficiency Standards for Residential Buildings and CALGreen (CCR Title 24, Parts 6 and 11) or later versions, which are anticipated to be more stringent than the 2019 codes. The 2019 standards require the provision of electric vehicle charging equipment, water-efficient plumbing fixtures and fittings, recycling services, solar on low-rise residential development, and other energy efficiency measures that would reduce the potential for the inefficient use of energy.

The anticipated 7,735 new residents that would be accommodated by development facilitated by the project are likely already living in the County or within the Bay Area under Association of Bay Area Governments (ABAG) jurisdiction, and therefore they would not create substantial energy demands in the region beyond that which they consume at this time. The County has identified a demand for higher-density housing in unincorporated areas, as well as replacement housing due to structure loss from the 2017 Sonoma Complex Fires, 2019 Kincade Fire, 2020 Glass Fire, and 2020 LNU Lightning Complex fires (refer to Section 4.14, *Population and Housing*). The project would encourage the development of modern residential buildings, which would consume less energy in the forms of electricity and natural gas than existing, older buildings on the Potential Sites and in the

surrounding areas. As described above, development facilitated by the project would not result in a wasteful, inefficient, or unnecessary consumption of energy, and would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. Impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?
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**Impact E-2** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT AN APPLICABLE RENEWABLE ENERGY OR ENERGY EFFICIENCY PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As discussed in Section 4.6.2, *Regulatory Setting*, several state plans as well as the County’s adopted General Plan include energy conservation and energy efficiency strategies intended to enable the State and the County to achieve GHG reduction and energy conservation goals. A full discussion of the proposed project’s consistency with GHG reduction plans is included in Section 4.8, *Greenhouse Gas Emissions*. As shown in Table 4.6-4, development facilitated by the project would be consistent with State renewable energy and energy efficiency plans.

Table 4.6-4 Consistency with State Renewable Energy and Energy Efficiency Plans

Renewable Energy or Energy Efficiency Plan	Proposed Project Consistency
<b>Assembly Bill 2076: Reducing Dependence on Petroleum.</b> Pursuant to AB 2076, the CEC and CARB prepared and adopted a joint-agency report, <i>Reducing California’s Petroleum Dependence</i> , in 2003. 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 VMT. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand.	<b>Consistent.</b> As described above, the proposed project would establish a higher-density zoning allowances on the Potential Sites, in Urban Service Areas near incorporated cities. This establishment of higher-density housing in these areas would serve to reduce VMT by placing new housing close to typical destinations, such as commercial and office areas.
<b>2019 Integrated Energy Policy Report.</b> The 2019 report highlights the implementation of California’s innovative policies and the role they have played in establishing a clean energy economy, as well as provides more detail on several key energy policies, including decarbonizing buildings, increasing energy efficiency savings, and integrating more renewable energy into the electricity system.	<b>Consistent.</b> The proposed project would establish a higher-density zoning allowance on the Potential Sites and would be required to comply with the County Code, Section 7A-29, which mandates the implementation of Title 24. Compliance would include rooftop solar on all residential building types that are three stories or less in height. Electricity would be provided either by PG&E or SCP, which source some or all their power from renewable sources. Given these features, the project would facilitate decarbonization of buildings (removing GHG emissions from the building’s energy use), the increase in energy efficiency savings, and integration of more renewable energy into the electricity system. Therefore, the project

Renewable Energy or Energy Efficiency Plan	Proposed Project Consistency
	would not conflict with or obstruct implementation of the 2019 Integrated Energy Policy Report.
<p><b>California Renewable Portfolio Standard.</b> California's RPS obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent total retail sales of electricity from renewable energy sources by 2020, 60 percent by 2030, and 100 percent by 2045.</p>	<p><b>Consistent.</b> SCP and PG&amp;E supply electricity in the county and they are required to generate electricity that would increase renewable energy resources to 60 percent by 2030 and 100 percent by 2045. Because SCP and PG&amp;E would provide electricity service to the Potential Sites, the proposed project would not conflict with or obstruct implementation of the California Renewable Portfolio Standard.</p>
<p><b>AB 1493: Reduction of Greenhouse Gas Emissions.</b> AB 1493 requires CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.</p>	<p><b>Consistent.</b> Vehicles used by future residents of the Potential Sites would be subject to the regulations adopted by CARB pursuant to AB 1493. Therefore, the proposed project would not conflict with or obstruct implementation of AB 1493.</p>
<p><b>Energy Action Plan.</b> In the October 2005, the CEC and CPUC 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 CEC 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. The nine major action areas in the EAP include energy efficiency, demand response, renewable energy, electricity adequacy/reliability/infrastructure, electricity market structure, natural gas supply/demand/infrastructure, transportation fuels supply/demand/infrastructure, research/development/demonstration, and climate change.</p>	<p><b>Consistent.</b> The project would be required to comply with the County Code, Section 7A-29, which mandates the implementation of Title 24. Compliance would include rooftop solar on all residential building types that are three stories or less in height. Electricity would be provided either by PG&amp;E or SCP, which source some or all their power from renewable sources. Given these features, the project would facilitate implementation of the nine major action areas in the EAP. Therefore, the project would not conflict with or obstruct implementation of the EAP.</p>
<p><b>AB 1007: State Alternative Fuels Plans.</b> The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.</p> <p><b>Bioenergy Action Plan, EO S-06-06.</b> The EO establishes the following targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050.</p>	<p><b>Consistent.</b> The project would rezone sites for medium-density housing in the unincorporated county and would not interfere with or obstruct the production of biofuels in California. Vehicles used by future residents would be fueled by gasoline and diesel fuels blended with ethanol and biodiesel fuels as required by CARB regulations. Therefore, the project would not conflict with or obstruct implementation of the Bioenergy Action Plan or the State Alternative Fuels Plan.</p>

Renewable Energy or Energy Efficiency Plan	Proposed Project Consistency
<p><b>Title 24, CCR – Part 6 (Building Energy Efficiency Standards) and Part 11 (CALGreen).</b> The 2019 Building Energy Efficiency Standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less.</p> <p>The CALGreen Standards establish green building criteria for residential and nonresidential projects. The 2019 Standards include the following: increasing the number of parking spaces that must be prewired for electric vehicle chargers in residential development; requiring all residential development to adhere to the Model Water Efficient Landscape Ordinance; and requiring more appropriate sizing of HVAC ducts.</p>	<p><b>Consistent.</b> The project would be required to comply with the County Code, Section 7A-29, which mandates the implementation of Title 24. Therefore, the project would not conflict with or obstruct implementation of the Title 24 standards.</p>

The County General Plan includes various goals and policies that employ energy conservation and efficiency measures through an array of strategies. As shown in Table 4.6-5, development facilitated by the project would be consistent with the energy conservation and efficiency strategies contained in the County General Plan.

**Table 4.6-5 Consistency with the County General Plan**

Energy Efficiency Goal, Policy, or Strategy	Proposed Project Consistency
<p><b>Goal OSRC-14: Promote energy conservation and contribute to energy demand reduction in the County.</b></p> <p><b>Objective OSRC-14.2:</b> Encourage County residents and businesses to increase energy conservation and improve energy efficiency.</p> <p><u>Policy OSRC-14d:</u> Support project applicants in incorporating cost effective energy efficiency that may exceed State standards.</p> <p><u>Policy OSRC-14e:</u> Develop energy conservation and efficiency design standards for new development.</p> <p><u>Policy OSRC-14f:</u> Use the latest green building certification standards, such as the Leadership in Energy and Environmental Design (LEED) standards, for new development.</p>	<p><b>Consistent.</b> Development facilitated by the project would be required to comply with energy conservation regulations and policies applicable to new residential developments, including California’s Energy Efficiency Standards (CCR Title 24, Part 6) and CALGreen. Development facilitated by the project would be required to comply with County energy conservation standards and would be constructed per the most recent energy efficiency standards, as required for new residential developments.</p>
<p><b>Objective OSRC-14.3:</b> Reduce the generation of solid waste and increase solid waste reuse and recycling.</p>	<p><b>Consistent.</b> As described in Section 4.18, <i>Utilities and Service Systems</i>, development facilitated by the project would comply with General Plan and Countywide Integrated Waste Management Plan policies that address solid waste generation and disposal through increasing solid waste diversion and providing residential recycling services.</p>

Energy Efficiency Goal, Policy, or Strategy	Proposed Project Consistency
<p><b>Objective OSRC-15.2:</b> Promote the use of renewable energy and distributed energy generation systems and facilities in new development in the County.</p>	<p><b>Consistent.</b> Development facilitated by the project would be required to comply with the County Code, Section 7A-29, which mandates the implementation of Title 24. Compliance would include rooftop solar on all residential building types that are three stories or less in height.</p>
<p><u>Policy OSRC-16b:</u> Encourage public transit, ridesharing and van pooling, shortened and combined motor vehicle trips to work and services, use of bicycles, and walking. Minimize single passenger motor vehicle use.</p> <p><b>Objective CT-1.8:</b> Improve demand for transit by development of a growth management strategy encouraging projects in urbanized areas that decrease distance between jobs and housing, increase the stock of affordable housing, and increase density.</p> <p><u>Policy CT-1m:</u> Require development projects contribute a fair share for development of alternative transportation mode facilities, including pedestrian and bicycle facilities along project frontages and links from these to nearby alternative mode facilities. Development near urban boundaries should provide safe access to the urban area.</p> <p><u>Policy CT-300:</u> Require new development in Urban Service Areas and unincorporated communities to provide safe, continuous and convenient pedestrian access to jobs, shopping and other local services and destinations. Maintain consistency with City standards for pedestrian facilities in Urban Service Areas that are within a city's Sphere of Influence or Urban Growth Boundary.</p>	<p><b>Consistent.</b> The project would locate residences in urban service areas in proximity to existing commercial and retail land uses, which would encourage the use of alternative modes of transportation, as well as be in the vicinity of existing transit routes and bicycle/pedestrian paths. Development facilitated by the project would be required to pay impact fees required by the County and be designed to include pedestrian access continuity where appropriate and required by the County.</p>

The proposed project would be consistent with the County's adopted energy conservation and efficiency strategies contained in its General Plan. As described under Impact E-1, development facilitated by the project would be required to comply with relevant provisions of CALGreen and Title 24 of the California Energy Code, which would also ensure compliance with the County's Climate Change Action Resolution. Therefore, this impact would be less than significant, and no mitigation is required.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

## 4.6.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for energy consumption is Sonoma County. This geographic scope is appropriate because the smallest scale at which energy consumption

information is readily available is the county level. Cumulative buildout of the County's General Plan is considered part of this cumulative analysis, as well as projects are listed in Table 3-1.

Cumulative development would increase demand for energy resources. However, new iterations of the California Building Energy Efficiency Standards and CALGreen would require increasingly more efficient appliances and building materials that reduce energy consumption in new development. In addition, vehicle fuel efficiency is anticipated to continue improving through implementation of the existing Pavley Bill regulations under AB 1493. As discussed in Section 4.16, *Transportation*, implementation of Plan Bay Area 2040 would reduce VMT in Sonoma County. Nevertheless, the combined increase in energy consumption in Sonoma County would potentially result in a significant cumulative impact related to the wasteful, inefficient, and unnecessary consumption of energy resources. It is conservatively assumed, therefore, that cumulative development could result in a significant impact related to the wasteful, inefficient, or unnecessary consumption of energy resources.

As described under Impact E-1, housing development facilitated by the project would be constructed in accordance with the California Building Energy Efficiency Standards and CALGreen. Additionally, housing development in infill locations, such as some areas in the County-designated USAs, is presumed to lower VMT due to the proximity to office and commercial uses. Therefore, the project's contribution to a significant cumulative energy impact is not cumulatively considerable.

This project and its associated objectives are designed to address and respond to statewide planning efforts. The Legislature has adopted findings that "the lack of housing, including emergency shelters, is a critical problem that threatens the economic, environmental, and social quality of life in California... Among the consequences of those actions are...reduced mobility, urban sprawl, excessive commuting, and air quality deterioration" (Government Code Section 65589.5[a]). The Legislature also recently adopted findings that "California has a housing supply and affordability crisis of historic proportions. The consequences of failing to effectively and aggressively confront this crisis are hurting millions of Californians, robbing future generations of the chance to call California home, stifling economic opportunities for workers and businesses, worsening poverty and homelessness, and undermining the state's environmental and climate objectives" (Government Code Section 65589.5[a][2][A]).

The anticipated 7,735 new residents that would be accommodated by the project are assumed to already live in the County or within ABAG's planning area for purposes of this analysis. They would not represent new energy demands in the region. Additionally, the County has identified a demand for higher-density housing in unincorporated areas, and replacement housing due to structure loss from the 2017 Sonoma Complex Fires, 2019 Kincadee Fire, and 2020 LNU Lightning Complex and Glass Incident fires (refer to Section 4.14, *Population and Housing*). The project would encourage the development of modern residential buildings, which would consume less energy in the forms of electricity and natural gas than existing, older buildings on the Potential Sites and in the surrounding areas.

Development facilitated by the project would not result in a wasteful, inefficient, or unnecessary consumption of energy, and operation of the new residential structures would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. Therefore, the project would not make a cumulatively considerable contribution to a significant cumulative impact.

The geographic scopes for the cumulative impact analysis of consistency with renewable energy and energy efficiency plans are the State of California and the County of Sonoma because the applicable



plans are statewide plans in addition to the County General Plan. Projects throughout the State of California are required to adhere to applicable renewable energy and energy efficiency laws, programs, and policies such as California's RPS, AB 1493, and Title 24 standards. All other pending and future projects in the county would be required to adhere to General Plan policies to mitigate energy impacts where feasible. In addition, all pending and future projects would be reviewed for consistency with the County General Plan. Therefore, the cumulative impact would be less than significant. As discussed under Impact E-2, development facilitated by the project would be consistent with the energy-related goals and policies of the statewide plans and the County General Plan; therefore, the project would not make a cumulatively considerable contribution to a significant cumulative impact with respect to consistency with renewable energy and energy efficiency plans.

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## 4.7 Geology and Soils

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This section evaluates the potential impacts relating to geology and soils impacts associated with implementation of the proposed project.

### 4.7.1 Setting

#### a. Regional Geology

The topography in Sonoma County is varied, including several mountain ranges, distinctive valleys, and coastal terraces. The county is bounded on the south by the San Pablo Bay and associated wetlands. The Cotati and Petaluma Valleys create the wide basin stretching from Santa Rosa to the Bay. Rolling hills and grasslands predominate here, as well as in Marin County to the south. The rugged Mayacamas and Sonoma Mountains geographically form the eastern boundary and physically separate Sonoma County from Lake and Napa Counties. The Sonoma Valley runs north-south between the Sonoma Mountains on the west and the taller Mayacamas Mountains to the east. The Geysers geothermal field, located in the northeastern section of the county, extends into both Sonoma and Lake Counties. The Mendocino Highlands form a common geographic unit with Mendocino County to the north. The Alexander Valley runs from northwest to southeast, bounded on the east by the Mayacamas Mountains and on the west by the Coast Range. The Pacific Ocean forms the western county boundary, including an interesting assemblage of steep hills, marine terraces, beaches, and offshore sea stacks (County of Sonoma 2006).

Ongoing tectonic forces resulting from the collision of the North American Plate with the Pacific Plate, combined with more geologically recent volcanic activity, have resulted in mountain building and down warping of parallel valleys. The margin of the two tectonic plates is defined by the San Andreas Fault system: a broad zone of active, dormant, and inactive faults dominated by the San Andreas Fault which trends along the western margin of the county. This fault system results in the northwestern structural alignment that controls the overall orientation of the county's ridges and valleys. The land has been modified by more recent volcanic activity, evidenced by Mount St. Helena that visually dominates the northeastern part of the county. Erosion, sedimentation, and active faulting occurring in recent times have further modified Sonoma County's landscape to its current form (County of Sonoma 2006).

The geology of Sonoma County is a result of the past tectonic, volcanic, erosional, and sedimentation processes of the California Coast Range geomorphic province (California Geological Survey [CGS] 2002). A geomorphic province is a region of unique topography and geology that is readily distinguished from other regions based on its landforms and diastrophic history. The Coast Ranges extend about 600 miles from the Oregon border south to the Santa Ynez River in Santa Barbara County and are characterized by numerous north-south-trending peaks and valleys that range in elevation from approximately 500 feet above mean sea level to 7,581 feet above mean sea level at the highest summit. The basement rocks of the Coast Ranges include the Jurassic to Cretaceous rocks of the Franciscan Assemblage, which consist of over 55,000 feet of greywacke, greenstone, bluestone, metasedimentary rocks, and ophiolite sequences. During the Mesozoic and into the Cenozoic, the area of the present-day Coast Ranges was covered by marine waters, resulting in the thick accumulation of marine and nonmarine shale, sandstone, and conglomerate on the Franciscan basement rock. Later, these deposits were unconformably overlain by Paleocene to Pliocene continental shelf marine sedimentary rocks. During the Late Miocene to the Late Pliocene,

a mountain-building episode occurred in the vicinity of the present-day Coast Ranges, resulting in their uplift above sea level. Subsequently, from the late Pliocene to Pleistocene, extensive deposits of terrestrial material, including alluvial fans and fluvial sediments, were deposited in the Coast Ranges (Norris and Webb 1990). Tectonic deformation and sea level change related to Pleistocene climate fluctuations continued through the Quaternary Period, resulting in the formation of marine terrace platforms along the Coast Ranges.

## **b. Local Geologic Setting**

### **Sonoma County Soils**

Soils vary widely throughout the County, and there are over 250 soil types mapped within Sonoma County (County of Sonoma 2006). Potential Sites that may be vulnerable to specific soil hazards are listed in relevant sections below.

### **Seismic Hazards**

Northern California is a region of high seismic activity. Like most counties in the region, Sonoma County is subject to risks associated with potentially destructive earthquakes. Earthquakes are most common along geologic faults that are planes of weakness or fractures along which rocks have been displaced. Most faults located within Sonoma County are part of the San Andreas Fault system which extends along most of the length of California and represents the boundary between the Pacific and North American plates of the earth's crust. The faults mapped by the California Division of Mines and Geology are those that show significant surface evidence of lateral or vertical movement in the past two million years (i.e., the Quaternary geologic period) and are defined as active or are considered to be potentially active (County of Sonoma 2006).

#### *Surface Rupture*

Surface rupture represents the breakage of ground along the surface trace of a fault, which is caused by the intersection of the fault surface area ruptured in an earthquake with the earth's surface. Fault displacement occurs when material on one side of a fault moves relative to the material on the other side of the fault. This can have particularly adverse consequences when buildings are located within the rupture zone. It is not feasible, from a structural or economic perspective, to design and build structures that can accommodate rapid displacement involved with surface rupture. Amounts of surface displacement can range from a few inches to tens of feet during a rupture event.

Faults are geologic hazards because of both surface fault displacement and seismic ground shaking that are distinct but related properties. Surface fault displacement results when the fault plane ruptures and that rupture surface extends to, or intersects, the ground surface. Surface fault rupture can be very destructive to structures constructed across active faults. However, the zone of damage is limited to a relatively narrow area along either side of the fault as opposed to seismic ground shaking damage that can be quite widespread. Faults are categorized as active, potentially active, and inactive. A fault is classified as active if it has moved during the Holocene time, which consists of approximately the last 11,000 years. A fault is classified as potentially active if it has experienced movement within Quaternary time, which is during the last 1.8 million years. Faults that have not moved in the last 1.8 million years are generally considered inactive.

The San Andreas, Healdsburg, Rodgers Creek, and Mayacamas faults are considered active faults for planning purposes (County of Sonoma 2006). The County General Plan Public Safety Element's Figure PS-1b shows that none of County's active faults are within two miles of any Potential Sites.

### *Ground Shaking*

The major cause of structural damage from earthquakes is ground shaking. The intensity of ground motion expected at a particular site depends upon the magnitude of the earthquake, the distance to the epicenter, and the geology of the area between the epicenter and the property. Greater movement can be expected at sites located on poorly consolidated material, such as alluvium, within close proximity to the ruptured fault, or in response to a seismic event of great magnitude. Historically, Sonoma County has been impacted by ground shaking during major earthquakes in the seismically active Northern California region, and is likely to experience ground shaking from major earthquakes in the future.

### *Liquefaction*

Liquefaction is a seismic phenomenon in which loose, saturated granular and non-plastic fine-grained soils lose their structure/strength when subjected to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater within the top 50 feet of the ground surface; 2) low-density non-plastic soils; and 3) high-intensity ground motion. The following five sites contain soils with high or very high liquefaction levels: GUE-3, GUE-4, AGU-1, AGU-2, and AGU-3 (County of Sonoma 2006).

## **Landslides and Slope Stability**

Seismic ground shaking can also result in landslides and other slope instability issues. Landslides occur when slopes become unstable and masses of earth material move downslope. Landslides are usually rapid events, often triggered during periods of rainfall or by earthquakes. Mudslides and slumps are a more shallow type of slope failure. They typically affect the upper surficial soils horizons rather than bedrock features. Usually mudslides and slumps occur during or soon after periods of rainfall, but they can be triggered by seismic shaking. Sonoma County contains several mountainous areas with high landslide susceptibility, including the Mayacamas and the Sonoma Mountains. The areas most susceptible to landslides are shown on maps prepared by the California Division of Mines and Geology. In addition, landslides occur where faults have fractured rock and along the base of slopes or cliffs where supporting material has been removed by stream or wave erosion, or human activities. Heavy rainfall, human actions, or earthquakes can trigger landslides. They may take the form of a slow continuous movement such as a slump or may move very rapidly as a semi-liquid mass such as a debris flow or avalanche. Table 4.7-1 lists the Potential Sites that contain soils with high and very high landslide susceptibility (CGS 2018).

## **Subsidence**

Subsidence refers to the sinking of a large area of ground surface in which material is displaced vertically with little or no horizontal movement. Subsidence originates at great depths below the surface when subsurface pressure is reduced by the natural loss or human withdrawal of fluids, such as groundwater, natural gas, or oil, or can occur due to soil compression. This type of subsidence has thus far not been reported in Sonoma County (County of Sonoma 2006).

**Table 4.7-1 Potential Sites with High or Very High Landslide Susceptibility**

Potential Sites with High or Very High Landslide Susceptibility	
AGU-1	GRA-2
AGU-2	GUE-1
GEY-1	GUE-3
GEY-2	GUE-4
GEY-3	PEN-5
GEY-4	PEN-6
GLE-1	PEN-8
GLE-2	PET-4

Source: CGS 2018

## Expansive Soils

Expansive soils swell with increases in moisture content and shrink with decreases in moisture content. These soils usually contain high clay content. Foundations for structures constructed on expansive soils require special design considerations. Because expansive soils can expand when wet and shrink when dry, they can cause foundations, basement walls and floors to crack, causing substantial structural damage. As such, structural failure due to expansive soils near the ground surface is a potential hazard. These types of soils can be found throughout Sonoma County (County of Sonoma 2006).

## Soil Erosion

Erosion refers to the removal of soil by water or wind. Factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. Depending on how well protected the soil is from these forces, the erosion process can be very slow or rapid. Properties of the soil also contribute to how likely or unlikely it is to erosion. Removal of natural or man-made protection can result in substantial soil erosion and excessive sedimentation and pollution problems in streams, lakes, and estuaries. Construction activities represent the greatest potential cause of erosion. Many areas of particular erosion concern in the County are steep hillsides cultivated for wine grapes, rangelands where overgrazing may occur, and some waterways with high stream bank erosion.

### c. Paleontological Resources Setting

Paleontological resources (fossils) are the remains and/or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils is a result of the sedimentary history of the geologic units within which they occur. Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. Although it is not possible to determine whether a fossil will occur in any specific location, it is possible to evaluate the potential for geologic units to contain scientifically significant paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they do occur during construction.

## Paleontological Resource Potential

Paleontological resource potential refers to the probability of a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are nonrenewable. Such impacts have the potential to be significant and, under the *CEQA Guidelines*, may require mitigation. Resource potential is determined by rock type, the history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological resource potential is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

The Society of Vertebrate Paleontology (SVP) outlines in its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological resource potential of geologic units within a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon diagnostically, stratigraphically, taxonomically, or regionally. The paleontological resource potential of the Potential Sites has been evaluated according to the following SVP (2010) categories, which are presented below.

### *High Resource Potential*

Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Resource potential comprises both:

1. potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and
2. importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Low Resource Potential

Sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the



ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low resource potential for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.

#### *Undetermined Resource Potential*

Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined paleontological resource potential. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

#### *No Resource Potential*

Rock units of metamorphic or igneous origin are commonly classified as having no resource potential for containing significant paleontological resources. For geologic units with no resource potential, a paleontological monitor is not required.

### Potential Sites Geologic Units and Paleontological Potential

Characteristics and assessment of paleontological resource potential of geologic units are discussed in more detail in Appendix GEO. Refer to Figure 4.7-1 through Figure 4.7-11 and Table 4.7-2 for the geologic units and paleontological resource potential within the 59 Potential Sites.

**Table 4.7-2 Geologic Units and Paleontological Resource Potential Summary of the Potential Sites**

Potential Sites	Geologic Unit(s) <sup>1</sup>	Paleontological Resource Potential <sup>2</sup>
GEY-1 through GEY-3, GUE-2 through GUE-4, LAR-1 through LAR-8, SAN-1, SAN-3, SAN-5, SAN-10	Quaternary young alluvium (Q, Qal)	Low
GEY-4	Quaternary young alluvium (Q, Qal) Early Cretaceous to Late Jurassic Great Valley Complex (KJgvc)	Low
GUE-1	Quaternary old alluvial and marine terrace deposits (Qt)	High
FOR-1 through FOR-6, GRA-1, GRA-3 through GRA-5, PET-1 through PET-3	Wilson Grove Formation (Twg, Pwg)	High
GRA-2	Quaternary young alluvium (Qal)	Low
SAN-2, SAN-4, SAN-6 through SAN-9, AGU-1 through AGU-3, SON-1 through SON-4	Quaternary old alluvium (Qo)	High
GLE-1, GLE-2	Huichica and Glen Ellen Formations (QT)	High
PEN-1 through PEN-9	Petaluma Formation (Pp)	High
PET-4	Wilson Grove Formation (Twg, Pwg) Pliocene to Miocene Sonoma Volcanics (Psv, Tsb)	High None

<sup>1</sup> Blake et al. 2000; 2002; Wagner and Bortugno 1982

<sup>2</sup> SVP 2010; University of California Museum of Paleontology 2020



Figure 4.7-1 Geologic Units and Paleontological Resource Potential – Northern County

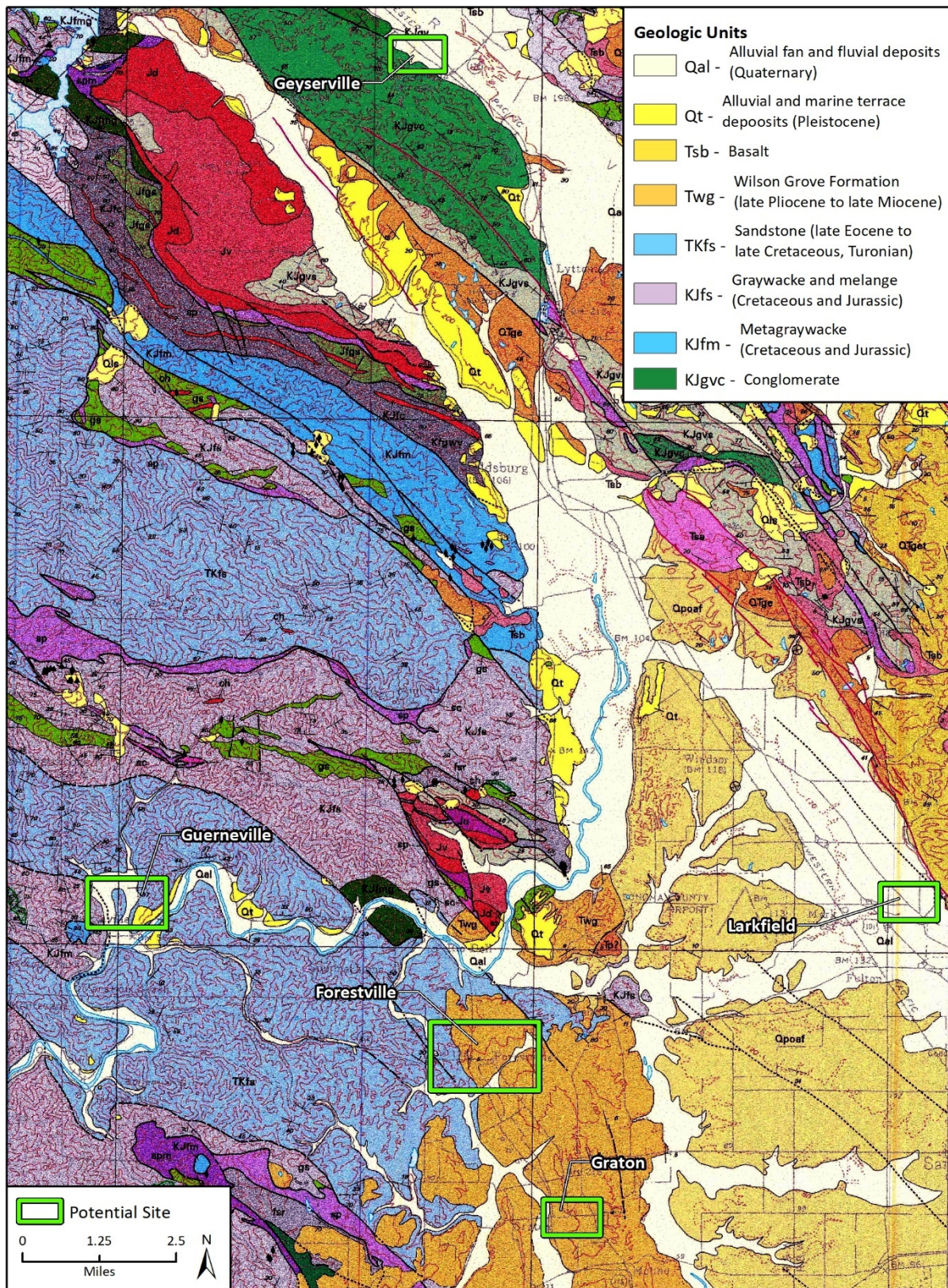




Figure 4.7-2 Geologic Units and Paleontological Resource Potential – Southern County

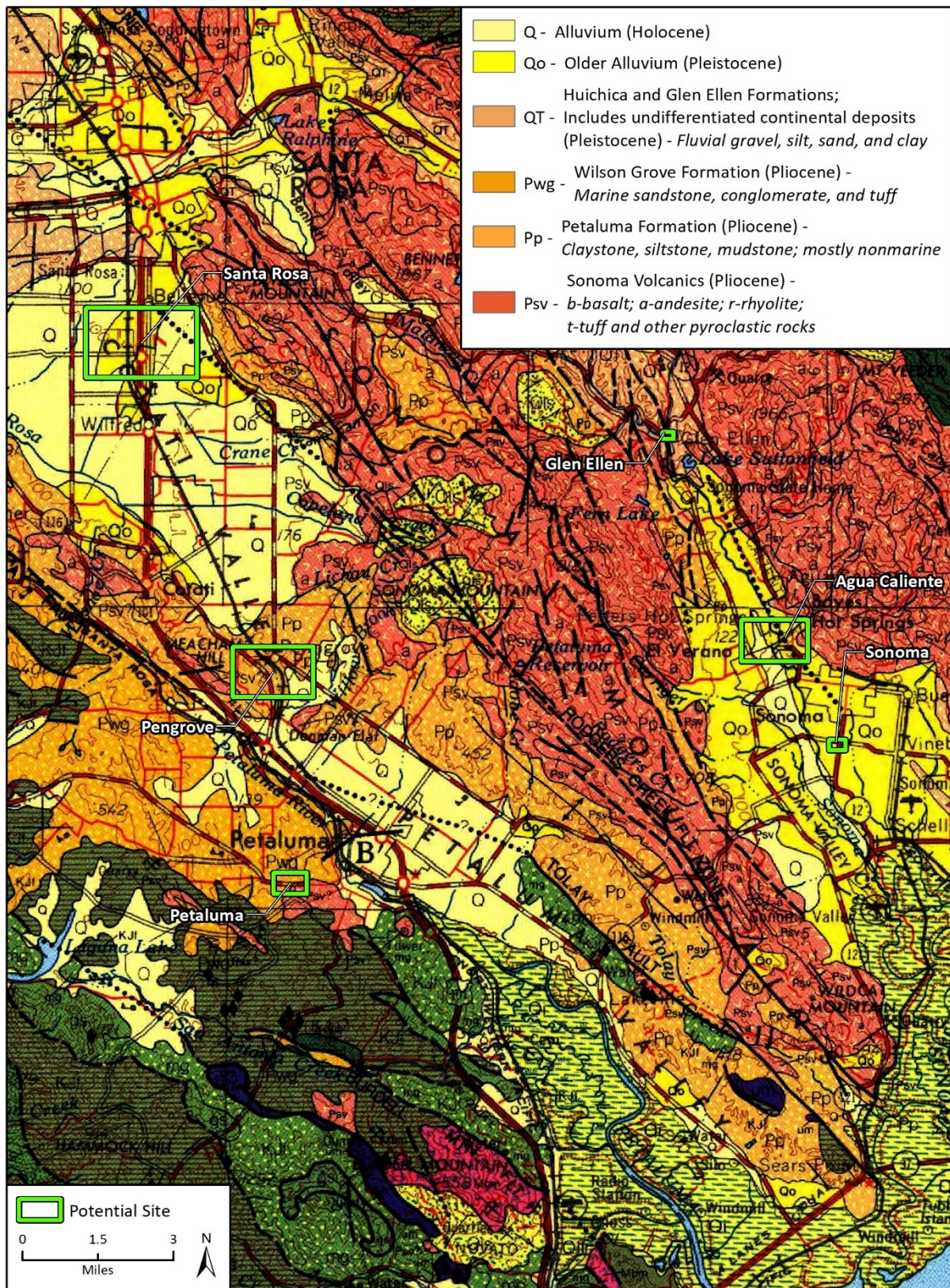
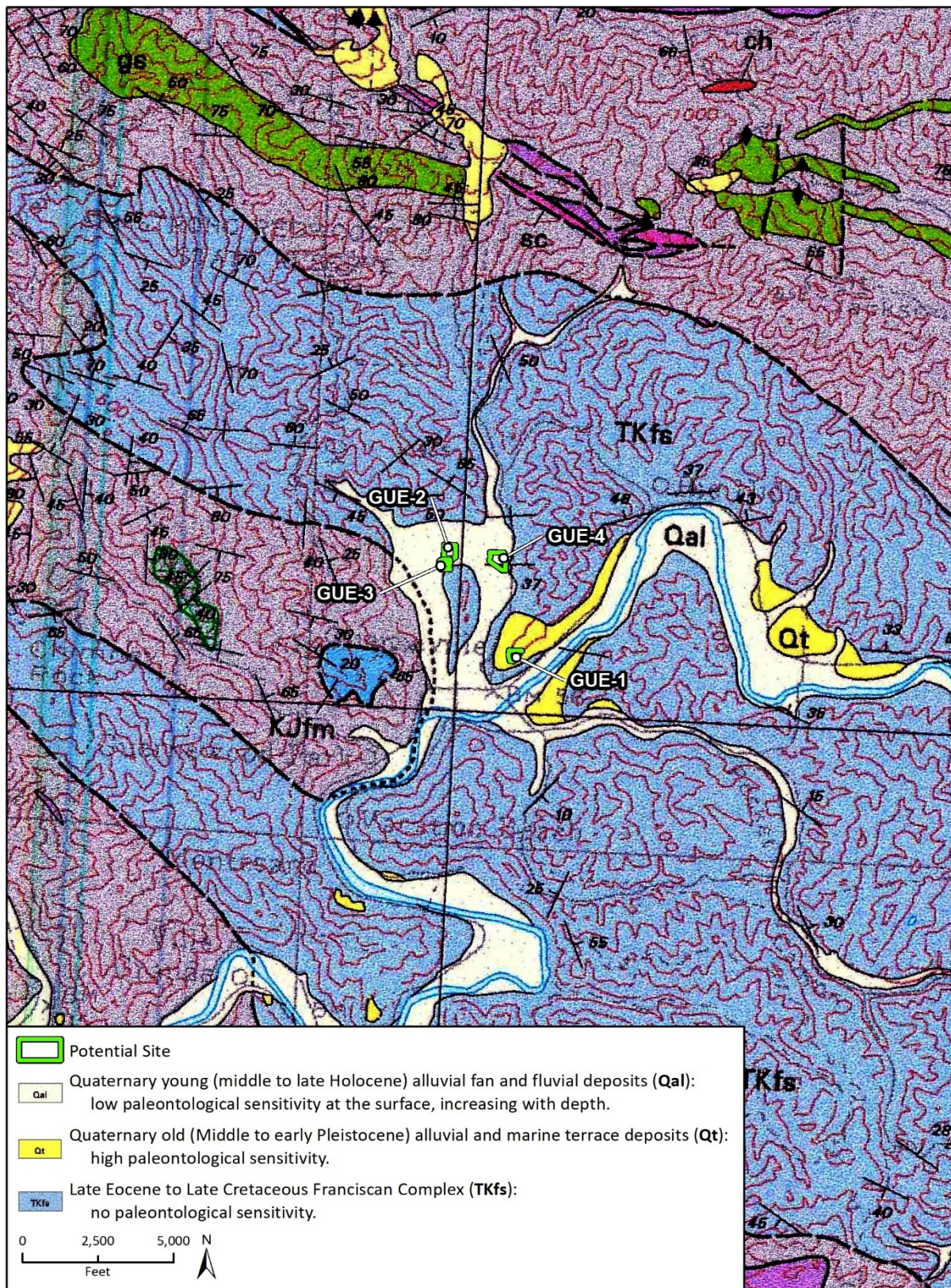








Figure 4.7-4 Geologic Units and Paleontological Resource Potential – Guerneville

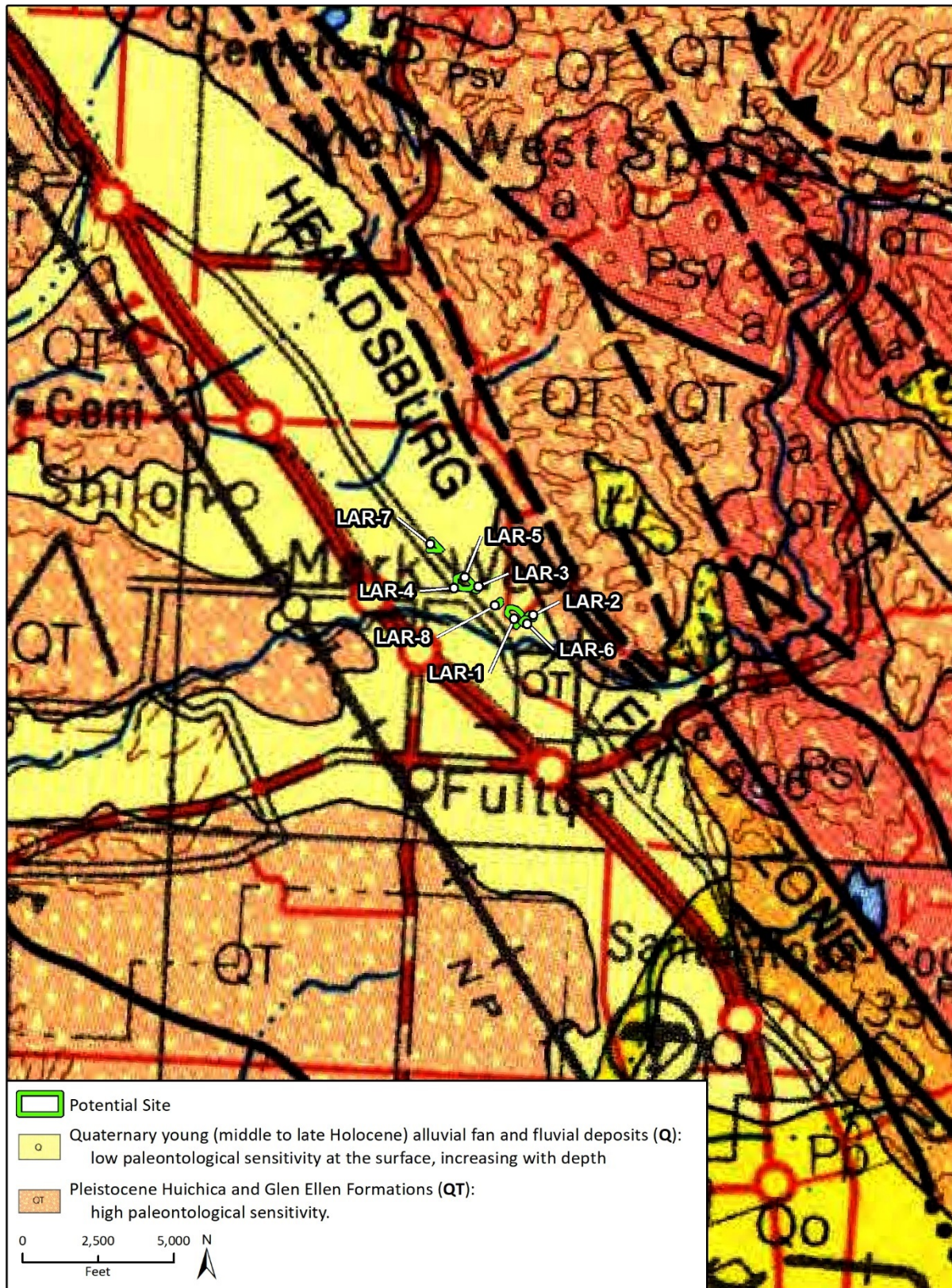


Imagery provided by Esri, Blake, M.C., Graymer, R.W., and Stamski, R.E., 2002.

Fig. 8 Geology, Guerneville



Figure 4.7-5 Geologic Units and Paleontological Resource Potential –Larkfield

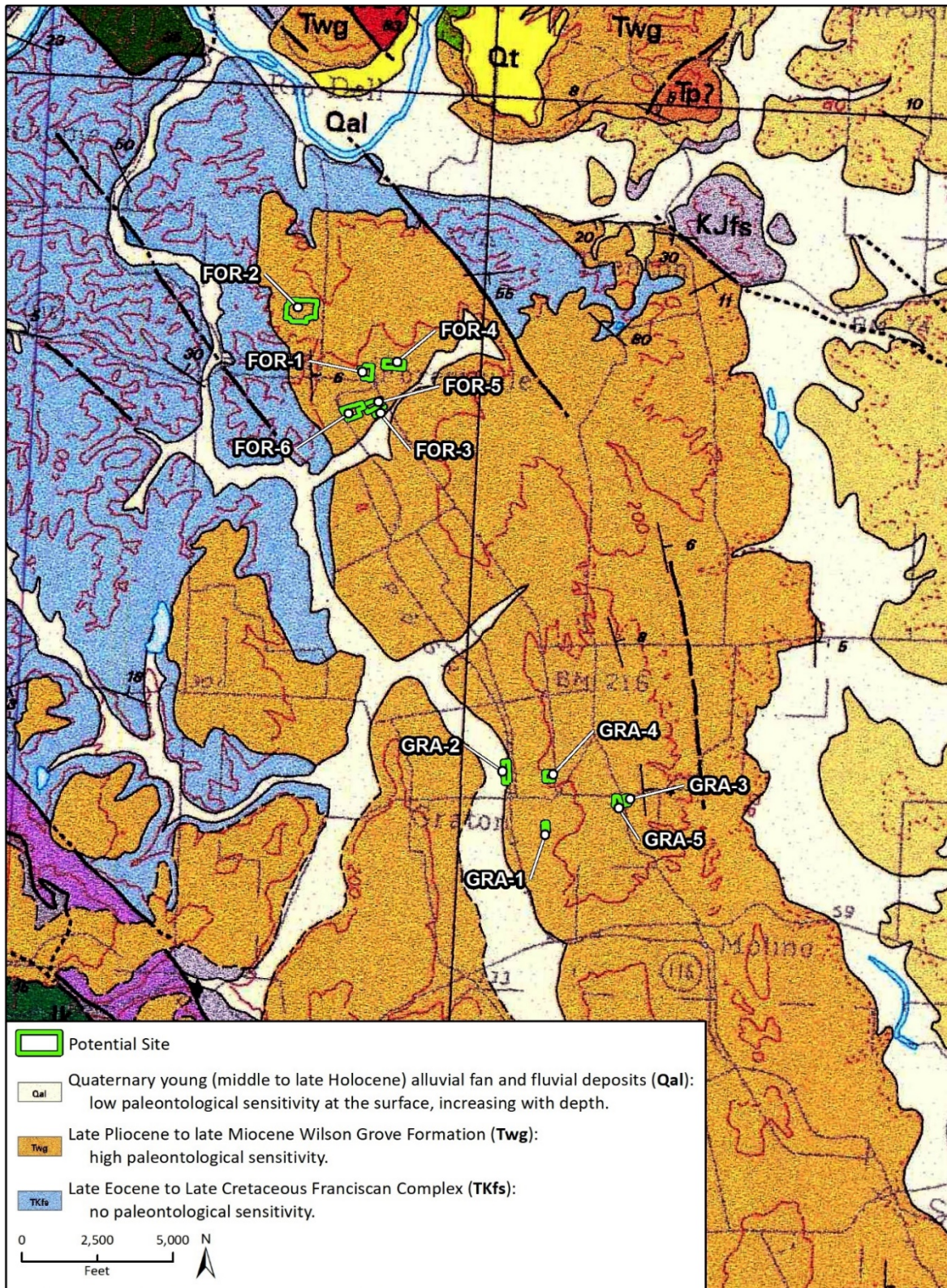


Imagery provided by Esri, 2020; D.L. Wagner and E.J. Bortugno, 1982.

Fig X Geology\_Larkfield



Figure 4.7-6 Geologic Units and Paleontological Resource Potential – Forestville and Graton

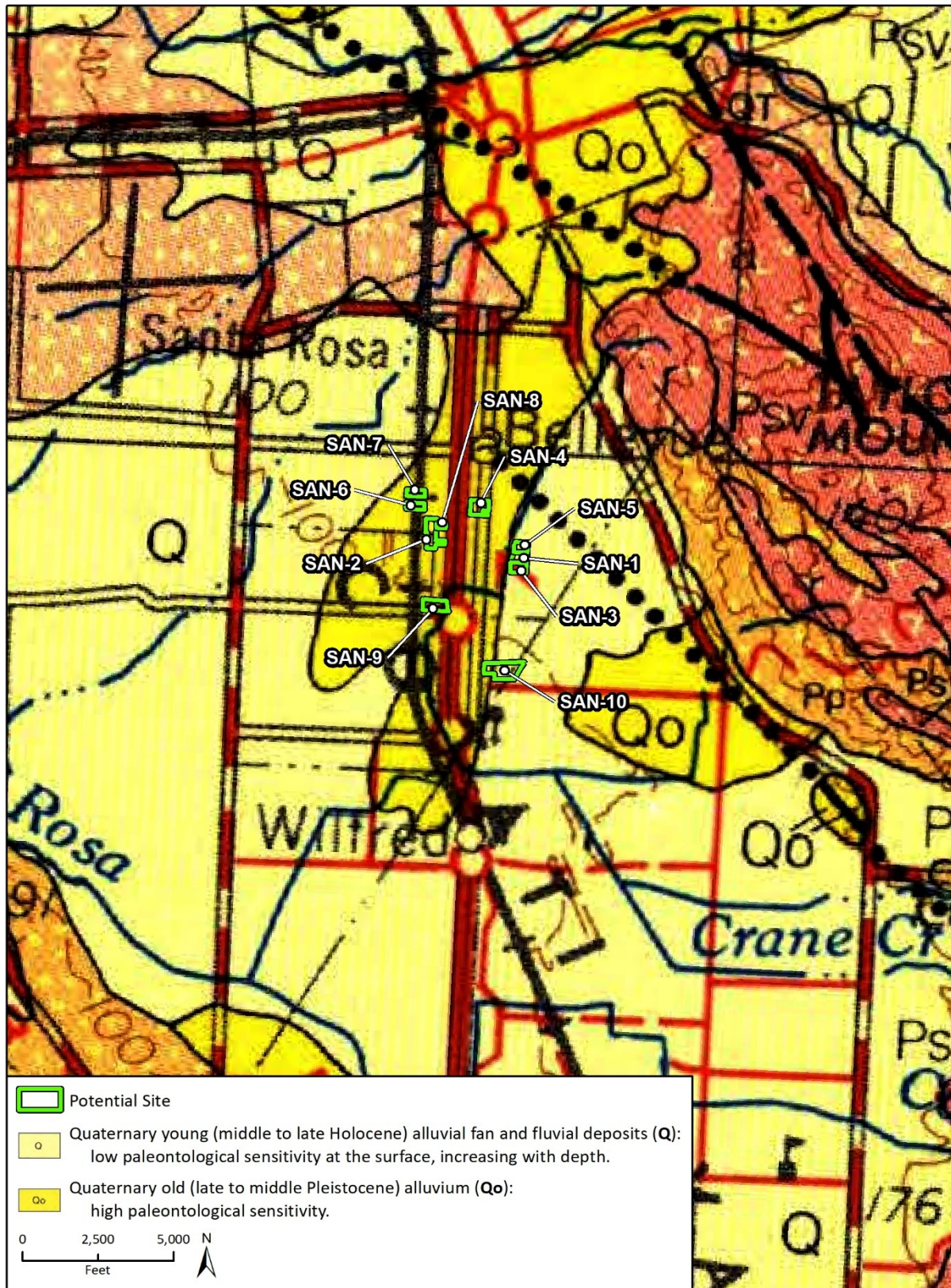


Imagery provided by Esri, Blake, M.C., Graymer, R.W., and Stamski, R.E., 2002.

Fig X Geology\_Forestville\_Graton



Figure 4.7-7 Geologic Units and Paleontological Resource Potential – Santa Rosa

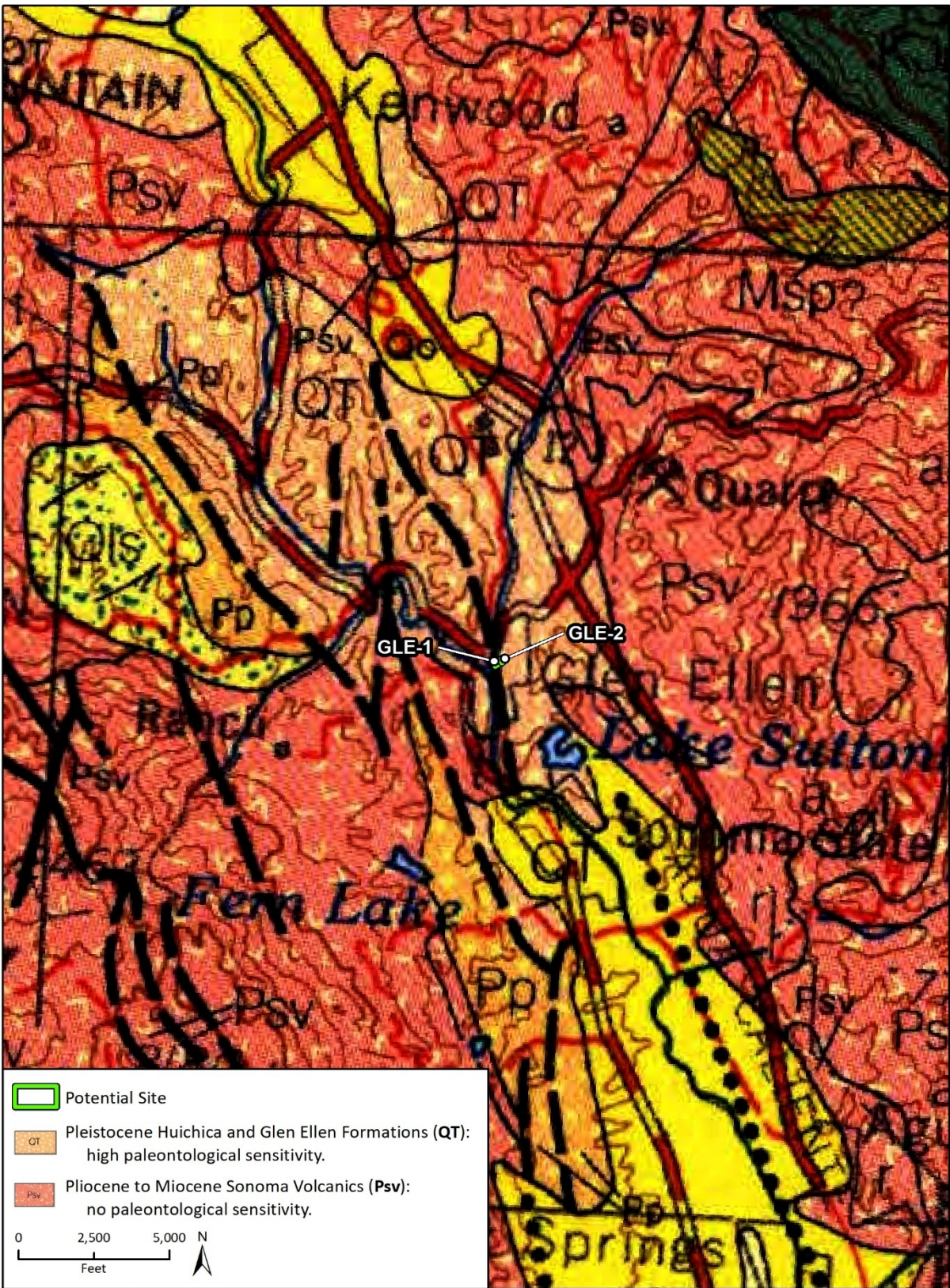


Imagery provided by Esri, 2020; D.L. Wagner and E.J. Bortugno, 1982.

Fig X Geology\_Santa\_Rosa



Figure 4.7-8 Geologic Units and Paleontological Resource Potential – Glen Ellen

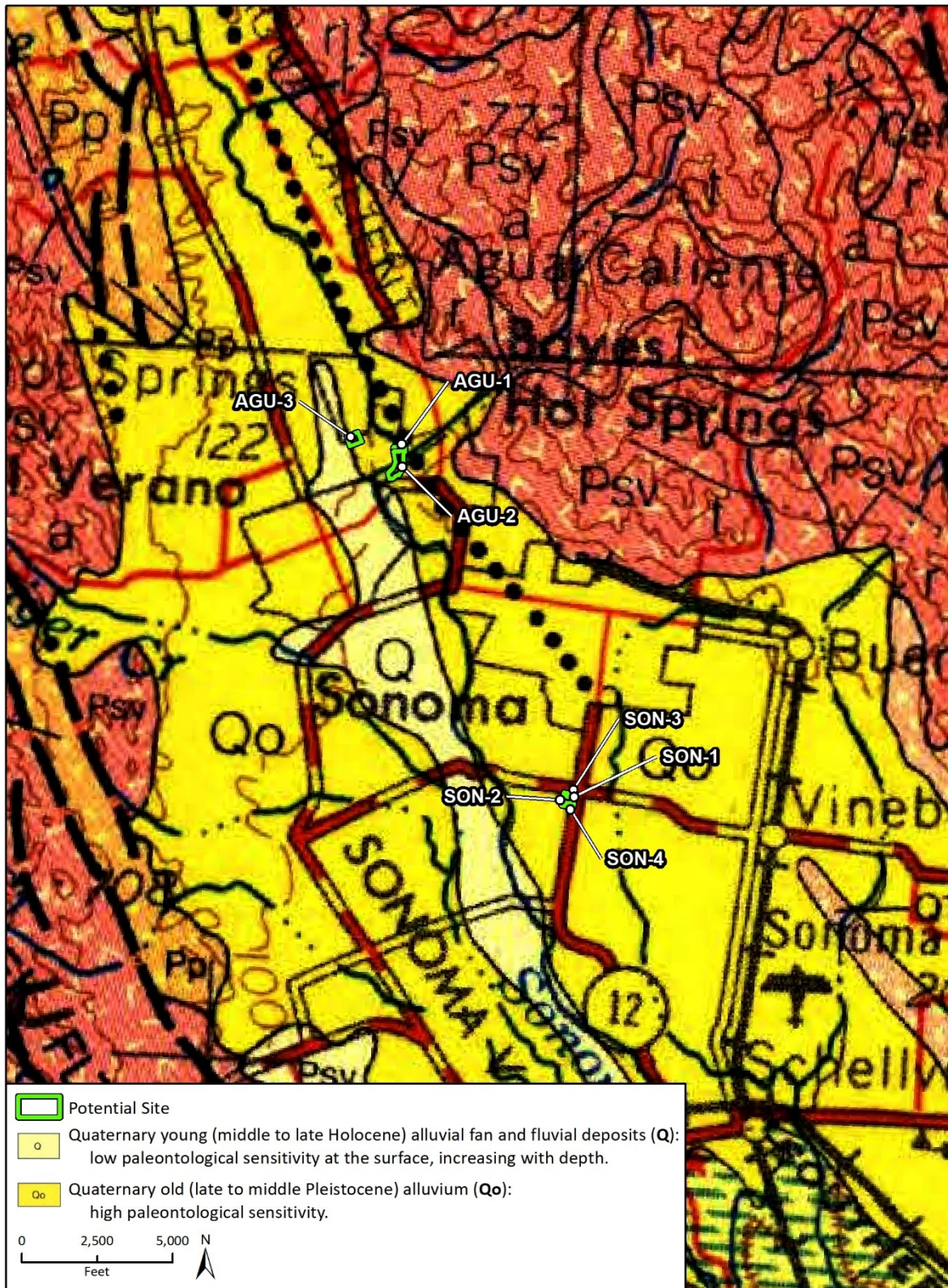


Imagery provided by Esri, 2020; D.L. Wagner and E.J. Bortugno, 1982.

Fig X Geology\_Glen\_Ellen



Figure 4.7-9 Geologic Units and Paleontological Resource Potential – Agua Caliente and Sonoma

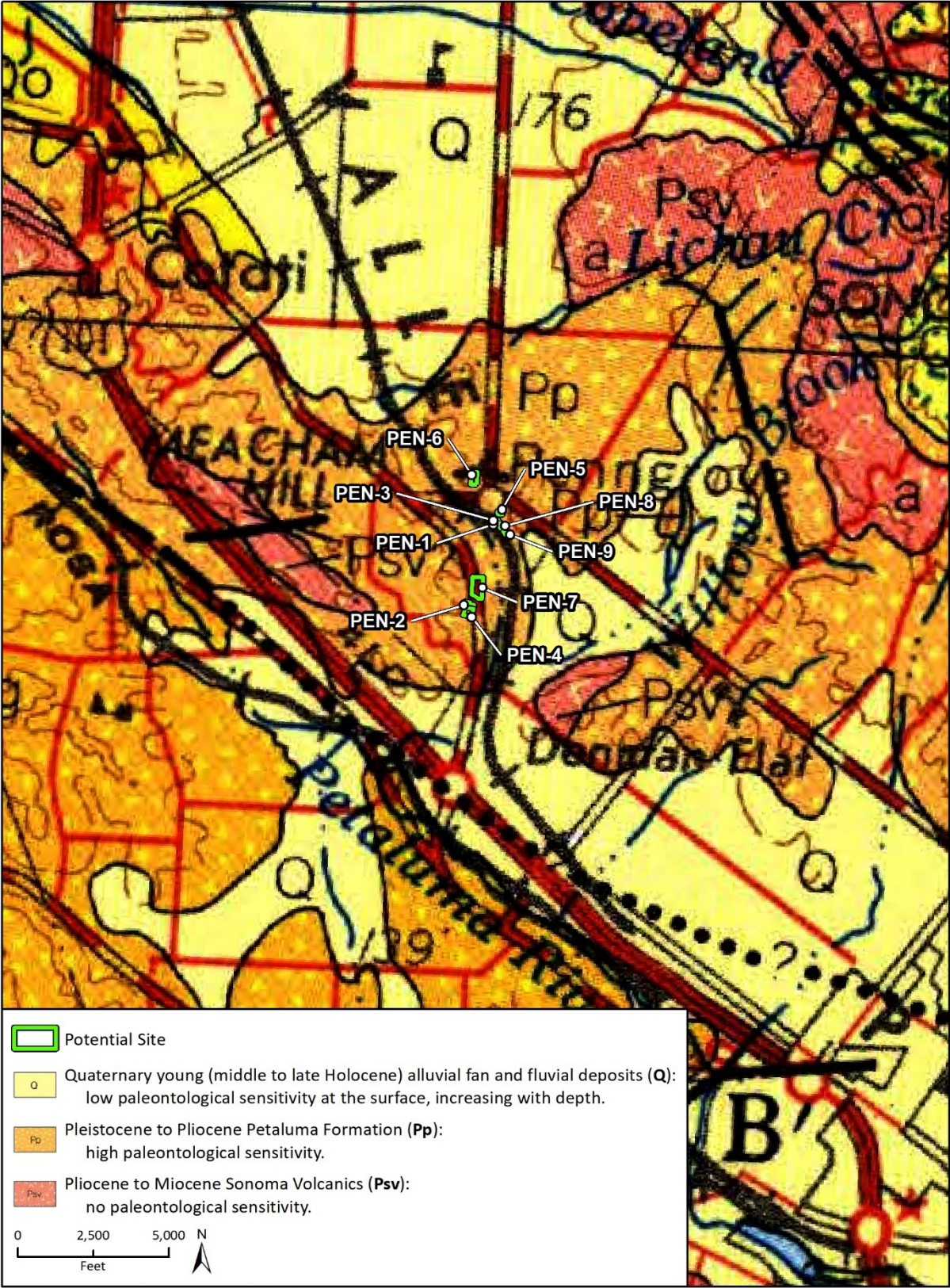


Imagery provided by Esri, 2020; D.L. Wagner and E.J. Bortugno, 1982.

Fig X Geology\_AC\_Sonoma



Figure 4.7-10 Geologic Units and Paleontological Resource Potential – Penngrove







## 4.7.2 Regulatory Setting

### a. Federal Regulations

#### Clean Water Act

Congress enacted the Clean Water Act (CWA), formerly the Federal Water Pollution Control Act of 1972, with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). In Sonoma County, the Sonoma Creek and Petaluma River watersheds are in the San Francisco Bay RWQCB jurisdiction, and the remainder of the county is governed by the North Coast RWQCB (refer to Section 4.10, *Hydrology and Water Quality* for more information about watersheds in Sonoma County).

Projects within the County that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing best management practices (BMP) the discharger would use to prevent and retain storm water runoff and to prevent soil erosion.

### b. State Regulations

#### California Building Code

The California Building Code (CBC) Title 24, Part 2 provides building codes and standards for the design and construction of structures in California. The 2016 CBC is based on the 2015 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

#### Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 was passed into law following the destructive February 9, 1971, magnitude 6.6 San Fernando earthquake. The Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. This Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive.

The Alquist-Priolo Earthquake Fault Zoning Act regulates development near the surface traces of active faults to mitigate the hazard of surface fault rupture. Essentially, this Act contains two requirements: (1) it prohibits the location of most structures for human occupancy across the trace of active faults; and (2) it establishes Earthquake Fault Zones and requires geologic/seismic studies

of most proposed development within 1,000 feet of the zone. The Earthquake Fault Zones are delineated and defined by the State Geologist and identify areas where potential surface rupture along a fault could occur. In Sonoma County, the Geologic Hazard Combining District (G District) is applied to properties located within the Alquist-Priolo Earthquake Fault Zone. None of the Potential Sites are located within the G District, and accordingly none are located within an Earthquake Fault Zone.

### Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (the Act) of 1990 was passed into law following the destructive October 17, 1989, magnitude 6.9 Loma Prieta earthquake. The Act directs the CGS to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards, such as liquefaction, landslides, amplified ground shaking, and inundation by tsunami or seiche. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones. CGS maintains these required maps.

### California Public Resources Code

Section 5097.5 of the Public Resources Code states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

### c. Local Regulations

Please refer to Section 4.10, *Hydrology and Water Quality*, for a discussion of various water quality related permits and requirements, including the Municipal Separate Storm Sewer System Permit, Standard Urban Storm Water Mitigation Plan, and Low Impact Development Manual.

### Sonoma County Code

The Geologic Hazard Combining District (G District) was added to the Zoning Regulations (Chapter 26 of the Sonoma County Code) in 1993 to reduce unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides, and other geologic hazards. The G District is applied to areas located within the Alquist-Priolo Earthquake Fault Zone (County of Sonoma 2014). All uses permitted within the zoning districts with which the G District is combined are permitted, except that no structure intended for human occupancy or otherwise defined as a project in the Alquist-Priolo Earthquake Fault Zoning Act is permitted to be placed across the trace of an active



fault or within 50 feet of the surface trace of any fault. A geologic report is required for development of property within the G District. No Potential Sites are located in a G District.

## Sonoma County General Plan

The Public Safety Element of the Sonoma County General Plan (County of Sonoma 2014) includes a section regarding protection from geologic hazards, which include seismic hazards such as fault movement, ground shaking, ground failure, ground displacement along fault traces, tsunamis, secondary effects of earthquakes, landslide, and expansive soils, including:

**Goal PS-1: Prevent unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides, and other geologic hazards.**

**Objective PS-1.1:** Continue to develop and utilize use available data on geologic hazards and associated risks.

**Objective PS-1.2:** Regulate new development to reduce the risks of damage and injury from known geologic hazards to acceptable levels.

**Objective PS-1.3:** Use the Sonoma County Hazard Mitigation Plan to help reduce future damage from geologic hazards.

Policy PS-1a: Continue to use all available data on geologic hazards and related risks from the appropriate agencies.

Policy PS-1b: Continue to use studies of geologic hazards prepared during the development review process.

Policy PS-1e: Continue to implement the "Geologic Hazard Area" combining district which establishes regulations for permissible types of uses and their intensities and appropriate development standards.

Policy PS-1f: Require and review geologic reports prior to decisions on any project which would subject property or persons to significant risks from the geologic hazards areas shown on Public Safety Element hazard maps and related file maps and source documents. Geologic reports shall describe the hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, require an engineer's or geologist's certification that risks have been mitigated to an acceptable level and, if indicated, obtain indemnification or insurance from the engineer, geologist, or developer to minimize County exposure to liability.

Policy PS-1g: Prohibit structures intended for human occupancy (or defined as a "project" in the Alquist-Priolo Special Studies Zones Act and related Administrative Code provisions) within 50 feet of the surface trace of any fault.

**Goal PS-4: Prevent unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides, and other geologic hazards.**

The Open Space and Resource Conservation Element of the Sonoma County General Plan contains the following policy relating to paleontological resources that are relevant and/or applicable to the current project:

Policy OSRC-19j. Develop an archaeological and paleontological resource protection program that provides:

1. Guidelines for land uses and development on parcels identified as containing such resources

2. Standard project review procedures for protection of such resources when discovered during excavation and site disturbance
3. Educational materials for the building industry and the general public on the identification and protection of such resources

## **Sonoma County Hazard Mitigation Plan**

The Sonoma County Hazard Mitigation Plan, updated April 2017, assesses the County's vulnerabilities to various hazards and presents mitigation strategy, including goals, objectives, and actions that the County will strive to implement over the next five years. These hazards include earthquakes and landslides. The hazard mitigation plan seeks to identify opportunities for reasonable mitigation actions and sets out a five-year implementation plan. For example, some identified actions to reduce seismic hazards includes County building evaluation and retrofits, implementation of the earthquake resistant bracing system program, and retrofit of bridges throughout the County.

## **Sonoma County Erosion Prevention and Sediment Control Policies**

Permit Sonoma provides the following information regarding the County's requirements for erosion prevention and sediment control during building and construction activities (County of Sonoma 2016) that apply to development within the County:

1. Perform erosion prevention and sediment control in accordance with Chapters 11 and 11a of the Sonoma County Code.
2. The approved plans shall conform to Permit Sonoma erosion prevention and sediment control BMPs guide as posted on the Permit Sonoma website.
3. The property owner is responsible for preventing storm water pollution generated from the construction site year-round. Work sites with inadequate erosion prevention and/or sediment control may be subject to a stop work order and/or additional inspection fees to verify compliance with Sonoma County Code.
4. If discrepancies occur between these notes, material referenced on the approved plans or manufacturer's recommendations, then the most protective shall apply.
5. At all times the property owner is responsible for obtaining and complying with the state of California NPDES general permit for storm water discharges associated with construction and land disturbing activities such as clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement.
6. The property owner must implement an effective combination of erosion prevention and sediment control on all disturbed areas during the rainy season (October 1 - April 30). Grading and drainage improvement shall be permitted during the rainy season only when on-site soil conditions permit the work to be performed in compliance with Sonoma County Code.
7. During the rainy season, storm water BMPs referenced or detailed in Permit Sonoma's BMP guide shall be implemented and functional on the site at all times and the area of erodible land exposed at any one time during the work shall not exceed one acre or 20 percent of the permitted work area, whichever is greater, and the time of exposure shall be minimized to the maximum extent practicable.
8. During the non-rainy season, on any day when the national weather service forecast is a chance of rain of 30 percent or greater within the next 24 hours, storm water BMPs referenced or detailed in Permit Sonoma's BMP guide shall be implemented and functional on the site to

prevent soil and other pollutant discharges. At all other times, BMPs should be stored on site in preparation for installation prior to rain events.

9. Erosion prevention and sediment control BMPs shall be inspected by the property owner before foretasted storm events and after storm events to ensure BMPs are functioning properly. Erosion prevention and sediment control BMPs that have failed or are no longer effective shall be promptly replaced. Erosion prevention and sediment control BMPs shall be maintained until disturbed areas are stabilized.
10. The limits of grading shall be defined and marked on site to prevent damage to surrounding trees and other vegetation. Preservation of existing vegetation shall occur to the maximum extent practicable. Any existing vegetation within the limits of grading that is to remain undisturbed by the work shall be identified and protected from damage by marking, fencing, or other measures.
11. Changes to the erosion prevention and sediment control plan may be made to respond to field conditions if the alternative BMPs are equivalent or more protective than the BMPs shown on the approved plans. Alternative BMPs are subject to review and approval by Permit Sonoma staff.
12. Discharges of potential pollutants from construction sites shall be prevented using source controls to the maximum extent practicable. Potential pollutants include but are not limited to: sediment, trash, nutrients, pathogens, petroleum hydrocarbons, metals, concrete, cement, asphalt, lime, paint, stains, glues, wood products, pesticides, herbicides, chemicals, hazardous waste, sanitary waste, vehicle or equipment wash water, and chlorinated water.
13. Entrance(s) to the construction site shall be maintained in a condition that will prevent tracking or flowing of potential pollutants off site. Potential pollutants deposited on paved areas within the county right-of-way, such as roadways and sidewalks, shall be properly disposed of at the end of each working day or more frequently as necessary. The contractor shall be responsible for cleaning construction vehicles leaving the site on a daily basis to prevent dust, silt, and dirt from being released or tracked off site. All sediment deposited on paved roadways shall be removed at the end of each working day or more often, as necessary.
14. All disturbed areas shall be protected by using erosion prevention BMPs to the maximum extent practicable, such as establishing vegetation coverage, hydroseeding, straw mulch, geotextiles, plastic covers, blankets, or mats. Temporary Revegetation shall be installed as soon as practical after vegetation removal, but in all cases prior to October 1. Permanent revegetation or landscaping shall be installed prior to final inspection.
15. Whenever it is not possible to use erosion prevention BMPs on exposed slopes, sediment control BMPs such as fiber rolls and silt fences shall be installed to prevent sediment migration. Fiber rolls and silt fences shall be trenched and keyed into the soil and installed on contour. Silt fences shall be installed approximately 2 to 5 feet from toe of slope.
16. Hydroseeding shall be conducted in a three-step process. First, evenly apply seed mix and fertilizer to the exposed slope. Second, evenly apply mulch over the seed and fertilizer. Third, stabilize the mulch in place. An equivalent single step process, with seed, fertilizer, water, and bonded fibers is acceptable.

Applications shall be broadcasted mechanically or manually at the rates specified below. Seed mix and fertilizer shall be worked into the soil by rolling or tamping. If straw is used as mulch, straw shall be derived from wheat, rice, or barley and be approximately six to eight inches in length. Stabilization of mulch shall be done hydraulically by applying an emulsion or

mechanically by crimping or punching the mulch into the soil. Equivalent methods and materials may be used only if they adequately promote vegetation growth and protect exposed slopes.

Materials and Application Rate (pounds per acre)

- Seed mix
    - *Bromus mollis* (blando brome) - 40 pounds
    - *Trifolium hirtum* (hykon rose clover) - 20 pounds
  - Fertilizer
    - 16-20-0 & 15% sulphur - 500 pounds
  - Mulch
    - Straw - 4000 pounds
  - Hydraulic stabilizing
    - Non-asphaltic, derived from plants
    - M-binder or sentinel - 75-100 pounds
  - Equivalent material
    - Per manufacturer
17. Dust control shall be provided by contractor during all phases of construction.
  18. Storm drain inlets shall be protected from potential pollutants until drainage conveyance systems are functional and construction is complete.
  19. Energy dissipaters shall be installed at storm drain outlets which may convey erosive storm water flow.
  20. Soil, material stockpiles, and fertilizing material shall be properly protected with plastic covers or equivalent BMPs to minimize sediment and pollutant transport from the construction site.
  21. Solid waste, such as trash, discarded building materials and debris, shall be placed in designated collection areas or containers. The construction site shall be cleared of solid waste daily or as necessary. Regular removal and proper disposal shall be coordinated by the contractor.
  22. A concrete washout area shall be designated to clean concrete trucks and tools. At no time shall concrete products and waste be allowed to enter county waterways such as creeks or storm drains. No washout of concrete, mortar mixers, or trucks shall be allowed on soil. Concrete waste shall be properly disposed.
  23. Proper application, cleaning, and storage of potentially hazardous materials, such as paints and chemicals, shall be conducted to prevent the discharge of pollutants.
  24. Temporary restrooms and sanitary facilities shall be located and maintained during construction activities to prevent the discharge of pollutants.
  25. Appropriate vehicle storage, fueling, maintenance, and cleaning areas shall be designated and maintained to prevent discharge of pollutants.

### 4.7.3 Impact Analysis

#### a. Methodology and Thresholds of Significance

The following thresholds are based on *CEQA Guidelines* Appendix G. For purposes of this EIR, impacts related to geology and soils are considered significant if implementation of the proposed project would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
  - b. Strong seismic ground shaking
  - c. Seismic-related ground failure, including liquefaction
  - d. Landslides
2. Result in substantial soil erosion or the loss of topsoil
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirectly risks to life or property
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). CEQA does not define “a unique paleontological resource or site.” However, SVP has defined a “significant paleontological resource” in the context of environmental review as follows:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are typically older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

For the purposes of this report, any activity that may destroy scientifically significant paleontological resources as defined above would be a significant impact.

## b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?
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**Impact GEO-1** NO POTENTIAL SITES ARE LOCATED IN AN ALQUIST-PRIOLO EARTHQUAKE FAULT ZONE, AND THEREFORE DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT DIRECTLY OR INDIRECTLY CAUSE SUBSTANTIAL ADVERSE EFFECTS INVOLVING RUPTURE OF A KNOWN EARTHQUAKE FAULT. THERE WOULD BE NO IMPACT.

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As discussed above in Section 4.7.1, *Setting*, Sonoma County applies the G District to sites located within an Alquist-Priolo Earthquake Fault Zone. None of the Potential Sites are within the G District. Therefore, development facilitated by the project would not directly or indirectly cause substantial adverse effects involving rupture of a known earthquake fault.

### Mitigation Measures

No mitigation measures are required.

### Significance After Mitigation

No impact would occur and mitigation is not required.

<b>Threshold:</b>	Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides; or, be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
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**Impact GEO-2** DEVELOPMENT FACILITATED BY THE PROJECT COULD RESULT IN EXPOSURE OF PEOPLE OR STRUCTURES TO A RISK OF LOSS, INJURY, OR DEATH FROM SEISMIC EVENTS. DEVELOPMENT FACILITATED BY THE PROJECT COULD BE LOCATED ON A GEOLOGIC UNIT OR SOIL THAT IS UNSTABLE OR COULD BECOME UNSTABLE RESULTING IN ON OR OFF-SITE LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION OR COLLAPSE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

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Development facilitated by the project would result additional residents who would be potentially exposed to the effects of fault rupture, seismic ground shaking, liquefaction, and landslides from local and regional earthquakes. Structures that would be built on steep slopes could be exposed to an existing risk of landslide or if improperly constructed could exacerbate existing landslide conditions, especially on the Potential Sites listed in Table 4.7-1, which are located in areas vulnerable to liquefaction and/or landslide hazard. New structures could also experience substantial damage during seismic ground shaking events, including development on the Potential Sites listed in Section 4.7.1, *Liquefaction* subsection. Development on the Potential Sites in many cases would replace older buildings subject to seismic damage with newer structures built to current seismic standards that could better withstand the adverse effects of strong ground shaking. Potential



structural damage and the exposure of people to the risk of injury or death from structural failure would be minimized by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be required to be designed to resist or absorb damaging forces from strong ground shaking and liquefaction.

In addition to compliance with mandatory CBC requirements, implementation of General Plan goals and policies would further reduce the potential for loss, injury, or death following a seismic event. General Plan goals and policies, including Policies PS-1a and 1b, would help to avoid development prone to seismic hazards. Implementation of these goals and policies, in addition to compliance with applicable laws and regulations, would minimize the potential for loss, injury, or death following a seismic event and would reduce this potential impact to a less-than-significant level.

## Mitigation Measures

No mitigation measures are required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b> Would the project result in substantial soil erosion or the loss of topsoil?
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**Impact GEO-3** DEVELOPMENT FACILITATED BY THE PROJECT WOULD INCLUDE GROUND DISTURBANCE SUCH AS EXCAVATION AND GRADING THAT WOULD RESULT IN LOOSE OR EXPOSED SOIL. THIS DISTURBED SOIL COULD BE ERODED BY WIND OR DURING A STORM EVENT, WHICH WOULD RESULT IN THE LOSS OF TOPSOIL. ADHERENCE TO PERMIT REQUIREMENTS AND COUNTY REGULATIONS WOULD ENSURE THIS IMPACT IS LESS THAN SIGNIFICANT.

Development facilitated by the project would involve construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities. Loose and disturbed soils are more prone to erosion and loss of topsoil by wind and water.

Construction activities that disturb one or more acres of land surface are subject to NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the SWRCB. Compliance with the permit requires each qualifying development project to file a Notice of Intent with the SWRCB. Permit conditions require preparation of a SWPPP, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-storm water management controls. As described in Section 4.10, *Hydrology and Water Quality*, Potential Sites would be subject to the applicable NPDES Municipal Separate Storm Sewer System Permit (based on site location) and Sonoma County Code Chapters 11 and 11A, which require measures to reduce and eliminate stormwater pollutants, installation of appropriate BMPs to control stormwater runoff from construction sites, maintain or reduce stormwater runoff volumes and rates, and that grading and drainage permits be obtained prior to construction. The County also requires development to comply with the Low Impact Development Manual, which satisfies Order R1-2015-0030, NPDES Permit CA0025054 through the requirement of various low impact development measures. Inspection of construction sites before and after storms is also required to identify storm water discharge from the construction activity and to identify and implement erosion controls, where necessary. Enforcement of these permit requirements would reduce soil erosion impacts.

Additionally, Sonoma County's requirements for erosion prevention and sediment control would apply to development facilitated by the project. These include erosion prevention and sediment control in accordance with Chapter 11 and 11a of the Sonoma County Code, conformance of plans to erosion prevention and sediment control BMPs, requirements for effective erosion prevention and sediment control on all disturbed areas during the rainy season (October 1 – April 30), and prohibition of grading and drainage improvement construction during the rainy season except when on-site soil conditions permit work to be performed in compliance with the Sonoma County Code. Adherence to the requirements of the Sonoma County BMPs would reduce the potential for development facilitated by the project to cause erosion or the loss of topsoil by ensuring proper management of loose and disturbed soil.

### Mitigation Measures

No mitigation measures are required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
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**Impact GEO-4** DEVELOPMENT FACILITATED BY THE PROJECT MAY RESULT IN THE CONSTRUCTION OF STRUCTURES ON EXPANSIVE SOILS, WHICH COULD CREATE A SUBSTANTIAL RISK TO LIFE OR PROPERTY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH COMPLIANCE WITH THE REQUIREMENTS OF THE CBC.

Development facilitated by the project that is constructed on expansive soils could be subject to damage or could become unstable when the underlying soil shrinks or swells. The adverse effects of expansive soils can be avoided through proper subsoil preparation, drainage, and foundation design. In order to design an adequate foundation, it must be determined if the site contains expansive soils through appropriate soil sampling and laboratory soils testing. Expansive soils are identified through expansion tests of samples of soil or rock, or by means of the interpretation of Atterberg limit tests, a standard soils testing procedure. The CBC includes requirements to address soil-related hazards, including testing to identify expansive soils and design specifications where structure are to be constructed on expansive soils. Typical measures to treat expansive soil conditions involve removal, proper fill selection, and compaction. In cases where soil remediation is not feasible, the CBC requires structural reinforcement of foundations to resist the forces of expansive soils. Compliance with the requirements of the CBC, as well as relevant General Plan policies (including Policies PS-1a, 1b, and 1e), would reduce impacts related to expansive soils to a less-than-significant level.

### Mitigation Measures

No mitigation measures are required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
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**Impact GEO-5** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT INCLUDE THE INSTALLATION OF SEPTIC TANKS OR ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS ON SOILS INCAPABLE OF SUPPORTING SUCH SYSTEMS. NO IMPACTS WOULD OCCUR.

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As described in Section 4.18, *Utilities and Service Systems*, development facilitated by the project would occur within designated Urban Service Areas, where existing wastewater infrastructure exists at most of the Potential Sites. Sites not located adjacent to wastewater infrastructure would require the construction of expanded wastewater facilities and infrastructure to serve future development (refer to Section 4.18, *Utilities and Service Systems*), as intended by the Urban Service Area designation. Therefore, the proposed project would not require the use of septic tanks or alternative wastewater disposal systems. Therefore, no impacts would occur.

### Mitigation Measures

No mitigation measures are required.

### Significance After Mitigation

No impact would occur and mitigation is not required.

<b>Threshold:</b>	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
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**Impact GEO-6** DEVELOPMENT FACILITATED BY THE PROJECT MAY DIRECTLY OR INDIRECTLY DESTROY A UNIQUE PALEONTOLOGICAL RESOURCE OR SITE OR UNIQUE GEOLOGIC FEATURE DURING GROUND-DISTURBING ACTIVITIES. IMPACTS WOULD BE POTENTIALLY SIGNIFICANT AND MITIGATION IS REQUIRED.

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Based on a paleontological literature review and existing fossil locality information available on the Paleobiology Database and University of California Museum of Paleontology database, the paleontological resource potential of the geologic units underlying the Potential Sites were determined in accordance with criteria set forth by the SVP (2010); refer to Table 4.7-2 for a description of the resource potential of geologic units within each Potential Site and Appendix GEO for additional information on paleontological resource potential.

Unique paleontological resources may be encountered during any ground-disturbing activities associated with development (e.g., grading, excavation, or other ground-disturbing construction activity) in areas assigned a high paleontological resource potential. Ground-disturbing activities may result in the destruction, damage, or loss of undiscovered scientifically significant paleontological resources. Identified units with a high paleontological resource potential (identified in Table 4.7-2) that experience ground disturbance at or near the surface could result in significant impacts to unique paleontological resources.

Unique paleontological resources may be encountered during ground-disturbing activities at shallow or unknown depths in areas mapped as having low paleontological resource potential at the surface. Early Holocene to late Pleistocene alluvial and marine terrace deposits (Qo, Qt) that may be present at shallow or unknown depths in areas mapped as middle to late Holocene deposits (Q, Qal) have a

high paleontological resource potential, and ground disturbance has potential to result in significant impacts to unique paleontological resources.

## Mitigation Measures

Mitigation Measures GEO-1 through GEO-6, as applicable, shall be implemented for ground disturbing activities within the Potential Sites underlain by geologic units with high paleontological resource potential. Implementation of Mitigation Measures GEO-1 through GEO-6 would not be required for Potential Sites underlain by geologic units with low paleontological resource potential (i.e., Quaternary young alluvium [Q, Qal]) or no paleontological potential (i.e., Pliocene to Miocene Sonoma Volcanics [Psv, Tsb]).

### *GEO-1 Paleontological Review of Project Plans*

For projects with proposed ground-disturbing activity, the project applicant shall retain a Qualified Professional Paleontologist to review proposed ground disturbance associated with development to:

1. Assess if the project will require paleontological monitoring;
2. If monitoring is required, to develop a project-specific Paleontological Resource Mitigation and Monitoring Program (PRMMP) as outlined in Mitigation Measure GEO-2;
3. Draft the Paleontological Worker Environmental Awareness Program as outlined in Mitigation Measure GEO-3; and
4. Define within a project specific PRMMP under what specific ground disturbing activity paleontological monitoring will be required and the procedures for collection and curation of recovered fossils, as described in Mitigation Measures GEO-4, GEO-5, and GEO-6.

The Qualified Paleontologist shall base the assessment of monitoring requirements on the location and depth of ground disturbing activity in the context of the paleontological potential and potential impacts outlined in this section. A qualified professional paleontologist is defined by the SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years (SVP 2010). The County shall review and approve the assessment before grading permits are issued.

### *GEO-2 Paleontological Resources Mitigation and Monitoring Program*

For those projects deemed to require a PRMMP under Mitigation Measure GEO-1 above, the Qualified Paleontologist shall prepare a PRMMP for submission to the County prior to the issuance of grading permits. The PRMMP shall include a pre-construction paleontological site assessment and develop procedures and protocol for paleontological monitoring and recordation. Monitoring shall be conducted by a qualified paleontological monitor who meets the minimum qualifications per standards set forth by the SVP.

The PRMMP procedures and protocols for paleontological monitoring and recordation shall include:

1. Location and type of ground disturbance requiring paleontological monitoring.
2. Timing and duration of paleontological monitoring.
3. Procedures for work stoppage and fossil collection.

4. The type and extent of data that should be collected with recovered fossils.
5. Identify an appropriate curatorial institution.
6. Identify the minimum qualifications for qualified paleontologists and paleontological monitors.
7. Identify the conditions under which modifications to the monitoring schedule can be implemented.
8. Details to be included in the final monitoring report.

Prior to issuance of a grading permit, copies of the PRMMP shall be submitted to the County for review and approval as to adequacy.

#### *GEO-3 Paleontological Worker Environmental Awareness Program (WEAP)*

Prior to any ground disturbance within Potential Sites underlain by geologic units with high paleontological resource potential, the applicant shall incorporate information on paleontological resources into the Project's Worker Environmental Awareness Training (WEAP) materials, or a stand-alone Paleontological Resources WEAP shall be submitted to the County for review and approval. The Qualified Paleontologist or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The Paleontological WEAP training shall be fulfilled simultaneously with the overall WEAP training, or at the first preconstruction meeting at which a Qualified Paleontologist attends prior to ground disturbance. Printed literature (handouts) shall accompany the initial training. Following the initial WEAP training, all new workers and contractors must be trained prior to conducting ground disturbance work. A sign-in sheet for workers who have completed the training shall be submitted to the County upon completion of WEAP administration.

#### *GEO-4 Paleontological Monitoring*

Paleontological monitoring shall only be required for those ground-disturbing activities identified under Mitigation Measure GEO-1, where construction activities (i.e., grading, trenching, foundation work) are proposed in previously undisturbed (i.e., intact) sediments with high paleontological sensitivities. Monitoring shall be conducted by a qualified professional paleontologist (as defined above) or by a qualified paleontological monitor (as defined below) under the supervision of the qualified professional paleontologist. Monitoring may be discontinued on the recommendation of the qualified professional paleontologist if they determine that sediments are likely too young, or conditions are such that fossil preservation would have been unlikely, or that fossils present have little potential scientific value. The monitoring depth required for each of the Potential Sites is provided in Table 4.7-3, in addition to the associated geologic unit.

**Table 4.7-3 Potential Sites Subject to Mitigation**

Potential Rezone Site(s)	Sensitive Geologic Unit(s)	Recommended Monitoring
GEY-1 through GEY-3, GUE-2 through GUE-4, LAR-1 through LAR-8, SAN-1, SAN-3, SAN-5, SAN-10	Quaternary young alluvium (Q, Qal)	None
GEY-4	Quaternary young alluvium (Q, Qal) Early Cretaceous to Late Jurassic Great Valley Complex (KJgvc)	None
GUE-1	Quaternary old alluvial and marine terrace deposits (Qt)	All excavations within native (intact) sediments
FOR-1 through FOR-6, GRA-1, GRA-3 through GRA-5, PET-1 through PET-3	Wilson Grove Formation (Twg, Pwg)	All excavations within native (intact) sediments
GRA-2	Quaternary young alluvium (Qal)	None
SAN-2, SAN-4, SAN-6 through SAN-9, AGU-1 through AGU-3, SON-1 through SON-4	Quaternary old alluvium (Qo)	All excavations within native (intact) sediments
GLE-1, GLE-2	Huichica and Glen Ellen Formations (QT)	All excavations within native (intact) sediments
PEN-1 through PEN-9	Petaluma Formation (Pp)	All excavations within native (intact) sediments
PET-4	Wilson Grove Formation (Twg, Pwg) Pliocene to Miocene Sonoma Volcanics (Psv, Tsb) mapped within the southeast corner	All excavations within native (intact) sediments None

The following outlines minimum monitor qualifications and procedures for fossil discovery and treatment:

1. **Monitoring.** Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The Qualified Paleontologist will determine the duration and timing of the monitoring based on the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, they may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Refer to Table 4.7-2 and Table 4.7-3 for a paleontological resource potential summary and recommendations for each of the 59 Potential Sites.
2. **Fossil Discoveries.** In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Paleontologist shall evaluate the find before restarting construction activity in the area. If the Qualified Paleontologist determines that the fossil(s) is (are) scientifically significant; including identifiable specimens of vertebrate fossils, uncommon invertebrate, plant, and trace fossils; the Qualified Paleontologist (or paleontological monitor) shall recover them following standard field procedures for collecting paleontological as outlined in the PRMMP prepared for the project.
3. **Salvage of Fossils.** Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case



the Qualified Paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. If fossils are discovered, the Qualified Paleontologist (or Paleontological Monitor) shall recover them as specified in the project's PRMMP.

#### *GEO-5 Preparation and Curation of Recovered Fossils*

Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Paleontologist.

#### *GEO-6 Final Paleontological Mitigation Report*

Upon completion of ground disturbing activity (and curation of fossils if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the County prior to occupancy permits. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

### **Significance After Mitigation**

With implementation of Mitigation Measures GEO-1 through GEO-6, impacts to paleontological resources from development facilitated by the project would be reduced or avoided and impacts would be less than significant after mitigation. Mitigation Measures GEO-1 through GEO-6 do not apply to areas of Potential Site PET-4 which is underlain by geologic units with no paleontological potential. These measures also do not apply to any proposed ground-disturbing work within previously disturbed sediments.

### **4.7.4 Cumulative Impacts**

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative geology and soils impacts is limited to development sites in close proximity to Potential Sites. This geographic scope is appropriate for geology and soils because geology and soils impacts, such as erosion and loss of topsoil, can affect adjacent sites but do not impact regional areas as a whole. Cumulative development within this geographic scope include development envisioned under the County General Plan and buildout of city general plans.

Cumulative development would gradually increase population and therefore gradually increase the number of people exposed to potential geological hazards, including effects associated with seismic events such as seismic shaking, liquefaction, and landslides. However, cumulative development projects would be required to conform with the current CBC, the County General Plan, and Sonoma County Code, as well as other laws and regulations mentioned above, ensuring that cumulative impacts associated with seismic shaking, liquefaction, and landslides would be less than significant.

Cumulative impacts would be less than significant, and the proposed project would not make a cumulatively considerable contribution to a significant cumulative impact related to seismic hazards.

Cumulative development would also increase ground disturbance in the vicinity of the Potential Sites, which would contribute to erosion and loss of topsoil in the area. However, cumulative development projects would be required to obtain coverage under the NPDES Construction General Permit, prepare a SWPPP with site-specific BMPs, and conform with the Sonoma County Code, as well as the erosion prevention and sediment control requirements. These standard requirements would ensure that cumulative impacts associated with erosion and loss of topsoil would be less than significant. Accordingly, cumulative impacts would be less than significant, and the proposed project would not cause a cumulatively considerable contribution to a significant cumulative impact related to erosion and loss of topsoil.

Compliance with existing state and local laws, regulations, and policies such as the CBC and the Sonoma County General Plan would ensure that the impacts from implementation of the cumulative projects on potentially expansive soil would be minimized by requiring the submittal and review of detailed soils and/or geologic reports prior to construction. Therefore, cumulative impacts resulting from expansive soils would be less than significant, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to expansive soils.

Cumulative projects would also increase the potential for impacts to paleontological resources through construction activities in the area. As described in Impact GEO-6, some of the Potential Sites are underlain by geologic units with high paleontological resource potential, and development facilitated by the project could result in a cumulatively considerable contribution to a significant cumulative impact in the absence of mitigation. Mitigation Measures GEO-1 through GEO-6 would reduce impacts of the project on paleontological resources to a less than significant level, and it is assumed similar measures would be taken for cumulative development projects. Therefore, although cumulative projects could result in significant cumulative impacts to paleontological resources, project-specific mitigation for cumulative development would limit this impact to less than significant, and implementation of Mitigation Measures GEO-1 through GEO-6 would ensure the project would not have a cumulatively considerable contribution to a significant cumulative impact related to paleontological resources.

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## 4.8 Greenhouse Gas Emissions

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This section analyzes the potential for the project to generate greenhouse gas (GHG) emissions in excess of standards or to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The analysis in this section is based in part on modeling using the California Emissions Estimator Model (CalEEMod); modeling outputs are included in Appendix AQ.

### 4.8.1 Setting

#### a. Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate changes continuously, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed substantial acceleration in the rate of warming during the past 150 years (Intergovernmental Panel on Climate Change [IPCC] 2014). The understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), fluorinated gases such as hydrofluorocarbons and perfluorocarbons, and sulfur hexafluoride (SF<sub>6</sub>). Water vapor is excluded from the list of GHGs because it only stays in the atmosphere for a short time and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Both natural processes and human activities emit GHGs. CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. CO<sub>2</sub> emissions are largely by-products of fossil fuel combustion, whereas CH<sub>4</sub> results from off-gassing associated with agricultural practices and landfills. Observations of CO<sub>2</sub> concentrations, globally averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. Recently observed increases in CH<sub>4</sub> and N<sub>2</sub>O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment used new projections of future climate change that have become more detailed as the models have become more advanced.

Manmade GHGs include fluorinated gases, such as SF<sub>6</sub> many of which have greater heat-absorption potential than CO<sub>2</sub>. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally 100 years). Because GHG absorb different amounts of heat, a common

reference gas (CO<sub>2</sub>) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as “carbon dioxide equivalent” (CO<sub>2</sub>e), and is the amount of a GHG emitted multiplied by its GWP. CO<sub>2</sub> has a 100-year GWP of one. By contrast, CH<sub>4</sub> has a GWP of 25, meaning its global warming effect is 25 times greater than CO<sub>2</sub> on a molecule per molecule basis (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates the earth’s temperature. Without the natural heat trapping effect of GHGs, Earth’s surface would be about 93 degrees Fahrenheit (°F) cooler (California Environmental Protection Agency 2006). However, emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

## Greenhouse Gas Inventory

### *Global*

Worldwide anthropogenic emissions of GHG were approximately 46,000 million metric tons (MMT or gigatonne) of CO<sub>2</sub>e in 2010 (IPCC 2014). CO<sub>2</sub> emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO<sub>2</sub> was the most abundant accounting for 76 percent of total 2010 emissions. CH<sub>4</sub> emissions accounted for 16 percent of the 2010 total, while N<sub>2</sub>O and fluorinated gases account for six and two percent, respectively (IPCC 2014).

### *Federal*

Total United States GHG emissions were 6,456.7 MMT of CO<sub>2</sub>e in 2017 (United States Environmental Protection Agency [USEPA] 2019). Since 1990, total United States emissions have increased by an average annual rate of 0.04 percent, for a total increase of 1.3 percent since 1990. However, emissions decreased by 0.5 percent from 2016 to 2017. The decrease from 2016 to 2017 was a result of multiple factors, including (1) a continued shift from coal to natural gas and other non-fossil fuel energy sources in the electric power sector and (2) milder weather in 2017 resulting in overall decreased electricity usage. In 2017, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of GHG emissions while the residential and commercial end-use sectors accounted for 15 percent and 16 percent of GHG emissions, respectively, with electricity emissions distributed among the various sectors.

### *California*

Based on the California Air Resource Board’s (CARB) California GHG Inventory for 2000-2017, California produced 424.1 MMT of CO<sub>2</sub>e in 2017. Transportation is the major source of GHG emissions in California, contributing 41 percent of the state’s total GHG emissions. The industrial sector is the second largest source, contributing 24 percent of the state’s GHG emissions, and electric power accounts for approximately 15 percent (CARB 2019). California emissions are due in part to its large size and large population compared to other states. In 2016, the State of California achieved its 2020 GHG emission reduction targets as emissions fell below 431 MMT of CO<sub>2</sub>e (CARB 2019).

### *Sonoma County*

In July 2020, the Regional Climate Protection Authority (RCPA) updated the Sonoma County GHG inventory for the year 2018 emissions (RCPA 2020). The RCPA established a baseline

communitywide GHG inventory for calendar year 2010 and 1990 as part of the Climate Action 2020 and Beyond development process. The RCPA completed a 2018 inventory update to help track progress towards achieving the short and long-term emissions reduction goals established in Climate Action 2020 and Beyond. Unincorporated Sonoma County emissions in 2018 were 0.858 MMT CO<sub>2</sub>e, slightly above 2015 emissions of 0.850 MMT CO<sub>2</sub>e. Relative to 1990 emissions, 2018 emissions decreased by 20 percent. For Sonoma County as a whole, on-road transportation was the largest GHG emissions sector, followed by building energy use, and livestock and fertilizer.

## Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature for the decade from 2006 to 2015 was approximately 0.87 degrees Celsius (°C; 0.75°C to 0.99°C) higher than the global mean surface temperature over the period from 1850 to 1900. Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature obtained from station observations agree that Land-Surface Air Temperature as well as sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 1°F to 2°F higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include loss in water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2019). While there is scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state as well as regionally-specific climate change case studies, including for the greater San Francisco Bay Area region that includes Sonoma County where the project is located (State of California 2018). Below is a summary of some of the potential effects that could be experienced in California and the San Francisco Bay Area region because of climate change.

### *Air Quality*

Higher temperatures are conducive to air pollution formation and could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. As temperatures have increased in recent years, the area burned by wildfires has increased, and wildfires have been occurring at higher elevations in the Sierra Nevada Mountains (State of California 2019). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality would worsen. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate



pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks (California Natural Resources Agency 2009).

In the San Francisco Bay Area region, changes in meteorological conditions under climate change will affect future air quality. Hotter future temperatures will act to increase surface ozone concentrations (State of California 2018). Increased wildfires from higher temperatures and more extreme droughts will lead to further air quality degradation during such fires.

### *Water Supply*

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of natural and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. For example, many southern California cities have experienced their lowest recorded annual precipitation twice within the past decade; however, in a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources 2008). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. However, the average early spring snowpack in the western United States, including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 5.9 inches along the central and southern California coast (State of California 2019). The Sierra snowpack provides most of California's water supply by accumulating snow during wet winters and releasing it slowly during dry springs and summers. A warmer climate is predicted to reduce the fraction of precipitation falling as snow and result in less snowfall at lower elevations, thereby reducing the total snowpack (California Department of Water Resources 2008; State of California 2019). The State of California projects that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from the historical average by 2050 (State of California 2019).

Like the rest of the State, the San Francisco Bay Area is expected to face a challenging combination of decreased water supply and increased water demand (State of California 2018). Melting snowpack, increasing seawater intrusion into groundwater, increasing rates of evapotranspiration, and levee failures or subsidence that contaminate Delta supplies will affect both the quantity of water available and the quality of supplies. Future increases in temperature, regardless of whether total precipitation goes up or down, will likely cause longer and deeper droughts, posing major problems for water supplies, natural ecosystems, and agriculture.

### *Hydrology and Sea Level Rise*

As discussed above, climate change could potentially affect the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Climate change has the potential to induce substantial sea level rise in the coming century (State of California 2019). The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately

3.2 millimeters per year, which is double the observed twentieth century trend of 1.6 millimeters per year (World Meteorological Organization [WMO] 2013). As a result, global mean sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO 2013). Sea levels are rising faster now than in the previous two millennia, and this rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise of 10 to 37 inches by 2100 (IPCC 2018). A rise in sea levels could erode 31 to 67 percent of southern California beaches, flooding approximately 370 miles of coastal highways during 100-year storm events, jeopardizing California's water supply due to salt water intrusion, and inducing groundwater flooding and/or exposure of buried infrastructure (State of California 2019). Increased CO<sub>2</sub> emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

In the San Francisco Bay Area, much of the transportation system — airports, roads, and railways — is concentrated along the bay where flooding from sea level rise and storm surge is a major vulnerability (State of California 2018). The effects of climate change will further exacerbate impacts from sea level rise and storm surge in the region.

### *Agriculture*

California has a \$50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2018). Higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent; water demand could increase as hotter conditions lead to the loss of soil moisture; crop-yield could be threatened by water-induced stress and extreme heat waves; and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2019). Temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, thereby affecting their quality (California Climate Change Center 2006).

In the San Francisco Bay Area region more frequent droughts and extreme temperatures could affect wine production, where 70 percent of California's grapes are grown (State of California 2018). This and other climate effects can contribute to higher food prices and shortages.

### *Ecosystems and Wildlife*

Climate change and potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the annual average maximum daily temperatures in California could rise by 4.4 to 5.8°F in the next 50 years and by 5.6 to 8.8°F in the next century (State of California 2019). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals related to (1) timing of ecological events; (2) geographic distribution and range; (3) species' composition and the incidence of nonnative species within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2019).

Many of the impacts identified above would impact ecosystems and wildlife in the San Francisco Bay Area region. Increases in wildfire would further remove sensitive habitat; increased severity in droughts would potentially starve plants and animals of water; and sea level rise will affect sensitive coastal ecosystems, especially wetlands.

## 4.8.2 Regulatory Setting

### a. Federal Regulations

#### Federal GHG Emissions Regulation

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 497) held that the USEPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that establishes the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of best available control technology.

#### Safer Affordable Fuel-Efficient Vehicle Rule

On September 27, 2019, the USEPA and the National Highway Safety Administration published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program.” The Part One Rule revokes California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, CARB released off-model adjustment factors on November 20, 2019, to adjust criteria air pollutant emissions outputs from the EMFAC model. The Final SAFE Rule (i.e., Part Two) then relaxed federal GHG emissions and Corporate Average Fuel Economy standards to increase in stringency at only about 1.5 percent per year from model year 2020 levels over model years 2021-2026 (CARB 2020a). The previously established emission standards and related fuel economy standards would have achieved about four percent per year improvements through model year 2025. Therefore, CARB has prepared off-model CO<sub>2</sub> emissions adjustment factors for both the EMFAC2014 and EMFAC2017 models to account for the impact of the SAFE Vehicles Rule (CARB 2020b). With the incorporation of these adjustment factors, operational emission factors for CO<sub>2</sub> generated by light-duty automobiles, light-duty trucks, and medium-duty trucks associated with project-related vehicle trips may increase by approximately one percent (in 2020) up to as much as 17 percent (in 2050) compared to non-adjusted estimates. These increases would not alter the significance of the operational GHG emissions from development facilitated by the project as discussed further below.

### b. State Regulations

#### California’s Advanced Clean Cars program (Assembly Bill 1493)

Assembly Bill (AB) 1493 (2002), California’s Advanced Clean Cars program (referred to as Pavley), requires CARB to develop and adopt regulations to achieve “the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” On June 30, 2009, USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles

beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as “Low Emission Vehicle III GHG”, regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emission Vehicle, Zero Emissions Vehicles, and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011). The implementation of these rules is currently delayed due to the SAFE Vehicle Rule, described under *Federal Regulations*.

## **California Global Warming Solutions Act of 2006**

California’s major initiative for reducing GHG emissions is outlined in AB 32, the “California Global Warming Solutions Act of 2006,” which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO<sub>2</sub>e. The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

Senate Bill (SB) 32, signed into law on September 8, 2016, extends AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of 6 MT CO<sub>2</sub>e by 2030 and 2 MT CO<sub>2</sub>e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State (CARB 2017).

## **Renewables Portfolio Standard Program (Senate Bill 100)**

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State’s Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

## **PRC Sections 21083.05 and 21097 (Senate Bill 97)**

SB 97, signed in August 2007, added Section 21083.05 to and repealed Section 21097 from the Public Resources Code (PRC). This bill acknowledges that climate change is an environmental issue

that requires analysis in CEQA documents. In March 2010, the California Natural Resources Agency adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

### **Senate Bill 375**

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 directs each of the State's 18 major Metropolitan Planning Organizations to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan. On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. ABAG was assigned targets of a 10 percent reduction in GHGs from transportation sources by 2020 and a 19 percent reduction in GHGs from transportation sources by 2035. In the ABAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

### **PRC Division 30 Part 3 Chapter 13.1 and Health and Safety Code Sections 39730.5-8 (Senate Bill 1383)**

Adopted in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the strategy to achieve the following reduction targets by 2030:

1. Methane – 40 percent below 2013 levels
2. Hydrofluorocarbons – 40 percent below 2013 levels
3. Anthropogenic black carbon – 50 percent below 2013 levels

The bill also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

### **Executive Order B-55-18**

On September 10, 2018, Governor Brown issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

### **California Integrated Waste Management Act (Assembly Bill 341)**

The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; diversion of 50 percent of all solid waste on and after January 1, 2000; and diversion of 75 percent of all solid waste by 2020, and annually thereafter. CalRecycle is required to develop strategies to implement AB 341, including source reduction.

## California Building Standards Code

The California Code of Regulations, Title 24, is referred to as the California Building Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. The California Building Code's energy efficiency and green building standards are outlined below.

### *Part 6 – Building Energy Efficiency Standards*

The California Code of Regulations, Title 24, Part 6 is the Building Energy Efficiency Standards. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings to reduce California's energy demand. The Building Energy Efficiency Standards is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC).

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic (PV) systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential PV systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); (3) residential and nonresidential ventilation requirements; (4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar PV system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

### *Part 11 – California Green Building Standards*

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Code). The 2016 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require the following practices:

1. 20 percent reduction in indoor water use relative to specified baseline levels
2. 50 percent construction/demolition waste diverted from landfills
3. Inspections of energy systems to ensure optimal working efficiency
4. Use of low pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards
5. Implementation of dedicated circuitry to facilitate installation of electric vehicle (EV) charging stations in newly constructed attached garages for single-family and duplex dwellings



6. Installation of EV charging stations at least three percent of the parking spaces for all new multi-family developments with 17 or more units

The voluntary standards require the following:

1. Tier I—15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, cool/solar reflective roof
2. Tier II—30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, and 30 percent cement reduction, cool/solar reflective roof

Similar to the compliance reporting procedure for demonstrating Building Energy Efficiency Standards compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

### c. Local Regulations

#### Bay Area Air Quality Management District

In 2013, the Bay Area Air Quality Management District (BAAQMD) adopted a resolution that builds on state and regional climate protection efforts by:

1. Setting a goal for the Bay Area region to reduce GHG emissions by 2050 to 80 percent below 1990 levels
2. Developing a Regional Climate Protection Strategy to make progress towards the 2050 goal, using BAAQMD's Clean Air Plan to initiate the process
3. Developing a 10-point work program to guide the BAAQMD's climate protection activities in the near-term

The BAAQMD is currently developing the Regional Climate Protection Strategy and has outlined the 10-point work program, which includes policy approaches, assistance to local governments, and technical programs that will help the region make progress toward the 2050 GHG emissions goal.

The BAAQMD is responsible for enforcing standards and regulating stationary sources in its jurisdiction, including the San Francisco Bay Area Air Basin and the southern portion of Sonoma County (from approximately Windsor to the southern county border). Larkfield, Graton, Santa Rosa, Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma sites fall within this jurisdiction, as described in Section 4.3, *Air Quality*. The BAAQMD regulates GHG emissions through specific rules and regulations, as well as project and plan level emissions thresholds for GHGs to ensure that new land use development in the San Francisco Bay Area Air Basin contributes to its fair share of emissions reductions (BAAQMD 2017).

## Northern Sonoma County Air Pollution Control District

The Northern Sonoma County Air Pollution Control District (NSCAPCD) participates in an advisory role to help planners and local government with complex air quality issues, including GHGs (NSCAPCD 2020). The NSCAPCD commonly assists planners with zoning and land use; to assist in the establishment of GHG thresholds; to prevent and address air quality nuisances, and to identify potential pollution impacts to sensitive communities. The NSCAPCD also crafts incentive programs with GHG reduction co-benefits under its Vehicle Pollution Mitigation Program, state Carl Moyer Program, and other non-permit funded programs. For example, NSCAPCD's 3-2-1 Go Green! EV incentive program reduces GHGs by removing combustion vehicles from the roads and supports development of an EV charging infrastructure. NSCAPCD's 3-2-1 Burn Clean! wood stove program destroys old dirty stoves, reduces black soot, a climate change pollutant, and provides an option to electrify heating. The Carl Moyer program provides options to remove dirty diesel engines from operation with cleaner engines or conversion to electric operation.

## Sonoma County Climate Change Action Resolution

The RCPA was formed in 2009 to coordinate countywide climate protection efforts among the County's nine cities and multiple agencies. The RCPA helps to set goals, pools resources, and formalizes partnerships in the county as it aims to create local solutions to complement State, federal, and private sector actions. Coordinating with RCPA, the Sonoma County Board of Supervisors adopted the Climate Change Action Resolution (County of Sonoma 2018). The resolution is intended to help create countywide consistency and clear guidance about coordinated implementation of the GHG reduction measures.

The resolution includes 20 goals to reduce GHG emissions, including the following:

1. Increase building energy efficiency
2. Increase renewable energy use
3. Switch equipment from fossil fuel to electricity
4. Reduce travel demand through focused growth
5. Encourage a shift toward low carbon transportation options
6. Increase vehicle and equipment fuel efficiency
7. Encourage a shift toward low carbon fuels in vehicles and equipment
8. Reduce idling
9. Increase solid waste diversion
10. Increase capture and use of methane from landfills
11. Reduce water consumption
12. Increase recycled water and greywater use
13. Increase water and wastewater infrastructure efficiency
14. Increase use of renewable energy in water and wastewater systems
15. Reduce emissions from livestock operations
16. Reduce emissions from fertilizer use
17. Protect and enhance the value of open and working lands
18. Promote sustainable agriculture
19. Increase carbon sequestration

20. Reduce emissions from the consumption of goods and services

The resolution also has the objective of increasing resilience to climate change by pursuing local actions that support the following nine goals:

1. Promote healthy, safe communities
2. Protect water resources
3. Promote as sustainable, climate resilient economy
4. Mainstream the use of climate projections
5. Manage natural buffer zones around community resources
6. Promote agricultural preparedness and food security
7. Protect infrastructure
8. Increase emergency preparedness and prevention
9. Monitor climate change and its effects

## Sonoma County General Plan 2020

Section 8 of the Open Space and Resource Conservation Element of the Sonoma County General Plan 2020 contains energy goals that would have the effect of reducing GHG emissions, including:

**Goal OSRC-14: Promote energy conservation and contribute to energy demand reduction in the County.**

**Objective OSRC-14.1:** Increase energy conservation and improve energy efficiency in County government operations.

**Objective OSRC-14.2:** Encourage County residents and businesses to increase energy conservation and improve energy efficiency.

**Objective OSRC-14.3:** Reduce the generation of solid waste and increase solid waste reuse and recycling.

**Objective OSRC-14.4:** Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2015.

Policy OSRC-14c: Continue to purchase and utilize hybrid, electric, or other alternative fuel vehicles for the County vehicle fleet; and encourage County residents and businesses to do the same.

Policy OSRC-14d: Support project applicants in incorporating cost effective energy efficiency that may exceed State standards.

Policy OSRC-14e: Develop energy conservation and efficiency design standards for new development.

Policy OSRC-14f: Use the latest green building certification standards, such as the Leadership in Energy and Environmental Design (LEED) standards, for new development.

Policy OSRC-14i: Manage timberlands for their value both in timber production and offsetting greenhouse gas emissions.

## Plan Bay Area

Plan Bay Area 2040 is a state-mandated, integrated long-range transportation, land-use, and housing plan that would support a growing economy, provide more housing and transportation

choices and reduce transportation-related pollution in the nine-county San Francisco Bay Area (Association of Bay Area Governments [ABAG] 2017). The SCS builds on earlier efforts to develop an efficient transportation network and grow in a financially and environmentally responsible way. Plan Bay Area 2040 would be updated every four years to reflect new priorities. A goal of the SCS is to “reduce vehicles miles traveled (VMT) per capita by 10 percent” (ABAG 2017). The Metropolitan Transportation Commission’s (MTC) Climate Initiatives Program key goals are to reduce transportation related emissions and vehicle miles traveled and encourage the use of cleaner fuels, which would reduce regional GHG emissions.

### 4.8.3 Impact Analysis

#### a. Thresholds of Significance

To determine whether a project would result in a significant impact to air quality, Appendix G of the CEQA Guidelines requires consideration of whether a project would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs

Individual projects do not generate enough GHG emissions to create significant project-specific environment effects. However, the environmental effects of a project’s GHG emissions can contribute incrementally to cumulative environmental effects that are significant, contributing to climate change, even if an individual project’s environmental effects are limited (*CEQA Guidelines* Section 15064[h][1]). The issue of a project’s environmental effects and contribution towards climate change typically involves an analysis of whether a project’s contribution towards climate change is cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines* Section 15064[h][1]).

*CEQA Guidelines* Section 15064.4 recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which the project may increase or reduce GHG emissions; whether a project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHG emissions. *CEQA Guidelines* Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, as long as any threshold chosen is supported by substantial evidence (see *CEQA Guidelines* Section 15064.7[c]).

Neither the County nor NSCAPCD have adopted a numeric threshold of significance for determining impacts for GHG emissions. In the BAAQMD 2017 *CEQA Air Quality Guidelines*, the BAAQMD outlines an approach to determine the significance of projects. The BAAQMD recommends that lead agencies determine appropriate GHG emissions thresholds of significance based on substantial evidence in the record. The BAAQMD has not established a quantitative significance threshold for evaluating construction-related emissions. The following significance thresholds established in the BAAQMD 2017 *CEQA Air Quality Guidelines* for operational GHG emissions from land use development projects within the San Francisco Bay Area Air Basin are the most appropriate

thresholds for use in determining the significance of project-level or plan-level impacts (BAAQMD 2017b):

1. Project-level
  - a. Compliance with a qualified GHG reduction strategy
  - b. Annual emissions less than 1,100 MT of CO<sub>2</sub>e per year
  - c. Annual emissions less than 4.6 MT of CO<sub>2</sub>e per service population (residents and employees) per year
2. Plan-level
  - a. Compliance with a qualified GHG reduction strategy
  - b. Annual emissions less than 6.6 MT of CO<sub>2</sub>e per service population (residents and employees) per year

However, the BAAQMD's thresholds of significance were established based on achieving the 2020 GHG emission reduction targets set forth in the AB 32 Scoping Plan, and not the 2030 reduction targets of the SB 32 Scoping Plan. Therefore, although the BAAQMD has not yet quantified a threshold for 2030, reduction of the per service population thresholds by 40 percent would be consistent with state goals detailed in SB 32. As such, the adjusted per service population thresholds would be 2.8 MT of CO<sub>2</sub>e per service population at the project-level and 4.0 MT of CO<sub>2</sub>e per service population at the plan-level. As a Program EIR, this CEQA document analyzes the proposed project from a plan-level perspective since the project will identify sites to be added to the County's General Plan Housing Element site inventory to comply with State law and will implement current General Plan Policies and Programs that require the County to identify urban sites near jobs and transit which may appropriately accommodate additional housing. As such, the BAAQMD's Plan-level thresholds are applicable, reasonable and appropriate for use in this analysis. But in addition, because this document may be used for tiering and/or streamlining of future CEQA review for individual housing sites, for informational purposes only, the project's GHG emissions are also compared to the BAAQMD's project-level threshold.

## **b. Methodology**

GHG emissions for development facilitated by the project (construction and operation) were calculated using CalEEMod. The model calculates emissions of the following GHGs: CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub>, which are combined using each GHGs' GWP and reported as CO<sub>2</sub>e. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide appendices A, D, and E (BREEZE Software 2017). GHG emissions include water and solid waste sources and area, energy, and mobile sources. The input data and subsequent construction and operation GHG emission estimates for development facilitated by the project are discussed below and in Section 4.3, *Air Quality*. CalEEMod output files are included in Appendix AQ.

## **Construction Emissions**

Project construction would primarily generate GHG emissions from construction equipment operation on site, construction worker vehicle trips to and from the site, and from export of materials off site. Construction input data for CalEEMod include but are not limited to: the anticipated start and finish dates of construction activity; inventories of construction equipment to be used; areas to be excavated and graded; and volumes of materials to be exported from and imported to the Potential Sites. The analysis assessed maximum daily emissions from individual

construction activities, including demolition, site preparation, grading, building construction, paving, and architectural coating. Construction equipment estimates are based on surveys of construction projects within California conducted by members of California Air Pollution Control Officers Association (BREEZE Software 2017).

The analysis consisted of a modeling the full buildout of development facilitated by the project, which equals 2,975 residential units. The units were conservatively modeled as single-family units, as single-family units require additional land, energy, and mobile trips than multi-family units. The default construction schedule in CalEEMod was adjusted for the 10-year buildout timeline of the project. Default construction equipment was used. It was assumed that 5,000 square feet of existing structures would be demolished for each day of demolition, and that there would be 24 hauling trips per day for each day of grading.

## Operational Emissions

### *Energy Sources*

Emissions from energy use include electricity and natural gas use. The emissions factors for natural gas combustion are based on USEPA's AP-42 (*Compilation of Air Pollutant Emissions Factors*) and California Climate Action Registry General Reporting Protocol (2009). Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt-hour (kWh; BREEZE Software 2017). The electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies. CalEEMod currently incorporates California's 2016 Title 24 building energy efficiency standards. The 2019 Title 24 standards are more stringent and would reduce in less electricity consumption than the 2016 standards; for a conservative analysis, no additional reductions were taken over the 2016 Title 24 standards.

Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kWh. Pacific Gas & Electric Company (PG&E) or Sonoma Clean Power would serve development facilitated by the project. Because PG&E would result in higher carbon intensity per kWh, the company's specific energy intensity factors (i.e., the amount of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O per kWh) were used in the calculations of GHG emissions as a conservative assumption. Per SB 100, the statewide Renewable Portfolio Standard (RPS) program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. However, the default energy intensity factors included in CalEEMod are based on 2009 data, a point when PG&E had only achieved a 14 percent procurement of renewable energy. To account for continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced to 2030, the year in which the project's development is analyzed against GHG reduction goals. PG&E energy intensity factors that include this reduction are shown in Table 4-8-1.

In accordance with Section 150.1(c)(14) of the 2019 Building Energy Efficiency Standards, development facilitated by the project would be required to install PV systems on all low-rise residential structures up to three stories equal to the expected electricity usage. As such, development facilitated by the project would include PV systems that equal a combined energy use of approximately 4,137 kilowatts to offset energy use. Assuming the average PV system generates approximately 1,800 kWh per kilowatt per year, the combined 4,137-kilowatt system would generate approximately 7,445,985 kWh of electricity per year. Therefore, the energy reduction achieved by the requisite on-site PV system was included in CalEEMod as "mitigation" for the energy



use emissions from development facilitated by the project, which is a term of art for the modeling input and is not equivalent to mitigation measures that may apply to the CEQA impact analysis.

**Table 4-8-1 PG&E Energy Intensity Factors**

	2009 (lbs/MWh) <sup>1</sup>	2030 (lbs/MWh) <sup>1,2</sup>
Percent Procurement	14	60
Carbon Dioxide (CO <sub>2</sub> )	641.35	298.5
Methane (CH <sub>4</sub> )	0.029	0.014
Nitrous Oxide (N <sub>2</sub> O)	0.006	0.003

<sup>1</sup> MWh = megawatt hour

<sup>2</sup> RPS target mandated by SB 100

Source: Appendix AQ

### *Area Sources*

Emissions associated with area sources, including space and water heating, consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and use standard emission rates from CARB, USEPA, and emission factor values provided by the local air district (BREEZE Software 2017).

### *Waste Sources*

GHG emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (BREEZE Software 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by CalRecycle.

### *Water and Wastewater Sources*

GHG emissions from water and wastewater usage calculated in CalEEMod were based on the electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for northern and southern California. A 20 percent reduction in indoor potable water use was incorporated in the model in accordance with CALGreen standards.

### *Mobile Sources*

Mobile source emissions are generated by the increase in vehicle trips to and from the Potential Sites associated with operation of onsite development. Vehicle trips were calculated using the daily VMT increase over existing conditions of 93,260 provided by Fehr & Peers (Appendix TRA). This would equal 34,039,841 VMT per year. Trip rates in CalEEMod were modified to result in this total VMT per year. Mobile emissions also assumed 2030 fleet mixes and emission factors, as this is the year in which the project's development is analyzed against GHG reduction goals.

### c. Impact Analysis

**Threshold:** Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

**Impact GHG-1** GHG EMISSIONS FROM DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT EXCEED THE BAAQMD INTERPOLATED 2030 PROJECT-LEVEL OR PLAN-LEVEL THRESHOLDS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

This section evaluates potential impacts of the project related to the generation of GHG emissions. Full buildout of the project's increase of 2,975 dwelling units over existing conditions was modeled over a 10-year period to estimate the project's construction GHG emissions. As shown in Table 4.8-2, construction activities associated with development facilitated by the project would generate an estimated 11,047 MT of CO<sub>2</sub>e. Amortized over 30 years, this would equal 368 MT of CO<sub>2</sub>e per year.<sup>1</sup>

**Table 4.8-2 Estimated Construction GHG Emissions**

Construction Year	Annual Emissions MT of CO <sub>2</sub> e
2021	589
2022	890
2023	1,110
2024	2,201
2025	2,151
2026	2,113
2027	1,553
2028	260
2029	178
2030	2
<b>Total</b>	<b>11,047</b>

Source: Appendix AQ

Table 4.8-3 shows the operational GHG emissions associated with development facilitated by the project. As shown therein, annual emissions from full buildout of the project's increase of 2,975 dwelling units over existing conditions would be 21,169 MT of CO<sub>2</sub>e per year. With amortized construction emissions, this would result in a project total of 21,537 MT of CO<sub>2</sub>e per year. With a project increase in population of 7,735 over existing conditions, this would result in an increase of 2.8 MT of CO<sub>2</sub>e per service population per year. This would not exceed the BAAQMD's interpolated 2030 targets 4.0 MT of CO<sub>2</sub>e per service population at the plan-level. Therefore, impacts would be less than significant. In addition, for informational purposes only, the project's increase of 2.8 MT of CO<sub>2</sub>e per service population per year would also not exceed the BAAQMD's interpolated 2030 target of 2.8 MT of CO<sub>2</sub>e per service population per year at the project-level.

<sup>1</sup>It is common for construction emissions to be amortized over the projected operational life of a project to arrive at an average annual volume of emissions. A 30-year threshold is most commonly used (South Coast Air Quality Management District 2008).

**Table 4.8-3 Operational GHG Emissions**

<b>Emission Source</b>	<b>Annual Emissions (MT of CO<sub>2</sub>e)</b>
<b>Construction</b>	
Construction amortized over 30 years	368
<b>Operational</b>	
Area	532
Energy <sup>1</sup>	6,902
Mobile	11,555
Waste	1,797
Water <sup>2</sup>	383
<b>Operational Total</b>	<b>21,169</b>
<b>Project Total</b>	<b>21,537</b>
Project Service Population Increase	7,735
<b>MT of CO<sub>2</sub>e per Service Population</b>	<b>2.8</b>
BAAQMD Interpolated Plan-level 2030 Target	4.0
<b>Exceed BAAQMD Targets?</b>	<b>No</b>

<sup>1</sup> Emissions account for compliance with Section 150.1(b)14 of the 2019 Building Energy Efficiency Standards, which mandates the installation of solar PV systems on all new residential uses three stories or less that generate an amount of electricity equal to expected electricity usage.

<sup>2</sup> Emissions account for compliance with 2019 CALGreen, which mandates a 20 percent reduction in indoor water use as compared to calculated baseline levels for new residential uses and compliance with the current California Department of Water Resources Model Water Efficient Landscape Ordinance, which requires the use of water-efficient irrigation systems.

Source: Appendix AQ

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

**Threshold:** Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Impact GHG-2** DEVELOPMENT FACILITATED BY THE PROJECT WOULD BE CONSISTENT WITH THE GOALS OF THE 2017 SCOPING PLAN, PLAN BAY AREA 2040, COUNTY GENERAL PLAN, AND COUNTY CLIMATE CHANGE ACTION RESOLUTION. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed project was evaluated for consistency with applicable local and State plans that were developed with the intent of reducing GHG emissions. Each applicable plan is discussed separately below.

## 2017 Scoping Plan

Development facilitated by the project would be consistent with these goals through project design, which includes complying with the latest Title 24 Green Building Code and Building Efficiency Energy Standards. Development facilitated by the project would be required to include a solar PV system

per the 2019 Building Energy Efficiency Standards and energy efficient design and construction per CALGreen. One of the goals of the project is to increase residents in urban areas to increase use of alternative modes of transportation for work, school, and recreational activities. As discussed in Impact AQ-1 of Section 4.3, *Air Quality*, the proposed net percentage VMT increase associated with the proposed project (approximately 740 percent) would be less than the net percentage population increase (approximately 841 percent). Therefore, on a per population basis, it would have the effect of reducing vehicle trips and therefore GHG emissions associated with fossil fuel use. This supports 2017 Scoping Plan goals for the encouragement of alternative transportation use and VMT reduction in SCSs. Therefore, the project would be consistent with the 2017 Climate Change Scoping Plan.

## Plan Bay Area 2040

As shown in Table 4.8-4, the development facilitated by the project would be consistent with the key goals of Plan Bay Area 2040 and MTC's Climate Initiatives Program. Therefore, impacts related to consistency with GHG emissions reduction plans would be less than significant.

**Table 4.8-4 ABAG/MTC Plan Bay Area 2040 Consistency for GHG Emissions**

Policy	Consistency
<b>Housing and Transportation.</b> Lower the share of income spent on housing and transportation costs, lessen displacement risk, and increase the availability of housing affordable to low- and moderate-income households.	<b>Consistent.</b> One of the project's objectives is to add the Workforce Housing Combining District overlay or higher-density residential zone to Potential Sites. Encouraging development of additional residences in more urban areas would increase the availability of housing affordable to low- and moderate-income households. Therefore, the proposed project would be consistent with Plan Bay Area 2040's Housing and Transportation objective.
<b>Economic Development.</b> Improve transportation access to jobs, increase middle-wage job creation, and maintain the region's infrastructure.	<b>Consistent.</b> One of the main criteria for the Potential Sites includes proximity to jobs, transit, and services. By increasing density at these Potential Sites, the project would support the goal by increasing the amount of residents who live close to transportation options to travel to their jobs. The project would also decrease the typical distance those residents would have to travel to their jobs, which would have the effect of reducing GHG emissions compared to existing conditions. Therefore, the proposed project would be consistent with Plan Bay Area 2040's Economic Development objective.
<b>Resilience.</b> Enhance climate protection and adaptation efforts, strengthen open space protections, create healthy and safe communities, and protect communities against natural hazards.	<b>Consistent.</b> By concentrating residences in urban areas, the project would reduce potential pressure to develop open space areas. By placing residents close to jobs and alternative methods of transportation, the project would reduce GHG emissions and other criteria pollutants associated with vehicle use. Therefore, the proposed project would be consistent with Plan Bay Area 2040's Resilience objective.

Source: ABAG 2017

## Sonoma County General Plan 2020

Section 8 of the Open Space and Resource Conservation Element of the Sonoma County General Plan 2020 contains energy goals that would have the effect of reducing GHG emissions. As shown in Table 4.8-5, the proposed project would be consistent with these goals. Therefore, impacts related to consistency with GHG emissions-related goals of the General Plan would be less than significant.

**Table 4.8-5 Sonoma County General Plan 2020 Consistency for GHG Emissions**

General Plan 2020 Goal/ Policy/Objective	Consistency
<b>Goal OSRC-14: Promote energy conservation and contribute to energy demand reduction in the County.</b>	<b>Consistent.</b> Development facilitated by the project would be consistent with the latest Title 24 standards, which have been created and are further refined with each update to promote energy conservation and contribute to energy demand reduction in California. Development facilitated by the project would be required to include a solar PV system per the 2019 Building Energy Efficiency Standards and energy efficient design and construction per CALGreen. The project's objective to increase density in urban areas to shorten commutes and increase use of alternative methods of transportation would lead to greater energy conservation compared to existing conditions. Therefore, the proposed project would be consistent with this goal.
<b>Objective OSRC-14.2:</b> Encourage County residents and businesses to increase energy conservation and improve energy efficiency.	<b>Consistent.</b> As with the consistency discussion of the overall Goal OSRC-14 above, development facilitated by the project would comply with the latest Title 24 standards, would implement solar PV systems, and by design would decrease commute distances and increase use of alternative methods of transportation. Therefore, the proposed project would be consistent with this objective.
<b>Objective OSRC-14.3:</b> Reduce the generation of solid waste and increase solid waste reuse and recycling.	<b>Consistent.</b> Development facilitated by the project would divert solid waste in accordance with the County's implementation of AB 341 requirements.
<b>Objective OSRC-14.4:</b> Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2015.	<b>Consistent.</b> Development facilitated by the project would be constructed after 2015. Development facilitated by the project would have the effect of having greater GHG emission efficiency than existing conditions through compliance with the latest Title 24 standards, implementation of solar PV systems, and decreasing commute distances and increasing use of alternative methods of transportation.
<b>Policy OSRC-14d:</b> Support project applicants in incorporating cost effective energy efficiency that may exceed State standards.	<b>Consistent.</b> Development facilitated by the project would be consistent with the latest Title 24 standards, which have been created and are further refined with each update to promote energy conservations and contribute to energy demand reduction in California. Development facilitated by the project would be required to include a solar PV system per the 2019 Building Energy Efficiency Standards and energy efficient design and construction per CALGreen. The project's objective to increase density in urban areas to shorten commutes and increase use of alternative methods of transportation would lead to greater energy conservation and energy efficiency compared to existing zoning. Therefore, the project would be consistent with this policy.

Source: Sonoma County General Plan

## Sonoma County Climate Change Action Resolution

The Sonoma County Board of Supervisors adopted the Climate Change Action Resolution (County of Sonoma 2018). The resolution is intended to help create countywide consistency and clear guidance about coordinated implementation of the GHG reduction measures. As shown in Table 4.8-6, development facilitated by the project would be consistent with these goals. Therefore, impacts related to consistency with the Sonoma County Climate Change Action resolution would be less than significant.

Table 4.8-6 Sonoma County Climate Change Action Resolution Consistency

Climate Change Action Resolution Goal	Consistency
1. Increase building energy efficiency	<b>Consistent.</b> Development facilitated by the project would be consistent with the latest Title 24 standards, which have been created and are further refined with each update to promote energy conservation and contribute to energy demand reduction in California. Development facilitated by the project would be required to include a solar PV system per the 2019 Building Energy Efficiency Standards and energy efficient design and construction per CALGreen. Therefore, the proposed project would be consistent with this goal.
2. Increase renewable energy use	<b>Consistent.</b> Development facilitated by the project would be required to include a solar PV system per the 2019 Building Energy Efficiency Standards and energy efficient design and construction per CALGreen. Development facilitated by the project would receive electricity in accordance with increasing RPS standards (60 percent carbon-free energy by 2030, and 100 percent by 2045) that would increase its renewable energy use. The project's objective to increase density in urban areas to shorten commutes and increase use of alternative methods of transportation would lead to greater energy conservation compared to existing zoning. Therefore, the proposed project would be consistent with this goal.
4. Reduce travel demand through focused growth	<b>Consistent.</b> The project's objective to increase density in urban areas to shorten commutes and increase use of alternative methods of transportation that would reduce travel demand through focused growth. Therefore, the proposed project would be consistent with this goal.
5. Encourage a shift toward low carbon transportation options	<b>Consistent.</b> The project's objective to increase density in urban areas to shorten commutes and increase use of alternative methods of transportation would encourage a shift toward low carbon transportation options. Therefore, the proposed project would be consistent with this goal.
8. Reduce idling	<b>Consistent.</b> Construction vehicles for development facilitated by the project would comply with CARB's five-minute idling standards for off-road equipment.
9. Increase solid waste diversion	<b>Consistent.</b> Development facilitated by the project would divert solid waste in accordance with the County's implementation of AB 341 requirements.
11. Reduce water consumption	<b>Consistent.</b> Development facilitated by the project would be constructed in accordance with 2019 CALGreen, which requires incorporation of water conservation and water efficiency features to achieve a 20 percent reduction in baseline indoor water use and compliance with the current California Department of Water Resources Model Water Efficient Landscape Ordinance (Title 23 California Code of Regulations Section 492.7). Therefore, the proposed project would be consistent with this goal.

Source: County 2018

## Summary

As described above, GHG emissions from development facilitated by the project would be less than significant as the project would be consistent with 2017 Scoping Plan, Plan Bay Area 2040, County General Plan, and the County Climate Change Action resolution.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.



#### 4.8.4 Cumulative Impacts

The impact of GHG emissions generated by development facilitated by the project is inherently cumulative. GHG emissions from one project cannot, on their own, result in changes in climatic conditions; therefore, the emissions from any project must be considered in the context of their contribution to cumulative global emissions, which is the basis for determining a significant cumulative impact. This is determined through the project's consistency with applicable GHG emission thresholds and applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs. As discussed under Section 4.8.3, *Impact Analysis*, GHG emissions from development facilitated by the project would not exceed the BAAQMD interpolated 2030 plan-level threshold. In addition, development facilitated by the project would be consistent with the 2017 Scoping Plan, Plan Bay Area 2040, County General Plan, and the County Climate Change Action Resolution. Therefore, the project would not a significant cumulative impact on GHG emissions.

## 4.9 Hazards and Hazardous Materials

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This section evaluates the potential impacts relating to hazards and hazardous materials impacts associated with implementation of the proposed project.

### 4.9.1 Setting

#### Definition of Hazardous Materials

The California Health and Safety Code defines a hazardous materials, in part, as a material that “because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.”

Hazardous materials are used throughout Sonoma County in various agricultural, industrial, commercial, medical, research, and household settings. Numerous federal and State laws, as well as local policies and plans, control the production, transportation, storage, and use of these hazardous materials and their waste products.

#### Land Use Patterns

Small quantities of hazardous materials are routinely used, stored, and transported throughout the county by commercial and retail businesses and in educational facilities, hospitals, and households. Hazardous materials users and waste generators in the County include businesses, public and private institutions, and households. Federal, State, and local agency databases maintain comprehensive information on the locations of facilities using large quantities of hazardous materials, and facilities generating hazardous waste. Some of these use certain classes of hazardous materials that require accidental release scenario modeling and risk management plans to protect the people and the environment in surrounding land uses.

Past and present land use patterns are good predictors of the potential for past contamination by hazardous materials and the current use and storage of hazardous materials. Industrial sites and certain commercial land uses, such as dry cleaners, are more likely to use and store large quantities of hazardous materials than residential land uses. Land use patterns are also useful for identifying the location of sensitive receptors, such as schools, day-care facilities, hospitals, and nursing homes. In the county, industrial and commercial land uses are concentrated along major transportation corridors, such as Highway 101 and in downtown areas.

Some of the Potential Sites are located within 0.25 mile of a school, as shown in Table 4.9-1.

**Table 4.9-1 Potential Sites Near Schools**

Potential Site	Nearby School	Approximate Distance (miles)
LAR-1	San Miguel Elementary School	0.2
LAR-8	San Miguel Elementary School	0.2
LAR-3	San Miguel Elementary School	0.2
GUE-4	Guerneville School	0.1
GRA-1	Oak Grove Elementary School	0.1
AGU-1	El Verano Elementary School	0.1
AGU-2	El Verano Elementary School	0.1
PET-1	Petaluma Junior High School	0.1
PET-2	Petaluma Junior High School	0.2
PET-3	Petaluma Junior High School	0.2
PET-4	Petaluma Junior High School	0.21
FOR-1	Forestville School-Academy	0.1
FOR-3	Forestville School-Academy	0.2
FOR-4	Forestville School-Academy	0.1
FOR-5	Forestville School-Academy	0.1
FOR-6	Forestville School-Academy	0.2

## Existing Hazardous Material Contamination

Several existing contaminants, including asbestos, lead (in sources such as lead-based paint [LBP] in buildings or in soil), and contaminated soil and groundwater, may be present throughout the county. Due to the age of some existing buildings on the sites (refer to Table 4.5-1 in Section 4.5, *Cultural Resources*), asbestos may be present in those structures and could be mobilized during demolition activities. Similarly, lead may be present in paint that was sold prior to 1978 or in soil that was contaminated by leaded gasoline or improperly discarded batteries. Existing soil contamination may also be present at Potential Sites due to contamination from household hazardous wastes. The U.S. Environmental Protection Agency (USEPA) describes household hazardous waste as leftover household products that can catch fire, react, explode under certain circumstances, or that are corrosive or toxic. Household hazardous wastes may include products such as paints, cleaners, oils, batteries, and pesticides (USEPA 2016).

The State Water Resources Control Board GeoTracker website identifies Leaking Underground Storage Tank (LUST) cleanup sites, Cleanup Program Sites (formerly known as Spills, Leaks, Investigations, and Cleanups sites), military sites, land disposal sites (landfills), permitted underground storage tank sites, Waste Discharge Requirement sites, Irrigated Lands Regulatory Program sites, and Department of Toxic Substances Control cleanup and hazardous waste permit sites. A search of the GeoTracker database for open sites within 0.25 mile of the sites was performed on May 27, 2020 (State Water Resources Control Board 2020). In addition, the Department of Toxic Substances Control's (DTSC) EnviroStor database was searched on May 27, 2020 for active cleanup sites within the same distance of the sites (DTSC 2020). According to the database search, seven open or active hazardous waste sites are located within 0.25 mile of the Potential Sites, of which two sites (FOR-1 and SAN-9) are co-located with sites analyzed in this Program EIR, as shown in Table 4.9-2.

**Table 4.9-2 Open Hazardous Materials Sites in the Project Area**

Listing Name	Address	Site ID	Site Type	Status	Potential Sites within 0.25 mile
Fast & Easy Mart	5321 Old Redwood Highway	T0609700430	LUST Cleanup Site	Site Assessment (4/2/1999)	LAR-1, LAR-4, LAR-5, LAR-7
Electro Vector	6555 Covey Road (FOR-1)	SL0609742964	Cleanup Program Site	Assessment & Interim Remedial Action (6/13/2017)	FOR-1, FOR-3, FOR-5
Forestville Chevron	6490 Front Street	T0609700043	LUST Cleanup Site	Remediation (8/27/2019)	FOR-1, FOR-3, FOR-5, FOR-6
Daniel Auto Repair	20501 Broadway	T0609700816	LUST Cleanup Site	Remediation (6/25/2019)	SON-1, SON-2, SON-3, SON-4
Bakers Service Station – 0273	9155 Graton Road	T0609700019	LUST Cleanup Site	Verification Monitoring (12/16/2015)	GRA-1, GRA-2
Turner's Automotive	9001 Graton Road	T0609700435	LUST Cleanup Site	Remediation (12/14/2005)	GRA-1, GRA-2, GRA-4
Bepex Corporation	150 Todd Road (SAN-9)	T0609792508	Cleanup Program Site	Verification Monitoring (2/7/2020)	SAN-9

Source: GeoTracker and EnviroStor databases, searched May 27, 2020

## Airports and Aircraft Hazards

Airports in Sonoma County include the Charles M. Schulz Sonoma County Airport, the Cloverdale Municipal Airport, the Healdsburg Municipal Airport, the Petaluma Municipal Airport, the Sonoma Skypark Airport, and the Sonoma Valley Airport. None of the Potential Sites are within an airport influence area, defined as an area in which current or future airport-related noise, over flight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.

## Emergency Response Plans

California Government Code Section 8568, the California Emergency Services Act, states that “the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof.” The Act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a county manager or county administrator. The provisions of the Act are reflected and expanded on by appropriate local emergency ordinances. The Act further describes the function and operations of government at all levels during extraordinary emergencies, including war.

All local emergency plans are extensions of the State of California Emergency Plan. The State Emergency Plan conforms to the requirements of California’s Standardized Emergency Management System (SEMS), which is the system required by Government Code 8607(a) for managing emergencies involving multiple jurisdictions and agencies (Governor’s Office of Emergency Services [CalOES] 2017). The SEMS incorporates the functions and principles of the Incident Command System, the Master Mutual Aid Agreement, existing mutual aid systems, the operational area concept, and multi-agency or inter-agency coordination (CalOES 2020). Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster

assistance programs. The SEMS consists of five organizational levels that are activated as necessary, including: field response, local government, operational area, regional, and State. CalOES divides the State into six mutual aid regions. Sonoma County is in Mutual Aid Region II, which includes Del Norte, Humboldt, Mendocino, Lake, Napa, Alameda, Solano, Contra Costa, San Francisco, San Mateo, Alameda, Santa Clara, Santa Cruz, San Benito, and Monterey counties (CalOES 2018).

The Sonoma County Operational Area Hazard Mitigation Plan focuses on mitigating hazards to reduce the impacts of disasters by identifying effective and feasible actions to reduce the risks of potential hazards.

## **Wildland Fire Hazards**

Wildland Fire Hazards are discussed in Section 4.19, *Wildfire*.

## **Agricultural Chemicals**

As the community continues to support agricultural production, risks associated with agricultural chemicals such as pesticides, herbicides, and organic /inorganic fertilizers may occur. Residential uses in the proximity of agricultural uses that use pesticides and herbicides increase the chance of health risks. Agricultural operations are located throughout portions of the County as discussed in Section 4.2, *Agriculture and Forestry Resources*. Pesticide application permits are renewed on an annual basis by the County Agricultural Commissioner. Regulated commercial applications of pesticides are documented monthly and compiled an annual report submitted to the County. The Sonoma County Agricultural Commissioner's Office receives approximately 40 pesticide complaints annually countywide. About half are from nearby residents affected by agricultural spraying and the other half from those driving by on roadways adjacent to spraying activities (Town of Windsor 2015).

### **4.9.2 Regulatory Setting**

The management of hazardous materials and hazardous wastes is regulated at federal, state, and local levels, including through programs administered by the USEPA; agencies within the California Environmental Protection Agency, such as the DTSC; federal and State occupational safety agencies; and the Sonoma County Certified Unified Program Agency Hazardous Materials Unit, as discussed further below.

#### **a. Federal Regulations**

##### **Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA)**

These acts established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act.

## **Comprehensive Environmental Response, Compensation and Liability Act, amended by the Superfund Amendments and Reauthorization Act (1986)**

This law was enacted in 1980 and provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, Comprehensive Environmental Response, Compensation and Liability Act established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. Comprehensive Environmental Response, Compensation and Liability Act also enabled revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List.

## **Federal Insecticide, Fungicide, and Rodenticide Act**

This Act (7 U.S. Code [USC] 136 et seq.) provides Federal control of pesticide distribution, sale, and use. The USEPA was given authority under the Act to study the consequences of pesticide usage, and to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to take exams for certification as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by the USEPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, they will not cause unreasonable harm to the environment.

## **Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations**

Governed by the U.S. Housing and Urban Development, regulations for LBP are contained in the Lead-Based Paint Elimination Final Rule 24 Code of Federal Regulations (CFR) 33, which requires sellers and lessors to disclose known LBP and LBP hazards to prospective purchasers and lessees. Additionally, all LBP abatement activities must follow California and federal occupational safety and health administrations (California Occupational Safety and Health Administration [Cal/OSHA] and federal Occupational Safety and Health Administration [OSHA], respectively and with the State of California Department of Health Services requirements. Only LBP trained and certified abatement personnel can perform abatement activities. All lead LBP removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material at a landfill or receiving facility licensed to accept the waste.

## **U.S. Environmental Protection Agency**

The USEPA is the agency primarily responsible for enforcement and implementation of Federal laws and regulations pertaining to hazardous materials. Applicable Federal regulations pertaining to hazardous materials are contained in the CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws:

1. RCRA of 1976) (42 USC 6901 et seq.); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act) (42 USC 9601 et seq.)
2. Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136 et. Seq.)
3. Superfund Amendments and Reauthorization Act of 1986 (Public Law 99 499)



These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. USEPA provides oversight and supervision for Federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

## **b. State Regulations**

### **Department of Toxic Substances Control**

As a department of the California Environmental Protection Agency, DTSC is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the State Water Resources Control Board, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

### **Hazardous Waste Control Act**

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in California Code of Regulations (CCR) Title 26. The State program is similar to, but more stringent than, the Federal program under RCRA. The regulations list materials that may be hazardous, and establish criteria for their identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. As required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the State called the Cortese List.

## **California Department of Pesticide Regulation, Department of Food and Agriculture, and the Department of Public Health**

The California Department of Pesticide Regulations (DPR), a division of CalEPA, in coordination with the California Department of Food and Agriculture, a division of Measurement Standards and the California Department of Public Health have the primary responsibility to regulate pesticide use, vector control, food, and drinking water safety. CCR Title 3 requires the coordinated response between the County Agricultural Commissioner and the Sonoma County Department of Health Services to address the use of pesticides used in vector control for animal and human health on a local level. DPR registers pesticides; the County tracks pesticide use. Title 22 is used also to regulate both small and large California Department of Public Health water systems.

## **California Fire and Building Code**

The 2016 Fire and Building Code (2016) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

### **c. Local Regulations**

#### **County of Sonoma Agricultural Commissioner**

The regulation of pesticide storage, application, and waste disposal is under the jurisdiction of the County Agricultural Commissioner who implements the DPR program. Since 1990, the Commissioner's office has compiled reports required of farmers and other users of agricultural pesticides which provide complete, site specific documentation of every pesticide application. These requirements include pesticides used on parks, golf courses, cemeteries, rangeland and pastures, and along roadside and railroad rights-of-way. The reports are transferred to the DPR and entered into a statewide database.

#### **Sonoma County Operational Area Hazard Mitigation Plan**

The Sonoma County Operational Area Hazard Mitigation Plan assesses the County's vulnerabilities to various hazards and presents mitigation strategy, including goals, objectives, and actions that the County will strive to implement over the next five years. These mitigation actions are intended to reduce the disruption or loss of life, property, and economy that might result from a natural disaster. The hazard and risk assessment focuses on earthquake, flood, wildland fire, and landslide hazards, as these are considered to constitute the greatest risk to the County based on past disaster events, future probabilities, and degree of vulnerability. The 2016 update to this plan includes climate change related implications on hazard trends, including sea level rise and drought (County of Sonoma 2017).

## Sonoma County Environmental Health and Safety Department

The Sonoma County Environmental Health and Safety Department protects health, prevents disease, and promotes health for all persons in Sonoma County. The department has programs that employ strategies to prevent health hazards. These include a LUST oversight program that oversees the investigation and cleanup of fuel releases from underground storage tanks in most areas of the County. Other programs include healthy home programs, septic disposal inspections, and a solid waste program.

## Sonoma County General Plan

The Sonoma County General Plan includes policies that aim to reduce potential damage from hazardous materials, including the following:

**Goal PS-4: Prevent unnecessary exposure of people and property to risks of damage or injury from hazardous materials.**

**Objective PS-4.2:** Regulate the handling, storage, use, and disposal of hazardous materials in order to reduce the risks of damage and injury from hazardous materials

Policy PS-4a: While maintaining the autonomy granted to it pursuant to State zoning laws, implement Federal, State, and County requirements for the storage, handling, disposal, and use of hazardous materials, including requirements for management plans, security precautions, and contingency plans.

Policy PS-4d: Work with applicable regulatory agencies to regulate the transportation of hazardous materials consistent with adopted County policies.

### 4.9.3 Impact Analysis

#### a. Methodology and Thresholds of Significance

The following thresholds are based on *CEQA Guidelines* Appendix G. For purposes of this Program EIR, impacts related to hazards and hazardous materials are considered significant if implementation of the proposed project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment
5. 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, result in a safety hazard or excessive noise for people residing or working in the project area
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires

<b>Threshold:</b>	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, or would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?
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**Impact HAZ-1** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS, NOR THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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Project implementation would result in more intense use of land with higher density housing in several locations throughout the county. However, residential land uses typically do not use or handle large quantities of hazardous materials.

Some older structures that may be demolished during construction of the project may contain hazardous materials such as lead-based paint, asbestos-containing materials (ACM), universal waste, and polychlorinated biphenyls (PCB). Exposure to lead can cause adverse health effects, including disturbance of the gastrointestinal system, anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases). Lead-based paint and other lead-containing materials associated with development facilitated by the project would be handled in compliance with Cal/OSHA regulations regarding lead-based paints and materials. The CCR Title 14, Section 1532.1, requires testing, monitoring, containment, and disposal of lead-based paints and materials, such that exposure levels do not exceed Cal/OSHA standards. Compliance with applicable standards would ensure impacts related to hazardous materials are less than significant.

Friable ACMs are regulated as a hazardous air pollutant under the Clean Air Act. As a worker safety hazard, they are also regulated under the authority of Cal/OSHA and by the Bay Area Air Quality Management District. In structures that would be demolished, any ACMs would be abated in accordance with State and Federal regulations prior to the start of demolition or renovation activities and in compliance with all applicable existing rules and regulations, including the Bay Area Air Quality Management District. These programs would ensure that asbestos removal would not result in the release of hazardous materials to the environment that could impair human health. Therefore, the impact related to ACMs would be less than significant.

Fluorescent lighting ballasts manufactured prior to 1978, and electrical transformers, capacitors, and generators manufactured prior to 1977, may contain PCBs. In accordance with the Toxic Substances Control Act and other federal and State regulations, individual projects would be required to properly handle and dispose of electrical equipment and lighting ballasts that contain PCBs during demolition of older buildings, ensuring that the impact related to PCBs would be less than significant.

Buildout of the proposed project would include the use of construction machinery that would involve the transport, use, and disposal of hazardous materials such as paints, solvents, oils, grease, and caulking. Additionally, hazardous materials would be needed for fueling and servicing construction equipment. These types of hazardous materials are not acutely hazardous, and all storage, handling, use, and disposal of these materials are regulated by County, State, and Federal

regulations and compliance with applicable standards discussed in Section 4.9.2 would ensure impacts from construction-related hazardous materials are less than significant.

The County of Sonoma Department of Emergency Management personnel respond to hazardous materials incidents. Major hazardous materials accidents associated with residential uses are fairly infrequent, and additional emergency response capabilities are not anticipated to be necessary to respond to the potential incremental increase in the number of incidents that could result from implementation of the proposed project.

As discussed in Section 4.2, *Agriculture and Forestry Resources*, rezoning allowed by the project would result in new development near agricultural production. The regulation of pesticide storage, application, and waste disposal is under the jurisdiction of the County Agricultural Commissioner. The Sonoma County Agricultural Commissioner regulates agriculture and pesticide use in the County and pesticide application permits must be renewed yearly. In addition, regulated commercial applications of pesticides are documented monthly and compiled in an annual report submitted to the County. Agriculture production within the County must comply with all DPR pesticide regulations including pesticide registration and work requirements.

The proposed project would facilitate residential development at a higher density in the vicinity of some schools, as described in Table 4.9-1. However, as discussed above, residential uses typically do not emit hazardous materials or substances. While these sites may have pre-existing contamination, they would be remediated through coordination with the appropriate regulatory agency.

Compliance with existing applicable regulations and policies would minimize risks from routine use, transport, handling, storage, disposal, and release of hazardous materials. Oversight by the appropriate federal, State, and local agencies and compliance by new development with applicable regulations related to the handling and storage of hazardous materials would minimize the risk of the public's potential exposure to these substances. Therefore, impacts from a hazard to the public or the environment through routine transport, use or disposal of hazardous materials and reasonably foreseeable upset and/or accident conditions would be less than significant.

## **Mitigation Measures**

No mitigation measures would be required.

## **Significance After Mitigation**

Impacts would be less than significant without mitigation.

<b>Threshold:</b> Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
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**Impact HAZ-2** DEVELOPMENT FACILITATED BY THE PROJECT COULD RESULT IN DEVELOPMENT ON SITES CONTAMINATED WITH HAZARDOUS MATERIALS. HOWEVER, COMPLIANCE WITH APPLICABLE REGULATIONS RELATING TO SITE REMEDIATION WOULD MINIMIZE IMPACTS FROM DEVELOPMENT ON CONTAMINATED SITES, RESULTING IN A LESS THAN SIGNIFICANT IMPACT.

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Existing sites that may potentially contain hazardous land uses in the county include large and small-quantity generators of hazardous waste, such as gas stations, dry cleaners, and industrial uses. As noted in Table 4.9-2, there are seven active or open sites containing or potentially containing hazardous materials contamination within 0.25 mile of Potential Sites. Development facilitated by the proposed project on or near these hazardous material sites (including SAN-9 and FOR-1, which are associated with active GeoTracker cases) could expose construction workforce and future occupants to hazardous materials. Sites with hazardous materials near the Potential Sites are listed in Table 4.9-2.

Development typically within 0.5 mile of sites identified in Table 4.9-2 would be preceded by investigation, remediation and cleanup under the supervision of the Regional Water Quality Control Board, the Sonoma County Local Oversight Program, or DTSC, before construction activities could begin. The agency responsible for oversight would determine the types of remediation and cleanup required, and could include excavation and off-haul of contaminated soils, installation of vapor barriers beneath habitable structures, continuous monitoring wells onsite with annual reporting requirements, or other mechanisms to ensure the site does not pose a health risk to workers or future occupants.

It is also possible that underground storage tanks (UST) in use prior to permitting and record keeping requirements may be present in the County. If an unidentified UST were uncovered or disturbed during construction activities, it would be removed under permit from the County; if such removal would potentially undermine the structural stability of existing structures, foundations, or impact existing utilities, the tank might be closed in place without removal. Tank removal activities could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Potential risks, if any, posed by USTs would be minimized by managing the tank according to existing standards contained in Division 20, Chapters 6.7 and 6.75 (UST Program) of the California Health and Safety Code as enforced and monitored by the Environmental Programs Division.

The extent to which groundwater may be affected by an UST or other potential contamination source, if at all, depends on the type of contaminant, the amount released, the duration of the release, distance from source, and depth to groundwater. If groundwater contamination is identified, characterization of the vertical and lateral extent of the contamination and remediation activities would be required by the Regional Water Quality Control Board prior to the commencement of any new construction activities that would disturb the subsurface. If contamination exceeds regulatory action levels, the developer would be required to undertake remediation procedures prior to grading and development under the supervision of the Regional Water Quality Control Board, depending upon the nature of any identified contamination. Compliance with existing State and local regulations would reduce impacts to less than significant.



## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?
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**Impact HAZ-3** THE POTENTIAL SITES ARE NOT LOCATED WITHIN TWO MILES OF AN AIRPORT. DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN A SAFETY HAZARD OR EXCESSIVE NOISE FOR PEOPLE RESIDING OR WORKING IN OR NEAR THE POTENTIAL SITES. THERE WOULD BE NO IMPACT.

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No Potential Sites are in the general vicinity of an airport, and none of the noise contours overlap with those sites. Therefore, no substantial noise exposure from airport noise would occur to construction workers or residents of the project, and similarly, there would be no safety concerns associated with the need to limit development in runway protection zones. Therefore, future development encouraged by the project would not result in a safety hazard or excessive noise for people in the County, and no impact would occur.

## Mitigation Measures

No mitigation would be required.

## Significance After Mitigation

No impacts would occur and mitigation is not required.

<b>Threshold:</b>	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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**Impact HAZ-4** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN ANY PHYSICAL CHANGES THAT COULD INTERFERE WITH OR IMPAIR EMERGENCY RESPONSE OR EVACUATION. THEREFORE, THE PROJECT WOULD NOT RESULT IN INTERFERENCE WITH THESE TYPES OF ADOPTED PLANS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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There are no proposed physical changes such as roadway construction that would interfere or impair emergency response or evacuation. The project would not result in changes to emergency evacuation routes, nor would it substantially increase traffic or roadway congestion such that use of an evacuation route would be hindered.

Development facilitated by the project would accommodate future population growth and would increase vehicle miles travelled in the county. This could lead to increased congestion during emergency evacuations. However, the County reviews and approves projects to ensure that emergency access meets County standards. Future projects facilitated by the project, as well as all development in the County, must comply with road standards and are reviewed by the Permit Sonoma Fire Prevention Division to ensure development would not interfere with evacuation routes and would not impede the effectiveness of evacuation plans. Therefore, the project would not

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impair implementation of or physically interfere with evacuation or emergency response plans. The impact related to emergency response and evacuation plans would be less than significant.

### Mitigation Measures

No mitigation measures would be required

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?
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**Impact HAZ-5** DEVELOPMENT FACILITATED BY THE PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO RISK OF LOSS, INJURY, OR DEATH. EVEN WITH IMPLEMENTATION OF MITIGATION MEASURES, IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Refer to Section 4.19, *Wildfire* for analysis of impacts related to wildfire. In particular, Impact WFR-2 concludes that the Potential Sites are in or near moderate, high and very high fire hazard severity zones, and that mitigation measures would be required. Impacts would be significant.

### Mitigation Measures

Mitigation Measures WFR-1 through WFR-3 would be required (refer to Section 4.19, *Wildfire*).

### Significance After Mitigation

With implementation of Mitigation Measures WFR-1, WFR-2 and WFR-3, the risk of loss, injury, or death would be reduced. These measures would make structures more fire resistant and less vulnerable to loss in the event of a wildfire. These measures would also reduce the potential for construction to inadvertently ignite a wildfire. However, it is not possible to prevent a significant risk of wildfires or fully protect people and structures from the risks of wildfires, despite implementation of mitigation. This impact would remain significant and unavoidable.

## 4.9.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative hazardous materials impacts is limited to projects within 0.25 mile of the sites. This geographic scope is appropriate for hazardous materials because risks associated with hazards and hazardous materials occur largely in a site-specific and localized context as adverse impacts from a hazardous materials release or spill diminish in magnitude with distance. Cumulative residential development in the vicinity of the any identified hazardous materials sites would gradually increase the population exposed to the use and transport of hazardous materials; the routine use, storage, and disposal of hazardous materials; listed hazardous materials sites; and subject to emergency response and evacuation plans. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Implementation of existing laws and

regulations, including remedial action on contaminated sites, as discussed with regard to the project under Impacts HAZ-1 through HAZ-4, would avoid potential hazard impacts.

Wildland fire impacts discussed under Impact HAZ-5 would be significant and unavoidable. It is not possible to prevent a significant risk of wildland fires or fully protect people and structures from the risks of wildland fires. Therefore, the project would have a cumulatively considerable contribution to a significant cumulative impact regarding wildland fire.

Overall, hazards and hazardous materials impacts associated with individual developments are site specific in nature and must be addressed on a case-by-case basis. Since hazards and hazardous materials are required to be examined as part of the permit application and review process, potential impacts associated with individual projects would be adequately addressed prior to permit approval. With adherence to existing regulatory standards for hazardous materials, no significant cumulative human health impacts would occur, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to hazards and hazardous materials, with the exception of wildland fire as discussed above.

## 4.10 Hydrology and Water Quality

This section presents the existing conditions, summarizes the regulatory and planning framework, and analyzes the impacts to the surface water and groundwater resources in Sonoma County, relative to the proposed project. Impacts to water supply and wastewater treatment are discussed in Section 4.18, *Utilities and Service Systems*. Extensive overlap exists in regulatory programs governing environmental aspects of water quality, drinking water quality, and the public health aspects of water supply protection. There is also overlap in the characterization of groundwater aquifers as potential water supply sources for rural communities in the county.

### 4.10.1 Environmental Setting

Sonoma County falls in seven distinct watersheds, of which the Russian River watershed is the largest in terms of area, runoff volume, number of cities it passes through, and population adjacent to it. Due to the large size of the Russian River watershed and the complexity of the coastal watersheds, it and several of the coastal watersheds are divided into subbasin units whose size and boundaries are determined by several common traits, including runoff patterns, geology, topography, vegetation, and land use. The watersheds and subbasins for each grouping of Potential Sites are listed in Table 4.10-1.

**Table 4.10-1 Watersheds and Sub-Watersheds in Sonoma County**

Potential Sites	Watershed	Sub-watershed
Geyserville (all sites)	Middle Russian River	Sausal Creek-Russian River
Guerneville (all sites)	Lower Russian River	Dutch Bill Creek-Russian River
Larkfield (LAR-1, LAR-2, LAR-6, LAR-8)	Mark West Creek	Porter Creek-Mark West Creek
Larkfield (LAR-3, LAR-4, LAR-5, LAR-7)	Mark West Creek	Windsor Creek
Forestville (all sites)	Lower Russian River	Green Valley Creek
Forestville (northern half of FOR-2 only)	Lower Russian River	Porter Creek-Russian River
Graton (all sites)	Lower Russian River	Green Valley Creek
Graton (southern portion of GRA-3 and southeastern portion of GRA-5)	Mark West Creek	Lower Laguna De Santa Rosa
Santa Rosa (all sites)	Mark West Creek	Upper Laguna De Santa Rosa
Glen Ellen (all sites)	Sonoma Creek-Frontal San Pablo Bay Estuaries	Upper Sonoma Creek
Agua Caliente (all sites)	Sonoma Creek-Frontal San Pablo Bay Estuaries	Lower Sonoma Creek
Penngrove (all sites)	Petaluma River-Frontal San Pablo Bay Estuaries	Petaluma River
Petaluma (all sites)	Petaluma River-Frontal San Pablo Bay Estuaries	Petaluma River
Sonoma (all sites)	Carneros Creek-Frontal San Pablo Bay Estuaries	Schell Creek-Frontal San Pablo Bay Estuaries

Source: United States Environmental Protection Agency (USEPA) 2020

The climate in Sonoma County is Mediterranean with warm dry summers and cool, damp winters. Temperatures along the coast are generally cool throughout summer and seldom drop below

freezing in winter. Inland temperature can vary greatly, with occasional highs exceeding 100 degrees Fahrenheit and lows sometimes falling below freezing (U.S. Climate Data 2020).

Three major creeks or rivers are in Sonoma County: the Russian River, Sonoma Creek, and Petaluma River. The Russian River is approximately 110 miles in length, originates in the Coast Ranges, and discharges into the Pacific Ocean. Sonoma Creek is 22 miles in length, originates at Bald Mountain and discharges into San Pablo Bay. Petaluma Creek is 18 miles in length, originates in Penngrove, and discharges into the San Pablo Bay, Napa Sonoma Marsh, and Petaluma Point. Figure 4.10-1 and Figure 4.10-2 show the creeks and drainages within the County near the Potential Sites.

The California Department of Water Resources (DWR) identified the groundwater basins and sub-basins in Sonoma County. Most of these groundwater basins are centered along major creek and river valleys in the central and southern portions of the county. The groundwater basins underlying the Potential Sites are shown on Figure 4.10-3. The groundwater basins for each grouping of Potential Sites are listed in Table 4.10-2.

**Table 4.10-2 Groundwater Basins in Sonoma County**

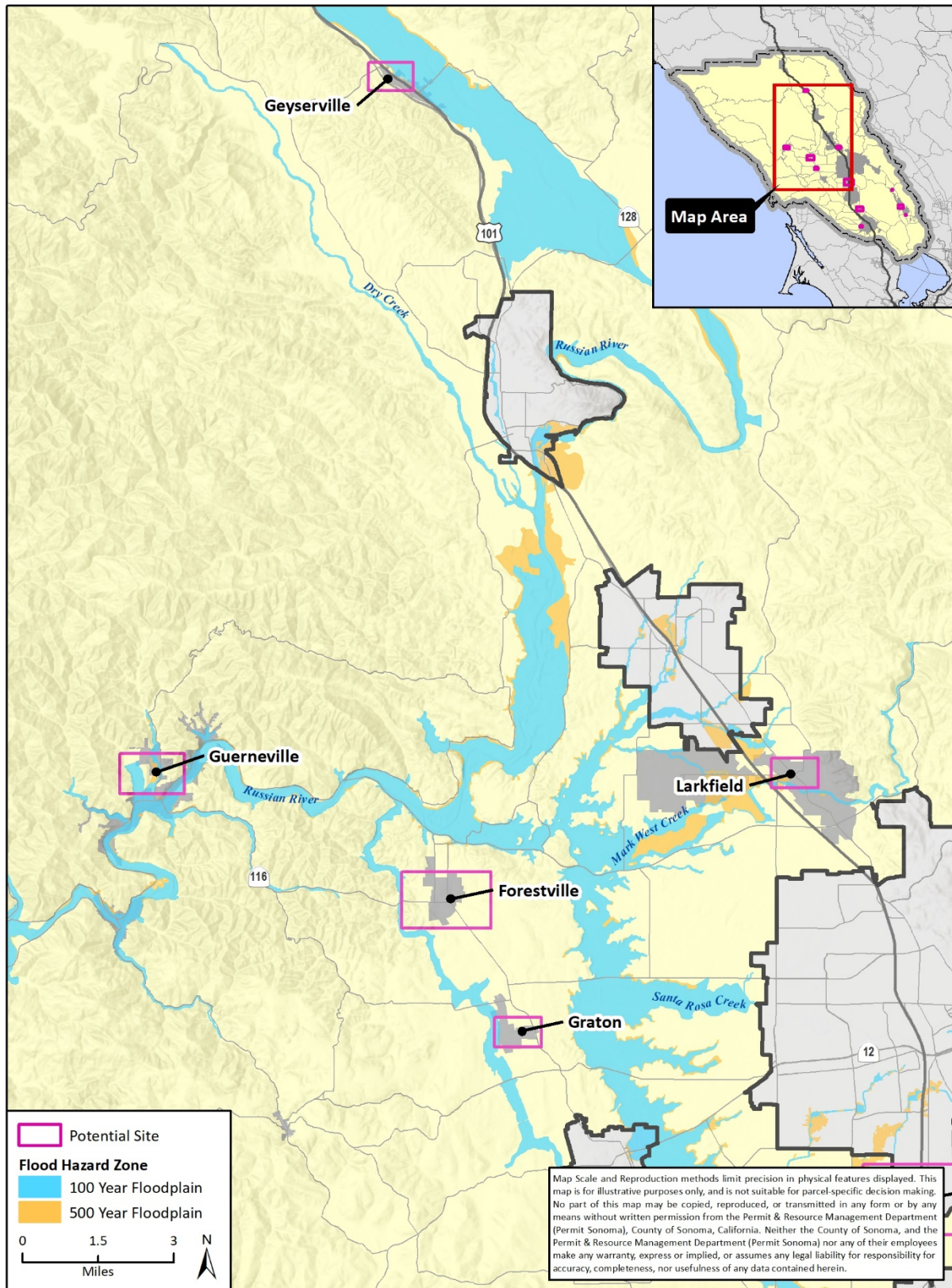
Potential Sites	Groundwater Basin
Geyserville	Alexander Valley – Alexander Area
Guerneville	Lower Russian River Valley
Larkfield	Santa Rosa Valley – Santa Rosa Plain
Forestville	Wilson Grove Formation Highlands
Graton	Wilson Grove Formation Highlands
Santa Rosa	Santa Rosa Valley – Santa Rosa Plain
Glen Ellen	Napa-Sonoma Valley – Sonoma Valley
Agua Caliente	Napa-Sonoma Valley – Sonoma Valley
Penngrove	Petaluma Valley
Petaluma	Wilson Grove Formation Highlands
Sonoma	Napa-Sonoma Valley – Sonoma Valley

Source: DWR 2020

### **a. Water Quality**

Water quality is a concern due to its potential impact on human health, enterprise, aquatic organisms, and ecosystem conditions. Quality is determined by factors such as native condition of surface water and groundwater and sources of contamination (natural and human induced).

Figure 4.10-1 Creeks and Drainages in Sonoma County – Northern



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; FEMA.

Fig 4.10-1a Flood Zones



Figure 4.10-2 Creeks and Drainages in Sonoma County – Southern

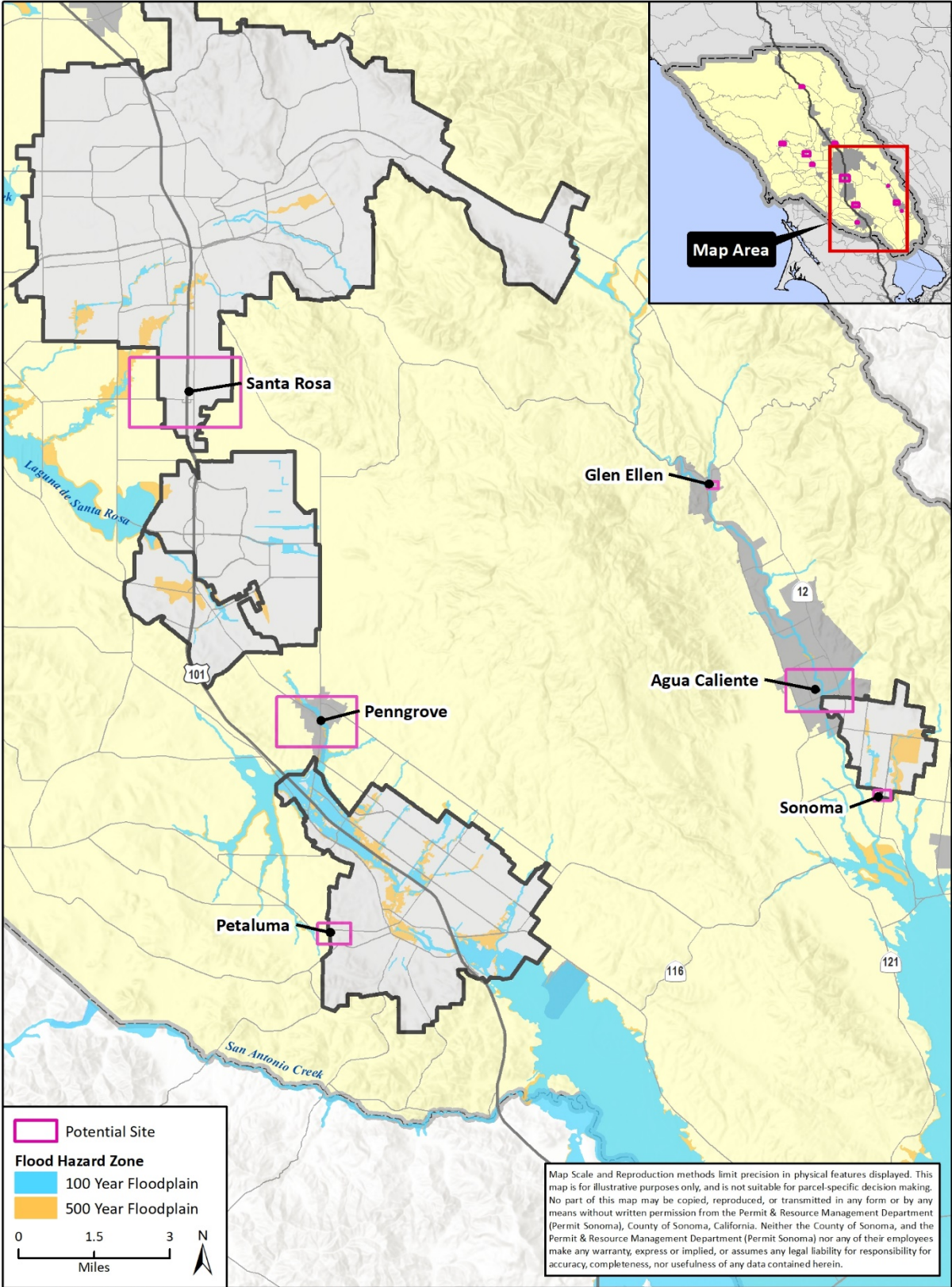
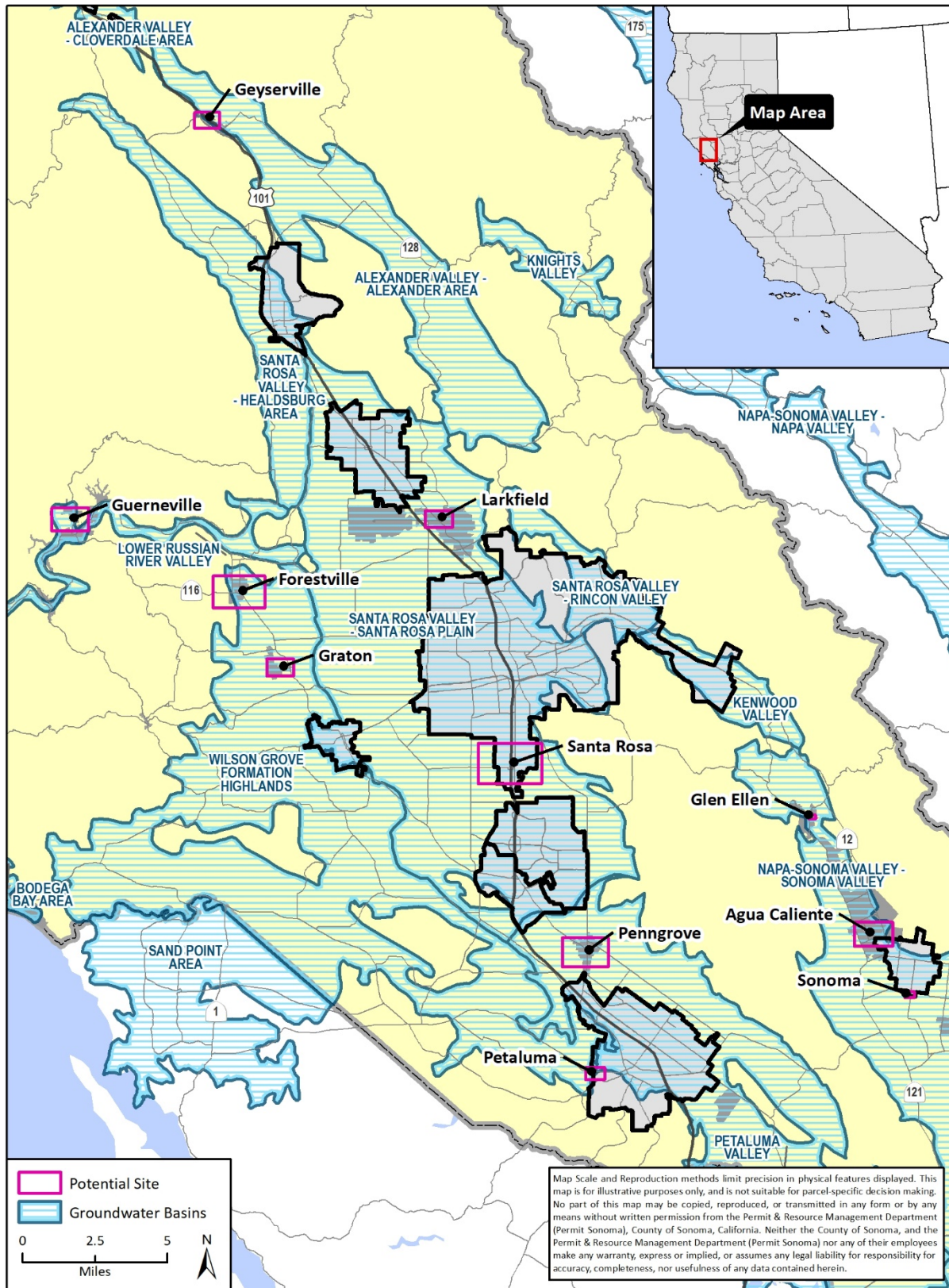


Figure 4.10-3 Groundwater Basins and Sub-basins in Sonoma County



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; DWR.

Fig 4.10-4 Groundwater Basins



## Surface Water

In Sonoma County, the Sonoma Creek and Petaluma River watersheds are in the San Francisco Bay Regional Water Quality Control Board (RWQCB) jurisdiction, and the remainder of the county is within the jurisdiction of the North Coast RWQCB. Waste discharge requirements are set by each RWQCB for point sources, including industrial and commercial uses, community wastewater management systems and individual septic systems (County of Sonoma 2008). Water quality issues in the county arise primarily from polluted runoff discharges, which can include pesticides, fertilizers, green waste, animal waste, human waste, petroleum hydrocarbons such as gasoline and motor oil, trash, and other constituents of concern. Stormwater flowing over roadways and other transportation assets carries urban pollutants through natural drainage systems or man-made storm drain structures to a body of surface water.

The State Water Resources Control Board (SWRCB), in compliance with Clean Water Act (CWA) Section 303(d), has prepared a list of impaired water bodies in the State of California. Table 4.10-3 lists the impaired water bodies in Sonoma County that are in the vicinity of the Potential Sites.

**Table 4.10-3 Waterbody Impairments Near the Potential Sites**

Water Body	Impairment Constituent(s)
Russian River HU, Lower Russian River HA, Guerneville HSA	Aluminum, indicator bacteria, sedimentation/siltation, specific conductivity, water temperature
Russian River HU, Lower Russian River HA, Guerneville HSA, Green Valley Creek watershed	Indicator bacteria, dissolved oxygen
Russian River HU, Middle Russian River HA, Geyserville HSA	Diazinon, indicator bacteria, sedimentation/siltation, water temperature
Russian River HU, Middle Russian River HA, Laguna HSA, mainstem Laguna de Santa Rosa	Indicator bacteria, mercury, dissolved oxygen, phosphorous, sedimentation/siltation, water temperature
Russian River HU Middle Russian River HA, Laguna HSA, tributaries to the Laguna de Santa Rosa (except Santa Rosa Creek and its tributaries)	Indicator bacteria, dissolved oxygen, sedimentation/siltation, water temperature
Russian River HU, Middle Russian River HA, Mark West HSA, mainstem Mark West Creek downstream of the confluence with the Laguna de Santa Rosa	Aluminum, manganese, dissolved oxygen, phosphorous, sedimentation/siltation, water temperature
Russian River HU, Middle Russian River HA, Mark West HSA, mainstem Mark West Creek upstream of the confluence with the Laguna de Santa Rosa	Sedimentation/siltation, water temperature
Russian River HU, Middle Russian River HA, Mark West HSA, tributaries to Mark West Creek (except Windsor Creek and its tributaries)	Sedimentation/siltation, water temperature
Russian River HU, Middle Russian River HA, Santa Rosa HSA, mainstem Santa Rosa Creek	Indicator bacteria, sedimentation/siltation, water temperature
Sonoma Creek, non-tidal	Nutrients, pathogens, sedimentation/siltation,
Sonoma Creek, tidal	Nutrients, pathogens
Petaluma River	Diazinon, nutrients, pathogens, sedimentation/siltation, trash
Source: SWRCB 2016	

To address surface water quality impairments, the North Coast RWQCB and San Francisco Bay RWQCB prescribe total maximum daily loads (TMDL) to impaired water bodies in Sonoma County for pathogens, fecal indicator bacteria, sedimentation, temperature, and mercury (San Francisco Bay RWQCB 2017; North Coast RWQCB 2020).

## Groundwater

Water quality in Sonoma County varies depending on the underlying groundwater basin. None of the basins in the county are designated as critically over-drafted (DWR 2020), although some basins were given high priority under the Sustainable Groundwater Management Act (refer to Section 4.10.2, *Regulatory Setting*, below). Factors that contribute to the decline of groundwater quality include percolation of agricultural runoff contaminated with fertilizers and pesticides into the water table; percolation of water from public and private sewage treatment systems; and percolation of contaminated urban runoff.

The Alexander Valley basin, which underlies the Geyserville sites, exceeds the limits for secondary inorganics, but generally has good water quality (DWR 2004a). The Lower Russian River Valley basin, which underlies the Guerneville sites, has measured water quality impairments of primary and secondary inorganics as well as radiological constituents (DWR 2004b). Water quality concerns in the Santa Rosa Plain Groundwater Basin include arsenic, chloride, total dissolved solids, and nitrate. This basin encompasses the Larkfield and Santa Rosa sites (Santa Rosa Plain Groundwater Sustainability Agency 2020). The Wilson Grove Formation Highlands basin underlies the Forestville, Graton, and Petaluma sites, and has limited groundwater quality information, except for average total dissolved solids measurements of 253 milligrams per liter (DWR 2014). Water quality issues in the Sonoma Valley Groundwater Basin include total dissolved solids and nitrate. This basin encompasses the Glen Ellen, Agua Caliente, and Sonoma sites (Sonoma Valley County Sanitation District 2013). Water quality constituents of concern in the Petaluma Valley Groundwater Basin include arsenic, boron, total dissolved solids, chloride, and nitrate. This basin encompasses the Penngrove sites (Petaluma Valley Groundwater Sustainable Agency 2020).

### b. Water Supply

Most of the Potential Sites are within the Sonoma County Water Agency's (Sonoma Water) service area, including sites in Forestville, Santa Rosa, Glen Ellen, Agua Caliente, Petaluma, and Sonoma. The Sweetwater Springs Water District (SSWD) serves Site GUE-1; California American Water (Cal-Am, a private water company) serves the remaining Geyserville, Guerneville, and Larkfield sites; the Penngrove/Kenwood Water Company (private) serves the Penngrove sites; and private wells serve each of the Graton sites.

Sonoma Water provides water sourced primarily from the Russian River with some groundwater extracted from the Santa Rosa Plain Groundwater Basin. Sonoma Water's customers also receive water through local sources, including local surface water, local groundwater, and recycled water. SSWD supplies water extracted from groundwater near the Russian River. Table 4.10-4 provides the annual water supply of each water supplier to the Potential Sites.

**Table 4.10-4 Water Supply in Sonoma County**

Water Supplier	Surface Water Supply (AFY)	Groundwater Supply (AFY)	Aggregate Water Supply (AFY)
Sonoma Water <sup>1</sup>	2,300	75,000	77,300
SSWD <sup>2</sup>	–	1,137	1,137
Cal-Am <sup>3</sup>	6,085	26,598	32,643
Total	8,385	102,735	111,080

<sup>1</sup> Source: Sonoma Water 2016

<sup>2</sup> Source: SSWD 2016

<sup>3</sup> Source: Cal-Am 2016 (Sacramento District water supply data only, assuming purchased water from the City of Sacramento and Placer County Water Agency are solely from surface water sources)

## Groundwater Recharge

During and after a storm event, rainfall may infiltrate into the ground surface, and move down through the soil as groundwater recharge. Land areas vary in their capacity to recharge based on soil conditions and the underlying geology. In Sonoma County, rivers and stream corridors are important sources for groundwater recharge, as are areas underlain by permeable geologic formations.

Groundwater generally occurs in geologic formations with high water-holding capacity (aquifers) on a local scale, and groundwater basins on a regional scale. Contiguous aquifers allow groundwater to migrate between them, and sometimes multiple aquifers occur, separated by less permeable or impermeable (clay) layers called aquacludes.

Groundwater is an important source of agricultural, industrial, and domestic water supply in Sonoma County. It is accessed through wells drilled into the zone of saturation. Not all areas in the county have groundwater present in sufficient volume to meet the requirements of areas otherwise suitable for development as the basin may have a lower rate of recharge or have insufficient potable water. Overdrawing the groundwater supply can lead to undesirable results, such as the following:

1. Physical harm to the aquifer from consolidation
2. Ground settlement
3. Reduced water quality from intrusion of less desirable water from other areas
4. Interference with prior rights of adjacent groundwater areas
5. Declines in the water table

Recharge of groundwater typically occurs along the major streams and their principal tributaries. The principal water bearing formations in Sonoma County groundwater basins are typically alluvium, a deposit of clay, silt, sand, and gravel left by flowing streams in a river valley or delta that typically produces fertile soil. While other geologic units can yield adequate amounts of water in some areas, much of the county may not have dependable groundwater supplies (County of Sonoma 2008).

Groundwater depth measurements near the Potential Sites are provided in Table 4.10-5, based on data provided by the United States Geological Survey for nearby wells.

**Table 4.10-5 Approximate Depth to Groundwater near Potential Sites**

Potential Site	Nearest Groundwater Depth Measurement (year)
Geyserville	70 feet (2012)
Guerneville	24 feet (2019)
Larkfield	37 feet (2012)
Forestville, Graton	50 feet (1950)
Santa Rosa	16 feet (2012)
Glen Ellen	7.5 feet (2003)
Agua Caliente	25 feet (2003)
Penngrove	69 feet (2019)
Petaluma	79 feet (2012)
Sonoma	27 feet (2012)

Source: United States Geological Survey 2020

### c. Hazards

#### Flooding and Dam Inundation

Flooding or inundation by water can occur because of storm events, dam failure, seiche, and tsunamis. Flooding is the most frequent natural hazard impacting Sonoma County, with most frequent flooding occurring along the Russian River, Petaluma River, and Sonoma Creek, as well as tributaries within these watersheds. Figure 4.10-4 through Figure 4.10-8 shows the 100-year and 500-year floodplains in region based on the floodplain mapping by the Federal Emergency Management Agency (FEMA). As shown therein, the following sites are partially within the 100-year floodplain: GUE-4, GRA-2, AGU-1, AGU-2, PEN-8, and PEN-9.

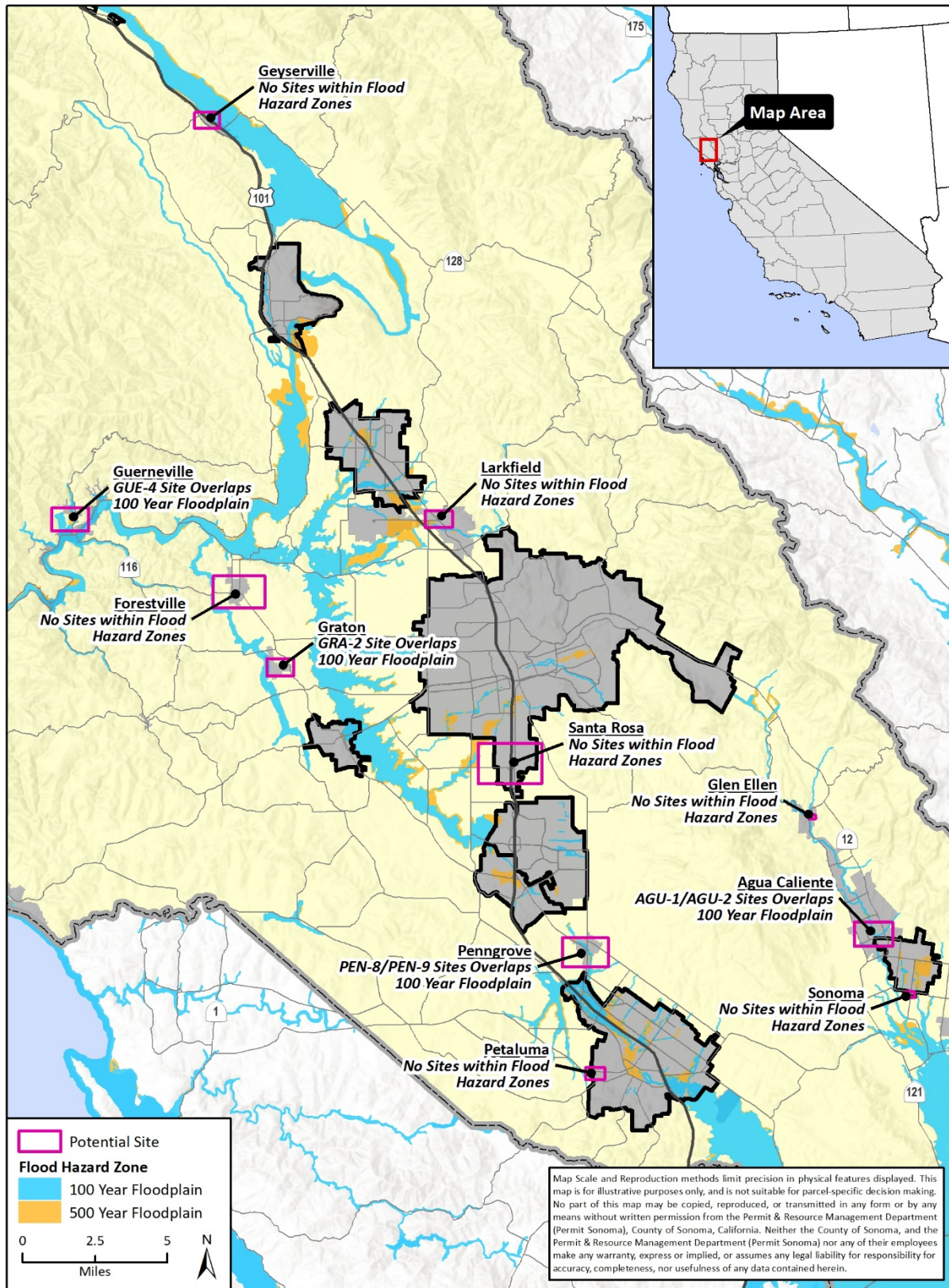
Inundation can result from dam failure, which refers to the breakdown, collapse, or other failure of a dam structure characterized by the uncontrolled release of impounded water. The most common cause of dam failure is prolonged rainfall that produces flooding, although other causes include natural events such as earthquakes or landslides and structural deterioration. In the event of dam failure, inundation could affect Potential Sites located in Geyserville and Guerneville (County of Sonoma 2017). A failure at Warm Springs Dam would result in flooding of Guerneville sites, and a failure at Coyote Valley Dam would result in flooding at Geyserville sites (County of Sonoma 2017).

#### Tsunami and Seiche

Tsunamis are high sea waves that are caused by earthquake, submarine landslide, or other disturbances. While the Pacific Ocean and San Pablo Bay bound Sonoma County to the west and south, respectively, none of the Potential Sites are in or near a designated tsunami inundation zone (California Department of Conservation 2020).

A seiche is a temporary disturbance or oscillation in water level of a lake or partially enclosed body of water, usually caused by changes in atmospheric pressure. There are several small lakes and reservoirs throughout the County, but none are within 0.5 mile of a Potential Site. While an earthquake could generate a seiche in these lakes and reservoirs, potential inundation would remain localized to low-lying areas along the perimeter of the reservoirs.

Figure 4.10-4 FEMA Floodplain Map – Countywide

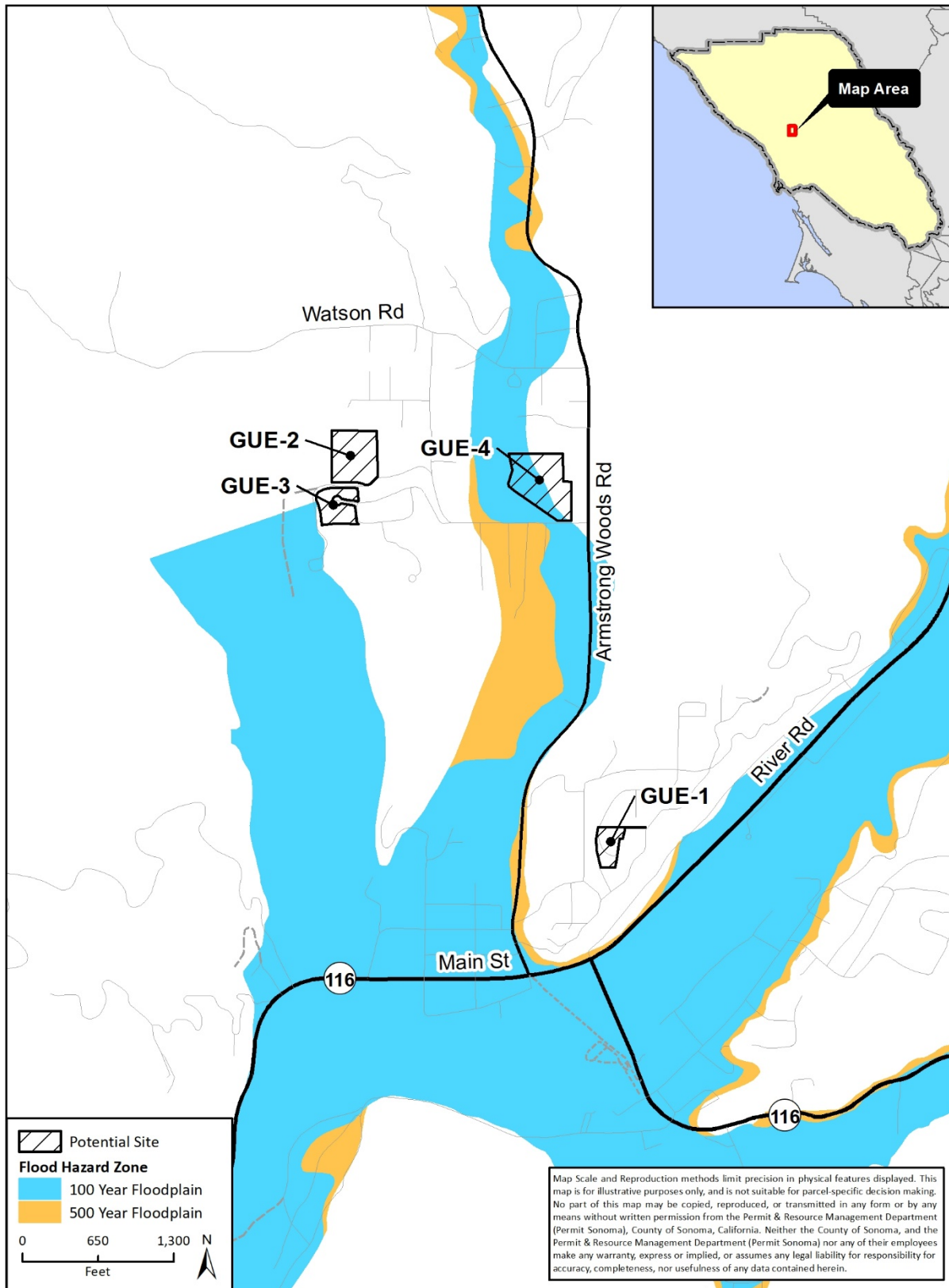


Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; FEMA.

Fig 4.10-3 Flood Zones

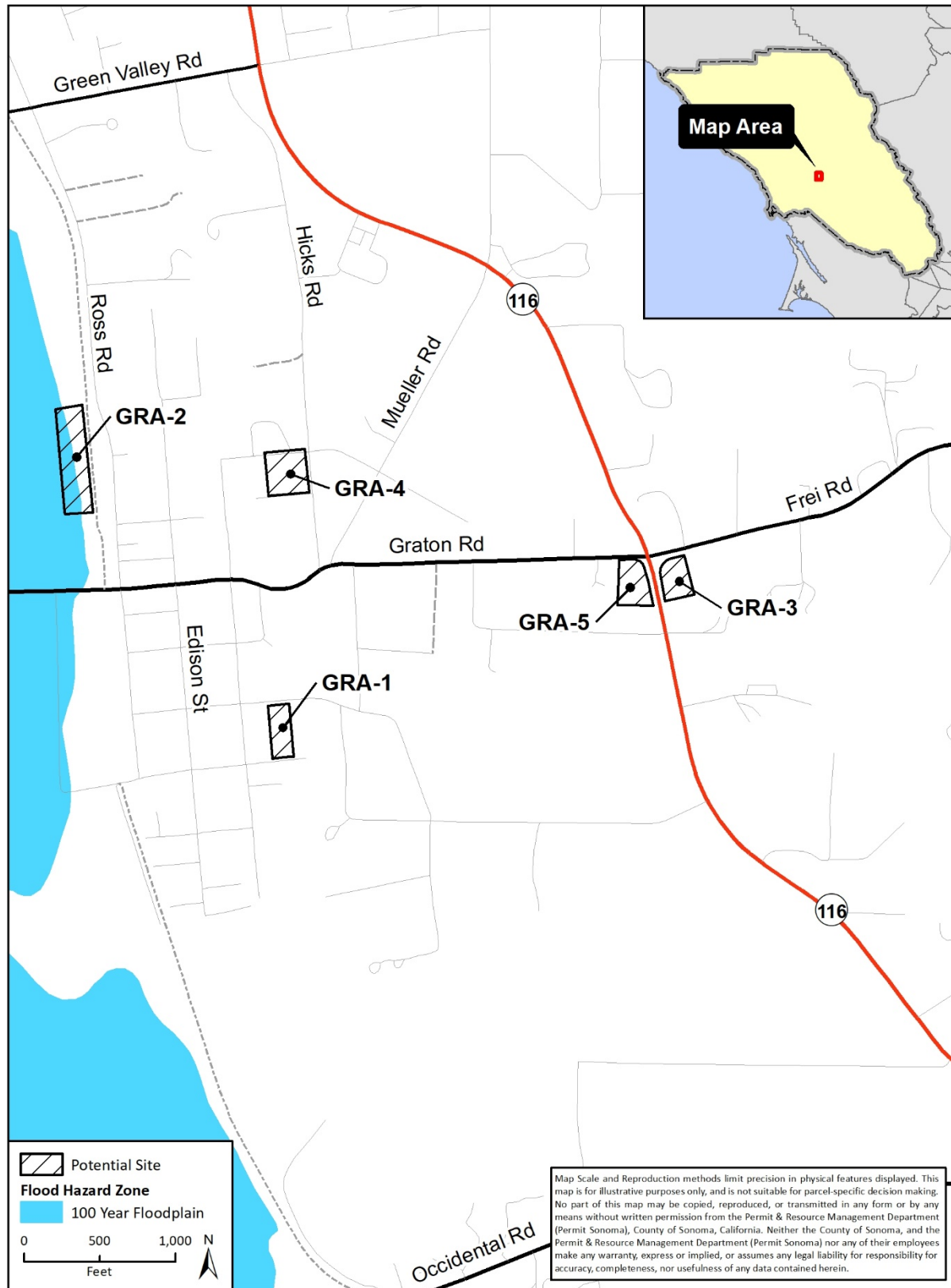


Figure 4.10-5 FEMA Floodplain Map – Guerneville



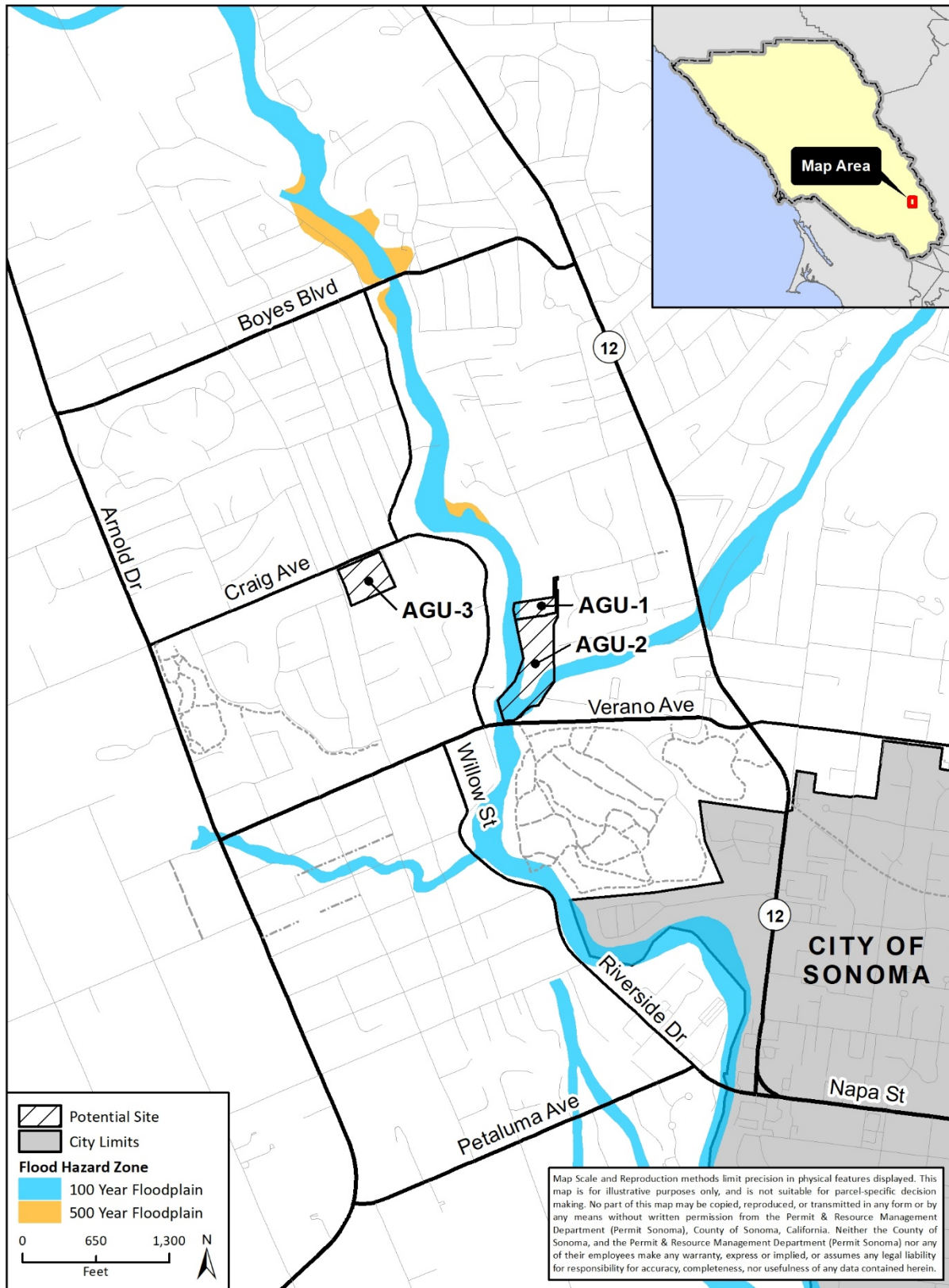
Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; FEMA.

Figure 4.10-6 FEMA Floodplain Map – Graton



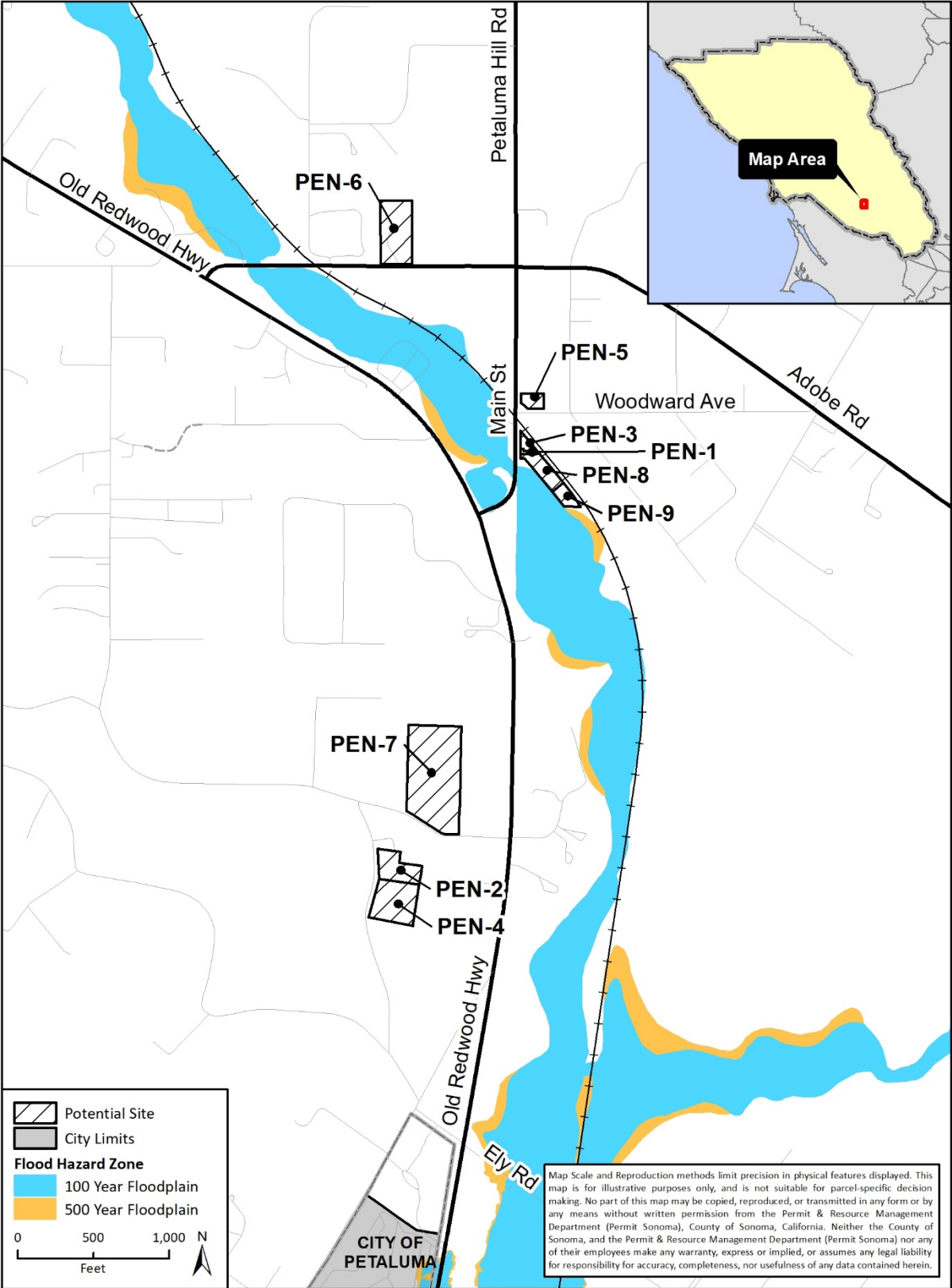
Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; FEMA.

Figure 4.10-7 FEMA Floodplain Map – Agua Caliente



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; FEMA.

Figure 4.10-8 FEMA Floodplain Map – Penngrove



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; FEMA.



## 4.10.2 Regulatory Setting

### a. Federal Regulations

#### Clean Water Act

Congress enacted the CWA, formerly the Federal Water Pollution Control Act of 1972, to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollution Discharge Elimination System (NPDES) permit process (CWA Section 402). The SWRCB and its nine RWQCBs administer the NPDES permits. In Sonoma County, NPDES permits are administered by the North Coast RWQCB and San Francisco Bay RWQCB.

Individual projects that disturb more than one acre are required to obtain NPDES coverage under the California General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) describing best management practices (BMP) the discharger would use to prevent and retain stormwater runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if BMPs fail; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Section 401 of the CWA requires any activity that would result in discharge into waters of the U.S. be certified by the RWQCB. This certification ensures the proposed activity would not violate State and/or federal water quality standards. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible and minimized and mitigated where avoidance is not possible. Section 303(d) of the CWA requires states to establish TMDL programs for streams, lakes, and coastal waters that do not meet certain water quality standards.

Applicants of construction projects disturbing one or more acre of soil are required to file for coverage under the SWRCB, Order No. 99-08-DWQ, NPDES General Permit No. CAS000002 for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit).

#### National Flood Insurance Act / Flood Disaster Protection Act

The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws are relevant because they led to mapping of regulatory floodplains and to local management of floodplain areas according to guidelines that include prohibiting or restricting development in flood hazard zones.

### b. State Regulations

#### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967 requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures.

The Water Quality Control Plan, or Basin Plan, protects designated beneficial uses of State waters through the issuance of waste discharge requirements and through the development of TMDLs. Anyone proposing to discharge waste that could affect the quality of the waters of the State must make a report of the waste discharge to the RWQCB or SWRCB as appropriate, in compliance with the Porter-Cologne Act.

## **Sustainable Groundwater Management Act**

In September 2014, Governor Brown signed legislation requiring that California's critical groundwater resources be sustainably managed by local agencies. The Sustainable Groundwater Management Act gives local agencies the power to sustainably manage groundwater and requires Groundwater Sustainability Plans (GSP) to be developed for medium- and high-priority groundwater basins. The Larkfield and Santa Rosa sites are in the Santa Rosa Plain GSA, which has similarly prepared a draft GSP that is required to be adopted by 2022. The Glen Ellen, Agua Caliente, and Sonoma sites are within the Sonoma Valley GSA, which also has prepared a draft GSP required to be adopted by 2022. The Penngrove sites are within the Petaluma Groundwater Sustainability Agency (GSA), which has prepared a Draft GSP. The Petaluma GSP is required to be adopted by 2022. While other Potential Sites are underlain by groundwater basins, they are not within a GSA.

## **Antidegradation Policy**

California's antidegradation policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Waters in California, restricts degradation of surface and ground waters. It protects waters where existing water quality is higher than necessary for the protection of beneficial uses. Any actions with the potential to adversely affect water quality must be consistent with the maximum benefit to the people of the State; not unreasonably affect present and anticipated beneficial use of the water; and not result in water quality less than prescribed in water quality plans and policies.

## **Cobey-Alquist Floodplain Management Act**

The Cobey-Alquist Floodplain Management Act (Water Code Section 8400 et seq.) gives support to the National Flood Insurance Program by encouraging local governments to plan, adopt, and enforce land use regulations for floodplain management, to protect people and property from flooding hazards. The Act also identifies requirements that jurisdictions must meet to receive State financial assistance for flood control.

## **California Green Building Standards Code**

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11) includes mandatory measures for residential and nonresidential development. For example, Section 4.106.2 requires residential projects that disturb less than one acre and are not part of a larger common plan of development to manage stormwater drainage during construction through on-site retention basins, filtration systems, and/or compliance with a stormwater management ordinance. Section 5.106.1 requires newly constructed nonresidential projects and additions of less than one acre to prevent the pollution of stormwater runoff from construction through compliance with a local ordinance or implementing BMPs that address soil loss and good housekeeping to manage equipment, materials, and wastes. Section 5.303 sets measures for indoor water use for non-residential development requiring metering devices to conserve water.

## Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code, Section 10610 et seq.), which requires urban water suppliers to develop water management plans to actively pursue the efficient use of available supplies. This Act also requires the provision of water service to be affordable to lower income households (Section 10631.1). Similarly, Government Code Section 65589.7 (Senate Bill [SB] 1087) requires water service providers to reserve water allocations for low income housing. Every five years, water suppliers are required to develop Urban Water Management Plans (UWMP) to identify short-term and long-term water demand management measures to meet growing water demands. Sonoma Water has prepared an UWMP, dated June 2016; SSWD's UWMP is dated October 2016; and Cal-Am's UWMP for the Sacramento Region<sup>1</sup> is dated October 2016, but this UWMP was published prior to Cal-Am's expansion to serve the Geyserville sites.

## State Water Conservation Requirements

Executive Order B-37-16 established a new water use efficiency framework for California. The order bolstered the state's drought resilience and preparedness by establishing longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating clearly wasteful practices, strengthening urban drought contingency plans, and improving agricultural water management and drought plans. Based on monthly water use reporting, most urban water suppliers reported sufficient supplies to meet demand in three additional dry years and are not subject to state conservation mandates. On February 8, 2017, SWRCB adopted an emergency water conservation regulation to amend and extend the May 2016 regulation. The amended regulation allows certain suppliers the opportunity to submit or resubmit their water supply reliability assessments.

### c. Regional and Local

#### Municipal Separate Storm Sewer System

RWQCBs issue stormwater discharge permits, with a Phase I Municipal Separate Storm Sewer System (MS4) (Order R1-2015-0030) applicable to sites in the North Coast Region RWQCB (including Potential Sites in Guerneville, Larkfield, Forestville, Graton, and Santa Rosa); and a Phase II MS4 (Order 2013-001-DWQ) applicable to sites in the San Francisco Bay RWQCB (including Potential Sites in Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma) (County of Sonoma 2020). No MS4 permits are established for the remaining areas of the county (including Geyserville Potential Sites) (County of Sonoma 2020). The County, City of Santa Rosa, and Sonoma Water implement the Phase II MS4 permit. The MS4 programs implement and enforce BMPs to reduce the discharge of pollutants from municipal separate storm sewer systems.

#### Low Impact Development Manual

The 2017 Storm Water Low Impact Development Technical Design Manual (LID Manual) provides technical guidance for project designs that require the implementation of permanent stormwater BMPs. This manual supersedes the 2005 Standard Urban Storm Water Mitigation Plan and satisfies Order R1-2015-0030, NPDES Permit CA0025054. While the City of Santa Rosa maintains the LID

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<sup>1</sup> Please note that Cal-Am's Sacramento Region covers portions of Sonoma County, including Geyserville.



Manual, the County of Sonoma is a co-permittee along with the City and implements the LID Manual on projects in the unincorporated county (City of Santa Rosa 2017).

## Sonoma County General Plan

The County General Plan was adopted by the Sonoma County Board of Supervisors Resolution 08-0808 on September 23, 2008. The County General Plan includes broad goals and policies aimed at protecting the county's water supply and water quality and protecting against flood hazards. Goals and policies from the County General Plan are provided below.

**Goal WR-1: Protect, restore, and enhance the quality of surface and groundwater resources to meet the needs of all reasonable beneficial uses.**

**Objective WR-1.2:** *Avoid pollution of stormwater, water bodies and groundwater.*

Policy WR-1c: Prioritize stormwater management measures in coordination with the RWQCB direction, focusing first upon watershed areas that are urbanizing and watersheds with impaired water bodies. Work cooperatively with the RWQCBs to manage the quality and quantity of stormwater runoff from new development and redevelopment in order to:

- (1) Prevent, to the maximum extent practicable, pollutants from reaching stormwater conveyance systems.
- (2) Ensure, to the maximum extent practicable, that discharges from regulated municipal storm drains comply with water quality objectives.
- (3) Limit, to the maximum extent practicable, stormwater from post development sites to pre-development quantities.
- (4) Conserve and protect natural areas to the maximum extent practicable.

Policy WR-1g: Minimize deposition and discharge of sediment, debris, waste and other pollutants into surface runoff, drainage systems, surface water bodies, and groundwater.

Policy WR-1h: Require grading plans to include measures to avoid soil erosion and consider upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable.

Policy WR-1q: Require new development projects to evaluate and consider naturally occurring and human caused contaminants in groundwater.

**Goal WR-2: Manage groundwater as a valuable and limited shared resource.**

**Objective WR-2.3:** Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.

**Objective WR-2.5:** Avoid additional land subsidence caused by groundwater extraction.

Policy WR-2e: Require proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas.<sup>2</sup> Require test wells or the establishment of community water systems in Class 4 water areas. Test wells may be required in Class 3 areas. Deny discretionary applications in Class 3 and 4 areas unless a hydrogeologic report establishes that groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area, so that the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or subbasin. Procedures

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<sup>2</sup> Class 3 refers to a marginal groundwater area. Class 4 refers to low/highly variable water yield areas.

for proving adequate groundwater should consider groundwater overdraft, land subsidence, saltwater intrusion, and the expense of such study in relation to the water needs of the project.

**Goal WR-4: Increase the role of conservation and safe, beneficial reuse in meeting water supply needs of both urban and rural users.**

**Objective WR-4.1:** Increase the use of recycled water where it meets all applicable regulatory standards and is the appropriate quality and quantity for the intended use.

**Objective WR-4.2:** Promote and encourage the efficient use of water by all water users.

**Objective WR-4.3:** Conserve and recognize stormwater as a valuable resource.

Policy WR-4b: Use water effectively and reduce water demand by developing programs to:

- (1) Increase water conserving design and equipment in new construction, including the use of design and technologies based on green building principles,
- (2) Educate water users on water conserving landscaping and other conservation measures,
- (3) Encourage retrofitting with water conserving devices,
- (4) Design wastewater collection systems to minimize inflow and infiltration, and
- (5) Reduce impervious surfaces to minimize runoff and increase groundwater recharge.

Policy WR-4e: Require water conserving plumbing and water conserving landscaping in all new development projects and require water conserving plumbing in all new dwellings. Promote programs to minimize water loss and waste by public water suppliers and their customers. Require County operated water systems to minimize water loss and waste.

Policy WR-4g: Require that development and redevelopment projects, where feasible, retain stormwater for on-site use that offsets the use of other water.

**Goal PS-2: Reduce existing flood hazards and prevent unnecessary exposure of people and property to risks of damage or injury from flood hazards.**

**Objective PS-2.2:** Regulate new development to reduce the risks of damage and injury from known flooding hazards to acceptable levels.

Policy PS-2e: Expand the County's zero net fill requirements to address all areas of the unincorporated County that are located within the 100-year FEMA special flood hazard area.

Policy PS-2f: Preserve floodplain storage capacity by avoiding fill in areas outside of the 100-year FEMA special flood hazard area that retain or could retain flood waters.

Policy PS-2m: Regulate development, water diversion, vegetation management, grading, and fills to minimize any increase in flooding and related damage to people and property.

Policy PS-2o: Costs for drainage facilities to handle the surface runoff from new development shall be the responsibility of the new development.

Policy PS-2p: Require that design and construction of drainage facilities be subject to the review and approval of the Permit and Resource Management Department.

## Sonoma County Code

Chapter 7B, Flood Damage Prevention, of the Sonoma County Code requires permits be obtained prior to constructing residences in any area of special flood hazard, anchoring of new construction in areas of special flood hazard to prevent movement or collapse of a structure, the use of flood

resistant materials and utility equipment in new construction, and elevation of the lowest residential floor to 12 inches above the base flood elevation.

Chapter 11, Construction Grading and Drainage, of the Sonoma County Code protects watercourses from construction practices that could result in pollutants entering the soil or watercourses through requiring best management practices be implemented and requiring construction grading permits and construction drainage permits.

Chapter 11A, Stormwater Quality, of the Sonoma County Code includes regulations to protect water quality, including prohibiting the discharge of non-stormwater into the county's stormwater system, compliance with NPDES permits for stormwater discharge, requiring measures to reduce and eliminate stormwater pollutants, and requiring the implementation of construction best management practices to prevent the discharge of contaminants.

Section 26-56, F1 Floodway Combining District (applies to GUE-4), of the Sonoma County Code includes development standards related to bank stabilization and building materials and placement, the provision of engineering studies determining bank erosion effects, eliminating the placement of fill in the Laguna de Santa Rosa, and stream or floodway diversions or alterations.

Section 26-56, F2 Floodplain Combining District (applies to GUE-3, GUE-4, GRA-2, AGU-1, AGU-2, and PEN-8), of the Sonoma County Code includes development standards intended to prevent the encroachment of flood waters on adjacent properties and prevent an increase in flood heights that could cause increased danger to life and property, including compliance with Chapter 7B of the Code, provision of engineering studies determining the effects of flooding on proposed structures, incorporation of design features that reduce the likelihood of flood damage, and eliminating the placement of fill in the Laguna de Santa Rosa.

## Water Quality Control Plans

The North Coast RWQCB completed a Water Quality Control Plan (WQCP) for the North Coast Region in June 2018 (North Coast RWQCB 2018). This plan applies to Potential Sites in Geyserville, Guerneville, Larkfield, Forestville, Graton, and Santa Rosa. The San Francisco Bay RWQCB completed a WQCP for the Bay Area Region in 2017 (San Francisco Bay RWQCB 2017). This plan applies to sites in Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma. Both WQCPs identify the beneficial uses for water bodies within the respective regions and provides implementation actions and strategies to achieve the water quality objectives set forth in the WQCPs.

### 4.10.3 Impact Analysis

#### a. Methodology and Thresholds of Significance

##### Methodology

This section describes the potential environmental impacts of the development facilitated by the project relevant to hydrology and water quality. The impact analysis is based on an assessment of baseline conditions for the Potential Sites, including surface water, groundwater, and floodplains, as described above under Section 4.10.1, *Environmental Setting*. This analysis identifies potential impacts based on the predicted interaction between the affected environment and construction, operation, and maintenance activities related to the development facilitated by the project, and recommends mitigation measures, when necessary, to avoid or minimize impacts.

## Significance Thresholds

The following thresholds of significance are based on Appendix G to the *CEQA Guidelines*. For the purposes of this Program EIR, project implementation may have a significant adverse impact if it would:

- 1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality
- 2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- 3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would
  - a. Result in substantial erosion or siltation on- or off-site
  - b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
  - c. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
  - d. Impede or redirect flood flows
- 4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation
- 5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

### b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
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**Impact HWQ-1** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT VIOLATE WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS, OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUNDWATER QUALITY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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## Construction

Construction activities associated with development facilitated by the project would include installation and realignment of utilities, demolition of existing structures, new development, and the replacement and/or improvement of drainage facilities. Construction activities could result in soil erosion due to earth-moving activities such as excavation, grading, soil compaction and moving, and soil stockpiling. The Potential Sites vary in elevation and slope by location. Runoff during storm events typically occurs as sheet flow across the Potential Sites. The types of pollutants contained in runoff from construction sites may include sediment and other existing contaminants such as nutrients, pesticides, herbicides, trace metals, and hydrocarbons that can attach to sediment and be transported downstream through erosion via overland flow, ultimately entering nearby waterways and contributing to degradation of water quality.

Construction activities would utilize hazardous materials such as diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, cement slurry, and other fluids required for the operation of construction vehicles or equipment. These types of hazardous materials are not acutely

hazardous, and all storage, handling, use, and disposal of these materials are regulated by county, state, and federal regulations and compliance with applicable standards discussed in Section 4.9, *Hazards and Hazardous Materials*. Direct contamination of surface water is also unlikely because no defined stream channels or perennial waters are present in the Potential Sites.

Development facilitated by the project would be required to comply with State and local water quality regulations designed to control erosion and protect water quality during construction. This includes compliance with the requirements of the SWRCB Construction General Permit, which requires preparation and implementation of a SWPPP for projects that disturb one acre or more of land. Potential Sites greater than one acre in size (including all GEY, GUE, FOR, GRA, AGU, and PET sites; in addition to LAR-1, LAR-5, LAR-7, SAN-1 through SAN-7, SAN-9, SAN-10, PEN-2, PEN-4, PEN-6, PEN-7, SON-2, and SON-3) would be subject to the SWRCB Construction General Permit and would be required to develop a SWPPP for sites greater than 1 acre in size. The SWPPP must include erosion and sediment control BMPs that would meet or exceed measures required by the Construction General Permit. Construction BMPs could include inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management. Post-construction stormwater performance standards are also required to specifically address water quality and channel protection events. Implementation of the required SWPPP would reduce the potential for eroded soil and any contaminants attached to that soil to contaminate a waterbody following a storm event.

All sites would be required to comply with Sonoma County Code statutes regarding the water quality of discharges from project sites, such as Section 11.14.040 requirements to convey runoff to disposal locations that maximize infiltration and minimize erosion. This requirement protects water quality.

Potential Sites would be subject to the applicable NPDES MS4 Permit (based on site location) and Chapters 11 and 11A of the Sonoma County Code, which require measures to reduce and eliminate stormwater pollutants, installation of appropriate BMPs to control stormwater runoff from construction sites, maintain or reduce stormwater runoff volumes and rates, and that grading and drainage permits be obtained prior to construction. The County also requires future development to comply with the LID Manual, which satisfies Order R1-2015-0030, NPDES Permit CA0025054 through the requirement of various low impact development measures. Grading and drainage plans accompanying the permit application must include BMPs for erosion prevention and sediment control, fencing at waterways and in sensitive areas, and limitation of disturbed areas through temporary features. The permit applications must also demonstrate compliance with NPDES MS4 permit provisions.

Compliance with the regulations and policies discussed above would reduce the risk of water degradation from soil erosion and other pollutants related to construction activities. Because violations of water quality standards would be minimized through existing regulations, impacts to water quality from construction activities from development facilitated by the project would be less than significant.

## Operation

Development facilitated by the project would result in a net increase of impervious surfaces throughout the Potential Sites. On-site development and any associated off-site improvements greater than one acre in size would need to comply with the NPDES Construction General Permit, which requires the development of a SWPPP, as described in detail above. SWPPP implementation would reduce the risk of water degradation on site and off site from soil erosion and other

pollutants related to project operation because a SWPPP requires the design, installation, and maintenance of post-construction stormwater controls.

As described in Section 4.10.2, *Regulatory Setting*, above, storm drain systems in the county are operated under NPDES MS4 General Permits. The purpose of the regional MS4 permitting program is to implement and enforce BMPs to reduce the discharge of pollutants from municipal separate storm sewer systems. To achieve compliance with the regional program, and thus conditions of the MS4 General Permit, the County requires compliance with the applicable MS4 General Permit be demonstrated during the grading permit application phase.

Pursuant to Chapters 11 and 11A of the Sonoma County Code, the County requires measures to reduce and eliminate stormwater pollutants and BMPs to control stormwater runoff from Potential Sites, in addition to grading and drainage permits. These requirements may include a combination of structural and nonstructural BMPs and may include requirements to ensure the proper long-term operation and maintenance of these BMPs.

In addition to stormwater runoff, polluted wastewater could be discharged by development facilitated by the project. Development facilitated by the project would increase wastewater flows to the applicable local wastewater purveyor. The Sonoma County Code Section 24-27 prohibit the discharge of industrial waste or any garbage, except shredded garbage, or any solids, semi-solid or liquid substances resulting from any garbage, service station, or automobile wash-rack into the sanitary sewer system. Required compliance with the Code would ensure that wastewater discharges to the sanitary sewer system and local wastewater treatment plants are properly and effectively treated to meet or exceed discharge requirements of the NPDES/Waste Discharge Requirement permit.

In addition, wastewater purveyors collect monthly fees from system users for wastewater flows. Development associated with the proposed project would be subject to user fees, which would in turn fund any necessary operating and capacity infrastructure needs for wastewater flows.

Implementation of the regulations, permit requirements, BMPs, and policies described above would prevent or minimize impacts related to water quality and ensure that development facilitated by the project would not cause or contribute to the degradation of water quality in receiving waters. Development facilitated by the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality, and water quality impacts would be less than significant.

## **Mitigation Measures**

No mitigation measures would be required.

## **Significance After Mitigation**

Impacts would be less than significant without mitigation.



<b>Threshold:</b> Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
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**Impact HWQ-2** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDE SUSTAINABLE GROUNDWATER MANAGEMENT OF LOCAL GROUNDWATER BASINS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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Development facilitated by the project would increase the demand for water, most of which would derive from groundwater sources in the County. Impact HWQ-3 focuses upon physical interference associated with impervious surfaces.

The project would increase the amount of impervious surface area on the Potential Sites. However, development facilitated by the project would be required to comply with the LID Manual, which requires the implementation of permanent stormwater BMPs for projects that create or replace 10,000 square feet or more of impervious surfaces. These BMPs would encourage groundwater recharge through the construction of stormwater capture basins, which would percolate captured surface water into the soil on site. Per General Plan Policy WR-2e, development in Class 3 water areas (i.e., marginal groundwater areas), which includes Larkfield and Glen Ellen Potential Sites) would be required to establish adequate groundwater quality and quantity prior to development. Furthermore, policies under General Plan Goal WR-4 encourage water conservation, which would decrease the project's demand on water throughout the county and therefore decrease the demand on local groundwater supplies. Compliance with these existing requirements would ensure that impacts to groundwater supplies would be less than significant.

Construction of residential housing structures associated with the project may require subsurface support and foundations. Utility infrastructure serving these uses, such as sanitary sewer pipe and water mains, would be located below ground surface. Although the construction of support and foundations for structures and subsurface infrastructure could contact groundwater in limited instances, the displaced volume would not be substantial relative to the storage volume of the underlying groundwater basins. Additionally, utility infrastructure and foundations for residential development would not extend to depths of groundwater aquifers and storage. Due to the depth of groundwater (refer to Table 4.10-5), dewatering activities are unlikely to occur for most Potential Sites, with the potential exception of Glen Ellen sites. If required, dewatering activities required for construction could also remove groundwater, but the volume of water removed would not be substantial relative to groundwater pumping for water supply. Dewatering would be temporary, and groundwater levels would recover following construction. Water used during construction for cleaning, dust control, and other uses would be nominal. Thus, construction activities would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

The project would not interfere substantially with groundwater recharge. Therefore, groundwater impacts would be less than significant.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?
<b>Threshold:</b>	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
<b>Threshold:</b>	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

**Impact HWQ-3** DEVELOPMENT FACILITATED BY THE PROJECT WOULD ALTER DRAINAGE PATTERNS AND INCREASE RUNOFF IN THE POTENTIAL SITES, BUT WOULD NOT RESULT IN SUBSTANTIAL EROSION OR SILTATION ON OR OFF SITE, RESULT IN INCREASED FLOODING ON OR OFF SITE, EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS, OR GENERATE SUBSTANTIAL ADDITIONAL POLLUTED RUNOFF. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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## Construction

Construction activities would involve stockpiling, grading, excavation, dredging, paving, and other earth-disturbing activities that could temporarily alter existing drainage patterns. As described under Impact HWQ-1 above, compliance with SWRCB's NPDES Construction General Permit, NPDES MS4 General Permits, and the Sonoma County Code would reduce the risk of short-term erosion and increased runoff resulting from drainage alterations during construction. Therefore, impacts would be less than significant.

## Operation

Development facilitated by the project would alter the existing drainage patterns in the Potential Sites through introduction of new impervious surfaces and infrastructure. New impervious surfaces could increase the rate and/or amount of surface runoff, redirect runoff to different discharge locations, or concentrate runoff from sheet flow to channelized flow. Surface water runoff rate and amount is determined by multiple factors, including the amount and intensity of precipitation, amount of other imported water that enters a watershed, and amount of precipitation and imported water that infiltrates to the groundwater. Infiltration is also determined by several factors, including soil type, antecedent soil moisture, rainfall intensity, the amount of impervious surface in a watershed, and topography. The rate of surface runoff is largely determined by topography. Runoff that does not infiltrate and flows off site would be captured in local storm drain systems (where present), and ultimately discharge to local surface waters.

Impact HWQ-1 discusses applicable regulations that would limit pollutant discharges, including sediment and silt, from the project. As discussed above for Impact HWQ-1, the Sonoma County Code requires measures to reduce and eliminate stormwater pollutants and implementation of BMPs to control stormwater runoff from construction sites, in addition to grading and drainage permits. The County requires compliance with the applicable MS4 General Permit and LID Manual

be demonstrated during the grading permit application phase. Additionally, on-site development and any associated off-site improvements greater than one acre in size would be required to comply with the NPDES Construction General Permit, which requires the development of a SWPPP, as described in detail above.

The Sonoma County General Plan includes goals and policies that are intended to reduce flood hazards through minimal alterations to designated floodplains, which would reduce the potential for increased susceptibility to flooding on or offsite. Implementation of these goals and policies would ensure that the runoff from development facilitated by the project does not exceed the capacity of existing and future storm drain systems. Impacts would be less than significant.

The project would not alter the existing drainage patterns or contribute runoff water in a manner which would result in substantial erosion, siltation, or flooding, nor would it exceed the capacity of existing or planned stormwater drainage systems. Impacts would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?
<b>Threshold:</b>	In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

**Impact HWQ-4** DEVELOPMENT FACILITATED BY THE PROJECT WOULD ALTER DRAINAGE PATTERNS ON AND INCREASE RUNOFF FROM THE POTENTIAL SITES. THE POTENTIAL SITES WITHIN AN AREA AT RISK FROM INUNDATION BY FLOOD HAZARD WOULD BE REQUIRED TO COMPLY WITH APPLICABLE GENERAL PLAN GOALS AND POLICIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As stated in Section 4.10.1, *Environmental Setting*, the following Potential Sites are partially within a 100-year flood hazard area: GUE-4, GRA-2, AGU-1, AGU-2, PEN-8, and PEN-9. Development facilitated by the project would not impede or redirect flood flows on the remaining Potential Sites. For the sites partially within the 100-year floodplain, development would be required to comply with General Plan policies that aim to achieve General Plan Goal PS-2. This includes achieving zero net fill within these sites following development, avoiding fill in areas that retain flood waters, and requiring review and approval of proposed drainage facilities by Permit Sonoma. These requirements ensure that any development on the Potential Sites would result in no net change in the 100-year floodplain. Therefore, increased flooding on adjacent parcels to the Potential Sites would not occur because of the project.

As described previously, development facilitated by the project would be subject to County requirements (in both the General Plan and Code) for stormwater quality runoff from Potential Sites (refer to Impact HWQ-1). Therefore, the project would not risk release of pollutants due to flood inundation. Impacts related to flood flows and project inundation would be less than significant.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

**Impact HWQ-5** THE POTENTIAL SITES ARE NOT WITHIN AN AREA AT RISK FROM INUNDATION BY SEICHE OR TSUNAMI, AND THEREFORE WOULD NOT BE AT RISK OF RELEASE OF POLLUTANTS DUE TO PROJECT INUNDATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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As stated in Section 4.10.1, *Environmental Setting*, the Potential Sites are not located in a tsunami or seiche zone. Therefore, development facilitated by the project would not risk release of pollutants due to tsunami or seiche inundation of the Potential Sites. Impacts related to flood flows and project inundation would be less than significant.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?
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**Impact HWQ-6** DEVELOPMENT FACILITATED BY THE PROJECT WOULD COMPLY WITH ADOPTED WATER QUALITY CONTROL PLANS AND SUSTAINABLE GROUNDWATER MANAGEMENT PLANS APPLICABLE TO THE POTENTIAL SITES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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## Water Quality Control Plan

Development facilitated by the project would affect water quality and groundwater supply through construction and operational activities. The North Coast RWQCB's WQCP applies to Potential Sites in Geyserville, Guerneville, Larkfield, Forestville, Graton, and Santa Rosa; while the San Francisco Bay RWQCB's WQCP applies to sites in Glen Ellen, Agua Caliente, Penngrove, Petaluma, and Sonoma. The WQCPs identify beneficial uses for surface water and groundwater and establish water quality objectives to attain those beneficial uses. The identified beneficial uses and the water quality objectives to maintain or achieve those uses are together known as water quality standards. As discussed in detail under Impact HWQ-1, compliance with relevant water quality regulations, BMPs, and policies would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. These requirements would ensure that the project does not contribute or exacerbate identified water quality contamination in the applicable WQCP.

The project would increase the demand for water, most of which would derive from groundwater sources. As described in Section 4.18, *Utilities and Service Systems*, the potable water demand for the project is anticipated to be adequately served by the existing water infrastructure and water purveyors serving the Potential Sites. Several of the Potential Sites would require implementation of Mitigation Measure UTIL-1 to ensure adequate water supplies exist to serve development facilitated

by the project. Following implementation of this measure, impacts to water supplies would be less than significant.

Construction and operation of development facilitated by the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. Consequently, the project would not conflict with or obstruct implementation of the WQCPs, and impacts would be less than significant.

### **Sustainable Groundwater Management Plan**

As discussed under Section 4.10.2(b), the GSAs that maintain the groundwater basins underlying the Potential Sites have developed draft GSPs, but none of the GSPs have been formally adopted or approved. Therefore, development facilitated by the project would not interfere with sustainable groundwater management planning efforts. Impacts related to sustainable groundwater management would be less than significant with mitigation.

### **Mitigation Measures**

No mitigation measures would be required.

### **Significance After Mitigation**

Impacts would be less than significant without mitigation.

## **4.10.4 Cumulative Impacts**

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative hydrology and water quality impacts is all watersheds and groundwater basins where the Potential Sites are located (refer to Table 4.10-1 and Figure 4.10-3). This geographic scope is appropriate for hydrology and water quality because water quality impacts are localized in the watershed where the impact occurs. Cumulative development within this geographic scope include development envisioned under the County General Plan and buildout of city general plans.

Cumulative development would generally increase impermeable surface area in the applicable watersheds. Development would potentially increase peak flood flows, alter drainage patterns, reduce groundwater recharge, and increase pollutants in the regional stormwater. However, cumulative development would also be required to adhere to all applicable State and local regulations designed to control erosion and protect water quality, including the Sonoma County Code, NPDES Construction General Permit, MS4 General Permits, and Sonoma County General Plan policies. All construction sites larger than one acre in size would be required to prepare and submit a SWPPP, thereby reducing the risk of water degradation on and off site from soil erosion and other pollutants.

As discussed above under Impacts HWQ-1 and HWQ-3, development facilitated by the project would increase impervious surface areas and alter drainage patterns. However, compliance with relevant water quality regulations, BMPs, and policies would reduce the risk of water degradation from soil erosion and other pollutants related to construction and operational activities. Construction and operation of development facilitated by the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality.

In addition, as discussed under Impact HWQ-2, construction of development facilitated by the project would be required to comply with General Plan Policy WR-2f, which requires the pre-development groundwater recharge of a site is maintained following development. The project's water quality and groundwater recharge impacts would be less than significant. The project would comply with NPDES, MS4, and County requirements related to stormwater runoff and water quality. Consequently, development facilitated by the project would not contribute to cumulative impacts to peak runoff, flooding, groundwater recharge, or water quality. Therefore, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to water quality.

As discussed under Impacts HWQ-2 and HWQ-6, development facilitated by the project would increase the demand for water, most of which would be derived from groundwater sources. Cumulative development would also increase demands for groundwater supplies. Compliance with applicable regulations and the impending development of groundwater sustainability plans would ensure the long-term sustainability of groundwater supplies. Therefore, cumulative development would not result in a significant cumulative impact. The project's impacts to groundwater supplies and groundwater management efforts would be less than significant and the project would not have a cumulative considerable contribution to a significant cumulative impact related to groundwater.

As discussed under Impacts HWQ-4 and HWQ-5, most of the Potential Sites are not within a 100-year flood hazard area, and no Potential Sites are within a zone at risk of inundation by tsunami or seiche and therefore would not be at risk of release of pollutants due to inundation. For the sites partially within the 100-year floodplain, development facilitated by the project would be required to comply with General Plan policies that aim to achieve General Plan Goal PS-2. Similarly, cumulative development in other areas in the watershed that are subject to inundation may have localized impacts. However, projects would be analyzed and mitigated on a case-by-case basis and would be designed to avoid or mitigate potential impacts related to flooding. Cumulative impact related to flooding, seiche, and tsunami would therefore be less than significant with mitigation. The project would not impede or redirect flood flows or risk release of pollutants due to inundation. Impacts from development facilitated by the project related to flood flows and project inundation would be less than significant. Because flooding is localized and site-specific, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to flood hazard or inundation risks.



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## 4.11 Land Use and Planning

This section analyzes the consistency of the project with applicable land use plans, policies, and regulations, and identifies environmental effects that would arise from any inconsistencies.

### 4.11.1 Setting

#### a. Existing Land Uses

The Potential Sites are located throughout unincorporated Sonoma County and are subject to County zoning and County General Plan land use designations. Section 2, *Project Description*, Table 2-2 provides the existing zoning and land use designation of each site. Table 4.11-1 and Table 4.11-2 show the total acreages of each existing land use designation and zoning designation, respectively, of the combined Potential Sites.

**Table 4.11-1 Potential Sites Total Acres of Existing Land Use Designations**

Land Use Designation	Total Acres
General Industrial (GI)	17.3
Limited Industrial (LI)	25.6
General Commercial (GC)	7.4
Limited Commercial (LC)	8.8
Rural Residential (RR) - 1.5 units per 5 acres	5.3
Rural Residential (RR) - 2 unit per 5 acres	1.1
Rural Residential (RR) - 3 unit per 5 acres	4.0
Urban Residential (UR) - 1 unit per acre	9.9
Urban Residential (UR) - 2 units per acre	40.2
Urban Residential (UR) - 4 units per acre	3.6
Urban Residential (UR) - 4.8 units per acre	4.0
Urban Residential (UR) - 5 units per acre	7.4
Urban Residential (UR) - 9 units per acre	4.8
Combined Districts (LC/RR1.5, LC/UR 11, and LI/RR 3)	15.2

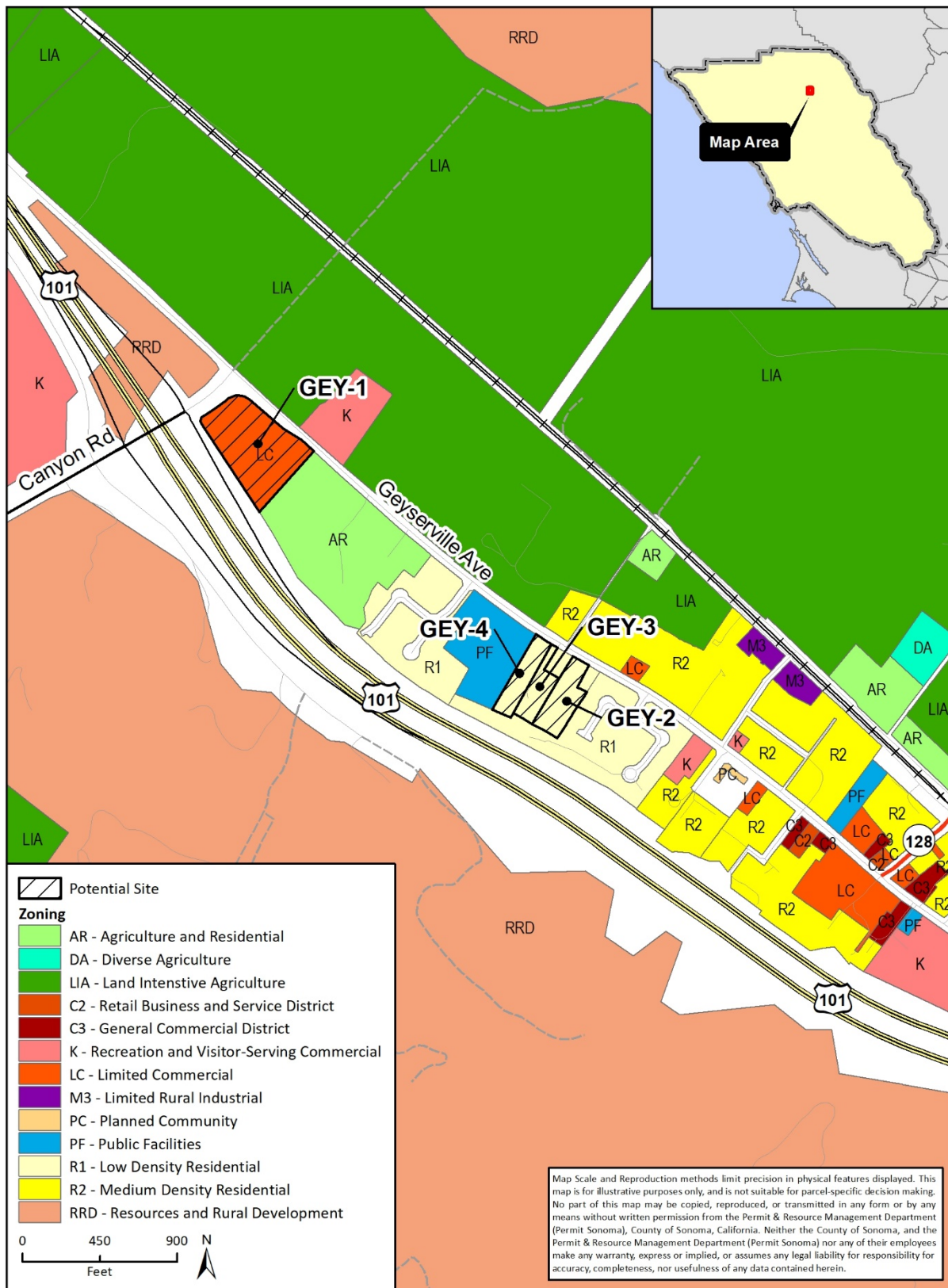
**Table 4.11-2 Potential Sites Total Acres of Existing Zoning Designations**

Zoning Designation	Total Acres
Agricultural and Residential (AR)	5.3
Administrative and Professional Office (CO)	2.4
Neighborhood Commercial (C1)	0.0
Retail Business and Service (C2)	0.2
General Commercial (C3)	1.0
Limited Commercial (LC)	6.4
Industrial Park (MP)	2.9
Limited Urban Industrial (M1)	14.0
Heavy Industrial (M2)	8.3
Limited Rural Industrial (M3)	6.6
Planned Community (PC)	6.2
Rural Residential (RR)	57.3
Low Density Residential (R1)	26.4
Medium Density Residential (R2)	4.8
Combined Districts (AR/C1, LC/PC, M1/RR)	22.5

As shown in Table 4.11-1 and Table 4.11-2, the Potential Sites have various existing land use and zoning designations, ranging from general and light industrial uses to various densities of residential uses. The most common existing land use designation of the Potential Sites is Urban Residential (2 units per acre), and the most common zoning designation is Rural Residential. The zoning of each Potential Site and surrounding area is shown on Figure 4.11-1 through Figure 4.11-11. The land use designations typically align with the zoning designation, such that residentially zoned lands are designated for residential land uses, and commercially zoned lands are designated for commercial land uses, for example.

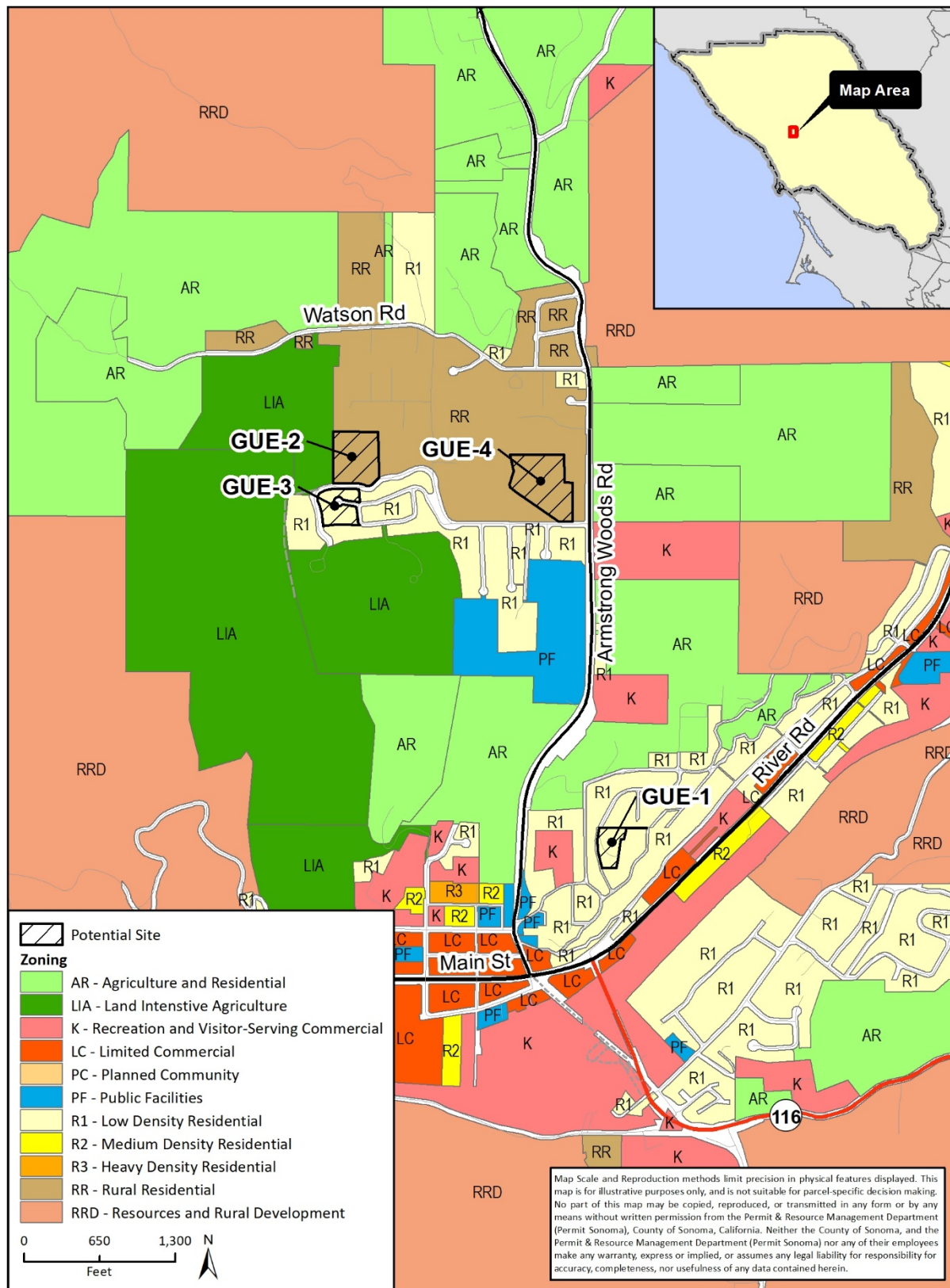
The Potential Sites are in or adjacent to already-developed areas in communities varying in size. Most are in small, unincorporated communities. Surrounding land uses vary widely, and include residential development, agricultural land, public utilities infrastructure, commercial development, open space/undeveloped land, religious institutions, educational facilities, and light industrial and warehouse uses. Section 2, *Project Description*, provides additional details related to land use patterns.

Figure 4.11-1 Existing Zoning – Geyserville



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

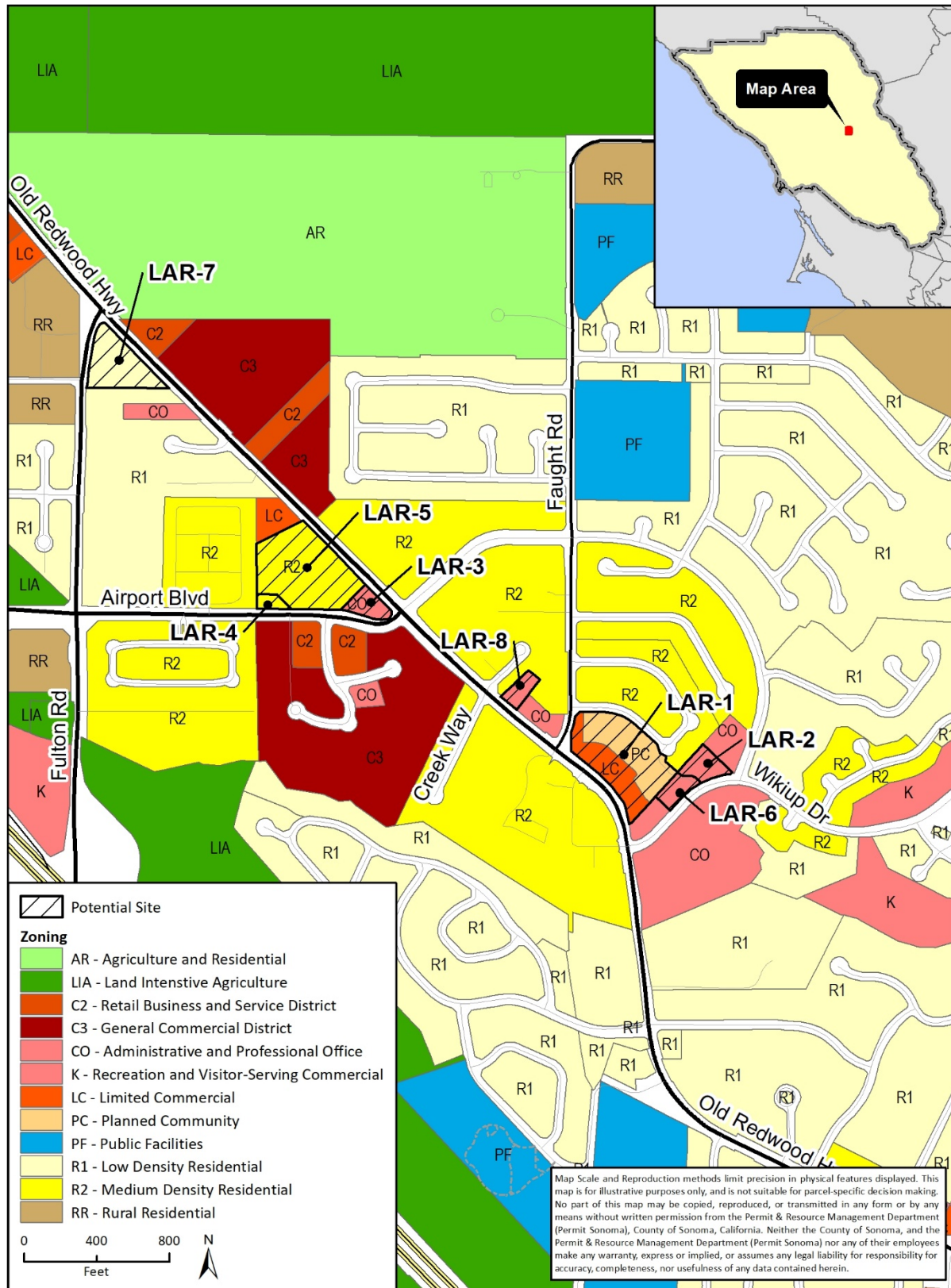
Figure 4.11-2 Existing Zoning – Guerneville



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.



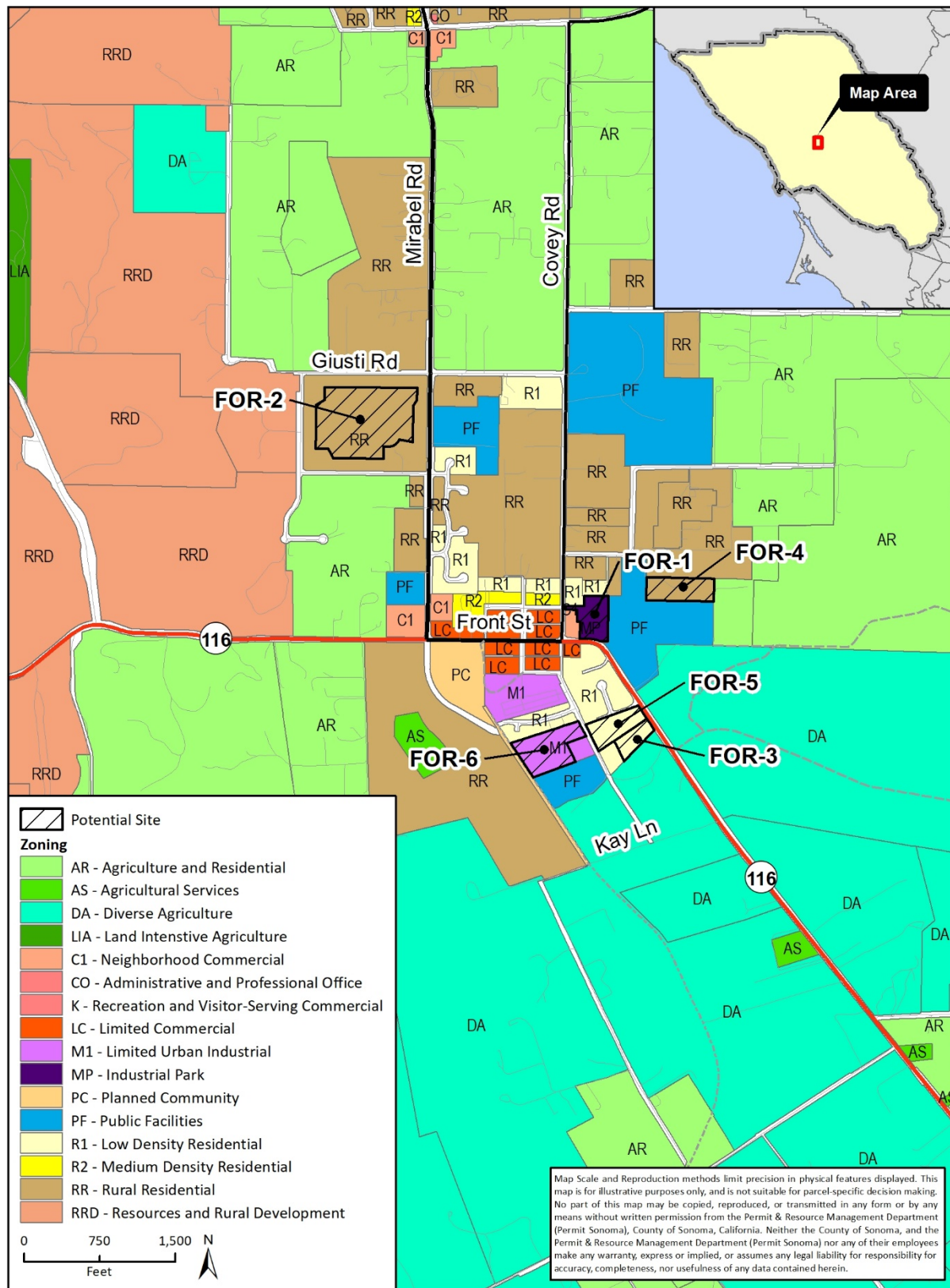
Figure 4.11-3 Existing Zoning – Larkfield



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).

Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

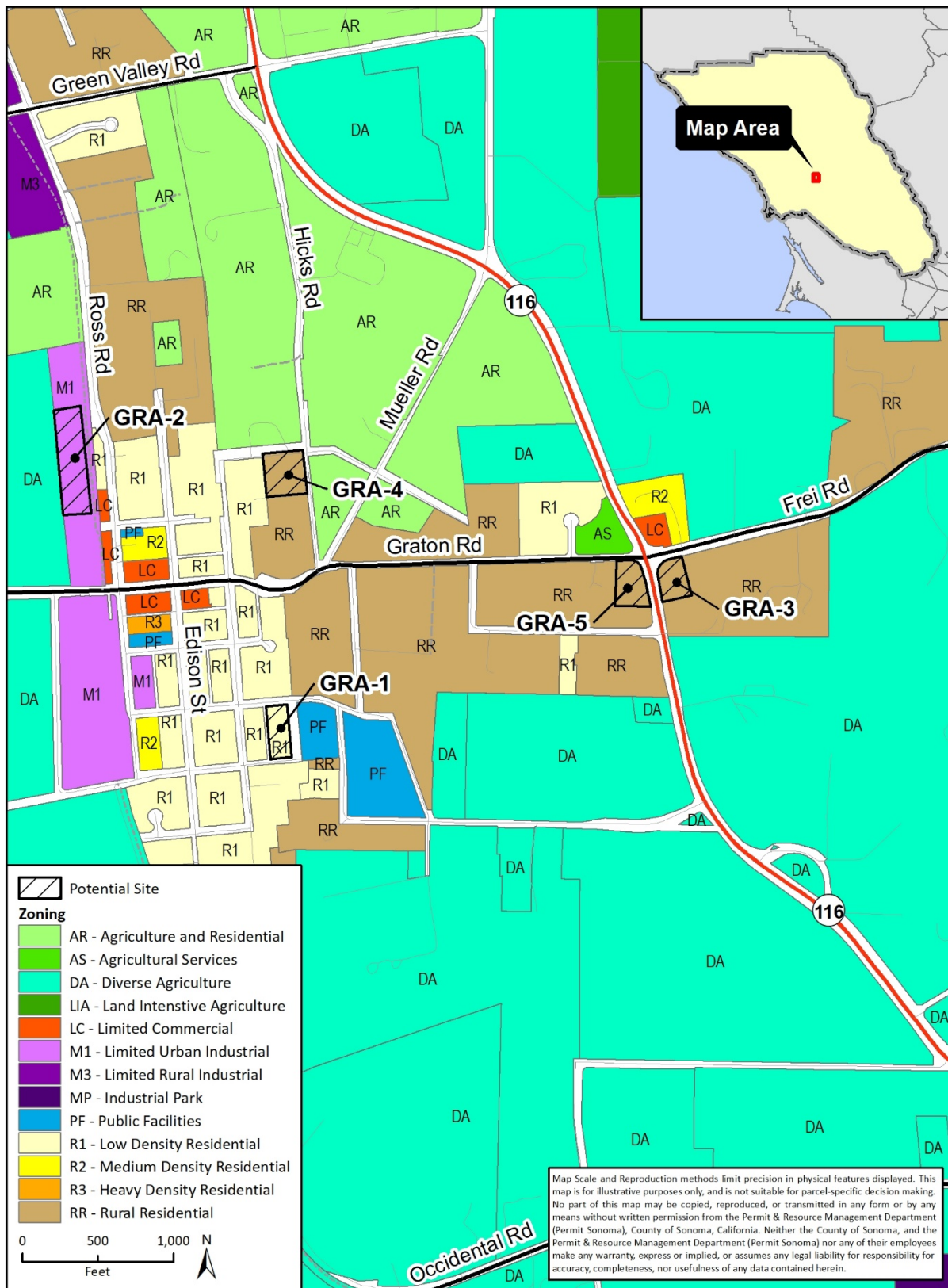
Figure 4.11-4 Existing Zoning – Forestville



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

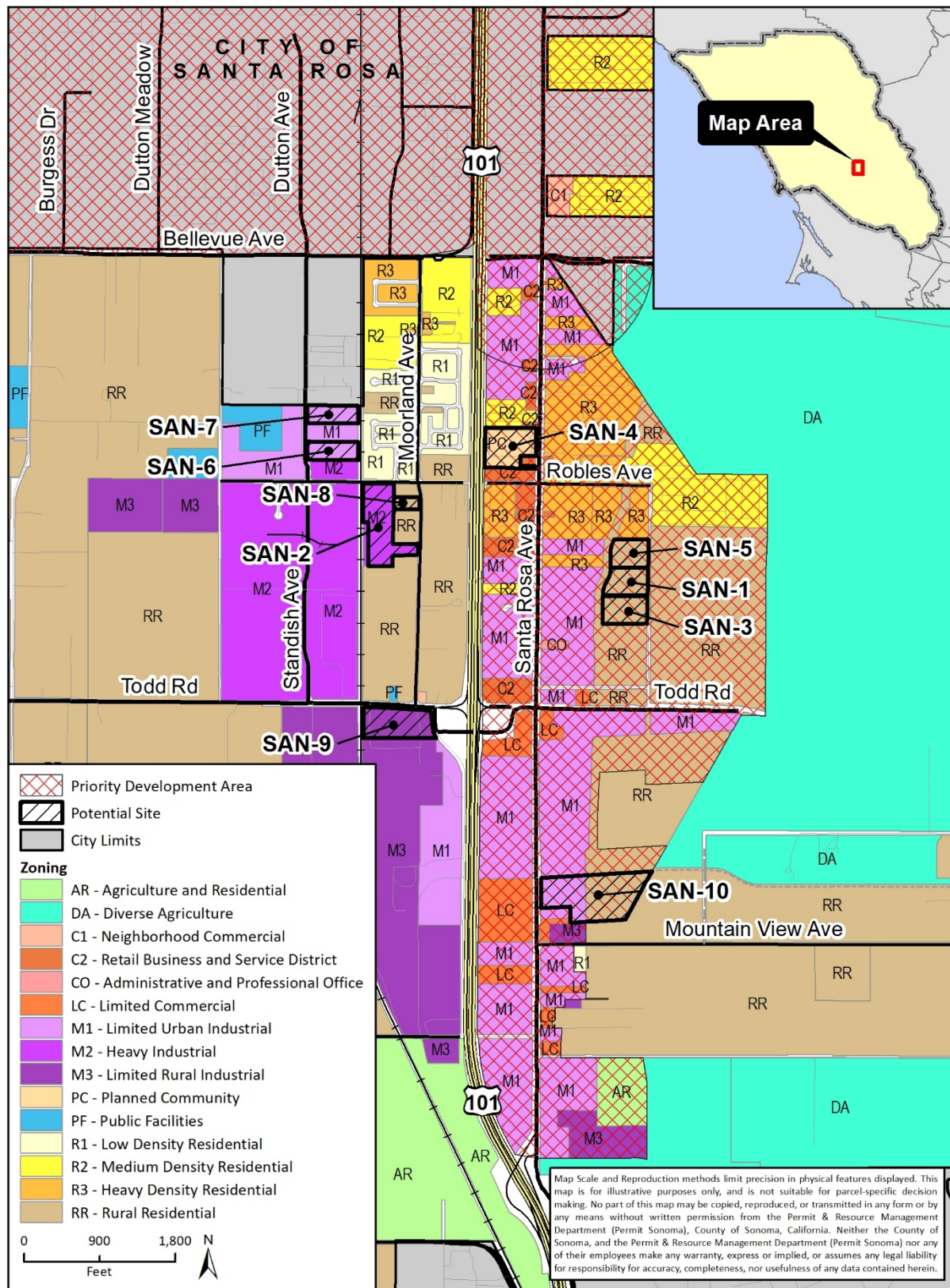


Figure 4.11-5 Existing Zoning – Graton



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

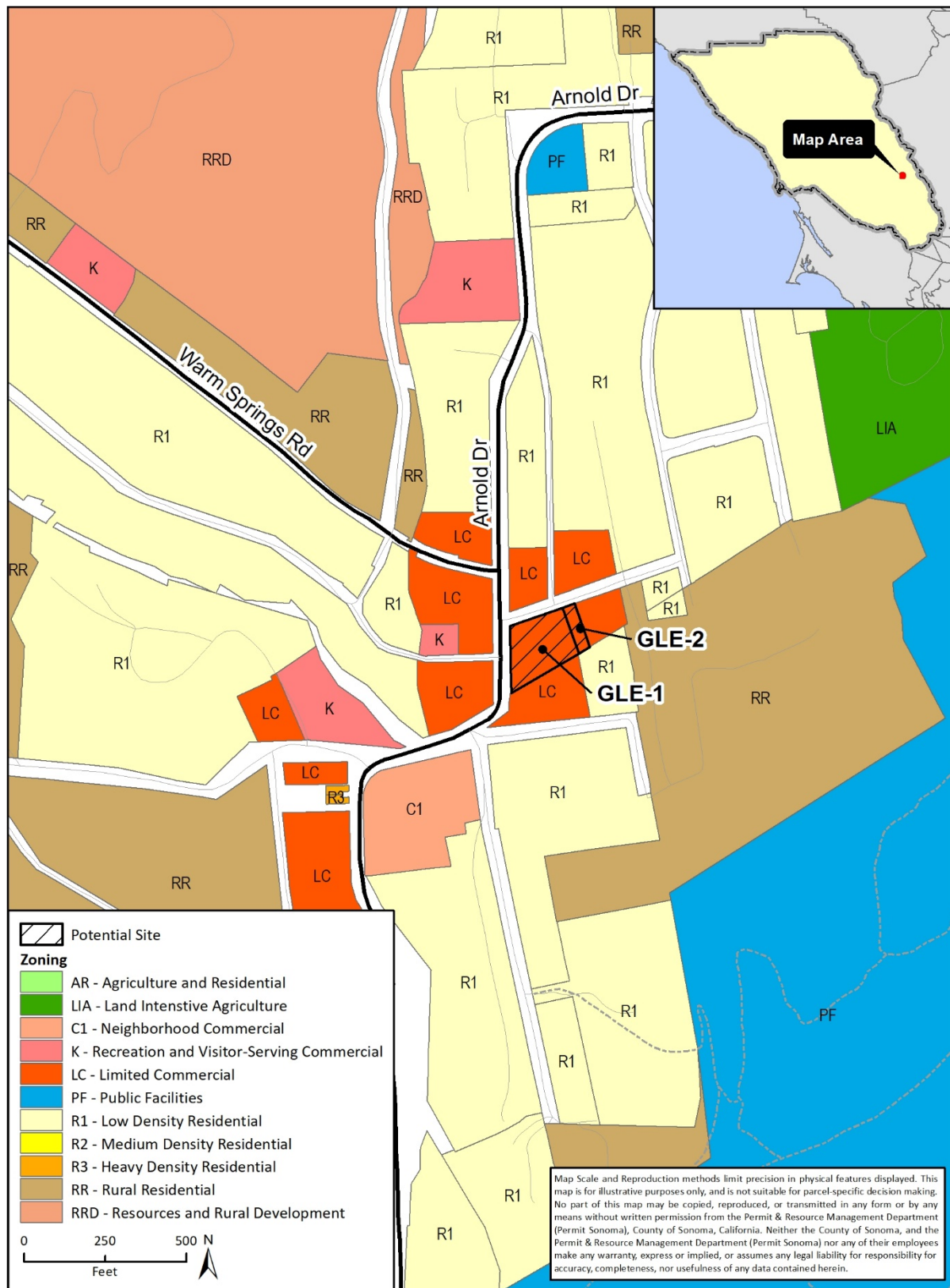
Figure 4.11-6 Existing Zoning – Santa Rosa



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

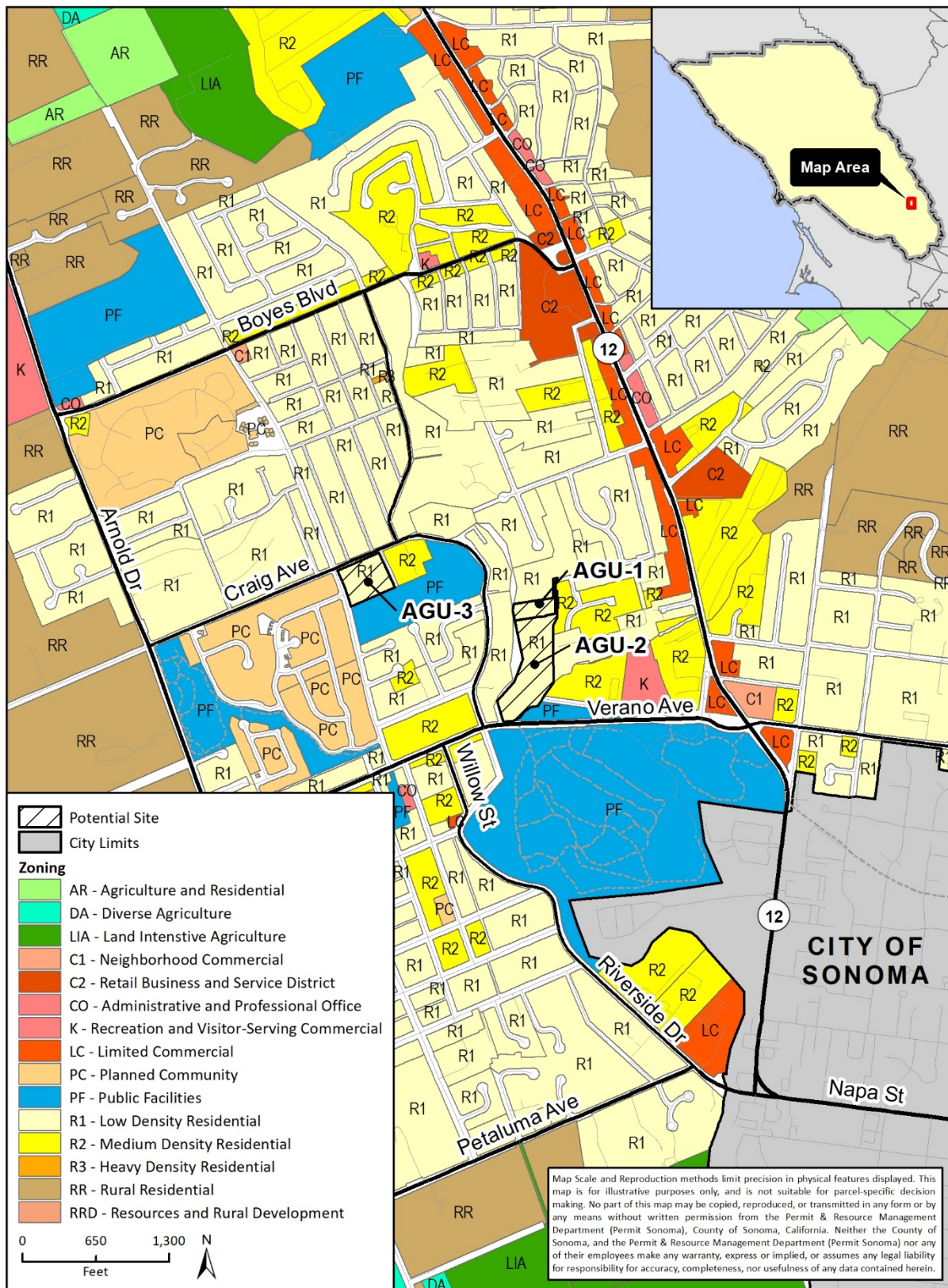


Figure 4.11-7 Existing Zoning – Glen Ellen



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

Figure 4.11-8 Existing Zoning – Agua Caliente

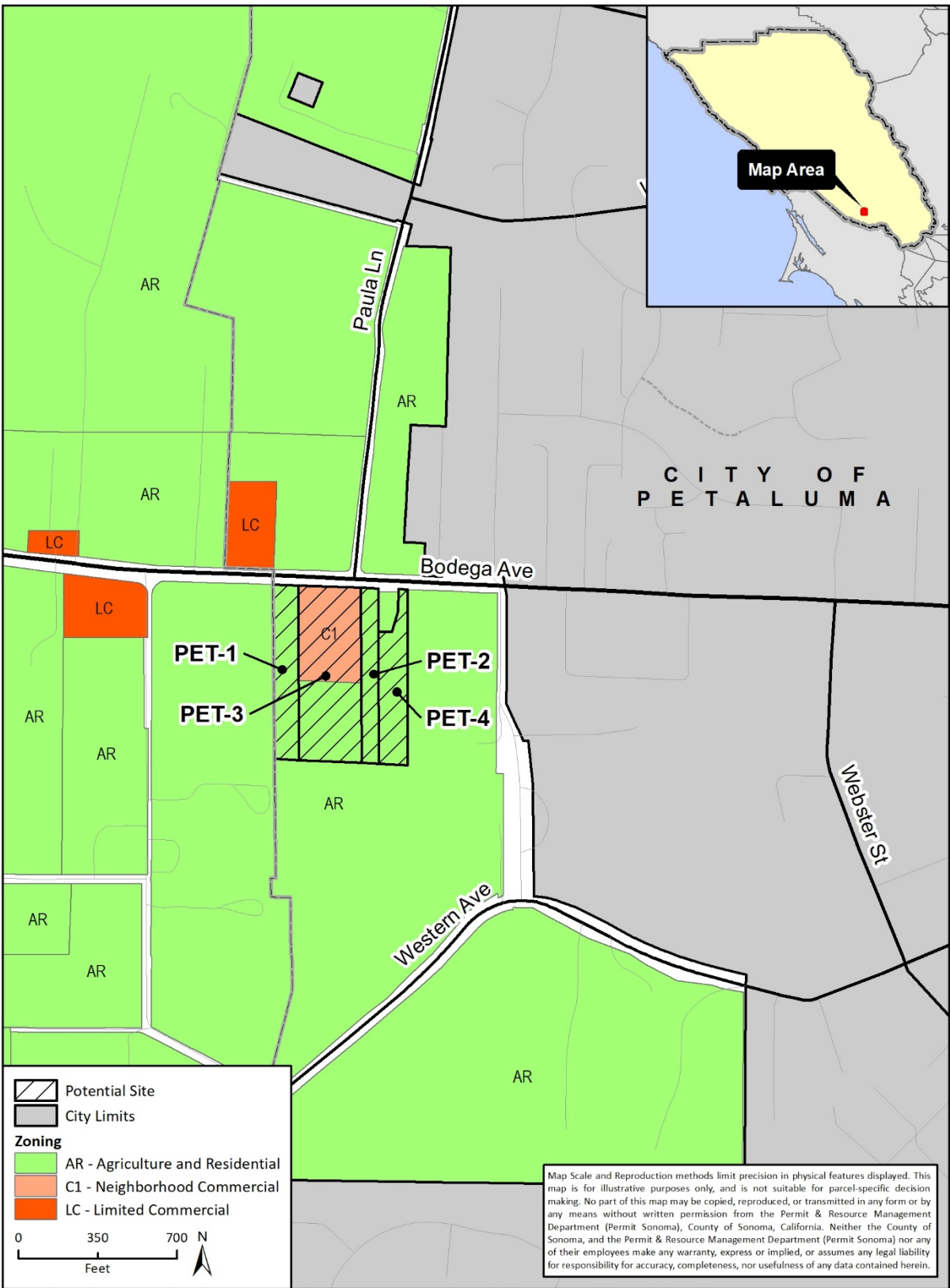


Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.





Figure 4.11-10 Existing Zoning – Petaluma



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Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.





## 4.11.2 Regulatory Setting

### a. State Regulations

#### Local Agency Formation Commissions

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Cortese-Knox-Hertzberg Act) of 2000 (Government Code Section 56000 et seq.) establishes the process through which local agency boundaries are established and revised. Each county must have a Local Agency Formation Commission (LAFCO), which is the agency that has the responsibility to create orderly local government boundaries, with the goal of encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open-space lands, and the discouragement of urban sprawl. While LAFCOs have no land use power, their actions determine which local government will be responsible for planning new areas. LAFCOs address a wide range of boundary actions, including the creation and modifications of spheres of influence for cities and special districts, annexations, reorganizations, incorporations, and the detachment of areas from special districts. A city's or special district's sphere of influence is an indication of an agency's future growth boundaries.

#### Planning and Zoning Law

State law requires each city and county in California to adopt a general plan for the physical development of the land within its planning area (Government Code Sections 65300-65404). The general plan must contain land use, housing, circulation, open space, conservation, noise, and safety elements, as well as any other elements that the city or county may wish to adopt. The circulation element of a local general plan must be correlated with the land use element.

Zoning authority originates from city and county police power and from the State's Planning and Zoning Law, which sets minimum requirements for local zoning ordinances. The city or county zoning code is the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, State law has required the city or county zoning code to be consistent with the jurisdiction's general plan. The consistency requirement does not apply to charter cities other than Los Angeles unless the charter city adopts a consistency rule.

#### Sustainable Communities and Climate Protection Act (SB 375)

The Sustainable Communities and Climate Protection Act (SB 375) supports the State's climate goals by helping reduce greenhouse gas emissions through coordinated transportation, housing, and land use planning. Under the Act, the California Air Resources Board (CARB) set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010 and updated them in 2018. Each of the regions must prepare a Sustainable Communities Strategy (SCS), as an integral part of its regional transportation plan, that contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet CARB's targets. The Act establishes some incentives to encourage implementation of the development patterns and strategies included in an SCS. Developers can get relief from certain environmental review requirements under the California Environmental Quality Act (CEQA) if their new residential and mixed-use projects are consistent with a region's SCS that meets the targets (see Public Resources Code Sections 21155, 21155.1, 21155.2, 21159.28.).

## **b. Regional Regulations**

Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC) Plan Bay Area 2040, adopted in July 2017, is a long-range, integrated transportation and land-use plan for the nine-county San Francisco Bay Area. The Plan is the combined Sustainable Communities Strategy and Regional Transportation Plan (also referred to as the RTP/SCS) was jointly adopted by the ABAG and the MTC in July 2017. The Plan describes where and how the region can accommodate the projected 820,000 new households and 1.3 million new jobs between 2017 and 2040 and details the regional transportation investment strategy over the next 24 years. Growth in the plan area is promoted in Priority Development Areas and limited in Priority Conservation Areas to promote preservation of key resources. The Plan contains seven goals to address major challenges in the region and has established 13 performance targets to assess the Plan's effectiveness in meeting its goals. ABAG and MTC developed land use and transportation scenarios in the Plan that distribute the total amount of anticipated growth across the region and measure how well each scenario measures against the Plan goals. Based upon performance, the preferred scenario provides a regional pattern of household and employment growth and a corresponding transportation investment strategy (ABAG 2017). ABAG/MTC is currently drafting Plan Bay Area 2050, which is expected to be adopted in 2021. The County anticipates that higher Regional Housing Needs Assessment (RHNA) numbers will result within its jurisdiction following adoption of the updated plan.

## **c. Local Regulations**

### **Sonoma County General Plan**

The current County General Plan was adopted by the Sonoma County Board of Supervisors Resolution 08-0808 on September 23, 2008. The County General Plan includes broad goals and policies aimed at promoting a mix of land uses and a balance of jobs; encouraging development that helps the County achieve a target jobs/housing ratio; encouraging regional commercial and visitor-serving commercial development that would enhance the identity of the county and attract visitors; providing for a variety of housing that complements the employment opportunities in the community; and encouraging consolidation of under-performing and under-utilized properties. Goals and policies from the County General Plan are provided below.

The General Plan designates Urban Service Areas within the County, which include the geographical area within the Urban Service Boundary that is designated for urban development (refer to Figures LU-2a through LU-2i of the Land Use Element). Urban Service Boundaries are the designated limit to the urban development of the cities and unincorporated communities of the County. Urban Growth Boundaries (UGB) provide the voter-designated limit to the urban development of a city.

#### *Land Use Element*

Land Use Element goals and policies aim to accommodate future growth in the region, provide employment opportunities, emphasize development in Urban Service Areas, provide sufficient higher density housing opportunities, encourage infill development, maintain adequate public services, reduce exposure to unnecessary hazards, protect agricultural production lands, and coordinate with cities when applicable. Housing Element goals and policies promote affordable housing programs and construction, and ensure adequate public services are available to serve new development. Applicable goals and policies are reproduced as part of the Impact LU-2 discussion below.

**Goal LU-1: Accommodate Sonoma County's fair share of future growth in the San Francisco Bay Area region as shown on Tables LU-2 and LU-5 in a manner consistent with environmental constraints, maintenance of the high quality of life enjoyed by existing residents, and the capacities of public facilities and services. Achieve a desirable balance between job opportunities and population growth.**

**Objective LU-1.1:** Correlate development authorized by the Land Use Plan with projected population and employment growth as shown on Tables LU-2 and LU-5. Provide an adequate but not excessive supply of residential, commercial and industrial lands to accommodate this projected growth, taking into account projected city annexations.

**Objective LU-1.3:** Designate lands within the various land use categories to make available residential and employment opportunities and to achieve a balance between job opportunities and population growth countywide, subject to any constraints of environmental suitability, protection of agriculture and other resource protection, and availability of public services.

Policy LU-1a: This plan has relied extensively upon policies and designations set forth in previous Specific Plans and Area Plans. The County shall continue to use the following selected Specific Plans and Area Plans to implement this plan. A Specific or Area Plan may establish more detailed policies affecting proposed development but may not include policies that are in conflict with the General Plan. In any case where there appears to be a conflict between the General Plan and any Specific or Area Plan, the more restrictive policy or standard shall apply.

- (1) Airport/Industrial Specific Plan
- (2) South Santa Rosa Area Plan
- (3) Bennett Valley Area Plan
- (4) Sonoma Mountain Area Plan
- (5) West Petaluma Area Plan
- (6) Petaluma Dairy Belt Area Plan
- (7) Penngrove Area Plan
- (8) Franz Valley Area Plan

The following plans shall be repealed, but development guidelines contained therein shall be reviewed and updated and considered for adoption as "Local Area Development Guidelines," provided that they are consistent with the General Plan. Until such a time that these guidelines are adopted, any policies contained in these plans shall continue to apply provided they are consistent with the General Plan:

- (1) North Santa Rosa Plan
- (2) West Santa Rosa Plan
- (3) North Sonoma Valley Plan
- (4) South Sonoma Areas I and II
- (5) Lower River Plan
- (6) Hessel Plan
- (7) Russian River Plan
- (8) West Sebastopol Plan

The Sonoma County Local Coastal Plan is the policy document that guides land use and development in the Coastal Zone. The Local Coastal Plan is intended to be a standalone policy

document that integrates the appropriate General Plan goals, objectives, and policies with those necessary to comply with the California Coastal Act.

Policy LU-1h: Evaluate Land Use Plan amendments subject to:

- (1) constraints of environmental suitability,
- (2) protection of agriculture,
- (3) availability of public services,
- (4) the County projected population and employment levels,
- (5) the need for workforce housing, and
- (6) other plan goals, objectives, and policies.

**Goal LU-2: Accommodate the major share of future growth within the nine existing cities and their expansion areas and within selected unincorporated communities, which are planned to have adequate water and sewer capacities.**

**Objective LU-2.2:** Allocate the largest portion of unincorporated area growth to communities with public sewer and water services.

**Objective LU-2.3:** Limit the amount of population growth and development in rural portions of the County outside of the cities and the unincorporated communities.

**Objective LU-2.4:** Coordinate with the cities and neighboring counties to maximize cooperative planning and implementation of the General Plan.

**Objective LU-2.5:** Provide sufficient opportunities for higher density housing within the Urban Service Areas to accommodate the population growth quantified in the Housing Element Objectives for lower and moderate income units.

Policy LU-2a: Maintain a residential holding capacity that is as close as possible to projected growth. Consider denial of Land Use Map amendments that add residential density in rural areas if residential holding capacity exceeds projected growth, recognizing that future development may not always use 100% of the capacity of all parcels.

Policy LU-2c: Encourage the retention and production of diverse types of housing within Urban Service Areas in order to provide adequate housing choices for current and future residents.

Policy LU-2d: Inventory, conserve and increase the amount and type of housing that accommodates those with special housing needs. Populations needing special types of housing include farm employees, the terminally ill, mentally disabled, handicapped people, abused spouses and children, and the homeless.

**Goal LU-3: Locate future growth within the cities and unincorporated Urban Service Areas in a compact manner using vacant "infill" parcels and lands next to existing development at the edge of these areas.**

**Objective LU-3.2:** Provide enough land for the expansion of cities and unincorporated Urban Service Areas to accommodate, but not substantially exceed, the projected urban growth. Lands planned for urban development in each planning area are shown on the Land Use Maps.

**Objective LU-3.3:** Encourage "infill" development within the expansion areas of the cities and unincorporated communities.

Policy LU-3b: In designated Urban Service Areas, maintain a residential holding capacity that is as close as possible to projected growth. Consider denial of Land Use Map amendments that

add residential density if residential holding capacity exceeds projected growth, recognizing that future development may not use 100% of the capacity of all parcels.

Policy LU-3c: Avoid urban sprawl by limiting extension of sewer or water services outside of designated Urban Service Areas pursuant to the policies of the Public Facilities and Services Element.

**Goal LU-4: Maintain adequate public services in both rural and Urban Service Areas to accommodate projected growth. Authorize additional development only when it is clear that a funding plan or mechanism is in place to provide needed services in a timely manner.**

**Objective LU-4.1:** Assure that development occurs only where physical public services and infrastructure, including school and park facilities, public safety, access and response times, water and wastewater management systems, drainage, and roads are planned to be available in time to serve the projected development.

Policy LU-4a: If necessary, use zoning to assure that development shall occur only if public services are adequate or improvements are made to maintain an acceptable level of service. One such method could involve the use of "dual zoning" which would specify zoning with services and zoning without services.

**GOAL LU-5: Identify important open space areas between and around the county's cities and communities. Maintain them in a largely open or natural character with low intensities of development.**

**Objective LU-5.1:** Retain low intensities of use in Community Separators between and around cities and communities as designated in the Open Space and Resource Conservation Element.

Policy LU-5e: Avoid amendments to increase residential density in Community Separators, since these densities were established based upon the policies set forth in other elements of this plan as well as the open space, separation, and visual considerations identified in this section. The integrity of Community Separators cannot be maintained at densities in excess of one unit per ten acres. However, under no circumstances shall this policy be used to justify an increase in density from that designated on the Land Use Map.

**Goal LU-6: Diversify new residential development types and densities. Include a range of urban densities and housing types in some unincorporated communities, and lower density in rural communities. In rural areas, housing types and densities should meet the needs of agricultural and resource users and provide limited residential development on large parcels.**

**Objective LU-6.1:** Provide opportunities for a range of urban housing types and densities in unincorporated communities, while retaining the character of these communities.

**Objective LU-6.2:** Limit residential density to a maximum of one dwelling per acre in unincorporated communities with public water but without sewer systems.

**Objective LU-6.6:** Encourage the development of adequate housing for farm workers and farm family members.

Policy LU-6b: Site specific environmental factors shall be considered in making decisions on development permits. Site specific factors which create health or safety problems or result in unmitigated significant environmental impacts may at times reduce densities that are allowed by the Land Use Map and zoning.

Policy LU-6i: Provide expanded opportunities for a mix of residential and commercial or industrial use in Urban Service Areas.

**Goal LU-7: Prevent unnecessary exposure of people and property to environmental risks and hazards. Limit development on lands that are especially vulnerable or sensitive to environmental damage.**

**Objective LU-7.1:** Restrict development in areas that are constrained by the natural limitations of the land, including but not limited to, flood, fire, geologic hazards, groundwater availability and septic suitability.

Policy LU-7a: Avoid General Plan amendments that would allow additional development in flood plains, unless such development is of low intensity and does not include large permanent structures.

Policy LU-7b: Limit development in wetlands designated on Figure OSRC-3 of the Open Space and Resource Conservation Element.

Policy LU-7c: Prohibit new permanent structures within any floodway. Require that any development that may be permitted within the flood plain to be raised above the 100-year flood elevation.

Policy LU-7d: Avoid new commercial, industrial, and residential land use designations in areas subject to "high" or "very high" fire hazards, as identified in the Public Safety Element, unless the combination of fuel load, access, water supply, and other project design measures will reduce the potential fire related impacts of new development to insignificant levels.

**Goal LU-9: Protect lands currently in agricultural production and lands with soils and other characteristics that make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.**

**Objective LU-9.1:** Avoid conversion of lands currently used for agricultural production to non-agricultural use.

**Objective LU-9.2:** Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.

**Objective LU-9.3:** Agricultural lands not currently used for farming but which have soils or other characteristics that make them suitable for farming shall not be developed in a way that would preclude future agricultural use.

**Objective LU-9.4:** Discourage uses in agricultural areas that are not compatible with long term agricultural production.

Policy LU-9c: Use rezonings, easements and other methods to ensure that development on agricultural lands does not exceed the permitted density except where allowed by the policies of the Agricultural Resources Element.

**Objective LU-19.1:** Avoid extension of Petaluma's Urban Service Boundary and limit urban residential development to the Urban Service Area when annexed by the City.

Policy LU-19a: Use zoning to avoid new urban uses within the Petaluma Urban Service Area prior to annexation by Petaluma.

Policy LU-19b: Refer to the City of Petaluma for review and comment any application for discretionary projects within one mile of the Urban Service Boundary.



**Objective LU-20.1:** Seek to jointly coordinate and monitor development within the City of Sonoma and the unincorporated Urban Service Area. Discourage urban development within Sonoma's Urban Service Boundary until annexation by the city (excluding parcels within the Sonoma Valley Redevelopment Area).

Policy LU-20a: Avoid urban residential and commercial development within Sonoma's Urban Growth Boundary until annexed by the City.

Policy LU-20b: In general, encourage annexation by the city prior to urban development on parcels that are within the Sonoma Valley Sanitation District and within the city's primary Sphere of Influence. Require annexation for urban residential development in this area. Parcels within the Sonoma Valley Redevelopment Area are exempt from these policies.

Policy LU-20c: Establish procedures for joint city/county review of major projects within the City and the County. Continue to utilize the Sonoma Valley Citizen's Advisory Commission as an advisory body to the two jurisdictions for this purpose.

Policy LU-20gg: Land use for the Glen Ellen area, including residential densities, shall correspond with the General Plan Land Use Element for Sonoma Valley. New development in Glen Ellen shall be evaluated in the context of the following:

- (1) the relationship between growth and traffic congestion,
- (2) the boundaries and extent of Urban Service Areas,
- (3) the amount and location of recreation and visitor-serving commercial uses,
- (4) the need to upgrade existing structures and public infrastructure, and
- (5) the compatibility of rural development with protection of agriculture, scenic landscapes, and resources.

Policy LU-20hh: All new development in the Glen Ellen area (as designated in the Glen Ellen Development and Design Guidelines) shall comply with the Glen Ellen Development and Design Guidelines, which are part of the County Development Code.

### *Housing Element Goals and Policies*

#### **Goal 1: Sustain Existing Affordable Housing Programs and Affordable Units**

**Objective HE-1.1:** Continue existing County and Community Development Commission efforts and programs with the objective of producing at least 507 new affordable units [110 extremely low; 110 very low; 127 low; and 160 moderate income units] between 2015 and 2023.

**Objective HE-1.4:** Retain existing rental units to serve lower-income and special needs households, including seniors, farmworkers and their families, single-parent households, transitional and supportive housing, residential care facilities and group homes.

**Objective HE-1.5:** Limit the loss of existing housing stock to visitor-serving uses.

**Objective HE-1.6:** Retain existing affordable housing stock located in mobile home parks.

#### **Goal 2: Promote the Use of Available Sites for Affordable Housing Construction and Provide Adequate Infrastructure**

**Objective HE-2.1:** Assist developers and other interested parties in locating available sites and accessing programs for the development of affordable housing, especially rental housing.

**Objective HE-2.3:** Enhance opportunities for affordable housing production on all appropriate sites with adequate infrastructure and proximity to services.

Policy HE-2a: Publish a popular summary that identifies available housing opportunity sites in the unincorporated County. Provide site-specific development information and support for development proposals whenever possible in order to reduce up-front costs for interested housing developers.

Policy HE-2f: Consider a variety of sites for higher-density and affordable housing when the following criteria are met: site is located within or adjacent to an Urban Service Area (USA); adequate utilities are available; site is located within 1/2 mile to goods, services and transit; and project is consistent with the land use policies of the General Plan.

### **Goal 3: Promote Production of Affordable Housing Units**

**Objective HE-3.1:** Eliminate unneeded regulatory constraints to the production of affordable housing.

**Objective HE-3.2:** Review and revise housing programs to address changing needs, including needs that may not be met by traditional housing units. Consider the use of new community housing models and innovative types of structures and building materials to meet a wide variety of housing needs while protecting the public health and safety.

**Objective HE-3.3:** Increase opportunities for the production of affordable housing.

Policy HE-3i: Promote the construction and retention of shared housing such as group homes, congregate care facilities and residential community care facilities while ensuring the health and safety of residents and ensuring land use compatibility for neighbors.

Policy HE-3j: Continue to encourage affordable "infill" projects on underutilized sites within Urban Service Areas by allowing flexibility in development standards pursuant to state density bonus law (Government Code 65915).

### **Goal 5: Promote Production of Housing Units for Special Needs**

**Objective HE-5.4:** Promote Fair Housing.

**Objective HE-5.6:** Increase the supply of housing for farmworkers and other migrant workers.

Policy HE-5k: Encourage construction of new housing for occupancy by:

- 1) farmworkers and their families;
- 2) year-round housing for unaccompanied farmworkers and other migrant workers; and
- 3) seasonal housing for unaccompanied farmworkers.

Policy HE-5n: Housing intended for occupancy by farmworkers should be permitted in rural locations which are accessible to agricultural lands, pursuant to the farmworker housing ordinance ("bunkhouse ordinance"). Where feasible and close to services, allow more bunks and longer periods of farmworker housing occupancy in order to address the non-farm migrant worker housing need in the off-season.

### *Circulation and Transit Element*

The Circulation and Transit Element of the Sonoma County General Plan (2016) contains the following objectives and policies relevant to the proposed project:

**Objective CT-1.2:** Supplement the Highway 101 and SMART rail corridors with improvements designed to provide east/west access to these corridors.

**Objective CT-1.5:** Reduce greenhouse gas emissions by minimizing future increase in VMT [vehicle miles traveled], with an emphasis on shifting short trips by automobile to walking and bicycling trips.

**Objective CT-1.6:** Require that circulation and transit system improvements be done in a manner that, to the extent practical, is consistent with community and rural character. Minimizes disturbance of the natural environment, minimizes air and noise pollution, and helps reduce greenhouse gas emissions.

**Objective CT-1.7:** Reduce travel demand countywide by striving to provide a jobs/housing balance of approximately 1.5 jobs per household and encourage creation of jobs and housing in urbanized areas along the SMART passenger rail corridor and other transit centers.

**Objective CT-1.8:** Improve demand for transit by development of a growth management strategy encouraging projects in urbanized areas that decrease distance between jobs and housing, increase the stock of affordable housing, and increase density.

Policy CT-1b: Focus commute and through traffic onto Highway 101. Designate major arterial routes to serve primarily as connectors between urban areas.

Policy CT-1c: Work with the Cities to provide locations for jobs, housing, shopping, and coordination of location of transit along the Highway 101 corridor to reduce the volume of traffic on east/west corridors.

Policy CT-1d: Work with the Cities to provide jobs, housing, shopping, and coordination of local transit along the SMART passenger rail corridor to reduce the need for automobile travel to and from work and shopping centers.

Policy CT-1e: Support development, implementation, and operation of a passenger rail system and contiguous north south pedestrian and bicycle path along the SMART passenger rail corridor including the funding necessary to support a multi-modal feeder system.

Policy CT-1k: Encourage development that reduces VMT, decreases distances between jobs and housing, reduces traffic impacts, and improves housing affordability.

Policy CT-2f: Require discretionary development projects to provide bicycle and pedestrian improvements and gap closures necessary for safe and convenient bicycle and pedestrian travel between the project and the public transit system.

Policy CT-2v: Require discretionary development projects, where nexus is identified, to provide crossing enhancements at bus stops, recognizing that many transit riders have to cross the street on one of the two-way commutes.

Policy CT-2w: Increase the convenience and comfort of transit riders by providing more amenities at bus stops, including adequately-sized all-weather surfaces for waiting, shelters, trash cans, bike racks, and pedestrian-sized lighting. Required that these improvements be provided as part of nearby public or private development projects.

Policy CT-3c: The Sonoma County Bicycle and Pedestrian Advisory Committee (BPAC) shall be responsible for advising the Board of Supervisors, Planning Commission, Board of Zoning Adjustments, Project Review Advisory Committee, and County staff on the ongoing planning and coordination of the County's bicycle and pedestrian transportation network.

Policy CT-3d: The Regional Parks Department shall be responsible for establishing and maintaining Class I bikeways, and the Department of Transportation and Public Works (TPW) shall be responsible for establishing and maintaining Class II and III bikeways and pedestrian facilities along public rights-of-way in unincorporated areas.

Policy CT-3v: Where nexus exists, require private or public development to plan, design, and construct bicycle and pedestrian facilities to integrate with the existing and planned bicycle and pedestrian network.

Policy CT-3oo: Require new development in Urban Service Areas and unincorporated communities to provide safe, continuous, and convenient pedestrian access to jobs, shopping and other local services and destinations. Maintain consistency with City standards for pedestrian facilities in Urban Service Areas that are within a City's Sphere of Influence or Urban Growth Boundary.

Policy CT-3pp: Require pedestrian-oriented street design in Urban Service Areas and unincorporated communities.

## South Santa Rosa Area Plan

The South Santa Rosa Area Plan was adopted in May 1982 and most recently amended in September 2008. The plan was prepared pursuant to General Plan Policy LU-1a (described above). The Plan Area encompasses 18,000 acres between the cities of Santa Rosa and Rohnert Park, including all Santa Rosa Potential Sites. The following goals and policies would be applicable to development within the Plan Area:

**Community Form Goal 1: Accommodate urban and rural life styles in the area, following a community centered growth concept with provision of greenbelts surrounding and separating urban areas, and retaining agricultural and natural resources.**

Policy 1: Preserve the identities of the present communities of Santa Rosa, Rohnert Park and Sebastopol.

Policy 2: Promote compactness of the Santa Rosa City urban boundary in order to provide urban level public services efficiently.

**Community Form Goal 2: Promote community-centered growth by providing a setting of outstanding quality in the designated urban area of Santa Rosa.**

Policy 1: Continue cooperation between the City Government and the County Government including the City-County Joint Design Review Committee in order to achieve consistent high quality urban development and land use policies within the Santa Rosa urban expansion area.

**Housing Goal 1: Provide for an adequate mix of residential opportunities as to both cost and type.**

Policy 1: Establish land use designations and inclusionary zoning, which promote housing opportunities in areas where compatible with surrounding land use, and where transportation system and public services exist.

Policy 2: Establish land use designations and zoning which allow mobile home subdivisions in areas where compatible with surrounding land uses, and where transportation system, and public service exist.

## Penngrove Area Plan

The Penngrove Area Plan was adopted in April 1984 and most recently amended in September 2008. The plan was prepared pursuant to General Plan Policy LU-1a (described above). The Plan Area encompasses the unincorporated community of Penngrove between the cities of Rohnert Park

and Petaluma, including all Penngrove Potential Sites. The following goals and policies would be applicable to development within the Plan Area:

**Community Form Goal: It shall be a goal of this Area Plan that Penngrove retain its village character, but provide for housing and commercial needs in a manner consistent with neighborhood scale.**

Policy 1: Establish mechanisms to phase in growth in accordance with the ability of agencies to provide public services.

Policy 2: Encourage a community concept through paths and bikeways connecting residential developments and public facilities.

Policy 3: Establish greenbelts to provide separation from adjacent cities.

Policy 4: Support a development pattern which enforces a sense of community by placing higher densities in the core area and increasingly lower densities on the outlying area.

Policy 5: Discourage "strip" commercial development along Old Redwood Highway.

Policy 6: Require architectural and site design review of buildings and landscaping plans for all new commercial construction, expansion or remodeling.

**Rural Residential Goal: A goal of this Area Plan is to accommodate a variety of rural lifestyles in the Penngrove community and its environs.**

Policy 1: Conform to the General Plan population projections and land-use designations in providing the opportunity for rural residential development.

Policy 2: Affirm that rural living at a variety of densities is a viable alternative between urban and agricultural densities.

Policy 3: Provide for in-filling of rural residential development in areas already committed to that land use.

## **West Petaluma Area Plan**

The West Petaluma Area Plan was adopted in August 1981 and most recently amended in September 2008. The plan was prepared pursuant to General Plan Policy LU-1a (described above). The Plan Area encompasses the unincorporated community of Petaluma northwest, west, and south of Petaluma, including all Petaluma Potential Sites. The following goals would be applicable to development within the Plan Area:

**General Goal 1 Preserve agricultural lands and encourage agriculture.**

**General Goal 2 Utilize environmental-suitability criteria to locate rural growth and guide urban growth.**

**General Goal 3 Encourage a pattern of growth which maintains the existing range of types of communities; the unincorporated villages and towns and cities.**

**General Goal 4 Preserve the identities of present communities.**

**General Goal 6 Promote compactness of all community boundaries in order to reduce the cost of providing urban level services within these areas.**

The West Petaluma Area Plan also states that "Densities on County land should remain low with lot sizes larger than 1.5-2 acres per dwelling unit unless City services can be provided, annexation is

arranged, and plans for additional development are approved by the City. Where these development criteria can be met and services can be provided, densities will be permitted to increase up to 2 dwelling units per acre.

## Sonoma County Zoning Ordinance

Zoning is the instrument that implements the land use designations of the General Plan. In addition to establishing permitted uses, zoning may also establish development standards relating to issues such as intensity, setbacks, height, and parking. Projects submitted to the County for review and approval are generally evaluated for consistency with the zoning designations.

The County's Zoning Ordinance carries out the policies of the County General Plan by classifying and regulating the uses of land and structures within the unincorporated county, consistent with the General Plan. The Zoning Code describes various types of zoning districts and land use classifications, land use regulations, development standards, and environmental performance standards. The Zoning Ordinance applies to all land uses, subdivisions, and development within the county. The purpose of the Zoning Ordinance is to protect and to promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents, and businesses in the county. More specifically, the purposes of this Zoning Ordinance are to:

1. provide for the orderly and beneficial land use of the county;
2. protect the character and social and economic stability of agricultural, residential, commercial, industrial and other communities within the county;
3. protect the public safety and welfare by regulating the location and uses of all structures and land; and
4. protect and conserve the scenic, recreational and natural resource characteristics of the county.

The Zoning Code provides guidelines for collaboration between incorporated cities and the County when development is proposed within a city's sphere of influence. For example, the County maintains a process with the City of Santa Rosa for joint review of projects in the City of Santa Rosa sphere of influence.

The unincorporated county is divided into base zoning districts and combining zoning districts that are listed below:

1. **Base Zoning**
  - a. Land Intensive Agriculture (LIA)
  - b. Land Extensive Agriculture (LEA)
  - c. Diverse Agriculture (DA)
  - d. Resources and Rural Development (RRD)
  - e. Timberland Production (TP)
  - f. Agriculture and Residential (AR)
  - g. Rural Residential (RR)
  - h. Low Density Residential (R1)
  - i. Medium Density Residential (R2)
  - j. High Density Residential (R3)
  - k. Planned Community (PC)



- l. Administrative and Professional Office (CO)
  - m. Neighborhood Commercial (C1)
  - n. Retail Business and Service (C2)
  - o. General Commercial (C3)
  - p. Limited Commercial (LC)
  - q. Commercial Rural (CR)
  - r. Agricultural Services (AS)
  - s. Recreation and Visitor-Serving Commercial (K)
  - t. Industrial Park (MP)
  - u. Limited Urban Industrial (M1)
  - v. Heavy Industrial (M2)
  - w. Limited Rural Industrial (M3)
  - x. Public Facilities (PF)
  - y. Study (S)
2. **Combining Districts**
- a. Floodway (F1)
  - b. Floodplain (F2)
  - c. Affordable Housing (AH)
  - d. Renewable Energy (RE)
  - e. Local Guidelines (LG)
  - f. Scenic Resources (SR)
  - g. Riparian Corridor (RC)
  - h. Biotic Habitat (BH)
  - i. Valley Oak Habitat (VOH)
  - j. Historic (HD)
  - k. Geologic Hazard Area (G)
  - l. Mineral Resource (MR)
  - m. Workforce Housing (WH)
  - n. Accessory Dwelling Unit Exclusion (Z)
  - o. Visitor Residential (VR)
  - p. B Districts (B6, B7, or B8), identifying maximum permitted density or minimum parcel or lot size
  - q. Vacation Rental Exclusion (X)
  - r. Traffic Sensitive (TS)

## City of Sonoma General Plan

Potential Sites SON-1 through SON-4 are within the City of Sonoma's UGB, and development must be consistent with the City of Sonoma's General Plan. The City of Sonoma's 2020 General Plan was adopted in October 2006. Each 2020 General Plan element contains goals, policies and implementation measures that set a course for future land use in the city. Goals summarize how

development and future growth should be directed to achieve the general plan vision by identifying physical, economic and/or social ends that the community wishes to achieve.

The City's UGB is a line beyond which urban development will not be allowed, except for public parks and public schools. The UGB is meant to focus future growth within the city in order to prevent urban sprawl into agriculturally and environmentally sensitive areas surrounding the city, and protect the health, safety, welfare, and quality of life of the residents of Sonoma by concentrating future residential, commercial, and industrial growth in areas already served by urban services.

### **City of Petaluma General Plan**

Potential Sites PET-1 through PET-4 are within the City of Petaluma's UGB, and development must be consistent with the City of Petaluma's General Plan. The City of Petaluma's General Plan 2025 was adopted May 19, 2008 and took effect on June 18, 2008. The General Plan identifies current and future needs in areas such as land use, housing, transportation, public services, environmental quality, and economic viability. The General Plan is also a policy document that embodies the community's goals and guides decisions about physical development over the long term. The City's UGB is meant to:

1. Encourage efficient growth patterns and protect the quality of life by concentrating future development largely within existing developed areas;
2. Promote uses that foster public health and safety and productive investment for farming enterprises on lands outside Petaluma's UGB;
3. Foster and protect Petaluma's natural setting while encouraging appropriate economic development in accordance with the city's unique local conditions;
4. Concentrate growth within a well-defined UGB in order to limit the extent of required City services and restrain increases in their costs;
5. Allow the City to continue to meet the housing needs for all economic segments of the population, especially lower and moderate income households, by directing the development of housing into areas where services and infrastructure can be provided more cost effectively; and
6. Promote stability in long-term planning for the city by establishing a cornerstone policy within the General Plan designating the geographic limits of long-term urban development and allowing sufficient flexibility within those limits to respond to the city's changing needs over time.

### **City of Santa Rosa General Plan**

Potential Sites SAN-1 through SAN-10 are within the City of Santa Rosa's UGB, and development must be consistent with the City of Santa Rosa's General Plan per the City's annexation process for development within the UGB. The City of Santa Rosa's General Plan 2035 was adopted November 3, 2009. The General Plan 2035 addresses issues related to the physical development and growth of Santa Rosa. It represents a community's aspirations for the future. The City intends for urban development to occur within the designated UGB, following annexation into the official City boundaries. As described above, the County participates in a joint review process with the City of Santa Rosa for projects in the City of Santa Rosa UGB.

### 4.11.3 Impact Analysis

#### a. Methodology and Significance Thresholds

The analysis in this section focuses on the compatibility of land uses identified in the proposed project with existing and planned land uses within the Potential Sites, as well as consistency with any applicable land use plans, policies, or regulations. The following thresholds of significance are based on Appendix G of the *CEQA Guidelines*. For purposes of this Program EIR, implementation of the project may have a significant adverse impact if it would do any of the following:

1. Physically divide an established community
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

The plan consistency analysis describes existing regional and local plans and policies and is intended to fulfill the requirements of *CEQA Guidelines* Section 15125(d). The emphasis of the analysis is on plan inconsistency and potential conflicts between the project and existing applicable land use plans, and whether any inconsistencies are significant environmental effects. The project is considered consistent with the provisions of the identified regional and local plans if it meets the general intent of the applicable plans and does not conflict with any directly applicable policies. A given project need not be in perfect conformity with each and every policy nor does state law require precise conformity of a proposed project with every policy or land use designation. Courts have also acknowledged that general and specific plans attempt to balance a range of competing interests, and that it is nearly, if not absolutely, impossible for a project to be in perfect conformity with each and every policy set forth in the applicable plan. Additionally, in reaching such consistency conclusions, the County may also consider the consequences of denial of a project, which can also result in other policy inconsistencies. For example, Government Code Section 65589.5 explains that the potential consequences of limiting the approval of housing are reduced mobility, urban sprawl, excessive commuting, and air quality deterioration.

For an impact to be considered significant, any inconsistency would also have to result in a significant adverse change in the environment not already addressed in the other resource chapters of this EIR. The analysis below provides a brief overview of the most relevant policies from the various planning documents. However, the County's consistency conclusions are based upon the planning documents as a whole.

## b. Project Impacts and Mitigation Measures

<b>Threshold:</b> Would the project physically divide an established community?
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**Impact LU-1** PROJECT IMPLEMENTATION WOULD PROVIDE FOR ORDERLY DEVELOPMENT IN THE UNINCORPORATED COUNTY AND WOULD NOT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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In general, the project aims to rezone parcels that are within Urban Service Areas and are surrounded by existing developed parcels. The development of these sites would not result in the construction of barriers, such as new roads, that would divide the existing communities surrounding the sites. Short-term construction impacts would be constrained within the sites themselves; however, off-site improvements for utilities or transportation infrastructure would be required (refer to Section 4.16, *Transportation*, and Section 4.18, *Utilities and Service Systems*) for some of the sites. These off-site improvements would be constructed within roadway rights-of-way and would not block access between existing communities. Mitigation Measure TRA-2 requires the implementation of a construction traffic management plan, which would ensure roadways remain open and operable during construction activities. Therefore, existing roadways would not be blocked, and construction would not limit access to a community or restrict movement within a community. Furthermore, Figure 4.11-1 through Figure 4.11-11 show the existing zoning of the Potential Sites and surrounding areas. As shown in these figures, modifying the land use and zoning of the Potential Sites would not disrupt established communities, as adjacent land is currently used or zoned for residential purposes. With few exceptions, all Potential Sites are adjacent to existing residential land uses and/or zoning on at least one parcel boundary. LAR-6 is diagonally adjacent to a medium-density residential district, and it should be noted it is directly adjacent to LAR-1 and LAR-2, which would provide continuity between the existing and proposed residential uses. The same situation is true for GLE-1, which is diagonally adjacent to a residential parcel, with GLE-2 providing continuity with GLE-1 and adjacent residential uses. PEN-1, PEN-3, PEN-5, PEN-8, and PEN-9 are within a small commercial area and not directly adjacent to residential uses. However, these sites are adjacent to one another, and would establish a small residential area similar to nearby small higher-density residential areas.

The project would encourage future development that would infill within designated Urban Service Areas. This type of development would not divide a community; rather it would promote the development of existing vacant or underutilized properties, thereby locating people closer to existing employment, goods and services within an established community. Impacts related to dividing an established community would be less than significant.

### Mitigation Measure

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?
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**Impact LU-2** THE PROJECT WOULD NOT RESULT IN A SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO A CONFLICT WITH ANY LAND USE PLAN AND POLICY. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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Regionally and locally adopted land use plans, policies, and regulations, including Plan Bay Area 2040 and the Sonoma County General Plan, apply to the project. The project's consistency with Plan Bay Area 2040 is discussed below, followed by the project's consistency with the County General Plan. Specific General Plan policy consistency analysis presented in Table 4.11-3. The project's consistency with the County's Zoning Ordinance is also discussed below. In accordance with the scope and purpose of this EIR, the policy consistency analysis focuses on goals and policies that relate to avoiding or mitigating an environmental effect. Only goals and policies relevant and applicable to the project are included. Goals and policies that are redundant between elements are omitted, as well as goals and policies that call for County actions that are independent of review and approval or denial of the project. The project is determined to be either "consistent" or "inconsistent" with the identified goals and policies. If an inconsistency is identified, that inconsistency is evaluated to determine whether that inconsistency would result in a potentially significant environmental effect.

#### *Plan Bay Area 2040*

While Plan Bay Area 2040 has a greater focus on the transportation and economic sectors than housing or land-use related policies, Plan Bay Area 2040 does include the following objective regarding housing:

1. Lower the share of income spent on housing and transportation costs, lessen displacement risk, and increase the availability of housing affordable to low- and moderate-income households.

The project would result in an increased availability of housing and affordable housing in the unincorporated county, following buildout of the Potential Sites. Additionally, the sites are located in Urban Service Areas, which are near developed urban areas, resulting in lower transportation costs from proposed housing locations to commercial and office land uses. This would be consistent with the above objective.

#### *Sonoma County General Plan*

The General Plan Land Use Element identifies goals, objectives, and policies for the location and intensity of growth in the County, and the General Plan Housing Element identifies goals, objectives, and policies for the promotion of affordable housing and housing for special needs populations. Detail regarding the project's consistency with specific, relevant General Plan goals, objectives, and policies that avoid or mitigate an environmental effect is provided in Table 4.11-3.

As noted under Government Code Section 65589.5(a), the Legislature has concluded that "the lack of housing, including emergency shelters, is a critical problem that threatens the economic, environmental, and social quality of life in California." More specifically, the Legislature's stated intent is "to assure that counties and cities recognize their responsibilities in contributing to the attainment of the state housing goal...to assure that counties and cities will prepare and implement housing elements which...will move toward attainment of the state housing goal" (Government

Code Section 65581). The project would help meet the County's RHNA allocation, as well as the County's desire to provide higher-density housing throughout the unincorporated areas. The project provides the opportunity for future development of medium-density housing, which is supportive of the County's goal and policies. As outlined above in Table 4.11-3, the project would be substantially consistent with the County General Plan as a whole. However, it should be noted that the project would be inconsistent with the current General Plan, as a General Plan map amendment modifying the land use designations and densities of the Potential Sites is required as part of the project.



Table 4.11-3 Project Consistency with the Sonoma County General Plan

General Plan Policy	Discussion
<p><b>Goal LU-1: Accommodate Sonoma County's fair share of future growth in the San Francisco Bay Area region as shown on Tables LU-2 and LU-5 in a manner consistent with environmental constraints, maintenance of the high quality of life enjoyed by existing residents, and the capacities of public facilities and services. Achieve a desirable balance between job opportunities and population growth.</b></p> <p><b>Objective LU-1.1:</b> Correlate development authorized by the Land Use Plan with projected population and employment growth as shown on Tables LU-2 and LU-5. Provide an adequate but not excessive supply of residential, commercial and industrial lands to accommodate this projected growth, taking into account projected city annexations.</p> <p><b>Objective LU-1.3:</b> Designate lands within the various land use categories to make available residential and employment opportunities and to achieve a balance between job opportunities and population growth countywide, subject to any constraints of environmental suitability, protection of agriculture and other resource protection, and availability of public services.</p>	<p><b>Consistent.</b> The environmental constraints of the Potential Sites are described in Sections 4.2, 4.7, 4.9, 4.10, 4.12, and 4.19 of this EIR, and where possible, impacts are mitigated to a less than significant level.</p> <p>Section 4.15, <i>Public Services and Recreation</i>, and Section 4.18, <i>Utilities and Service Systems</i>, describe the availability of public services and utilities infrastructure to the Potential Sites, which are all located in designated Urban Service Areas. As described therein, there is adequate fire protection, police protection (with mitigation), school, parks, recreation, water and wastewater (with implementation of Mitigation Measure UTIL-1), electricity, natural gas, telecommunications, and solid waste facilities to serve the Potential Sites.</p> <p>As described in Section 4.14, <i>Population and Housing</i>, the project would not exceed projected population growth forecasts described by ABAG and the County. The project would not result in an excessive supply of residential land uses, as the County is currently experiencing a severe housing and affordable housing shortage.</p>
<p><u>Policy LU-1a:</u> This plan has relied extensively upon policies and designations set forth in previous Specific Plans and Area Plans. The County shall continue to use the following selected Specific Plans and Area Plans to implement this plan. A Specific or Area Plan may establish more detailed policies affecting proposed development but may not include policies that are in conflict with the General Plan. In any case where there appears to be a conflict between the General Plan and any Specific or Area Plan, the more restrictive policy or standard shall apply.</p> <ul style="list-style-type: none"> <li>(1) Airport/Industrial Specific Plan</li> <li>(2) South Santa Rosa Area Plan</li> <li>(3) Bennett Valley Area Plan</li> <li>(4) Sonoma Mountain Area Plan</li> <li>(5) West Petaluma Area Plan</li> <li>(6) Petaluma Dairy Belt Area Plan</li> <li>(7) Penngrove Area Plan</li> <li>(8) Franz Valley Area Plan</li> </ul> <p>The following plans shall be repealed, but development guidelines contained therein shall be reviewed and updated and considered for adoption as "Local Area Development Guidelines," provided that they are consistent with the General Plan.</p>	<p><b>Consistent.</b> Santa Rosa sites are located within the South Santa Rosa Area Plan, Penngrove sites are located within the Penngrove Area Plan, and GUE-1 is located within the former Russian River Plan boundaries. Development of these sites is not proposed at this time, and when proposed would be conducted in accordance with Policy LU-1a, where the more restrictive standards would apply. A determination of consistency with these plans (as applicable) would be made during the County's project review and approval process, based on the specific project design details. None of the Potential Sites are located in the Local Coastal Plan area. Therefore, the Local Coastal Plan would not apply.</p>

General Plan Policy	Discussion
<p>Until such a time that these guidelines are adopted, any policies contained in these plans shall continue to apply provided they are consistent with the General Plan:</p> <ul style="list-style-type: none"> <li>(1) North Santa Rosa Plan</li> <li>(2) West Santa Rosa Plan</li> <li>(3) North Sonoma Valley Plan</li> <li>(4) South Sonoma Areas I and II</li> <li>(5) Lower River Plan</li> <li>(6) Hessel Plan</li> <li>(7) Russian River Plan</li> <li>(8) West Sebastopol Plan</li> </ul> <p>The Sonoma County Local Coastal Plan is the policy document that guides land use and development in the Coastal Zone. The Local Coastal Plan is intended to be a standalone policy document that integrates the appropriate General Plan goals, objectives, and policies with those necessary to comply with the California Coastal Act.</p>	
<p><u>Policy LU-1h:</u> Evaluate Land Use Plan amendments subject to:</p> <ul style="list-style-type: none"> <li>(1) constraints of environmental suitability,</li> <li>(2) protection of agriculture,</li> <li>(3) availability of public services,</li> <li>(4) the County projected population and employment levels,</li> <li>(5) the need for workforce housing, and</li> <li>(6) other plan goals, objectives, and policies.</li> </ul>	<p><b>Consistent.</b> Per Policy LU-1h, this EIR evaluates potential environmental constraints and suitability throughout, potential impacts to agricultural lands (Section 4.2, <i>Agriculture and Forestry Resources</i>), the availability of public services (Section 4.14, <i>Public Services and Recreation</i>, and Section 4.18, <i>Utilities and Service Systems</i>), and potential impacts from population growth (Section 4.14, <i>Population and Housing</i>). The need for higher-density housing is identified in Section 2, <i>Project Description</i>, and the project includes rezoning to allow higher-density housing. This section, in particular this table and impact analysis, provides a consistency determination with applicable goals, objectives, and policies.</p>
<p><b>Goal LU-2: Accommodate the major share of future growth within the nine existing cities and their expansion areas and within selected unincorporated communities, which are planned to have adequate water and sewer capacities.</b></p> <p><b>Objective LU-2.2:</b> Allocate the largest portion of unincorporated area growth to communities with public sewer and water services.</p> <p><b>Objective LU-2.3:</b> Limit the amount of population growth and development in rural portions of the County outside of the cities and the unincorporated communities.</p>	<p><b>Consistent.</b> The Potential Sites are all within designated Urban Service Areas, where the infrastructure for public services and utilities is already available for sites to connect. Sections 4.15 and 4.18 describe the availability of public services and utilities infrastructure to the Potential Sites.</p> <p>The County coordinated with incorporated cities during the site selection process, and the sites were chosen based on this coordination. As required by the County General Plan, planning development on these sites would be conducted cooperatively with the incorporated cities.</p>

General Plan Policy	Discussion
<p><b>Objective LU-2.4:</b> Coordinate with the cities and neighboring counties to maximize cooperative planning and implementation of the General Plan.</p> <p><b>Objective LU-2.5:</b> Provide sufficient opportunities for higher density housing within the Urban Service Areas to accommodate the population growth quantified in the Housing Element Objectives for lower and moderate income units.</p> <p><u>Policy LU-2a:</u> Maintain a residential holding capacity that is as close as possible to projected growth. Consider denial of Land Use Map amendments that add residential density in rural areas if residential holding capacity exceeds projected growth, recognizing that future development may not always use 100% of the capacity of all parcels.</p> <p><u>Policy LU-2c:</u> Encourage the retention and production of diverse types of housing within Urban Service Areas in order to provide adequate housing choices for current and future residents.</p> <p><u>Policy LU-2d:</u> Inventory, conserve and increase the amount and type of housing that accommodates those with special housing needs. Populations needing special types of housing include farm employees, the terminally ill, mentally disabled, handicapped people, abused spouses and children, and the homeless.</p>	<p>Section 4.14, <i>Population and Housing</i>, of this EIR describes the consistency of the project with growth projections for the unincorporated county. None of the Potential Sites are located in rural areas, as they are all near established communities and incorporated cities. The project, by definition, would encourage the development of higher density housing within designated Urban Service Areas per Objective LU-2.5, and would provide an increased variety of housing types in Urban Service Areas, including higher-density housing, per Policies LU-2c and LU-2d.</p>
<p><b>Goal LU-3: Locate future growth within the cities and unincorporated Urban Service Areas in a compact manner using vacant "infill" parcels and lands next to existing development at the edge of these areas.</b></p> <p><b>Objective LU-3.2:</b> Provide enough land for the expansion of cities and unincorporated Urban Service Areas to accommodate, but not substantially exceed, the projected urban growth. Lands planned for urban development in each planning area are shown on the Land Use Maps.</p> <p><b>Objective LU-3.3:</b> Encourage "infill" development within the expansion areas of the cities and unincorporated communities.</p> <p><u>Policy LU-3b:</u> In designated Urban Service Areas, maintain a residential holding capacity that is as close as possible to projected growth. Consider denial of Land Use Map amendments that add residential density if residential holding capacity exceeds projected growth, recognizing that future development may not use 100% of the capacity of all parcels.</p> <p><u>Policy LU-3c:</u> Avoid urban sprawl by limiting extension of sewer or water services outside of designated Urban Service Areas pursuant to the policies of the Public Facilities and Services Element.</p> <p>LU-3e</p>	<p><b>Consistent.</b> The project, by definition, would encourage future growth in designated Urban Service Areas on vacant or underdeveloped parcels. Section 4.14, <i>Population and Housing</i>, of this EIR describes the consistency of the project with growth projections for the unincorporated county. All Potential Sites are within designated Urban Service Areas, where sewer and water service infrastructure is already available in the vicinity of the sites, although not always located directly adjacent to each Potential Site (refer to Section 4.18, <i>Utilities and Service Systems</i>).</p>

General Plan Policy	Discussion
<p><b>Goal LU-4: Maintain adequate public services in both rural and Urban Service Areas to accommodate projected growth. Authorize additional development only when it is clear that a funding plan or mechanism is in place to provide needed services in a timely manner.</b></p> <p><b>Objective LU-4.1:</b> Assure that development occurs only where physical public services and infrastructure, including school and park facilities, public safety, access and response times, water and wastewater management systems, drainage, and roads are planned to be available in time to serve the projected development.</p>	<p><b>Consistent.</b> Refer to Section 4.15, <i>Public Services and Recreation</i>; Section 4.18, <i>Utilities and Service Systems</i>; and Section 4.10, <i>Hydrology and Water Quality</i>, regarding the availability of public services, utilities, and drainage in the vicinity of Potential Sites. As described therein, there is adequate school, parks, public safety (with the payment of fair share fees for police protection), drainage, and water and wastewater (with implementation of Mitigation Measure UTIL-1) services and infrastructure to serve the Potential Sites. Refer to Section 4.16, <i>Transportation</i>, regarding the adequacy of site access and road infrastructure in the vicinity of the Potential Sites.</p>
<p><b>Goal LU-6: Diversify new residential development types and densities. Include a range of urban densities and housing types in some unincorporated communities, and lower density in rural communities. In rural areas, housing types and densities should meet the needs of agricultural and resource users and provide limited residential development on large parcels.</b></p> <p><b>Objective LU-6.1:</b> Provide opportunities for a range of urban housing types and densities in unincorporated communities, while retaining the character of these communities.</p> <p><b>Objective LU-6.2:</b> Limit residential density to a maximum of one dwelling per acre in unincorporated communities with public water but without sewer systems.</p> <p><b>Objective LU-6.6:</b> Encourage the development of adequate housing for farm workers and farm family members.</p> <p>Site specific environmental factors shall be considered in making decisions on development permits. Site specific factors which create health or safety problems or result in unmitigated significant environmental impacts may at times reduce densities that are allowed by the Land Use Map and zoning.</p> <p><u><b>Policy LU-6i:</b></u> Provide expanded opportunities for a mix of residential and commercial or industrial use in Urban Service Areas.</p>	<p><b>Consistent.</b> The project would encourage higher-density housing in Urban Service Areas that currently contain or are located near single-family housing. This would introduce new residential development types and densities, per Goal LU-6, and would utilize the AH Combining District to increase affordable housing in Urban Service Areas, per Objective LU-6.6 and Policy LU-6h.</p> <p>As stated in Section 4.18, <i>Utilities and Service Systems</i>, the Potential Sites are within areas where public water and public sewer connections are available in the general vicinity although not always located directly adjacent to each Potential Site.</p> <p>Refer to Section 4.7, <i>Geology and Soils</i>; Section 4.9, <i>Hazards and Hazardous Materials</i>; and Section 4.19, <i>Wildfire</i>, for a discussion of site-specific environmental factors that could create health and safety problems.</p> <p>As described under Impact LU-1, adjacent land to the Potential Sites are currently used or zoned for residential purposes. Additionally, as shown on Figure 4.11-1 through Figure 4.11-11, while the project would increase the density of residential areas within Urban Service Areas, there are opportunities for commercial development on nearby parcels in these areas, allowing for a mix of residential and commercial uses per Policy LU-6i.</p>

General Plan Policy	Discussion
<p><b>Goal LU-7: Prevent unnecessary exposure of people and property to environmental risks and hazards. Limit development on lands that are especially vulnerable or sensitive to environmental damage.</b></p> <p><b>Objective LU-7.1:</b> Restrict development in areas that are constrained by the natural limitations of the land, including but not limited to, flood, fire, geologic hazards, groundwater availability and septic suitability.</p> <p><u>Policy LU-7a:</u> Avoid General Plan amendments that would allow additional development in flood plains, unless such development is of low intensity and does not include large permanent structures.</p> <p><u>Policy LU-7b:</u> Limit development in wetlands designated on Figure OSRC-3 of the Open Space and Resource Conservation Element.</p> <p><u>Policy LU-7c:</u> Prohibit new permanent structures within any floodway. Require that any development that may be permitted within the flood plain to be raised above the 100 year flood elevation.</p> <p><u>Policy LU-7d:</u> Avoid new commercial, industrial, and residential land use designations in areas subject to "high" or "very high" fire hazards, as identified in the Public Safety Element, unless the combination of fuel load, access, water supply, and other project design measures will reduce the potential fire related impacts of new development to insignificant levels.</p>	<p><b>Consistent.</b> Refer to Section 4.7, <i>Geology and Soils</i>; Section 4.9, <i>Hazards and Hazardous Materials</i>; and Section 4.19, <i>Wildfire</i>, for a discussion of site-specific environmental factors that could create health and safety problems.</p> <p>Refer to Section 4.18, <i>Utilities and Service Systems</i>, for a discussion of sewer service to the Potential Sites.</p> <p>Refer to Section 4.10, <i>Hydrology and Water Quality</i>, regarding development in floodplains; as stated therein, Potential Sites GUE-4, GRA-2, AGU-1, AGU-2, PEN-8, and PEN-9 are partially within a 100-year floodplain. Future development on these sites would be required to comply with Policy LU-7c, with site design placing permanent new structures outside of the floodway and raised above the 100-year flood elevation.</p> <p>Refer to Section 4.4, <i>Biological Resources</i>, regarding the presence of wetlands on the Potential Sites. Mitigation Measures BIO-15 and BIO-16 require jurisdictional delineations prior to development on Potential Sites and avoidance of wetland features or minimization of impacts to wetlands.</p> <p>Refer to Section 4.19, <i>Wildfire</i>, regarding the wildfire risk designation of each Potential Site. As stated therein, some of the sites are within Moderate Fire Hazard Severity Zones, and mitigation would be required to reduce impacts.</p>
<p><b>Goal LU-9: Protect lands currently in agricultural production and lands with soils and other characteristics that make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non agricultural uses.</b></p> <p><b>Objective LU-9.1:</b> Avoid conversion of lands currently used for agricultural production to non agricultural use.</p> <p><b>Objective LU-9.2:</b> Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.</p> <p><b>Objective LU-9.3:</b> Agricultural lands not currently used for farming but which have soils or other characteristics that make them suitable for farming shall not be developed in a way that would preclude future agricultural use.</p> <p><b>Objective LU-9.4:</b> Discourage uses in agricultural areas that are not compatible with long term agricultural production.</p> <p><u>Policy LU-9c:</u> Use rezonings, easements and other methods to ensure that development on agricultural lands does not exceed the permitted density except where allowed by the policies of the Agricultural Resources Element.</p>	<p><b>Consistent.</b> Section 4.2, <i>Agriculture and Forestry Resources</i>, of this EIR addresses the existence of agricultural soils on each Potential Site. As stated therein, none of the Potential Sites contain prime farmland, unique farmland, farmland of statewide importance, forest land, or timberland. However, some of the Potential Sites are currently zoned for low density residential agriculture or adjacent to existing agricultural uses, and Mitigation Measure AG-1 would require an agricultural protection buffer for future development on Sites GEY 1, GEY-4, GUE-2, GUE-3, LAR-7, FOR-3, FOR-5, SAN-10, SON-1, SON-2, SON-3, and SON-4.</p>

General Plan Policy	Discussion
<p><b>Objective LU-19.1:</b> Avoid extension of Petaluma's Urban Service Boundary and limit urban residential development to the Urban Service Area when annexed by the City.</p> <p><u>Policy LU-19a:</u> Use zoning to avoid new urban uses within the Petaluma Urban Service Area prior to annexation by Petaluma.</p> <p><u>Policy LU-19b:</u> Refer to the City of Petaluma for review and comment any application for discretionary projects within one mile of the Urban Service Boundary.</p>	<p><b>Consistent.</b> PET-1 through PET-4 are located in the City of Petaluma's Urban Service Area, and would allow urban residential development on these sites, consistent with these objectives and policies.</p> <p>The County coordinated with the City of Petaluma during the site selection process, and the Petaluma sites were chosen to proceed with CEQA review based on this coordination. As required by the County General Plan, development on these sites will be overseen by both the City and County, where boundaries overlap.</p>
<p><b>Objective LU-20.1:</b> Seek to jointly coordinate and monitor development within the City of Sonoma and the unincorporated Urban Service Area. Discourage urban development within Sonoma's Urban Service Boundary until annexation by the city (excluding parcels within the Sonoma Valley Redevelopment Area).</p> <p><u>Policy LU-20a:</u> Avoid urban residential and commercial development within Sonoma's Urban Growth Boundary until annexed by the City.</p> <p><u>Policy LU-20b:</u> In general, encourage annexation by the city prior to urban development on parcels that are within the Sonoma Valley Sanitation District and within the city's primary Sphere of Influence. Require annexation for urban residential development in this area. Parcels within the Sonoma Valley Redevelopment Area are exempt from these policies.</p> <p><u>Policy LU-20c:</u> Establish procedures for joint city/county review of major projects within the City and the County. Continue to utilize the Sonoma Valley Citizen's Advisory Commission as an advisory body to the two jurisdictions for this purpose.</p>	<p><b>Consistent.</b> SON-1 through SON-4 are located in the City of Sonoma's Urban Service Area. While urban development on these sites is discouraged prior to annexation into the city boundaries, the project does not propose development on these sites at this time but rezoning to allow for medium-density residential development. This would not conflict with these objectives and policies. Per these policies, future proposed development on SON-1 through SON-4 would be encouraged to annex into the city prior to development. Until the sites are annexed, development of these sites would undergo joint city/county review, once applications are submitted, during the permit approval processes.</p>
<p><u>Policy LU-20gg:</u> Land use for the Glen Ellen area, including residential densities, shall correspond with the General Plan Land Use Element for Sonoma Valley. New development in Glen Ellen shall be evaluated in the context of the following:</p> <ul style="list-style-type: none"> <li>(1) the relationship between growth and traffic congestion,</li> <li>(2) the boundaries and extent of Urban Service Areas,</li> <li>(3) the amount and location of recreation and visitor-serving commercial uses,</li> <li>(4) the need to upgrade existing structures and public infrastructure, and</li> <li>(5) the compatibility of rural development with protection of agriculture, scenic landscapes, and resources.</li> </ul> <p><u>Policy LU-20hh:</u> All new development in the Glen Ellen area (as designated in the Glen Ellen Development and Design Guidelines) shall comply with the Glen Ellen Development and Design Guidelines, which are part of the County Development Code.</p>	<p><b>Consistent.</b> This Program EIR analyzes potential traffic impacts of GLE-1 and GLE-2 in Section 4.16, <i>Transportation</i>. Those sites are both within the Urban Service Area for Glen Ellen and would not require expansion of or influence the boundaries of the existing Urban Service Area.</p> <p>Figure 4.11-7 shows the existing zoning of GLE-1, GLE-2, and surrounding areas. As shown therein, the recreation and visitor-serving commercial areas would not be modified by the rezoning of these sites.</p> <p>Section 4.15, <i>Public Services and Recreation</i>, and Section 4.18, <i>Utilities and Service Systems</i>, analyze whether the project would require upgrades to public facilities and infrastructure. As stated therein, no upgrades to existing facilities are anticipated for GLE-1 and GLE-2.</p>



General Plan Policy	Discussion
	<p>Section 4.2, <i>Agriculture and Forestry Resources</i>, and Section 4.1, <i>Aesthetics</i>, analyze the potential impacts on agricultural lands and scenic resources. Sites GLE-1 and GLE-2 do not contain prime farmland, unique farmland, farmland of statewide importance, forest land, or timberland, and are not zoned or adjacent to agricultural lands.</p> <p>The project does not propose development on these sites at this time but rezoning to allow for medium-density residential development. Future projects on these sites would be required to comply with the County Code and Glen Ellen Development and Design Guidelines, and compliance would be evaluated by the County during the project application and approval process.</p>
<p><b>Goal 1: Sustain Existing Affordable Housing Programs and Affordable Units</b></p> <p><b>Objective HE-1.1:</b> Continue existing County and Community Development Commission efforts and programs with the objective of producing at least 507 new affordable units [110 extremely low; 110 very low; 127 low; and 160 moderate income units] between 2015 and 2023.</p> <p><b>Objective HE-1.4:</b> Retain existing rental units to serve lower-income and special needs households, including seniors, farmworkers and their families, single-parent households, transitional and supportive housing, residential care facilities and group homes.</p> <p><b>Objective HE-1.5:</b> Limit the loss of existing housing stock to visitor-serving uses.</p> <p><b>Objective HE-1.6:</b> Retain existing affordable housing stock located in mobile home parks.</p>	<p><b>Consistent.</b> The project would not remove existing affordable housing, but would rezone sites to allow for increased housing densities on the Potential Sites, and apply the Workforce Housing (WH) Combining District or a higher-density residential zone to these sites. The project does not identify specific proposed housing developments on these sites, but the project may allow for the increased construction and availability of affordable housing options in the unincorporated county, as the WH Combining District offers incentive for construction of affordable units via a streamlined approval process.</p>
<p><b>Goal 2: Promote the Use of Available Sites for Affordable Housing Construction and Provide Adequate Infrastructure</b></p> <p><b>Objective HE-2.1:</b> Assist developers and other interested parties in locating available sites and accessing programs for the development of affordable housing, especially rental housing.</p> <p><b>Objective HE-2.3:</b> Enhance opportunities for affordable housing production on all appropriate sites with adequate infrastructure and proximity to services.</p> <p><u>Policy HE-2a:</u> Publish a popular summary that identifies available housing opportunity sites in the unincorporated County. Provide site-specific development information and support for development proposals whenever possible in order to reduce up-front costs for interested housing developers.</p>	<p><b>Consistent.</b> By design, the project would promote the use of undeveloped and underutilized sites for affordable housing developments. The project identifies such sites within areas of the unincorporated county that are within proximity to the necessary public facilities and services (refer to Section 4.15, <i>Public Services and Recreation</i>, and Section 4.18, <i>Utilities and Service Systems</i>). This project identifies available housing opportunity sites, per Policy HE-2a, and sites were chosen based on the criteria outlined in Policy HE-2f.</p>

General Plan Policy	Discussion
<p><u>Policy HE-2f</u>: Consider a variety of sites for higher-density and affordable housing when the following criteria are met: site is located within or adjacent to an Urban Service Area (USA); adequate utilities are available; site is located within 1/2 mile to goods, services and transit; and project is consistent with the land use policies of the General Plan.</p>	
<p><b>Goal 3: Promote Production of Affordable Housing Units</b></p> <p><b>Objective HE-3.1:</b> Eliminate unneeded regulatory constraints to the production of affordable housing.</p> <p><b>Objective HE-3.2:</b> Review and revise housing programs to address changing needs, including needs that may not be met by traditional housing units. Consider the use of new community housing models and innovative types of structures and building materials to meet a wide variety of housing needs while protecting the public health and safety.</p> <p><b>Objective HE-3.3:</b> Increase opportunities for the production of affordable housing.</p> <p><u>Policy HE-3j</u>: Continue to encourage affordable "infill" projects on underutilized sites within Urban Service Areas by allowing flexibility in development standards pursuant to state density bonus law (Government Code 65915).</p>	<p><b>Consistent.</b> The project would increase opportunities for the development of affordable housing throughout the unincorporated county by rezoning sites with higher density residential zones. Identified sites are generally undeveloped or underutilized and would be zoned for medium-density housing following approval of the project.</p> <p>Per Policy HE-3l, to the extent feasible, the Potential Sites proposed for the AH combining zoning district are located within Urban Service Areas, with adequate water and sewer supplies (Section 4.18, <i>Utilities and Service Systems</i>, with implementation of Mitigation Measure UTIL-1), near transit (Section 4.16, <i>Transportation</i>), near neighborhood-serving commercial uses (most Potential Sites are near commercial areas, with the exception of GUE-2, GUE-3, GUE-4, and AGU-3), near schools (Section 4.15, <i>Public Services and Recreation</i>), and at safe distances from major roadways (Section 4.3, <i>Air Quality</i>).</p>
<p><b>Goal 5: Promote Production of Housing Units for Special Needs</b></p> <p><b>Objective HE-5.6:</b> Increase the supply of housing for farmworkers and other migrant workers.</p> <p><u>Policy HE-5k</u>: Encourage construction of new housing for occupancy by:</p> <ol style="list-style-type: none"><li>(1) farmworkers and their families;</li><li>(2) year-round housing for unaccompanied farmworkers and other migrant workers; and</li><li>(3) seasonal housing for unaccompanied farmworkers.</li></ol> <p><u>Policy HE-5n</u>: Housing intended for occupancy by farmworkers should be permitted in rural locations which are accessible to agricultural lands, pursuant to the farmworker housing ordinance ("bunkhouse ordinance"). Where feasible and close to services, allow more bunks and longer periods of farmworker housing occupancy in order to address the non-farm migrant worker housing need in the off-season.</p>	<p><b>Consistent.</b> The project includes the rezoning of vacant or underutilized sites, with some sites designated for higher-density housing. While the Potential Sites are located within Urban Service Areas, they do provide access to nearby agricultural lands, as well as more developed urban areas with commercial and other uses.</p>

General Plan Policy	Discussion
<p><b>Objective CT-1.2:</b> Supplement the Highway 101 and SMART rail corridors with improvements designed to provide east/west access to these corridors.</p> <p><u>Policy CT-1b:</u> Focus commute and through traffic onto Highway 101. Designate major arterial routes to serve primarily as connectors between urban areas.</p> <p><u>Policy CT-1c:</u> Work with the Cities to provide locations for jobs, housing, shopping, and coordination of location of transit along the Highway 101 corridor to reduce the volume of traffic on east/west corridors.</p>	<p><b>Consistent.</b> Potential Sites are located along or near the Highway 101 and/or SMART corridors, including GEY, LAR, SAN, PEN, and PET sites. The project would allow for the development of these Potential Sites with housing, which would be consistent with Policy CT-1c to concentrate housing along these corridors.</p>
<p><b>Objective CT-1.5:</b> Reduce greenhouse gas emissions by minimizing future increase in VMT, with an emphasis on shifting short trips by automobile to walking and bicycling trips.</p> <p><b>Objective CT-1.8:</b> Improve demand for transit by development of a growth management strategy encouraging projects in urbanized areas that decrease distance between jobs and housing, increase the stock of affordable housing, and increase density.</p> <p><u>Policy CT-1d:</u> Work with the Cities to provide jobs, housing, shopping, and coordination of local transit along the SMART passenger rail corridor to reduce the need for automobile travel to and from work and shopping centers.</p> <p><u>Policy CT-1k:</u> Encourage development that reduces VMT, decreases distances between jobs and housing, reduces traffic impacts, and improves housing affordability.</p> <p><u>Policy CT-2f:</u> Require discretionary development projects to provide bicycle and pedestrian improvements and gap closures necessary for safe and convenient bicycle and pedestrian travel between the project and the public transit system.</p> <p><u>Policy CT-2v:</u> Require discretionary development projects, where nexus is identified, to provide crossing enhancements at bus stops, recognizing that many transit riders have to cross the street on one of the two-way commutes.</p> <p><u>Policy CT-2w:</u> Increase the convenience and comfort of transit riders by providing more amenities at bus stops, including adequately-sized all-weather surfaces for waiting, shelters, trash cans, bike racks, and pedestrian-sized lighting. Required that these improvements be provided as part of nearby public or private development projects.</p> <p><u>Policy CT-3v:</u> Where nexus exists, require private or public development to plan, design, and construct bicycle and pedestrian facilities to integrate with the existing and planned bicycle and pedestrian network.</p>	<p><b>Consistent.</b> The project would facilitate the development of housing on identified Potential Sites, which are located near urban areas for the purpose of concentrating future housing developments in areas close to existing commercial and office uses. As described in Section 4.16, <i>Transportation</i>, the project would result in a small decrease in VMT (although not below VMT thresholds, which are discussed in detail in Section 4.16).</p> <p>The project would rezone sites to allow for increased housing densities on the Potential Sites and apply the WH Combining District or a higher-density residential zone to these sites.</p> <p>Regarding the provision of bicycle and pedestrian improvements, the provision of crossings at bus stops, the individual development of the Potential Sites, when proposed, would be required to comply with Policies CT-2f, CT-2v, CT-2w, and CT-3v. Existing bicycle and pedestrian facilities are described in Section 4.16, <i>Transportation</i>.</p>

General Plan Policy	Discussion
<p><b>Objective CT-1.6:</b> Require that circulation and transit system improvements be done in a manner that, to the extent practical, is consistent with community and rural character. Minimizes disturbance of the natural environment, minimizes air and noise pollution, and helps reduce greenhouse gas emissions.</p> <p><b>Objective CT-1.7:</b> Reduce travel demand countywide by striving to provide a jobs/housing balance of approximately 1.5 jobs per household and encourage creation of jobs and housing in urbanized areas along the SMART passenger rail corridor and other transit centers.</p> <p><u>Policy CT-300:</u> Require new development in Urban Service Areas and unincorporated communities to provide safe, continuous, and convenient pedestrian access to jobs, shopping and other local services and destinations. Maintain consistency with City standards for pedestrian facilities in Urban Service Areas that are within a City's Sphere of Influence or Urban Growth Boundary.</p>	<p><b>Consistent.</b> Regarding circulation and transit system improvements, the individual development of the Potential Sites, when proposed, would be required to comply with Objective CT-1.6. At this time, no circulation or transit improvements are proposed.</p> <p>As discussed previously, Potential Sites are located along or near the SMART corridors, including LAR, SAN, PEN, and PET sites, and would encourage the development of housing in areas near the SMART rail.</p> <p>The Potential Sites are located in unincorporated Urban Service Areas, consistent with Policy CT-300.</p>

### *South Santa Rosa Area Plan*

The project would facilitate development on Potential Sites SAN-1 through SAN-10, within the South Santa Rosa Area Plan. With the exception of sites SAN-4 and SAN-9, the project's rezone of these sites with the WH Combining District would be inconsistent with this Area Plan. Therefore, an amendment to the South Santa Rosa Area Plan would be required to ensure land use impacts resulting from this conflict in allowable density are less than significant. As described in Section 2.5, the project includes an amendment to the South Santa Rosa Area Plan. Therefore, with this amendment, the project would be then be consistent with this Area Plan.

### *Penngrove Area Plan*

The project would facilitate development on Potential Sites PEN-1 through PEN-9, within the Penngrove Area Plan. With the exception of sites PEN-1, PEN-3, and PEN-5, the project's rezone of these sites to accommodate a higher density of housing and/or application of the WH Combining District would be inconsistent with this Area Plan. Therefore, an amendment to the Penngrove Area Plan would be required to ensure land use impacts resulting from this conflict in allowable density are less than significant. As described in Section 2.5, the project includes an amendment to the Penngrove Area Plan. Therefore, with this amendment, the project would be consistent with this Area Plan.

### *West Petaluma Area Plan*

The project would facilitate development on Potential Sites PET-1 through PET-4, within the West Petaluma Area Plan; however, the project's rezone of these sites to accommodate a higher density of housing would be inconsistent with this Area Plan. Therefore, an amendment to the West Petaluma Area Plan or annexation into the City of Petaluma would be required to ensure land use impacts resulting from this conflict in allowable density are less than significant. As described in Section 2.5, the project includes an amendment to the West Petaluma Area Plan. Therefore, with this amendment, the project would be consistent with this Area Plan.

### *County Zoning Ordinance*

The project would alter the zoning of the Potential Sites, for the future development of medium-density housing in the unincorporated County. Future projects on these sites would be required to comply with the County's Zoning Ordinance specifications for the proposed zoning of the sites, which would be confirmed during the County development review process. The project would be consistent with the Zoning Ordinance.

### *City of Sonoma General Plan*

The project includes four sites located in the City of Sonoma's UGB. While urban development on these sites is discouraged prior to annexation into the city boundaries, the project does not propose development on these sites at this time but rezoning to allow for medium-density residential development. Per these policies, future proposed development on SON-1 through SON-4 would be encouraged to obtain annexation into the city prior to development. Development of these sites would undergo joint city/county review, once applications are submitted, during the permit approval processes. Therefore, this process would ensure that future development of these sites is consistent with the County and City General Plans.

#### *City of Petaluma General Plan*

The project includes four sites located in the City of Petaluma's UGB, and would allow urban residential development on these sites. The County coordinated with the City of Petaluma during the site selection process, and the Petaluma sites were chosen based on this coordination. As required by the County General Plan, development on these sites would be overseen by both the City and County, where boundaries overlap. Therefore, this process would ensure that future development of these sites is consistent with the County and City General Plans.

#### *City of Santa Rosa General Plan*

The project includes 10 sites located in the City of Santa Rosa's UGB, and would allow urban residential development on these sites. The County coordinated with the City of Santa Rosa during the site selection process, and the Santa Rosa sites were chosen based on this coordination. Development on these sites would be overseen by both the City and County, where boundaries overlap. Therefore, this process would ensure that future development of these sites is consistent with the County and City General Plans.

#### *Conclusion*

The project would not result in inconsistencies with the County's General Plan, Plan Bay Area 2040, 2017 Clean Air Plan, Santa Rosa Plain Conservation Strategy, North Coast Regional Water Quality Control Board's and San Francisco Bay Regional Water Quality Control Board's water quality control plans, 2015-2023 Regional Housing Needs Assessment, or County Zoning Ordinance (refer to Sections 4.3, 4.4, 4.10, and 4.14 of this EIR) which would result in a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This impact would be less than significant.

### **Mitigation Measure**

No mitigation measures would be required.

### **Significance After Mitigation**

Impacts would be less than significant without mitigation.

#### **4.11.4 Cumulative Impacts**

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future project" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative land use and planning impacts is the County of Sonoma, with particular focus on unincorporated areas. This geographic scope is appropriate because the county limits represent the planning area for the County General Plan; in addition, the cumulative analysis includes foreseeable future projects from Table 3-1 that could have a direct connection to the project from a land use and planning perspective.

As discussed under Impact LU-1, the project would encourage infill development within designated Urban Service Areas and would not impede existing community connections. Cumulative development, listed in Table 3-1 in Section 3, *Environmental Setting*, would be required to meet current applicable design standards and would undergo environmental review, including consideration of whether the projects would physically divide an established community. With these

considerations prior to project approval, cumulative impacts related to dividing an established community would be less than significant. Because the project would not impact neighborhood connectivity, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to physically dividing an established community.

As discussed under Impact LU-2, the project would be consistent with the applicable regional and local goals and policies in Plan Bay Area 2040, the County General Plan as a whole, and the County's Zoning Ordinance. All other pending and future projects in the unincorporated county, as listed in Table 3-1 in Section 3, *Environmental Setting*, would be required to adhere to applicable zoning and development regulations and General Plan policies to mitigate environmental impacts where feasible. In addition, all pending and future projects would be reviewed for consistency with the General Plan, and all other applicable regulatory land use actions prior to approval. Therefore, it is anticipated that each cumulative project would be found consistent with applicable plans and policies prior to approval, such that the projects would not cause a significant cumulative environmental impact due to a conflict and as noted previously, the project-specific impact would be less than significant. Therefore, the project in combination with other development envisioned by the County General Plan would not result in significant cumulative impact with respect to consistency with land use plans.



## 4.12 Mineral Resources

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The analysis in this section addresses the potential for the proposed project to result in the loss of mineral resources to the region.

### 4.12.1 Setting

Mineral resources are extremely valuable because of their limited supply and their usefulness in modern construction and industrial processes. Sonoma County has many valuable mineral resources that were historically extracted, including mercury, chromite, and copper. Sand, gravel, crushed rock, and building stone are some of the more valuable mineral resources in the present day. As of 2011, the county contained approximately 951 million tons of identified PCC-grade aggregate resources, which the California Geologic Survey estimates to be able to meet aggregate demand for building and roadway construction until 2023 (California Geologic Survey 2013).

Removal of bedrock for building blocks, road base, and fill material has taken place in different areas and geologic settings of the county, but usually in highland areas with steep terrain (County of Sonoma 2006). Most of the Russian River and parts of other major streams in the county have been mined for sand and gravel to use in concrete and base and fill. Because of the difference in original materials and the processes involved, each geologic formation provides different types of useful minerals. The County has maps on file that show the local and extent of mineral resources considered significant by recent studies. Figure 4.12-1 shows identified mineral resources near the Potential Sites.

### 4.12.2 Regulatory Setting

#### a. Federal Regulations

##### U.S. Department of the Interior's Minerals Availability System

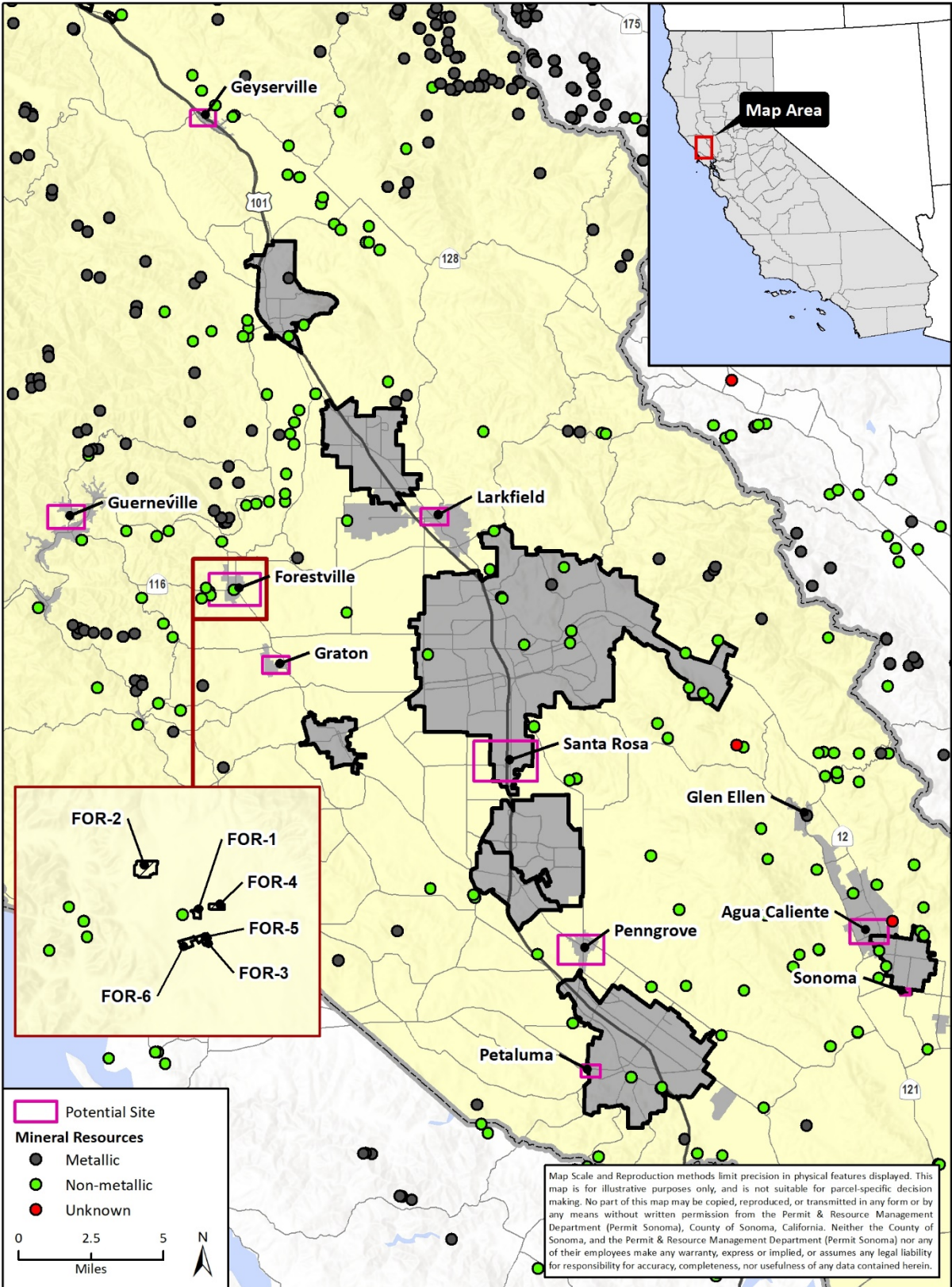
This system identifies between 15 and 17 rare Earth minerals as critical resources for United States Department of Defense applications or resources which are critical to national security. It recommends the development of a comprehensive approach to help ensure a secure supply of each resource and identifies risks as well as timeframes for actions.

#### b. State Regulations

##### Surface Mining and Reclamation Act

Gravel mining operations in Sonoma County, and throughout the state, are subject to the California Surface Mining and Reclamation Act (SMARA). The purpose of SMARA is to identify and protect areas containing significant mineral resources. In doing so, SMARA a) regulates surface mining operations to assure that adverse environmental effects are prevented or minimized, b) requires reclamation of mined lands to a usable condition that is readily adaptable to alternative land uses, c) produces and conserves minerals, and considers values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment, and d) eliminates residual hazards to the public health and safety. Mining must comply with SMARA through all phases of a project, including the reclamation process.

Figure 4.12-1 Mineral Resources in Sonoma County



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; USGS.

Fig 4.12-1 Mineral Resources

## c. Local Regulations

### Sonoma County Aggregate Resources Management Plan

The Sonoma County Aggregate Resources Management (ARM) Plan serves as the regulatory document with guidelines and objectives for sound management of aggregate mining in the county. The County adopted this plan in 1980 and updated in 1994, 2003, and 2010. The ARM Plan aims to meet future aggregate needs using resources in the County and to recognize that continued production needs to be managed in a way that reduces depletion of those resources. It includes the following features in summary (County of Sonoma 2020a):

1. Incentives to stimulate quarry production
2. Plans for continued in-stream extraction for flood and erosion control with protection for fisheries and other adjacent uses
3. Limitations on terrace mining
4. Support for recycling of aggregate products
5. Reclamation of terrace mining areas for agricultural uses and habitat restoration
6. Road mitigation programs with fees

Other features and details are provided on the County's website, where the following objectives are also discussed (County of Sonoma 2020b):

- Objective 1:** Assist existing quarry operations to increase production for high-quality uses in an environmentally sound manner.
- Objective 2:** Facilitate new or expanded quarry operations at designated sites or at other locations with resources which can meet the needs for aggregate in an environmentally sound manner.
- Objective 3:** Provide for terrace resources to meet the needs for high quality uses for a ten-year period and terminate terrace mining at the end of that period.
- Objective 4:** Manage instream resources on a sustained yield basis for high quality uses in a manner which reduces bank erosion, maintains flood flow capacities, protects adjacent uses, and minimizes impacts on fisheries, vegetation, and wildlife.
- Objective 5:** Continue and expand monitoring programs so that more information is available for future decisions about terrace and instream impacts and alternative management policies and approaches.
- Objective 6:** Reevaluate gravel extraction methods and production periodically to assess options which would further reduce environmental impacts and land use conflicts or better meet the County's aggregate needs.
- Objective 7:** Change specifications, standards, and practices where possible so that quarry rock will be more competitive with instream and terrace sources.
- Objective 8:** Reduce the need for additional aggregate through utilization of recycled and substitute materials, changes in development standards, and other means possible.
- Objective 9:** Encourage the retention of locally produced aggregate for use within Sonoma County.

In addition to compliance with the ARM Plan, proposed new gravel operations require County approval of a mining and reclamation plan and a use permit pursuant to County Ordinance 3437, which sets forth local implementation of the SMARA.

## Sonoma County General Plan

The Sonoma County General Plan Open Space & Resource Conservation Element includes goals and policies for the protection of mineral resources, as follows:

**Goal OSRC-13: Provide for production of aggregates to meet local needs and contribute the County's share of demand in the North Bay production-consumption region. Manage aggregate resources to avoid needless resource depletion and ensure that extraction results in the fewest environmental impacts.**

**Objective OSRC-13.1:** Use the ARM Plan to establish priority areas for aggregate production and to establish detailed policies, procedures, and standards for mineral extraction.

**Objective OSRC-13.2:** Minimize and mitigate the adverse environmental effects of mineral extraction and reclaim mined lands.

Policy OSRC-13a: Consider lands designated in the ARM Plan as priority sites for aggregate production and mineral extraction and review requests for additional designations for conformity with the General Plan and the ARM Plan.

Policy OSRC-13b: Review projects for environmental impact and land use conflicts and consider the following minimum factors when approving mining permits: topsoil salvage, vegetation, fisheries and wildlife impacts, noise, erosion control, roadway conditions and capacities, reclamation and bonding, air quality, energy consumption, engineering and geological surveys, aggregate supply and replenishment, drainage, and the need for economical aggregate materials.

Policy OSRC-13c: Review projects that are on or near sites designated "Mineral Resources" in the ARM Plan for compatibility with future mineral extraction.

## Sonoma County Zoning Code

Article 72 of the County's Zoning Code (Mineral Resource Combining District) regulates mining and reclamation of mined lands in the county, consistent with the ARM Plan. Combined with several base zones, various uses are permitted as a right or subject to a use permit. Incompatible uses and residential uses are restricted. Provisions of this article require County approval of surface mining use permit and approval of a reclamation plan.

### 4.12.3 Impact Analysis

#### a. Methodology and Significance Thresholds

##### Methodology

Impacts related to mineral resources were evaluated using information found in the County ARM Plan and on its website. Google Earth files and maps were also reviewed for areas near the Potential Sites.

## Significance Thresholds

For purposes of this EIR, implementation of the proposed project may have a significant adverse impact if the Potential Sites near mineral extraction sites would do any of the following:

1. Result in the loss of availability of a known mineral resource of value to the region and residents of the state
2. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan

### b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or a mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?
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**Impact MIN-1**     **ALTHOUGH MINERAL EXTRACTION SITES OCCUR THROUGHOUT THE COUNTY, NONE ARE WITHIN THE POTENTIAL SITES. THERE WOULD BE NO IMPACT.**

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As shown in Figure 4.12-1, mineral resources are located in proximity to several of the Potential Sites, with the closest being a non-metallic resource near FOR-1. No mineral resources have been mapped within any of the Potential Sites, and rezoning of the Potential Sites would therefore not interfere with mineral extraction operations of any of these identified mineral resources. Therefore, development facilitated by the project would have no impact to these sites.

Furthermore, all sites are in County-designated urban service areas where mining or mineral extraction is not allowed, according to the ARM Plan. There would be no impact regarding the loss of availability of known mineral resources in the project vicinity.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

No impact would occur and mitigation is not required.

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## 4.13 Noise

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This section analyzes the temporary noise impacts related to construction activity and long-term noise impacts associated with development facilitated by the project.

### 4.13.1 Setting

#### a. Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dBA; reducing the energy in half would result in a 3 dBA decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner in which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA])



2017). Structures can substantially reduce exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of noise impacts. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level ( $L_{eq}$ ); it considers both duration and sound power level.  $L_{eq}$  is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically,  $L_{eq}$  is summed over a one-hour period.  $L_{max}$  is the highest root-mean-square (RMS) sound pressure level within the sampling period, and  $L_{min}$  is the lowest RMS sound pressure level within the measuring period (Crocker 2007).  $L_n$  values are statistical noise levels (sometimes called percentiles) used to assess noise levels from fluctuating noise sources over time. The commonly used values of  $n$  for  $L_n$  are 10, 50, and 90.  $L_{10}$  is the level exceeded for 10 percent of the time;  $L_{50}$  is the level exceeded for 50 percent of the time; and  $L_{90}$  is the level exceeded for 90 percent of the time.

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level ( $L_{dn}$ ), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours; it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by  $L_{dn}$  and CNEL usually differ by about 1 dBA. The relationship between the peak-hour  $L_{eq}$  value and the  $L_{dn}$ /CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA  $L_{eq}$  range; ambient noise levels greater than 65 dBA  $L_{eq}$  can interrupt conversations (Federal Transit Administration [FTA] 2018).

## **b. Vibration**

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from

vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

Vibration limits used in this analysis to determine a potential impact to nearby land uses from construction activities are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020). Maximum recommended vibration limits by American Association of State Highway and Transportation Officials (AASHTO) are identified in Table 4.13-1.

**Table 4.13-1 AASHTO Maximum Vibration Levels for Preventing Damage**

Type of Situation	Limiting Velocity (in/sec)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2020

Based on AASHTO recommendations, limiting vibration levels to below 0.4 in/sec PPV at residential structures would prevent structural damage (plastered walls is indicative of construction processes that have not been common for over a 100 years and are therefore not anticipated to be near project construction). These limits are applicable regardless of the frequency of the source. However, as shown in Table 4.13-2 and Table 4.13-3, potential human annoyance associated with vibration is usually different if it is generated by a steady state or a transient vibration source.

**Table 4.13-2 Human Response to Steady State Vibration**

PPV (in/sec)	Human Response
3.6 (at 2 Hz)–0.4 (at 20 Hz)	Very disturbing
0.7 (at 2 Hz)–0.17 (at 20 Hz)	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

Source: Caltrans 2020

**Table 4.13-3 Human Response to Transient Vibration**

PPV (in/sec)	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: Caltrans 2020

As shown in Table 4.13-2, the vibration level threshold at which steady vibration sources are considered to be distinctly perceptible is 0.035 in/sec PPV. However, as shown in Table 4.13-3, the vibration level threshold at which transient vibration sources (such as construction equipment) are considered to be distinctly perceptible is 0.24 in/sec PPV. This analysis uses the distinctly perceptible threshold for purposes of assessing vibration impacts.

Although groundborne vibration is sometimes noticeable in outdoor environments, groundborne vibration is almost never annoying to people who are outdoors; the vibration level threshold for human perception is assessed at occupied structures (FTA 2018). Therefore, vibration impacts are assessed at the structure of an affected property.

### **c. Existing Noise Setting**

According to the County's General Plan 2020 Noise Element, substantial noise generators in the County include:

1. Traffic on State highways and major County roads
2. Aircraft operations at public use airports
3. Industrial and heavy commercial activities
4. Railroads
5. Infineon (Sears Point) International Raceway
6. The Geysers geothermal power plants
7. Solid waste landfills and transfer stations
8. Concerts, special events and other activities generating amplified outdoor sound

The principal noise generator occurring near the Potential Sites would be vehicle traffic. These include roadways near the Potential Sites that are identified as "Noise Impacted Road Segments" in Figure NE-1 of the County's General Plan 2020 Noise Element, including State Route 12, State Route

116, Highway 101, State Route 128, Old Redwood Highway, and Bodega Highway. Local collector streets typically are not considered substantial noise sources as traffic volume and speeds are generally lower than for freeways and major County roads. Ambient noise levels in the County vary depending upon proximity to these noise generators.

Some Potential Sites are located near areas identified as having industrial sources in Figure NE-1 of the County's General Plan 2020 Noise Element, such as the Larkfield, Forestville, Graton, Santa Rosa, and Penngrove sites.

Airports located in Sonoma County include the Charles M. Schulz Sonoma County Airport, the Cloverdale Municipal Airport, the Healdsburg Municipal Airport, the Petaluma Municipal Airport, the Sonoma Skypark Airport, and the Sonoma Valley Airport. No development facilitated by the project would be near these airports.

Sonoma-Marin Area Rail Transit (SMART) is a passenger rail service currently operating from Marin County to Sonoma County as far north as the Sonoma County Airport. The line passes near Potential Sites in Penngrove and Santa Rosa. The Draft EIR for SMART determined that daily noise exposure would be between 47 and 54 dBA  $L_{dn}$  at 50 feet and between 43 and 49 dBA  $L_{dn}$  at 100 feet from the center of the railway (SMART District 2005). Noise exposure from the proposed passenger rail operations at distances greater than 25 feet from the tracks were determined to be less than 60 dBA  $L_{dn}$ .

No Potential Sites are located near the Infineon International Raceway, solid waste landfills and transfer stations, or the geothermal plants.

#### **d. Sensitive Receivers**

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The County's Guidelines for the Preparation of Noise Analysis lists noise-sensitive uses as residences (including single-family homes, multi-family apartments, condominiums, and mobile homes, and other permitted structures in residential use), schools (both public and private), day care facilities, hospitals, nursing homes, long term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors.

Vibration sensitive receivers are similar to noise sensitive receivers, such as residences and institutional uses (e.g., schools, libraries, and religious facilities).

### **4.13.2 Regulatory Setting**

#### **a. State Regulations**

##### **California Building Code**

CCR Title 24, Building Standards Administrative Code, Part 2, and the California Building Code codify the State noise insulation standards. These noise standards apply to new construction in California to control interior noise levels as they are affected by exterior noise sources. The regulations specify that interior noise levels for residential and school land uses shall not exceed 45 dBA CNEL.

##### **California General Plan Guidelines**

The California General Plan Guidelines, published by the Governor's Office of Planning and Research, indicate acceptable, specific land use types in areas with specific noise exposure. The

guidelines also offer adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. These guidelines are advisory, and local jurisdictions, including the County of Sonoma, have the authority to set specific noise standards based on local conditions. Please refer to the discussion below, under *Sonoma County General Plan 2020*, for the compatibility guidelines adopted by the County of Sonoma.

## Caltrans Ground Borne Vibration Guidelines

The Transportation and Construction Vibration Guidance Manual provides guidance on vibration issues associated with the construction, operation, and maintenance of Caltrans projects. These guidelines address vibration criteria and establish thresholds for vibration-related annoyance to people, vibration-related damage to structures, and vibration-related adverse effects to sensitive equipment. This manual also addresses vibration prediction and screening assessment for construction equipment, methods that can be used to reduce vibration effects from transportation and construction sources, general procedures for addressing vibration issues, and vibration measurement and instrumentation. Guidelines and procedures provided in this manual should be treated as screening tools for assessing the potential for adverse effects related to human perception and structural damage.

### b. Local Regulations

#### Sonoma County General Plan 2020

The Noise Element of the Sonoma County General Plan 2020 contains noise goals, objectives, and policies for the County, including:

**Goal NE-1: Protect people from the adverse effects of exposure to excessive noise and to achieve an environment in which people and land uses may function without impairment from noise.**

**Objective NE-1.1:** Provide noise exposure information so that noise impacts may be effectively evaluated in land use planning and project review.

**Objective NE-1.2:** Develop and implement measures to avoid exposure of people to excessive noise levels.

**Objective NE-1.3:** Protect the present noise environment and prevent intrusion of new noise sources which would substantially alter the noise environment.

**Objective NE-1.4:** Mitigate noise from recreational and visitor serving uses. The following policies shall be used to achieve the above objectives:

Policy NE-1a: Designate areas within Sonoma County as noise impacted if they are exposed to existing or projected exterior noise levels exceeding 60 dB L<sub>dn</sub>, 60 dB CNEL, or the performance standards of Table 4.13-4.

Policy NE-1b: Avoid noise sensitive land use development in noise impacted areas unless effective measures are included to reduce noise levels. For noise due to traffic on public roadways, railroads and airports, reduce exterior noise to 60 dB L<sub>dn</sub> or less in outdoor activity areas and interior noise levels to 45 dB L<sub>dn</sub> or less with windows and doors closed. Where it is not possible to meet this 60 dB L<sub>dn</sub> standard using a practical application of the best available noise reduction technology, a maximum level of up to 65 dB L<sub>dn</sub> may be allowed but interior

noise level shall be maintained so as not to exceed 45 dB L<sub>dn</sub>. For uses such as Single Room Occupancy, Work-Live, Mixed Use Projects, and Caretaker Units, exterior noise levels above 65 dB L<sub>dn</sub> or the Table 4.13-4 standards may be considered if the interior standards of 45 dB L<sub>dn</sub> can be met. For schools, libraries, offices, and other similar uses, the interior noise standard shall be 45 dB L<sub>eq</sub> in the worst-case hour when the building is in use.

**Policy NE-1c:** Control non-transportation related noise from new projects. The total noise level resulting from new sources shall not exceed the standards in Table 4.13-4 as measured at the exterior property line of any adjacent noise sensitive land use. Limit exceptions to the following:

- (1) If the ambient noise level exceeds the standard in Table 4.13-4, adjust the standard to equal the ambient level, up to a maximum of 5 dBA above the standard, provided that no measurable increase (i.e. +/- 1.5 dBA) shall be allowed
- (2) Reduce the applicable standards in Table 4.13-4 by five dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises, such as pile drivers and dog barking at kennels
- (3) Reduce the applicable standards in Table 4.13-4 by 5 decibels if the proposed use exceeds the ambient level by 10 or more decibels
- (4) For short term noise sources which are permitted to operate no more than six days per year, such as concerts or race events, the allowable noise exposures shown in Table 4.13-4 may be increased by 5 dB. These events shall be subject to a noise management plan including provisions for maximum noise level limits, noise monitoring, complaint response and allowable hours of operation. The plan shall address potential cumulative noise impacts from all events in the area.
- (5) Noise levels may be measured at the location of the outdoor activity area of the noise sensitive land use, instead of the exterior property line of the adjacent noise sensitive land use where:
  - (a) the property on which the noise sensitive use is located has already been substantially developed pursuant to its existing zoning, and
  - (b) there is available open land on those noise sensitive lands for noise attenuation. This exception may not be used on vacant properties which are zoned to allow noise sensitive uses.

**Table 4.13-4 Maximum Allowable Exterior Noise Exposures for Non-transportation Noise Sources**

Hourly Noise Metric <sup>1</sup> , dBA	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
L <sub>50</sub> (30 minutes in any hour)	50	45
L <sub>25</sub> (15 minutes in any hour)	55	50
L <sub>08</sub> (4 minutes 48 seconds in any hour)	60	55
L <sub>02</sub> (72 seconds in an hour)	65	60

<sup>1</sup> The sound level exceeded n% of the time in an hour, e.g., the L50 is the value exceeded 50% of the time or 30 minutes in any hour.

Source: Sonoma County General Plan 2020 Noise Element

**Policy NE-1d:** Consider requiring an acoustical analysis prior to approval of any discretionary project involving a potentially significant new noise source or a noise sensitive land use in a noise impacted area. The analysis shall:

- (1) Be the responsibility of the applicant,
- (2) Be prepared by a qualified acoustical consultant,
- (3) Include noise measurements adequate to describe local conditions,
- (4) Include estimated noise levels in terms of Ldn and/or the standards of Table 4.13-4 for existing and projected future (20 years hence) conditions, based on accepted engineering data and practices, with a comparison made to the adopted policies of the Noise Element. Where low frequency noise (ex: blasting) would be generated, include assessment of noise levels and vibration using the most appropriate measuring technique to adequately characterize the impact,
- (5) Recommend measures to achieve compliance with this Element. Where the noise source consists of intermittent single events, address the effects of maximum noise levels on sleep disturbance,
- (6) Include estimates of noise exposure after these measures have been implemented, and
- (7) Be reviewed by the Permit and Resource Management Department and found to be in compliance with PRMD guidelines for the preparation of acoustical analyses.

Policy NE-1e: Continue to follow building permit procedures to ensure that requirements based upon the acoustical analysis are implemented.

Policy NE-1f: Require development projects that do not include or affect residential uses or other noise sensitive uses to include noise mitigation measures where necessary to maintain noise levels compatible with activities planned for the project site and vicinity.

Policy NE-1g: Enforce the State Noise Insulation Standards (Title 24, Part 2, California Administrative Code and Appendix Chapter 12 of the California Building Code) concerning new multiple occupancy dwellings.

## **Sonoma County Guidelines for Preparation of Noise Analysis**

The County's Guidelines for the Preparation of Noise Analysis outlines the methods and recommendations for use when preparing an acoustical analysis in Sonoma County (County of Sonoma 2019). The guidelines build on the Sonoma County General Plan 2020 Noise Element and outlines the noise analysis process, criteria for requiring a noise analysis, noise analysis protocol, and noise management methodology for individual projects. While the guidelines were not specifically developed for plan-level analyses, this analysis has been prepared in accordance with the County noise analysis guidelines.

The County guidelines address temporary construction noise, which is not specifically included in the General Plan 2020 Noise Element. The guidelines state that temporary construction noise generally needs to be evaluated at a qualitative level, given its temporary and short-term nature, however, construction noise may be considered significant if it occurs in the early morning or evening hours and require a quantitative analysis. If construction activities occur during the hours 10 p.m. to 7 a.m., then the noise standards in Table 4.13-4 would apply.



### 4.13.3 Impact Analysis

#### a. Thresholds of Significance

To determine whether a project would result in a significant noise impact, the County's Guidelines for the Preparation of Noise Analysis states that a noise study must answer the CEQA Initial Study checklist questions. This requires consideration of whether a project would result in:

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

Since preparation of the County's Guidelines for the Preparation of Noise Analysis, the CEQA Initial Study checklist questions for noise were revised for conciseness by combining the above questions into three questions. However, the issues to analyze and the thresholds are substantively the same. The revised questions require consideration of whether a project would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
2. Generation of excessive groundborne vibration or groundborne noise levels
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels

Specifically, per the *CEQA Guidelines* Appendix G Initial Study checklist questions, noise impacts would normally be considered significant if:

#### Construction Noise

1. Construction noise occurs between 10 p.m. to 7 a.m. and exceeds the noise limits in Table 4.13-4.

#### Operational Noise

1. Operational noise exceeds the noise limits in Table 4.13-4
2. For traffic-related noise, impacts would be considered significant if project would result in exposure of sensitive receptors to an unacceptable increase in noise levels. For purposes of this analysis, a significant impact would occur if project-related traffic increases the ambient noise

environment of noise-sensitive locations by 3 dBA or more if the locations are subject to noise levels in excess of 60 CNEL for exterior areas or 45 CNEL for interior noise levels, or by 5 dBA or more if the locations are not subject to noise levels in excess of the aforementioned standards.

## Vibration

1. For human receivers, the vibration level threshold to determine significance is 0.24 in/sec PPV (Caltrans 2020). For structures, based on AASHTO recommendations, the vibration level threshold to determine significance is 0.4 in/sec PPV.

## Land Use Compatibility

1. Avoid noise sensitive land use development in noise impacted areas unless effective measures are included to reduce noise levels. For noise due to traffic on public roadways, railroads and airports, reduce exterior noise to 60 dB  $L_{dn}$  or less in outdoor activity areas and interior noise levels to 45 dB  $L_{dn}$  or less with windows and doors closed. Where it is not possible to meet this 60 dB  $L_{dn}$  standard using a practical application of the best available noise reduction technology, a maximum level of up to 65 dB  $L_{dn}$  may be allowed but interior noise level shall be maintained so as not to exceed 45 dB  $L_{dn}$ .

### b. Methodology

## Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle of the activity to determine the  $L_{eq}$  of the operation (FHWA 2018). Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some will have higher continuous noise levels than others, and some have high-impact noise levels.

For general construction activities, construction noise would typically be higher during the heavier periods of initial construction (i.e., site preparation and grading work) and would be lower during the later construction phases (i.e., interior building construction). Heavy construction equipment during grading and site preparation for development facilitated by the project would typically include bulldozers, excavators, front-end loaders, dump trucks, and graders. It is assumed that diesel engines would power all construction equipment. Construction equipment would not all operate at the same time or location due to the different tasks performed by each piece of equipment. In addition, construction equipment would not be in constant use during the 8-hour operating day. An excavator, loader, and dump truck were analyzed together for construction noise impacts due to their potential of being used in conjunction with one another and therefore a reasonable scenario for the greatest noise generation during general construction activities. Using RCNM to estimate noise associated with construction equipment, hourly noise levels are calculated to be 80 dBA  $L_{eq}$  at 50 feet (RCNM calculations are included in Appendix NOI).

Impact devices such as pile drivers or breakers may be used for construction of development facilitated by the project. The use of pile drivers or breakers is not anticipated and is very unlikely to occur during construction for the type of development facilitated by the project. However, this analysis considers the potential for use of this equipment as a conservative analysis. A pile driver could be used to drive foundation piles into the ground, and a breaker could be used to break up asphalt and concrete associated with demolition of existing buildings or to break up rocks. These devices would typically operate separately from other equipment. Using RCNM to estimate noise associated with impact devices, hourly noise levels are calculated to be 94 dBA  $L_{eq}$  at 50 feet for an impact pile driver and 80 dBA  $L_{eq}$  for a breaker (RCNM Calculations are included in Appendix NOI).

The use of blasting is not anticipated and is very unlikely to occur during construction for the type of development facilitated by the project. However, this analysis considers the potential for blasting as a conservative analysis. Blasting could be used to break up rock formations to allow for further grading and site prep. Blasting operations would be conducted through the use of drilling and blasting to fracture rocks. Blasting operations would be conducted by a licensed blasting contractor in compliance with pertinent federal, State, and County requirements.

A single drill rig would be used to drill a pattern of boreholes. A contractor then loads the holes with carefully metered explosives. Each shot hole would be completely stemmed using fine gravel or dry sand. The shot is timed to detonate each hole(s) in sequence. This minimizes the ground vibration and noise of the blast, while maximizing fracture and controlling shot placement of the rock. The explosive material would consist of ammonium nitrate and fuel oil, known as ANFO. Blasting typically occurs through a short blast and would typically occur once per day due to the time required for setup. RCNM estimates the instantaneous noise level from blasting of 94 dBA  $L_{max}$  at 50 feet. Due to the short nature of a blast, with an instantaneous sound level lasting several seconds, RCNM calculates hourly noise levels from blasting as 74 dBA  $L_{eq}$  at 50 feet (RCNM calculations are included in Appendix NOI).

## Groundborne Vibration

Development facilitated by the project would not include any substantial vibration sources associated with operation. Therefore, construction activities have the greatest potential to generate ground-borne vibration affecting nearby receivers, especially during grading and excavation of development facilitated by the project. The greatest vibratory source during general construction activities would be anticipated to be a dozer. An impact pile driver may be used during impact construction activities, if required. Construction vibration estimates are based on vibration levels reported by Caltrans and the FTA (Caltrans 2020; FTA 2018). Table 4.13-5 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

**Table 4.13-5 Vibration Levels Measured during Construction Activities**

Equipment		PPV at 25 ft. (in/sec)
Pile Driver (impact)	Upper range	1.518
	Typical	0.644
Pile Driver (sonic)	Upper range	0.734
	Typical	0.170
Dozer		0.089
Source: FTA 2018		

Blasting may also be required during construction to break up rocks. When explosive charges detonate in rock, almost all of the available energy from the explosion is used in breaking and displacing the rock mass. However, a small portion of the energy is released in the form of vibration waves that radiate away from the charge location. The strength, or “amplitude,” of the waves reduces as the distance from the charge increases. The rate of amplitude decay depends on local geological conditions but can be estimated with a reasonable degree of consistency, which allows regulatory agencies to control blasting operations by means of relationships between distance and explosive quantity. Very high blast over-pressure levels can rattle or sometimes break windows. However, air-blast over pressure rarely reaches levels that could cause building damage with modern blasting practices. Exact blast charge weights and locations are not known at this time. It was assumed that the blasting would use Ammonium Nitrate Fuel Oil. Sample vibration rates from blasting include 4.2 in/sec PPV and 7.3 in/sec PPV at 25 feet from a five-pound charge and ten-pound charge, respectively.

## Operational Noise Sources

Noise sources associated with operation of the development facilitated by the project would consist of low speed on-site vehicular noise, landscaping maintenance, general conversations, and mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] units and generators). Due to the distances and low noise levels associated with general site activities and landscape maintenance, these sources are not considered substantial and are not analyzed further. The primary noise sources of concern would be HVAC and generator units.

### *HVAC Units*

The HVAC unit used to estimate noise levels from development facilitated by the project is a typical to larger-sized (5-ton) residential condenser, a Carrier 38HDR060 split system condenser (see Appendix NOI for specification sheets). The manufacturer’s noise data is provided below in Table 4.13-6.

**Table 4.13-6 HVAC Noise Levels**

125 Hz <sup>1</sup>	250 Hz <sup>1</sup>	500 Hz <sup>1</sup>	1 KHz <sup>1</sup>	2 KHz <sup>1</sup>	4 KHz <sup>1</sup>	8 KHz <sup>1</sup>	Overall Noise Level in A-weighted Scale (dBA) <sup>2</sup>
63.0	61.5	64.0	66.5	66.0	64.5	55.5	72.0

<sup>1</sup> Noise Levels in dB measured at octave frequencies

<sup>2</sup> Noise Levels for a Carrier 38HDR060 split system condenser (see Appendix NOI for specification sheets)

*Hz = Hertz; KHz = kilohertz*

### *Generators*

Generators may be installed at future project residences to provide power in case of a power outage, which are becoming more common in the County due to Public Safety Power Shutoffs. An example of a larger backup generator used to power a whole house during a power outage is a Generac Guardian Series 22 kW, which would generate a noise level of 67 dBA at 23 feet (see Appendix NOI for specification sheets).

### Traffic Noise

Traffic generated from development facilitated by the project would increase noise levels on surrounding roadways. Traffic noise was analyzed for the following scenarios (Appendix TRA): Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project. Traffic volumes were determined from intersection vehicle turning volumes; the total turning volumes for each intersection were assumed on the roadways that meet at the intersection as shown in Table 4.13-7.

**Table 4.13-7 Existing and Future Traffic Volumes (PM Peak Hour)<sup>1</sup>**

Intersection	Nearest Potential Site(s)	Existing	Existing Plus Project	Cumulative	Cumulative Plus Project
Geyserville Ave & Canyon Rd	GEY-1 through GEY-4	420	464	590	634
River Rd (SR 116) & Armstrong Wood Rd/First St	GUE-1 through GUE-4	1,210	1,343	1,840	1,973
River Rd & Gravenstein Hwy (SR 116)	GUE-1 through GUE-4	1,220	1,321	1,850	1,951
Old Redwood Hwy & Fulton Rd	LAR-1 through LAR-8	1,570	1,596	2,300	2,326
Airport Blvd & Fulton Rd	LAR-1 through LAR-8	2,930	2,966	4,210	4,246
Old Redwood Hwy & Airport Blvd	LAR-1 through LAR-8	2,070	2,096	2,920	2,946
Old Redwood Hwy & Faught Rd	LAR-1 through LAR-8	1,740	1,767	2,460	2,487
Old Redwood Hwy & Wikiup Dr/Mark West Commons Cir	LAR-1 through LAR-8	1,920	1,983	2,580	2,643
Pocket Canyon Hwy/Front St (SR 116) & Mirabel Rd	FOR-1 through FOR-6	1,040	1,162	1,660	1,782
Gravenstein Hwy (SR 116) & Graton Rd/Frei Rd	GRA-1 through GRA-5	1,290	1,378	2,080	2,168
Todd Rd & Moorland Ave	SAN-1 through SAN-10	1,820	2,042	2,420	2,642
Todd Rd & S Moorland Ave/US 101 Southbound Ramps	SAN-1 through SAN-10	2,150	2,405	2,830	3,085
Todd Rd & Todd Rd Overpass	SAN-1 through SAN-10	2,130	2,370	2,390	2,630
Todd Rd & Santa Rosa Ave	SAN-1 through SAN-10	2,940	3,098	3,310	3,468
Arnold Dr & Warm Springs Rd	GLE-1 and GLE-2	760	768	950	958
Verano Ave & Riverside Dr	AGU-1 through AGU-3	1,270	1,355	1,470	1,555
Old Adobe Rd & Petaluma Hill Rd/Main St	PEN-1 through PEN-9	2,060	2,082	3,010	3,032
Old Redwood Hwy & Main St	PEN-1 through PEN-9	1,790	1,844	2,450	2,504
Bodega Ave & Paula Ln	PEN-1 through PEN-9	850	935	1,050	1,135
Broadway (SR 12) & Leveroni Rd/Napa Rd	SON-1 through SON-4	2,240	2,265	2,530	2,555

<sup>1</sup> PM Peak Hour traffic volumes were used because they were generally represented the highest traffic volumes.

Source: Appendix TRA

### c. Impact Analysis

<b>Threshold:</b>	Would the project result in generation of noise levels in excess of standards established in the County General Plan or Noise Ordinance?
	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

**Impact NOI-1 CONSTRUCTION ACTIVITIES ASSOCIATED WITH DEVELOPMENT FACILITATED BY THE PROJECT COULD RESULT IN NOISE LEVEL INCREASES THAT WOULD EXCEED APPLICABLE CONSTRUCTION NOISE STANDARDS AT NEARBY NOISE SENSITIVE RECEIVERS. THIS WOULD BE A POTENTIALLY SIGNIFICANT IMPACT. OPERATIONAL NOISE IMPACTS FROM HVAC UNITS AND GENERATORS WOULD POTENTIALLY EXCEED COUNTY STANDARDS IF LOCATED NEAR NOISE-SENSITIVE LAND USES. THIS WOULD BE A POTENTIALLY SIGNIFICANT IMPACT AND MITIGATION IS REQUIRED.**

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### Construction

#### *General Construction Activities*

Most of the development facilitated by the project would be constructed near areas with existing noise-sensitive receivers, such as residences. Construction activities that occur between 7 a.m. to 10 p.m. would be required to comply with County standards, and therefore if construction took place during these hours, general construction activity noise levels would be less than significant.

Construction that occurs outside of the 7 a.m. to 10 p.m. allowed hours would be subject to the County noise standards listed in Table 4.13-4. Construction equipment could be located as close as 25 feet to the nearest noise-sensitive receivers, but would typically be located at an average distance further away due to the nature of construction (i.e., each piece of construction equipment would work in different locations throughout the day and average a further distance). It is conservatively assumed that the construction equipment would operate, on average, 50 feet from the nearest noise-sensitive receivers. At a distance of 50 feet, an excavator, loader, and a dump truck would generate a noise level of 80 dBA  $L_{eq}$  (RCNM calculations are included in Appendix NOI). The distance at which these pieces of equipment would generate 45 dBA  $L_{50}$  would be 2,800 feet. General construction activities that occur within 2,800 feet of existing noise-sensitive land uses between 10 p.m. to 7 a.m., construction noise levels would exceed the 45 dBA  $L_{50}$  County noise limit. Therefore, construction activities from development facilitated by the project could exceed the 45 dBA  $L_{50}$  County noise limit and could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Noise impacts from general construction activities during the nighttime hours would be potentially significant and mitigation measures would be required.

#### *Impact-related Construction Activities*

Use of impact devices, such as an impact pile driver and a breaker, are not anticipated and unlikely to occur for development facilitated by the project. Construction activities that occur between 7 a.m. to 10 p.m. would be consistent with County standards, and therefore if construction took place during these hours, impact-related construction activity noise levels would be less than significant.

Impact-related construction that occurs outside of the 7 a.m. to 10 p.m. allowed hours would be subject to the County noise standards listed in Table 4.13-4. If these activities did occur, they could potentially occur within closer distances to noise-sensitive land uses as general construction activities described above. This is because impact devices are typically not mobile equipment and would be stationed at one area of a construction site throughout a typical construction day. Given typical setbacks and equipment size, a conservative close distance to existing noise-sensitive land uses for impact pile driving or a breaker would be 25 feet. At a distance of 25 feet, a pile driver would generate a noise level of 94 dBA  $L_{50}$  and a breaker would generate a noise level of 86 dBA  $L_{50}$ , respectively (RCNM calculations are included in Appendix NOI). The distance at which a pile driver would generate 45 dBA  $L_{50}$  would be 15,000 feet, and the distance that a breaker would generate 45 dBA  $L_{50}$  would be 2,800 feet. Therefore, if pile driving or breaking occurs within these distances of existing noise-sensitive land uses between 10 p.m. to 7 a.m., construction noise levels would exceed the 45 dBA  $L_{50}$  County noise limit. Therefore, impacts would be potentially significant and mitigation measures would be required.

### *Blasting*

Use of blasting is not anticipated and unlikely to occur for development facilitated by the project. If blasting did occur, they may occur for development facilitated by the project that needs to demolish and remove rocks. Typically, a full blasting analysis cannot be done until after the site is cleared of all surface material (including any material that can be removed without blasting) to expose the specific type of material to be blasted, and until the extent of the area of blasting and the required blasting charge type are known. Blasting typically occurs through a short blast and would occur at most several times per day. Due to the short nature of a blast, with an instantaneously sound level lasting several seconds, the time averaged noise levels due to blasting do not generally reach levels that would exceed County standards. Construction activities that occur between 7 a.m. to 10 p.m. would be consistent with County standards, and therefore if blasting took place during these hours, blasting noise levels would be less than significant.

Blasting that occurs outside of the 7 a.m. to 10 p.m. allowed hours would be subject to the County noise standards listed in Table 4.13-4. Similar to impact-related construction activities, blasting activities could potentially occur within closer distances to noise-sensitive land uses as general construction activities described above. This is because blasting occurs in specific areas due to the underlying geology. For the purposes of this analysis, it is assumed blasting could occur as close as 25 feet to existing noise-sensitive land uses. At a distance of 25 feet, blasting would generate a noise level of 80 dBA  $L_{50}$  (RCNM calculations are included in Appendix NOI). The distance at which blasting would generate 45 dBA  $L_{50}$  would be 1,400 feet. Therefore, blasting conducted between 10 p.m. to 7 a.m. within this distance would exceed the 45 dBA  $L_{50}$  County noise limit and impacts would be potentially significant, and mitigation measures would be required.

### **Operation**

Development facilitated by the project would intensify noise sources compared to existing conditions. Existing noise-sensitive receivers near the Potential Sites may periodically be subject to noise associated with operation, which includes stationary noise from HVAC units and traffic generated from development facilitated by the project.



### *HVAC Units*

HVAC units are typically placed on the ground for single-family residences, condos, and townhomes, and on the rooftops for apartment complexes. Each residential unit would typically have one HVAC unit. Given typical setbacks, the HVAC units could be potentially located within five feet of adjacent property lines.

At a distance of five feet, a Carrier 38HDR060 HVAC unit with no screening would result in a noise level of approximately 60 dBA  $L_{50}$ <sup>1</sup>. This would exceed both the County's daytime and nighttime maximum allowable operational exterior noise exposures. The HVAC units would not exceed the most restrictive noise limit of 45 dBA  $L_{50}$  from 10 p.m. to 7 a.m. at a distance of 30 feet. Therefore, without screening and assuming an HVAC unit similar to a Carrier 38HDR060, operational noise impacts from development facilitated by the project would be potentially significant if located within 30 feet of a noise-sensitive land use. Mitigation measures would be required.

### *Generator*

Permanent backup generators for residences are typically placed on the ground in a similar fashion to HVAC units. Given typical setbacks, the generators could be potentially located within five feet of adjacent property lines. At a distance of five feet, a Generac Guardian Series 22 kW generator with no screening would result in a noise level of approximately 80 dBA  $L_{50}$ . This would exceed both the County's daytime and nighttime maximum allowable operational exterior noise exposures. The generators would not exceed the most restrictive noise limit of 45 dBA  $L_{50}$  from 10 p.m. to 7 a.m. at a distance of 300 feet. Therefore, without screening and assuming a generator similar to a Generac Guardian Series 22 kW, operational noise impacts would be potentially significant if located within 300 feet of a noise-sensitive land use and mitigation measures would be required.

### *Parking Lots*

Development facilitated by the project would include parking lots for the project residents and visitors. Parking lot noise can include vehicle arrival, limited idling of the vehicle, occupants exiting their vehicle, door closure, conversations among passengers, occupants entering the vehicle, vehicle startup, and departure. Excessive noise from parking lots is typically associated with large events (e.g., concert venues or other large events), where large groups of people are arriving or departing at similar times and congregating in the parking lots before or after events. Project parking lots would have residents arriving or departing throughout the day and would not have large groups or gatherings that are typical of large events (such as concerts or weddings). These activities at Potential Sites would not happen in such a concentrated manner within close proximity to adjacent property lines that noise levels would exceed County standards. Therefore, noise levels from parking lots would be less than significant.

### *Off-Site Traffic Noise*

Per the traffic volumes analyzed in Table 4.13-7, the greatest percentage increase in roadway volumes (as determined by intersection turning volumes in Appendix TRA) from the Existing to Existing plus Project traffic scenario would be at Todd Road and Moorland Avenue and Todd Road and South Moreland Avenue, with a traffic increase of 11 percent. This is located near Potential Sites SAN-1 through SAN-10. The greatest percentage increases in intersection turning volumes from the Cumulative and Cumulative Plus Project traffic scenario would be at Todd Road and the

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<sup>1</sup>  $L_n$  values are statistical noise levels (sometimes called percentiles) used to assess noise levels from fluctuating noise sources over time;  $L_{50}$  is the level exceeded for 50 percent of the time. See Section 14.13.1(a), above.

Todd Road Overpass, with a traffic increase of 9 percent, which is also located near Potential Sites SAN-1 through SAN-10. An 11 percent increase would represent an approximate 0.5 dBA increase in noise levels for the intersection of Todd Road and the Todd Road Overpass, which would not exceed the 3 dBA criteria (i.e., a barely perceptible noise increase) for off-site traffic noise impacts. Furthermore, some Potential Sites may be located in areas where the existing ambient noise level exceeds the 60 dBA  $L_{dn}$  exterior noise level standard, however, the project's contribution to existing traffic noise levels would not be perceptible. Therefore, development facilitated by the project would not result in a substantial permanent increase in ambient noise levels above existing levels. Impacts would be less than significant.

## Mitigation Measures

### *NOI-1 General Construction Activities Noise Reduction Measures*

If construction activities occur between the hours of 10 p.m. to 7 a.m., within 0.5 mile of a noise-sensitive receiver (residences, schools, day care facilities, hospitals, nursing homes, long term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors), the following measures shall be implemented:

- 1) Nighttime construction noise shall not exceed the noise level standards shown in Table 4.13-4 when conducted between the hours of 10 p.m. to 7 a.m.
- 2) The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.
- 3) The analysis of nighttime construction activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider the type of construction equipment to be used and the potential noise levels at noise-sensitive receivers located within 0.5 mile of the Potential Site.
- 4) Provided the nighttime construction noise analysis determines that nighttime noise levels will not exceed 45 dBA  $L_{50}$ , 50 dBA  $L_{25}$ , 55 dBA  $L_{08}$ , or 60 dBA  $L_{02}$  between the hours of 10 p.m. to 7 a.m., construction may proceed without additional measures.
- 5) Provided the nighttime construction noise analysis determines that nighttime noise levels would exceed the nighttime standards shown in Table 4.13-4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers or performing activities at a further distance from the noise-sensitive land use.

### *NOI-2 Pile Driver Noise and Vibration Reduction Measures*

If pile driving activities occur between the hours of 10 p.m. to 7 a.m., where pile driving is to be used within 2.8 miles of a noise-sensitive receiver (residences, schools, day care facilities, hospitals, nursing homes, long term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors) or, during daytime or nighttime hours, within 160 feet of a vibration-sensitive receiver (residences, research and advanced technology equipment) the following measures shall be implemented:

- 1) Daytime (7 a.m. to 10 p.m.)
  - a. Pile Driving Vibration
    - i. Use of a pile driver shall not occur within 160 feet of a vibration-sensitive receiver;

- ii. Daytime pile driving vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers
- 2) Nighttime (10 p.m. to 7 a.m.):
- a. Pile Driving Noise
    - i. Nighttime pile driving noise shall not exceed the noise level standards shown in Table 4.13-4 when conducted between the hours of 10 p.m. to 7 a.m.
    - ii. The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.
    - iii. The analysis of nighttime pile driving activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider the type of pile driver to be used and potential noise levels at noise-sensitive receivers located within 15,000 feet of the Potential Site.
    - iv. Provided the analysis concludes that noise levels will not exceed 45 dBA  $L_{50}$ , 50 dBA  $L_{25}$ , 55 dBA  $L_{08}$ , or 60 dBA  $L_{02}$  between the hours of 10 p.m. to 7 a.m., construction may proceed without additional measures.
    - v. Provided the analysis concludes that pile driving noise levels exceed the nighttime standards shown in Table 4.13-4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers to reduce noise levels.
  - b. Pile Driving Vibration
    - i. Use of a pile driver shall not occur within 160 feet of a vibration-sensitive receiver.
    - ii. Nighttime pile driving vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers.
    - iii. The project applicant shall retain a qualified consultant to prepare a project-specific construction vibration impact analysis.
    - iv. The analysis of nighttime pile driving vibration shall be completed in accordance with industry standards. The analysis shall consider the type of pile driver to be used and potential vibration levels at vibration-sensitive receivers located within 160 feet of the Potential Site.
    - v. Provided the analysis concludes vibration levels do not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, construction may proceed without additional measures.
    - vi. Provided the analysis concludes that pile driving vibration levels exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, additional measures shall be implemented to reduce vibration levels below the standard. These measures may include, but not be limited to, pre-drilling pile holes, utilizing a vibratory pile driver, or performing pile driving at a further distance from the noise-sensitive land use to reduce vibration levels.

#### *NOI-3 Breaker Noise Reduction Measures*

If construction activities use a breaker noise between the hours of 10 p.m. to 7 a.m. within 0.5 mile of a noise-sensitive receiver (residences, schools, day care facilities, hospitals, nursing homes, long

term medical or mental care facilities, places of worship, libraries and museums, transient lodging, and office building interiors), one of the following measures shall be implemented:

- 1) Nighttime breaker noise shall not exceed the noise level standards shown in Table 4.13-4 when conducted between the hours of 10 p.m. to 7 a.m.
- 2) The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.
- 3) The analysis of nighttime breaker activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider type of breaker used and other factors of the environment and the potential noise levels at noise-sensitive receivers located within 0.5 mile of the Potential Site.
- 4) Provided the nighttime breaker noise analysis determines that nighttime noise levels will not exceed 45 dBA L<sub>50</sub>, 50 dBA L<sub>25</sub>, 55 dBA L<sub>08</sub>, or 60 dBA L<sub>02</sub> between the hours of 10 p.m. to 7 a.m., construction may proceed without additional measures.
- 5) Provided the nighttime breaker noise analysis determines that nighttime noise levels would exceed the nighttime standards shown in Table 4.13-4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers or performing breaking at a further distance from the noise-sensitive land use.

#### *NOI-4 Blasting Noise and Vibration Reduction Measures*

If construction activities using blasting occurs during construction of a Potential Site, the following measure shall be implemented:

- 1) Daytime (7 a.m. to 10 p.m.)
  - a. Blasting Vibration
    - i. Daytime blasting vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers
- 2) Nighttime (10 p.m. to 7 a.m.):
  - a. Blasting Noise
    - i. Nighttime blasting noise shall not exceed the noise level standards shown in Table 4.13-4 when conducted between the hours of 10 p.m. to 7 a.m.
    - ii. The project applicant shall retain a qualified consultant to prepare a project-specific construction noise impact analysis.
    - iii. The analysis of nighttime blasting activities shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The analysis shall consider the blasting plan and potential noise levels at noise-sensitive receivers located within 0.25 mile of the Potential Site.
    - iv. Provided the analysis concludes that noise levels will not exceed 45 dBA L<sub>50</sub>, 50 dBA L<sub>25</sub>, 55 dBA L<sub>08</sub>, or 60 dBA L<sub>02</sub> between the hours of 10 p.m. to 7 a.m. construction may proceed without additional measures.
    - v. Provided the analysis concludes that pile driving noise levels exceed the nighttime standards shown in Table 4.13-4, additional measures shall be implemented to reduce noise levels below the standard. These measures may include, but not be limited to, use of temporary noise barriers to reduce noise levels.

b. **Blasting Vibration**

- i. Nighttime blasting vibration shall not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV at vibration sensitive receivers within 0.25 mile feet of the Potential Site.
- ii. The project applicant shall retain a qualified consultant to prepare a project-specific construction vibration impact analysis.
- iii. The analysis of nighttime blasting vibration shall be completed in accordance with industry standards. The analysis shall consider the blasting plan and potential vibration levels at vibration-sensitive receivers located within 0.25 mile of the Potential Site.
- iv. Provided the analysis concludes vibration levels do not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, blasting may proceed without additional measures.
- v. Provided the analysis concludes that pile driving vibration levels exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV and the structural damage impact to structures of 0.4 in/sec PPV, additional measures shall be implemented to reduce vibration levels below the standard. These measures may include, but not be limited to, blasting mats shall be implemented to reduce vibration levels below the threshold.

*NOI-5 HVAC Noise Reduction Measures*

For any individual project that would place one or more HVAC unit(s) within 30 feet of an existing noise-sensitive receiver, the County shall, concurrently with design review and prior to the approval of building permits, require a project-specific design plan demonstrating that the noise level from operation of the HVAC unit(s) shall not contribute to a cumulative exceedance of the County noise standards at receiving noise-sensitive land uses, listed in Table 4.13-4. The analysis shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. Noise control measures shall include, but are not limited to, the selection of quiet equipment, equipment setbacks, enclosures, silencers, and/or acoustical louvers.

*NOI-6 Generator Noise Reduction Measures*

If an individual project would place permanent backup generators within 300 feet of an existing noise-sensitive receiver, the County shall, concurrently with design review and prior to the approval of building permits, require a project-specific design plan demonstrating that the noise level from operation of generators shall not contribute to a cumulative exceedance of the County noise standards at receiving noise-sensitive land uses, listed in Table 4.13-4. The analysis shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. Project specific noise reduction measures shall be implemented into the design plan during construction by the project applicant. Noise control measures that could be implemented include, but are not limited to, the selection of quiet equipment, equipment setbacks, enclosures, silencers, and/or acoustical louvers.

## **Significance After Mitigation**

Impacts from general construction activities performed between 10 p.m. to 7 a.m. would be less than significant with implementation of Mitigation Measure NOI-1 because nighttime construction would be required to comply with the noise standards shown in Table 4.13-4 and also require a project specific noise analysis with detailed measures for reducing noise levels at noise sensitive receivers within 0.5 mile of the Potential Sites.

Impacts from construction using a pile driver performed between 10 p.m. to 7 a.m. would be less than significant with implementation of Mitigation Measure NOI-2 because nighttime pile driving would be required to comply with the noise standards shown in Table 4.13-4 and vibration standards for humans of 0.24 in/sec PPV and for structural damage of 0.4 in/sec PPV. A project specific noise and vibration analysis with detailed measures for reducing noise and vibration levels at sensitive receivers within 2.8 miles for noise and 160 feet for vibration.

Impacts from construction using a breaker performed between 10 p.m. to 7 a.m. would be less than significant with implementation of Mitigation Measure NOI-3 because nighttime breaker activities would be required to comply with the noise standards shown in Table 4.13-4 and also require a project specific noise analysis with detailed measures for reducing breaker noise levels at noise sensitive receivers within 0.5 mile of the Potential Sites.

Impacts from construction conducting blasting performed between 10 p.m. to 7 a.m. would be less than significant with implementation of Mitigation Measure NOI-4 because nighttime blasting would be required to comply with the noise standards shown in Table 4.13-4 and vibration standards for humans of 0.24 in/sec PPV and for structural damage of 0.4 in/sec PPV. A project specific noise and vibration analysis with detailed measures for reducing noise and vibration levels at sensitive receivers within 0.25 mile.

Impacts from operational noise from HVAC units would be less than significant with implementation of Mitigation Measure NOI-5 because HVAC noise would be required to comply with the noise standards shown in Table 4.13-4 and a project specific noise analysis with detailed measures for reducing noise levels at noise sensitive receivers would also require implementation as part of the project design.

Impacts from operational noise from generators would be less than significant with implementation of Mitigation Measure NOI-6 because generator noise would be required to comply with the noise standards shown in Table 4.13-4 and a project specific noise analysis with detailed measures for reducing noise levels at noise sensitive receivers would also require implementation as part of the project design.

<b>Threshold:</b>	Would the project result exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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**Impact NOI-2** IF PILE DRIVING OR BLASTING IS PERFORMED DURING CONSTRUCTION, VIBRATION FROM THIS EQUIPMENT MAY EXCEED APPLICABLE STANDARDS. THIS WOULD BE A POTENTIALLY SIGNIFICANT IMPACT AND MITIGATION IS REQUIRED.

The greatest anticipated source of vibration during general construction activities would be from a dozer, which may be used within 25 feet of the nearest existing buildings when accounting for setbacks and equipment size. A dozer would create approximately 0.089 in/sec PPV at a distance of 25 feet (FTA 2018). This would be lower than what is considered a distinctly perceptible impact for humans of 0.24 in/sec PPV, and the structural damage impact of 0.4 in/sec PPV. Therefore, impacts associated with vibration from the dozer (and other potential general construction equipment) would be less than significant.

Impact construction activities known to generate excessive ground-borne vibration include pile driving and breakers. Pile driving may be used during construction facilitated by the project. Given typical setbacks and equipment size, a pile driver may be used within 25 feet of the nearest existing buildings. This analysis conservatively assumes the use of an impact pile driver; the upper range for

an impact pile driver would create approximately 1.518 in/sec PPV at a distance of 25 feet (FTA 2018). This would exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV, and the structural damage impact of 0.4 in/sec PPV. The distance to which an impact pile driver would exceed 0.4 in/sec PPV would be approximately 80 feet. Therefore, if an impact pile driver is used within 80 feet of the nearest building, impacts from vibration would be potentially significant and mitigation measures would be required.

Breakers may be used during construction facilitated by the project. Given typical setbacks and equipment size, a breaker may be used within 25 feet of the nearest existing buildings. A breaker would create approximately 0.24 in/sec PPV at a distance of 25 feet (Caltrans 2020). This would not exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV or the structural damage impact of 0.4 in/sec PPV. Therefore, impacts associated with vibration from a breaker would be less than significant.

Blasting may also be required during construction to break up rocks and can generate vibration in the form of vibration waves that radiate away from the charge location. Exact blast charge weights and locations are not known at this time. For this analysis, it is assumed blasting may occur as close as 25 feet to the nearest existing buildings. Sample vibration rates from blasting include 4.2 in/sec PPV and 7.3 in/sec PPV at 25 feet from a 5 pound charge and 10 pound charge, respectively, which would exceed the distinctly perceptible impact for humans of 0.24 in/sec PPV, and the structural damage impact of 0.4 in/sec PPV. Impacts from blasting would be potentially significant and mitigation measures would be required.

Development facilitated by the project would not involve substantial vibration sources associated with operation. Therefore, operational vibration impacts of development facilitated by the project would be less than significant.

## **Mitigation Measures**

See Mitigation Measures NOI-2 and NOI-4 for reducing pile driving and blasting impacts, respectively.

## **Significance After Mitigation**

Impacts associated with vibration from pile driving and blasting would be less than significant with implementation of Mitigation Measures NOI-2 and NOI-4, respectively.



<b>Threshold:</b>	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?  For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
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**Impact NOI-3** THERE ARE NO POTENTIAL SITES WITHIN TWO MILES OF AN AIRSTRIP OR AIRPORT OR WITHIN THE NOISE CONTOURS FOR AN AIRSTRIP OR AIRPORT, AND NO IMPACTS WOULD OCCUR FROM EXPOSING RESIDENTS OR WORKERS TO EXCESSIVE AIRCRAFT NOISE LEVELS.

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Airports located in Sonoma County include the Charles M. Schulz Sonoma County Airport, the Cloverdale Municipal Airport, the Healdsburg Municipal Airport, the Petaluma Municipal Airport, the Sonoma Skypark Airport, and the Sonoma Valley Airport. There are no private airstrips in the project area. The Air Transportation Element of the County General Plan contains noise contour maps from 55 to 75 CNEL for each airport. None of the noise contours overlap with Potential Sites. Therefore, no substantial noise exposure from airport noise would occur to construction workers or residents of development facilitated by the project, and no impacts would occur.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

No impact would occur and mitigation is not required.

<b>Threshold:</b>	Would the project result in exposure of persons to noise levels in excess of standards established in the County General Plan?
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**Impact NOI-4** POTENTIAL SITES LOCATED NEAR INDUSTRIAL SOURCES, WITHIN THE 60 AND 65 DB  $L_{DN}$  CONTOURS OF NEARBY ROADWAYS, AND/OR LOCATED NEAR A RAILROAD LINE/CROSSING MAY EXCEED THE COUNTY'S ACCEPTABLE NOISE LEVELS OF 60 DB  $L_{DN}$  OR LESS IN OUTDOOR ACTIVITY AREAS AND INTERIOR NOISE LEVELS TO 45 DB  $L_{DN}$  OR LESS WITH WINDOWS AND DOORS CLOSED. THIS WOULD BE A POTENTIALLY SIGNIFICANT IMPACT.

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Table 1 of the County's Guidelines for the Preparation of Noise Analysis (County of Sonoma 2019) states that a noise analysis is required when placing a noise-sensitive land use (such as a residential project) located in or adjacent to:

1. A noise-generating land use;
2. A noise-impacted area identified in Attachment C of the Guidelines for the Preparation of Noise Analysis (roads and highways within the 60 and 65 dB  $L_{dn}$  contours);
3. 300 feet of a railroad line;
4. 900 feet of a railroad crossing; and/or
5. A public airport.

The following Potential Sites were identified in Figure NE-1 of the Sonoma County General Plan 2020 Noise Element as being located near an industrial land use or aggregate resource extraction area,

and therefore may be located in or adjacent to a noise-generating land use: LAR-3, LAR-4, LAR-5, FOR-3, FOR-5, FOR-6, GRA-1, GRA-2, SAN-1 through SAN-10, PEN-1, PEN-3, PEN-5, PEN-8, and PEN-9.

The following Potential Sites are located within impacted roadway noise contours identified in Attachment C of the Guidelines for the Preparation of Noise Analysis: GEY-1 through GEY-4, LAR-1, LAR-3, LAR-5, LAR-7, LAR-8, FOR-1, FOR-3, FOR-5, GRA-3, GRA-5, SAN-1 through SAN-9, GLE-1, AGU-2, AGU-3, PEN-1, PEN-3, PEN-5, PEN-6, PEN-8, PET-1 through PET-4, and SON-1 through SON-4.

The following Potential Sites are located within 300 feet of a railroad line and/or 900 feet of a railroad crossing: SAN-2, SAN-6 through SAN-9, PEN-1, PEN-3, PEN-5, PEN-6, PEN-8, and PEN-9.

As stated under Impact NOI-3, there are no Potential Sites within airport noise contours.

The Potential Sites identified above are located within areas that may cause noise levels to exceed the County's acceptable noise levels of 60 dB  $L_{dn}$  or less in outdoor activity areas and interior noise levels to 45 dB  $L_{dn}$  or less with windows and doors closed. Therefore, noise impacts to these Potential Sites are potentially significant and mitigation measures would be required.

## Mitigation Measure

The following mitigation measure would ensure consistency of development facilitated by the project with the County's acceptable noise levels of 60 dB  $L_{dn}$  or less in outdoor activity areas and interior noise levels to 45 dB  $L_{dn}$  or less with windows and doors closed, respectively:

### *NOI-7 Exterior and Interior Land Use Noise Compatibility Compliance*

Potential Sites with that may exceed noise compatibility standards include: GEY-1 through GEY-4, LAR-1, LAR-3, LAR-4, LAR-5, LAR-7, LAR-8, FOR-1, FOR-3, FOR-5, FOR-6, GRA-1, GRA-2, GRA-3, GRA-5, SAN-1 through SAN-10, GLE-1, AGU-2, AGU-3, PEN-1, PEN-3, PEN-5, PEN-6, PEN-8, PEN-9, PET-1 through PET-4, and SON-1 through SON-4.

For Potential Sites where exterior noise levels may exceed 60 dB  $L_{dn}$  or greater in outdoor activity areas or where interior noise levels may exceed 45 dB  $L_{dn}$  or greater with windows and doors closed, the project applicant shall coordinate with the project architects and other contractors to ensure compliance with the County's noise thresholds.

The specific project-level land use compatibility analysis shall be completed in accordance with the County's Guidelines for the Preparation of Noise Analysis. The information in the analysis may include, for exterior areas, the layout and placement of the outdoor area, and for interior areas the wall heights and lengths, room volumes, window and door tables typical for a building plan, as well as information on any other openings in the building shell. With this specific plan information, the analysis shall determine the predicted exterior and interior noise levels at the planned buildings. If predicted noise levels are found to be in excess of the applicable limits, the report shall identify architectural materials or techniques that shall be incorporated into the project to reduce noise levels to the applicable limits.

Measures to provide the required noise control may include, but are not limited to:

1. Exterior
  - a) Use of sound walls between the outdoor areas and nearby roadways.
  - b) Placement of the outdoor areas where building attenuation would partially block or fully block the line of sight between the area and nearby roadways.

## 2. Interior

- a) Installation of windows, doors, and walls with higher Sound Transmission Class ratings over minimum standards.
- b) Installation of air conditioning or mechanical ventilation systems to allow windows and doors to remain closed for extended intervals of time so that acceptable interior noise levels can be maintained.

### Significance After Mitigation

With implementation of Mitigation Measure NOI-7, potential exterior and interior noise levels at development facilitated by the project would be compatible with the County's exterior noise limit of 60 dB  $L_{dn}$  or less in outdoor activity areas and interior noise limit of 45 dB  $L_{dn}$  or less with windows and doors closed.

## 4.13.4 Cumulative Impacts

### Short-Term Cumulative Construction Phase Impacts

Noise and vibration associated with construction using general equipment, pile drivers, breakers, or blasting could result in significant noise impacts if conducted between the hours of 10 p.m. to 7 a.m. Mitigation measures have been identified to help reduce noise from construction equipment. In addition, as with general construction activities, these impacts are typically considered localized impacts, affecting only receptors closest to construction activities. Therefore, unless construction of cumulative projects, including those proposed under development facilitated by the project, occur in close proximity to each other (i.e., less than 200 feet), and simultaneously, noise and vibration from individual construction projects have a small chance of combining to create significant cumulative impacts. There is only one project planned or currently under construction within 200 feet of Potential Sites, which is DRH19-004 near the Glen Ellen sites, located approximately 50 feet to the north (as discussed under Section 3.3). This small site (converting commercial space to residential units) is already under construction and would likely be finished before the Glen Ellen Potential Sites were developed. There are no projects planned or currently under construction within 200 feet of Potential Sites, as discussed under Section 3.3. Thus, with mitigation cumulative noise and vibration impacts from pile drivers, breakers, or blasting activities would be less than significant.

### Long-Term Cumulative Operational Noise Impacts

As discussed in Impact NOI-1, traffic noise increases from development facilitated by the project would be negligible and would not contribute to a noise level increase that exceeds impact criteria, including under future cumulative conditions. Even though traffic would gradually increase over the course of development facilitated by the project, the contribution would not be cumulatively considerable.

Some of the cumulative projects listed in Table 3-1 would include similar operational noise sources as development facilitated by the project (e.g., HVAC equipment and generators). Similar to construction noise and vibration, operational noise from these sources is localized and rapidly attenuates within an urbanized setting due to the effects of intervening structures and topography that block the line of sight, and due to other noise sources closer to receivers that obscure project-related noise. In addition, Mitigation Measures NOI-5 and NOI-6 would reduce noise from HVAC equipment and generators, respectively. Given the distance of the cumulative projects from the

Potential Sites and implementation of mitigation, these projects are not located in such close proximity to the Potential Sites that operational noise would significantly impact the same sensitive receivers. Therefore, the incremental effect of the project would not be cumulatively considerable.

## 4.14 Population and Housing

This section evaluates the potential population growth and displacement impacts associated with project implementation.

### 4.14.1 Setting

Population, housing, and employment data are available on a city/town, county, regional, and state level. This Program EIR uses data collected and provided at the town and county level to focus the analysis specifically on unincorporated Sonoma County and on the 11 areas with the 59 sites proposed to be rezoned.

#### a. Population

As shown in Table 4.14-1, unincorporated Sonoma County had an estimated 2019 population of 141,781 (California Department of Finance [DOF] 2019). Table 4.14-1 also shows population growth in the unincorporated county since census year 2010. Between 2010 and 2017, the unincorporated county experienced a population increase, but in 2018 and 2019, the population of the unincorporated county decreased. This is likely due to the annexation of 714 acres of the unincorporated county into the city of Santa Rosa in October 2017, subsequent annexations of smaller tracts of land in 2018 and 2019 into other incorporated cities in Sonoma County, as well as the loss of population following the 2017 Sonoma Complex Fires and the 2019 Kincadee Fires (County of Sonoma 2020a).

**Table 4.14-1 Population in Unincorporated Sonoma County (2010 – 2019)**

Year	Population	Percent Change from Previous Year
2010	145,363	--
2011	146,530	+ 0.80
2012	147,158	+ 0.43
2013	147,330	+ 0.12
2014	148,487	+ 0.79
2015	149,229	+ 0.50
2016	149,488	+ 0.17
2017	149,781	+ 0.20
2018	143,721	- 4.05
2019	141,781	- 1.35

Source: DOF 2019

#### b. Housing

A household is defined as a group of people who occupy a housing unit (United States Census Bureau 2020). A household differs from a dwelling unit because total dwelling units includes both occupied and vacant dwelling units. Not all the population lives in households; a portion lives in group quarters, such as board and care facilities and others are homeless.

## Household Size

Small households (one to two persons per household) traditionally occupy units with zero to two bedrooms; family households (three to four persons per household) normally occupy units with three to four bedrooms. Large households (five or more persons per household) typically occupy units with four or more bedrooms. The number of units in relation to the household size may reflect preference and economics. Many small households obtain larger units and some large households live in small units, for economic reasons.

Table 4.14-2 compares the size of households in the unincorporated county with Sonoma County as a whole, in 2000, 2010, and 2019. The average household size in the unincorporated county and Sonoma County as a whole decreased between 2000 and 2010 and increased between 2010 and 2019. Overall, the unincorporated county has maintained a lower average household size than Sonoma County as a whole over the last 19 years.

**Table 4.14-2 Households in Unincorporated Sonoma County and the Rest of Sonoma County (as a Whole)**

Average Household Size	2000	2010	2019
Unincorporated County	2.57	2.46	2.53
Rest of Sonoma County (incorporated cities)	2.60	2.55	2.63

Source: DOF 2007, DOF 2019

## Housing Units

Table 4.14-3 shows the growth in number of housing units in the unincorporated county since 2000. Between 2000 and 2010, approximately 2,701 housing units were added to the housing inventory in the unincorporated county, an average yearly increase in the housing stock of approximately 245 housing units. Between 2010 and 2019, approximately 2,884 housing units were removed from the housing inventory in unincorporated county areas, an average yearly decrease of approximately 288 units. Similar to the decrease in population in the unincorporated county during this time, this decrease in housing units is likely due either to annexations of land previously in the unincorporated county into various incorporated cities in Sonoma County or to the 2017 Sonoma Complex Fires, which destroyed over 2,200 housing units in the unincorporated county (County of Sonoma 2020b). Additionally, it should be noted that the 2019 Kincade Fire destroyed 374 structures, including 174 residences, and damaged 60 additional structures, including 34 residences (California Department of Forestry and Fire Protection [CAL FIRE] 2019); the Glass Fire of 2020, which destroyed 1,555 structures and damaged an additional 282 structures across both Napa and Sonoma counties (CAL FIRE 2020); and the LNU Lightning Complex fires of 2020, which destroyed 159 residences and damaged an additional 10 residences in Sonoma County (Graff 2020). Of the 64,807 housing units in the unincorporated county in 2019, 10,769 units (16.6 percent) were vacant (DOF 2019). There were 1,904 permitted vacation rentals in the County as of June 23, 2020 (County of Sonoma 2020c).

**Table 4.14-3 Housing Units in Unincorporated Sonoma County Defined by Units Per Structure**

Year	Single Family (Attached Plus Detached)	Multifamily (2 to 4 units)	Multifamily (5+ units)	Mobile Homes	Total Units	Occupied Units
2000	55,592	5,984 <sup>a</sup>	— <sup>a</sup>	5,958	67,534	59,399
2010	58,293	2,607	2,425	4,642	67,967	56,951
2019	55,409	2,619	2,364	4,415	64,807	54,038

<sup>a</sup> This number represents all multi-family housing in the unincorporated county in 2000, without regard to the number of units in the multifamily complex (2 to 4 versus 5+ units).

Source: DOF 2007, 2019

### c. Employment-Housing Ratio

The employment-household ratio in an area is an overall indicator of jobs availability in that area. A balance of jobs and housing is considered beneficial as it has the potential to provide residents the option to work locally and avoid commutes to other places in the region for employment. As shown in Table 4.14-4, the current (2019) employment in the unincorporated county is estimated to be 55,252 (Association of Bay Area Governments [ABAG] 2017). Based on this employment estimate and the unincorporated county's estimated population, the unincorporated county's current jobs-housing ratio is 0.85 jobs per household.

**Table 4.14-4 Unincorporated Sonoma County 2019 Population, Housing, and Employment and 2040 Projections**

Unincorporated Sonoma County	2019	2040 <sup>b</sup>	Change between 2019 to 2040
Population (# of residents)	141,781 <sup>a</sup>	160,150	18,369
Housing (# of units)	64,807 <sup>a</sup>	68,747	3,940
Employment (# of jobs)	55,252 <sup>c</sup>	61,595	6,343

<sup>a</sup> Source: DOF 2019

<sup>b</sup> Source: ABAG 2017

<sup>c</sup> Source: ABAG 2017; extrapolated from 2015 and 2020 employment data

The County has also identified a shortage in high-density housing of approximately 20,700 units to accommodate projected household employment and to alleviate overcrowding that occurs in approximately six percent of existing housing units (County of Sonoma 2018).

### d. Projections

Table 4.14-4 also presents 2040 population, housing, and employment projections for the unincorporated county. The 2040 projections are based on 2017 data ABAG provided (ABAG 2017), which suggest the unincorporated county's population will grow by approximately 18,369 new residents, 3,940 new housing units, and 6,343 new jobs by 2040 compared to 2019 levels. This is equivalent to an average annual population growth rate of approximately 0.6 percent through the year 2040 and overall growth from 2019 to 2040 of 13 percent. Additionally, it should be noted that the 2040 ABAG projections did not account for recent events that have reduced the County's housing stock, including the 2017 Sonoma Complex fires (destruction of over 2,200 housing units); 2019 Kincade Fire (destruction of 374 structures, including 174 residences, and damage to 60



additional structures, including 34 residences); the Glass Fire of 2020 (destruction of 1,555 structures and damage to an additional 282 structures across both Napa and Sonoma counties); and the LNU Lightning Complex fires (destruction of 159 residences and damage to an additional 10 residences in Sonoma County (County of Sonoma 2020b; CAL FIRE 2019, 2020; Graff 2020).

## 4.14.2 Regulatory Setting

### a. State Regulations

#### State Housing Element Law

State housing element statutes (Government Code Sections 65580 through 65589.11) mandate that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law recognizes that for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, State housing policy rests largely upon the effective implementation of local general plans and, in particular, housing elements. Additionally, Government Code Section 65588 dictates that housing elements must be updated at least once every eight years. The County of Sonoma maintains a Housing Element associated with the County's General Plan, which is described below and addresses housing affordability, including Regional Housing Needs Assessment (RHNA) goals.

### b. Regional and Local Regulations

#### Association of Bay Area Governments Regional Transportation Plan/Sustainable Communities Strategy

As discussed in Section 4.11, *Land Use and Planning*, Sonoma County is in the ABAG/Metropolitan Transportation Commission (MTC) planning area. ABAG/MTC functions as the Metropolitan Planning Organization for Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties and the towns and cities in those counties. ABAG/MTC is responsible for implementing Plan Bay Area, the Regional Transportation Plan/Sustainable Communities Strategy (ABAG 2017). Plan Bay Area is a long-range integrated transportation and land-use plan for the San Francisco Bay Area through 2040. ABAG/MTC projections for the planning area consider regional, State, and national economic trends and planning policies. ABAG/MTC's 2040 population and housing projections for unincorporated Sonoma County are shown in Table 4.14-4.

#### Regional Housing Needs Assessment

California's Housing Element law requires that each county and city develop local housing programs to meet their "fair share" of future housing growth needs for all income groups, as determined by the Housing and Community Development. The regional councils of government, including ABAG, are then tasked with distributing the State-projected housing growth need for their region among their city and county jurisdictions by income category. This fair share allocation is referred to as the RHNA process. The RHNA determines the minimum number of housing units each community is required to plan for through a combination of 1) zoning "adequate sites" at suitable densities to provide affordability; and 2) housing programs to support production of below-market rate units. The allocation for areas in unincorporated Sonoma County as determined by the 2015-2023 RHNA,

distributed among four income categories, is shown in Table 4.14-5. The 2024-2032 RHNA process is underway, and the adopted draft numbers are also provided in Table 4.14-5.

**Table 4.14-5 Unincorporated Sonoma County Regional Housing Needs Assessment**

Income Group	2015-2023 RHNA Allocation (units)	Percent of Total	2024-2032 RHNA Allocation (units)	Percent of Total
Very Low: up to 50 percent of area median income	126	24.5	1,036	26.7
Low: between 51 and 80 percent of area median income	37	7.2	596	15.4
Moderate: between 81 and 120 percent of area median income	160	31.1	627	16.2
Above Moderate	192	37.3	1,622	41.8
<b>Total</b>	<b>515</b>	<b>100.0</b>	<b>3,881</b>	<b>100.0</b>

Note: Numbers may not add to provided total due to rounding.

Source: ABAG 2013, 2021

## Sonoma County Transportation Authority

The Sonoma County Transportation Authority (SCTA) serves as the coordinating and advocacy agency for transportation funding for Sonoma County. The SCTA acts as the countywide planning and programming agency for transportation related issues. The SCTA plays a leading role in transportation by securing funds, providing project oversight, and initiating long-term planning. To comply with the MTC requirement that local transportation agencies establish transportation plans that can feed into the larger Regional Transportation Plan, SCTA prepared Moving Forward 2040 — the Comprehensive Transportation Plan in September 2016. This comprehensive transportation plan uses ABAG, MTC, DOF, and California Economic Development Department data to forecast future population, housing, and employment in Sonoma County and the cities therein, through 2040. Moving Forward 2040 estimates that population in the county as a whole (including both unincorporated and incorporated areas) is projected to grow by approximately 23 percent from 2010 to 2040. This is consistent with the ABAG population projections.

## Sonoma County Housing Element

The Housing Element is one of the State-required elements of the General Plan. The County adopted its most recent Housing Element in December 2014 and will generate another update by 2023, at which point the element will be revised for compliance with Division 1, Title 2, Chapter 15 of the Government Code, added by Assembly Bill (AB) 686 in September 2018, which requires housing elements to contain an Assessment of Fair Housing consistent with the federal Affirmatively Furthering Fair Housing Final Rule of July 16, 2015. The purpose of the Housing Element is to identify and analyze existing and projected housing needs to preserve, improve, and develop housing for all economic segments of the community. The Housing Element consists of four parts: an introduction; the County's housing goals, objectives, policies, and action programs; a detailed housing inventory; and the Technical Background Report. Potential Sites identified as appropriate for rezoning for housing under this project would become part of the County's Housing Sites Inventory that is required by state housing element law.

Housing Element goals and policies are intended to preserve affordable units and prevent displacement in the county as follows:

**Goal H-1: Sustain existing affordable housing programs and affordable units.**

Policy HE-1c: Ensure that design review, development standards, and conditions of approval for affordable housing projects do not result in a reduction of allowable project density, or in the number of affordable units, unless the project as proposed would result in one or more specific adverse impacts on public health or safety, and there is no other feasible method to mitigate the adverse impact(s).

Policy HE-1j: Avoid the loss of residential land in urban land-use designations for vacation or time-share uses.

**Goal H-2: Promote the use of available sites for affordable housing construction and provide adequate infrastructure.**

Policy HE-2a: Publish a popular summary that identifies available housing opportunity sites in the unincorporated County. Provide site-specific development information and support for development proposals whenever possible in order to reduce up-front costs for interested housing developers.

Policy HE-2f: Consider a variety of sites for higher-density and affordable housing when the following criteria are met:

- 1) Site is located within or adjacent to an Urban Service Area (USA)
- 2) Adequate utilities are available
- 3) Site is located within 0.5 mile to goods, services, and transit
- 4) Project is consistent with the land use policies of the General Plan

Policy HE-2j: Prevent the loss of urban housing sites to visitor-serving uses.

**Goal H-3: Promote production of affordable housing units.**

Policy HE-3b: Continue to allow manufactured homes on any residential lot, in compliance with state law and subject to all other County Codes.

Policy HE-3e: Continue to allow small-scale homeless shelters (10 persons or less) in the C3, LC and M1 districts as a permitted use, subject to the adopted standards (26.88.127, Homeless Shelters).

Policy HE-3f: Continue to allow emergency homeless shelters (more than 10 persons) in the M1 and PF zoning districts as a permitted use, subject to the adopted standards (26.88.127, Homeless Shelters).

Policy HE-3i: Promote the construction and retention of shared housing such as group homes, congregate care facilities and residential community care facilities while ensuring the health and safety of residents and ensuring land use compatibility for neighbors.

Policy HE-3j: Continue to encourage affordable "infill" projects on underutilized sites within Urban Service Areas by allowing flexibility in development standards pursuant to state density bonus law (Government Code 65915).

Policy HE-3k: Continue to apply the minimum residential density policy to all Urban Residential parcels.

**Goal H-4: Continue to provide funding for affordable housing.**

Policy HE-4d: Identify County-owned lands suitable for housing and consider leasing such land to developers or nonprofit housing entities for the production of affordable housing. In cases

where surplus county land is available, consider making lands available for affordable or special needs housing and associated services, including transitional and farmworker housing.

**Goal H-5: Promote production of housing units for special needs.**

Policy HE-5a: Periodically review and revise zoning regulations for group homes, transitional housing, permanent support housing, and the full range of licensed healthcare programs and facilities to encourage additional use of residences or construction of new facilities for these purposes.

Policy HE-5c: Continue to encourage small-scale homeless shelters (10 persons or less) in the C3, LC and M1 districts.

Policy HE-5d: Continue to encourage emergency homeless shelters (more than 10 persons) in the M1 and PF zoning districts.

Policy HE-5g: Continue to permit transitional and permanent supportive housing in all residential land use categories. The construction of new dwellings for such purposes shall conform to the General Plan densities and to all other applicable provisions of the Sonoma County Code. No standards shall be applied to transitional or supportive housing that do not also apply to other dwelling units within the same zoning district.

### 4.14.3 Impact Analysis

#### a. Methodology and Thresholds of Significance

Population and housing trends in the county were evaluated by reviewing the most current data available from the DOF, ABAG Plan Bay Area, and the County Housing Element. Impacts related to population are generally social or economic in nature. Under CEQA, a social or economic change generally is not considered a significant effect on the environment unless the changes are directly linked to a physical change.

The following thresholds are based on *CEQA Guidelines* Appendix G. For purposes of this EIR, impacts related to population and housing are considered significant if implementation of the proposed project would:

1. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere

For purposes of this analysis, “substantial” population growth is defined as growth exceeding ABAG or SCTA population forecasts for the unincorporated county or exceeding the County’s identified population and housing needs. “Substantial” displacement would occur if allowed land uses would displace more residents than would be accommodated through growth provided by project implementation.

b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
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**Impact PH-1** DEVELOPMENT FACILITATED BY THE PROJECT WOULD ACCOMMODATE AN ADDITIONAL 7,735 NEW RESIDENTS AND 2,975 NEW HOUSING UNITS IN THE COUNTY. THIS WOULD EXCEED ESTABLISHED POPULATION AND HOUSING FORECASTS, BUT THE COUNTY HAS ESTABLISHED THE NEED FOR ADDITIONAL HOUSING BEYOND THAT ALLOWED IN THE COUNTY’S GENERAL PLAN, DUE TO SHORTAGES IN WORKFORCE HOUSING, OVERCROWDING, AND RESIDENCE DESTRUCTION BY RECENT WILDFIRES AND OTHER EMERGENCIES. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The proposed project would rezone urban sites for medium-density housing throughout urban areas in the unincorporated county, with an anticipated buildout of 2030 (over approximately 10 years). As discussed in Section 2, *Project Description*, full buildout of the project could accommodate an estimated net increase of 7,735 new residents and 2,975 new dwelling units in the county. Table 4.14-6 compares the population and housing buildout resulting from the project to ABAG forecasts. As shown, the estimated growth under existing General Plan designation would add 920 new residents and 354 new housing units on these sites. The buildout potential of the unincorporated county following the proposed project would result in 8,655 new residents and 3,329 new housing units, with a net increase of 7,735 new residents and 2,975 new housing units on these sites. This net increase would exceed growth projections and the anticipated growth rate of 0.6 percent per year as shown in the ABAG projections through 2040 (ABAG 2017) and result in a new annual population growth rate of 0.9 percent for this period; however, the growth would be within the RHNA allocation for Sonoma County, adopted in January 2021, which is provided in Table 4.14-5, and shows a substantial increase in the RHNA allocation for the county of more than 3,000 affordable units (ABAG 2021). Therefore, the 2,975 units facilitated by the project would be within the 3,000 housing units identified in the RHNA allocation. ABAG’s projections are periodically updated in line with the County’s General Plan and zoning code; therefore, any changes to the County General Plan or zoning designations would be incorporated into the ABAG population and housing projections.

Table 4.14-6 Projected Population Growth Through 2030

	Buildout Potential of Sites Under Current Designation	Buildout Potential of Sites Under Proposed Designation	Net Change in Buildout Potential of Rezone Sites
Population (# of residents)	920	8,655	7,735
Housing (# of dwelling units)	354	3,329	2,975

Source: Table 2-3 in Section 2, *Project Description*

Even though the net increase in housing and population would exceed ABAG projections, recent events have reduced housing stock in the County which was not accounted for in ABAG projections.

Additionally, recent fires in the county have exacerbated the existing housing crisis, including the Sonoma Complex fires of 2017, which destroyed 5,283 housing units countywide (County of Sonoma 2020b); the 2019 Kincade Fire, which destroyed 374 structures, including 174 residences, and damaged an additional 60 structures, including 34 residences (CAL FIRE2019); the Glass Fire of 2020,

which destroyed 1,555 structures and damaged an additional 282 structures across both Napa and Sonoma counties (CAL FIRE 2020); and the LNU Lightning Complex fires of 2020, which destroyed 159 residences and damaged an additional 10 residences in Sonoma County (Graff 2020). The housing loss from large fires in recent years has amplified the housing shortage in Sonoma County.

Furthermore, the County has also identified the need for high-density housing of approximately 20,700 units to accommodate projected household employment and to alleviate overcrowding that occurs in approximately six percent of existing housing units (County of Sonoma 2018). The project would accommodate 2,975 units beyond General Plan growth projections, which would represent approximately 11 percent of the required new high-density housing plus replacement housing for structures destroyed in recent fires. The recent loss in existing housing structures plus the identified need for high-density housing is greater than the housing that would be constructed as a result of the project; therefore, the project would not exceed the identified housing need of the County.

While the proposed project would increase the buildout potential beyond that anticipated in the current General Plan, the county is experiencing an overall housing shortage and has identified a need for new housing in areas already designated for urban growth. The project would be consistent with this identified housing need and the newly adopted RHNA allocation, as it would allow the future development of new housing on the Potential Sites. Furthermore, as the growth resulting from the project is anticipated and evaluated throughout this Program EIR, the population growth resulting from the project would not be unplanned. Additionally, the increase in housing and population from the provision of this new housing, would be within the estimates for the high-density housing need and replacement housing need. Therefore, this impact would be less than significant.

### **Mitigation Measures**

No mitigation measures would be required.

### **Significance after Mitigation**

Impacts would be less than significant without mitigation.

<b>Threshold:</b> Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?
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**Impact PH-2** DEVELOPMENT FACILITATED BY THE PROJECT COULD DISPLACE EXISTING HOUSING OR PEOPLE, NECESSITATING THE CONSTRUCTION OF REPLACEMENT HOUSING ELSEWHERE. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

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Some of the Potential Sites contain existing housing or other structures that could be removed during project implementation. However, the proposed project would enable development in the unincorporated county that could result in a net increase of 2,975 residential units on the Potential Sites. One of the fundamental goals of the project is to provide more housing development opportunities throughout the county and meet county-wide housing inventory requirements. The project would increase the total buildout potential of the identified Potential Sites, thus providing areas for the development of new housing projects consistent with the new zoning designation of these sites. Such a change in zoning to allow for higher density housing could result in the demolition of existing housing, but this would only occur when new housing projects are proposed for that site, and the total number of units on the site would increase. Mitigation Measure PH-1 requires that replacement housing be made temporarily available for any displaced existing residents prior to the demolition of existing housing on any of the Potential Sites.

## Mitigation Measure

### *PH-1 Replacement Housing*

For Potential Sites that contain existing rental housing that would displace individuals during development, the project applicant shall prepare a relocation plan to, similar to the requirements of Government Code Section 7260-7277. The relocation plan may include, but not be limited to:

1. Proper notification of occupants or persons to be displaced.
2. Provision of “comparable replacement dwelling” which means decent, safe, and sanitary; and adequate in size to accommodate the occupants.
3. Provision of a dwelling unit that is within the financial means of the displaced person.
4. Provision of a dwelling unit that is not subject to unreasonable adverse environmental conditions.

This measure shall apply to future development projects that may displace individuals and is not limited to development undertaken by a public entity or development that is publicly funded. The County shall approve the relocation plan prior to project approval.

## Significance After Mitigation

Mitigation Measure PH-1 would ensure that existing residents on the Potential Sites would be provided replacement housing during construction on the Potential Sites. This measure would ensure that impacts would be reduced to less than significant.

### 4.14.4 Cumulative Impacts

A project’s environmental impacts are “cumulatively considerable” if the “incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (*CEQA Guidelines*)



Section 15065[a][3]). The geographic scope for cumulative population and housing impacts is the unincorporated County, and also includes incorporated areas in the vicinity of the Potential Sites. This geographic scope is appropriate for population and housing because projections at this level are used to estimate the need for public services and other government facilities and programs. Cumulative development includes development associated with buildout of the County's General Plan and adjacent incorporated City general plans, as well as foreseeable future projects from Table 3-1 that could have a direct connection to the proposed project from a population and housing perspective.

As discussed under Impact PH-1, while the housing unit estimates would exceed the County's General Plan buildout estimates, the County has identified an ongoing housing need associated with the destruction of residences due to recent fires, overcrowding, and a shortage of high-density housing. Other project-level developments would be required to adhere to applicable zoning and development regulations and General Plan policies to mitigate environmental impacts where feasible and would undergo environmental review, including consideration of whether the projects would induce unplanned population growth. With these considerations prior to project approval, cumulative impacts related to growth inducement would be less than significant. Furthermore, the proposed project's contribution to less than significant cumulative impacts for Impact PH-1 would be less than cumulatively considerable.

As described under Impact PH-2, the proposed project would increase the on-site population and housing and would therefore not lead to displacement of people or residences under cumulative conditions. Other project-level developments would be subject to CEQA, including consideration of whether the projects would displace people or residences. With these considerations prior to project approval, cumulative impacts related to the displacement of people or residences would be less than significant and the proposed project's contribution to cumulative impacts would be less than cumulatively considerable.

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## 4.15 Public Services and Recreation

This section assesses impacts associated with public services, including fire and police protection, public schools, libraries, and parks and recreation associated with project implementation. Impacts to water and wastewater infrastructure and solid waste collection and disposal are discussed in Section 4.18, *Utilities and Service Systems*. Impacts regarding wildland fires are discussed in Section 4.19, *Wildfire*.

### 4.15.1 Setting

#### a. Fire Protection

Fire protection, first response emergency medical services, and natural disaster preparedness services in unincorporated Sonoma County are provided by various fire departments. The Potential Sites are protected by the fire protection districts (FPD) identified in Table 4.15-1, below. This table provides the associated FPD and current response times for each grouping of Potential Sites.

**Table 4.15-1 Potential Sites Fire Districts**

Site Group	Fire Protection District (FPD)	Average Response Time in Minutes (Data Year)	Response Zone Type
Geyserville	Northern Sonoma County FPD	10:39 (2012)	Rural
Guerneville	Russian River FPD <sup>1</sup>	4:46 (2018)	Rural
Larkfield	Rincon Valley FPD <sup>1</sup>	6:02 (2017)	Rural
Forestville	Forestville FPD	6:06 (2018)	Rural
Graton	Graton FPD	Meets standard <sup>2</sup>	Rural
Santa Rosa	Rincon Valley FPD	6:02 (2017)	Rural
Glen Ellen	Glen Ellen FPD <sup>3</sup>	6:08 (2018)	Rural
Agua Caliente	Valley of the Moon FPD <sup>3</sup>	5:34 (2018)	Suburban
Penngrove	Rancho Adobe FPD	3:00 (2020)	Rural
Petaluma	Wilmar Volunteer Fire Company	8:00 (2012)	Rural
Sonoma	Schell-Vista FPD	7:49 (2018)	Rural

<sup>1</sup> The Russian River FPD and Rincon Valley FPD were recently consolidated with the Bennett Valley, Bodega Bay, Mountain Volunteer, and Windsor FPDs as the new Sonoma County Fire District; however, the most recent response time data is only available from before this consolidation.

<sup>2</sup> Response times not quantified

<sup>3</sup> The Valley of the Moon FPD and Glen Ellen FPD were recently consolidated with the Mayacamas FPD as the new Sonoma Valley FPD.

Sources: County of Sonoma 2016; Sonoma Local Agency Formation Commission 2014, 2018, 2019a, 2019b, 2020; Taylor 2020; Wetzstein 2012

FPDs are funded by County taxes and operated by the Fire Division of the Sonoma County Department of Emergency Services (Sonoma Local Agency Formation Commission 2013). Volunteer fire companies are funded primarily through donations, with equipment and administrative support provided by the County Department of Emergency Services (Wilmar Volunteer Fire Department 2020).

## Response Times

The National Fire Protection Association Code Section 1720, Chapter 4, establishes response time goals for areas, based on the urbanization of the response location. For urban areas (more than 1,000 people per square mile), 80 percent of response times should be no longer than nine minutes; for suburban areas (500 to 1,000 people per square mile) the response time should be no more than 10 minutes, and for rural areas (less than 500 people per square mile) the response time should be no more than 14 minutes. For remote areas with a travel distance greater than 8 miles, the response time correlates directly to the travel distance. The existing response times for fire districts serving the Potential Sites are provided in Table 4.15-1, above.

## Wildland Fire Hazards

In California, responsibility for wildfire prevention and suppression is shared by federal, state, and local agencies. As shown in Section 4.19, *Wildfire*, the Potential Sites are in various fire hazard severity zones, including high and very high zones in designated State Responsibility Areas (SRA). Section 4.19, *Wildfire*, also provides a description of nearby vegetation and wildfire risk associated with each Potential Site.

The State of California utilizes a Mutual Aid system to support any disaster that impacts a community, such a wildfire. Once a request is made, the California Emergency Management Agency contacts counties throughout California to assemble strike teams of fire engines and personnel to respond to the need. Section 4.19, *Wildfire*, addresses regulations and potential impacts related to wildfire, including smoke and subsequent flooding and runoff.

## California Department of Forestry and Fire Protection

Preventing wildfires in the SRA is a vital part of the California Department of Forestry and Fire Protection (CAL FIRE) mission. CAL FIRE's Fire Prevention Program consists of multiple activities including wildland pre-fire engineering, vegetation management, fire planning, education, and law enforcement. Typical fire prevention projects include brush clearance, prescribed burns, defensible space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, and fire-related law enforcement activities (CAL FIRE 2020). CAL FIRE also responds to medical aids, hazardous material spills, swift water rescues, search and rescue missions, civil disturbances, train wrecks, floods, earthquakes, and other emergency calls.

### b. Police Protection

The County Sheriff's Office provides police protection in the unincorporated county as well as the town of Windsor and city of Sonoma. The Sheriff's Office is located at 2796 Ventura Avenue in Santa Rosa, with additional substations in Guerneville, Sonoma, Geyserville (boating unit), and Windsor (Sonoma County Sheriff's Office 2020). The County Sheriff's Office had 634.5 allocated staff and 95 extra help staff for fiscal year 2018/2019 and serves a population of approximately 500,000 people. This results in a service ratio of 1.46 per 1,000 residents.

The California Highway Patrol provides traffic safety and enforcement services on unincorporated roadways and State highways. One California Highway Patrol office is located along Highway 101 in Rohnert Park.

### c. Schools

Various school districts serve Sonoma County. The school districts that would serve the Potential Sites are identified in Table 4.15-2. The County's school enrollment is projected to decrease by 15.4 percent from 2018-19 to 2028-2029, per California Department of Finance (DOF) data (DOF 2019). These projections are based on current trends in birth rates and migration.

**Table 4.15-2 Potential Sites School Districts**

Site Group	School District	Enrollment Data (2018-19) (number of students)	Projected Enrollment (2028-29) (number of students)
Geyserville	Geyserville Unified	232	196
Guerneville	Guerneville Elementary	1,341	1,134
	West Sonoma County Union High	1,933	1,638
Larkfield	Mark West Union Elementary	1,444	1,221
	Santa Rosa City High	11,104	9,391
Forestville	Forestville Elementary	237	200
	West Sonoma County Union High	1,933	1,635
Graton	Oak Grove Elementary	1,241	1,050
	West Sonoma County Union High	1,933	1,635
Santa Rosa	Bellevue Elementary	1,621	1,371
	Santa Rosa City High	11,104	9,391
Glen Ellen	Sonoma Valley Unified	4,329	3,361
Agua Caliente	Sonoma Valley Unified	4,329	3,361
Penngrove	Petaluma City Elementary	2,463	2,235
	Petaluma Joint Union High	5,358	4,531
Petaluma	Petaluma City Elementary	2,463	2,235
	Petaluma Joint Union High	5,358	4,531
Sonoma	Sonoma Valley Unified	4,329	3,361

Notes: Projected Enrollment is calculated assuming a 15.43 percent decrease in enrollment between 2018-29 and 2028-29 in the County (DOF 2020). The actual change in projected enrollment for each district may vary, with an overall average of less 15.43 percent. Data from the DOF was provided at the County level and not at the School District level.

Source: Sonoma County Office of Education 2020

### d. Public Libraries

Sonoma County has a centralized regional library system operated as the Sonoma County Library under a Joint Powers Agreement from 1975. The Joint Powers Agreement is between Sonoma County, the incorporated cities of Sonoma County, and the Sonoma County Library. The Library Commission governs the library system and is appointed by the Sonoma County Board of Supervisors, and the cities of Santa Rosa and Petaluma. There are 15 branch libraries: Santa Rosa Central, Cloverdale Regional, Forestville (El Molino High School), Guerneville Regional, Healdsburg Regional, Occidental, Petaluma Regional, Rohnert Park-Cotati Regional, Roseland Community, Santa Rosa Northwest Regional, Sonoma County History and Genealogy, Rincon Valley Regional, Sebastopol Regional, Sonoma Valley Regional, and Windsor. Table 4.15-3 indicates which library or libraries are closest to each grouping of Potential Sites.

**Table 4.15-3 Library Proximity to Potential Sites**

Site Group	Nearest Library	Distance from Potential Sites (in miles)
Geyserville	Cloverdale Regional	9
Guerneville	Guerneville Regional	<1
Larkfield	Windsor	4
Forestville	Forestville	<1
Graton	Forestville, Sebastopol Regional	4
Santa Rosa	Santa Rosa Central, Roseland Community, Santa Rosa Northwest Regional	3 or 4
Glen Ellen	Sonoma Valley Regional	6
Agua Caliente	Sonoma Valley Regional	<1
Penngrove	Petaluma Regional	5
Petaluma	Petaluma Regional	2
Sonoma	Sonoma Valley Regional	2

Note: Distances rounded up to the nearest mile

Source: Sonoma County Library 2015

The mission of the Sonoma County Library system is to bring information, ideas, and people together to build a stronger community. The system is known nationally for their innovation and locally for their connection to their residents and communities. Their Strategic Plan is broken down into five Components: Customer Experience, Education and Discovery, Innovation, Community Engagement, and Financial Sustainability (Sonoma County Library 2015). During the November 2016 election, 72 percent of the voters in Sonoma County voted to support Sonoma County Library by passing Measure Y to increase sales taxes by an eighth of a cent to maintain, restore, and enhance library services throughout the County.

#### **e. Parks and Recreation**

Sonoma County contains federal, state, regional, and local parklands, for a total of 52,864 acres of publicly accessible lands (County of Sonoma 2003). Of this acreage, 12,400 acres are regional, community, and neighborhood parks (Davis-Brown 2020). Based on the County's 2019 population of 500,675 (DOF 2019), the County currently has a county-wide park-to-resident ratio of 24.8 acres per 1,000 residents (including regional, community, and neighborhood parks), which is below the County's total park acreage to resident ratio goal of 25 acres per 1,000 residents, per Sonoma County General Plan Policy PF-2c. Table 4.15-4 provides the acreages and types of publicly accessible lands throughout the County per region.<sup>1</sup>

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<sup>1</sup> Note that the Sonoma Coast area lands are not included in Table 4.15-3 because none of the Potential Sites are located in this area, and future residents of the sites would be most likely to access lands in the same region as the sites.

Table 4.15-4 Sonoma County Publicly Accessible Lands

Type of Land	North County (includes GEY sites)	Sebastopol and Russian River (includes GUE, FOR, GRA sites)	Santa Rosa Plain (includes LAR, SAN sites)	South County (includes PEN, PET sites)	Sonoma Valley (includes GLE, AGU, SON sites)
Federal	14,615	0	0	250	0
State	1,588	4,988	8,936	2,486	879
County	1,134	217	1,791	345	294
Cities	87	96	461	313	48
Local Recreational Districts	7	34	0	0	0
School Districts	88	55	348	361	40
Other Lands	0	8	17	9	72
<b>Total</b>	<b>17,519</b>	<b>5,398</b>	<b>11,554</b>	<b>3,764</b>	<b>1,333</b>
Source: County of Sonoma 2003					

## 4.15.2 Regulatory Setting

### a. Federal Regulations

#### Disaster Mitigation Act

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) requires a state mitigation plan as a condition of disaster assistance. There are two different levels of state disaster plans: Standard and Enhanced. States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Act has also established new requirements for local mitigation plans.

#### National Fire Plan

The National Fire Plan was developed under Executive Order 11246 in August 2000, following a landmark wildland fire season. Its intent is to actively respond to severe wildland fires and their impacts to communities, while ensuring sufficient firefighting capacity for the future. The plan addresses firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability.

### b. State Regulations

#### California Fire Plan

The Strategic California Fire Plan is the State's roadmap for reducing the risk of wildfire. The plan was updated in 2012 and directs each CAL FIRE unit to prepare a locally specific Fire Management Plan for its area of responsibility. These documents assess the fire situation in each of CAL FIRE's 21 units and six contract counties. The plans include stakeholder contributions and priorities and identify strategic areas for pre-fire planning and fuel treatment, as defined by the people who live and work with the local fire problem. The plans are required to be updated annually.



## California State Hazard Mitigation Plan

The purpose of the State of California Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, state, and federal agencies as well as the private sector. The California Office of Emergency Services prepares the SHMP, and in it identifies risks and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is federally required under the Disaster Mitigation Act of 2000 for the state to receive federal funding.

## California Code of Regulations (Title 5)

The California Code of Regulations, Title 5 Education Code, governs all aspects of education in the State, and allows school districts to prepare developer fees.

The School Facilities Act of 1986 (California State Assembly Bill [AB] 2926) was enacted and added to California Government Code (CGC; Section 65995) in 1986. It authorizes school districts to collect development fees, based on demonstrated need, and to generate revenue for school districts for capital acquisitions and improvements. It also established that the maximum fees which may be collected under this and any other school fee authorization are \$1.50 per square foot for residential development and \$0.25 per square foot for commercial and industrial development.

AB 2926 was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 *et seq.* to the CGC code. Under this statute, payment of statutory fees by developers serves as exclusive mitigation under CEQA to satisfy the impact of development on school facilities.

## School Facilities Bond Act: California Senate Bill 50 (SB 50)

As part of the further refinement of the legislation enacted under AB 2926, the passage of the School Facilities Bond Act (SB 50) in 1998 defined the needs analysis process in CGC sections 65995.5 through 65998. Under the provisions of SB 50, school districts may collect fees to offset the costs associated with increasing school capacity because of development. SB 50 generally provides for an equal State and local school facilities match and three levels of statutory impact fees. The application level depends on whether State funding is available; whether the school district is eligible for State funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

CGC Sections 65995 through 65998 implement AB 2926, as amended by SB 50. In accordance with Section 65995(h), the payment of statutory fees is “deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...on the provision of adequate school facilities.”

Pursuant to CGC Section 65995(i), “a State or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in section 56021 or 56073 on the basis of a person's refusal to provide school facilities mitigation that exceeds the amounts authorized pursuant to this section or pursuant to section 65995.5 or 65995.7, as applicable.”

California Education Code Section 17620(a)(1) states the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within

the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

## Quimby Act

The Quimby Act (CGC Section 66477) was established by the California Legislature in 1965 to provide parks for growing communities in California. The Act authorizes cities to adopt ordinances addressing park land and/or fees for residential subdivisions for the purpose of providing and preserving open space and recreational facilities and improvements. The Act requires the provision of three acres of park area per 1,000 persons residing in a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the county or city may adopt a higher standard not to exceed five acres per 1,000 residents. The Act also specifies acceptable uses and expenditures of such funds. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities.

## c. Regional and Local Regulations

### Sonoma County Regulations

The Sonoma County Department of Fire Prevention enforces fire safe standards for new residential buildings in unincorporated SRAs. An on-site fire hazard assessment and consultation conducted by Department of Emergency Services' staff is required. The staff assessment results in a report describing the minimum requirements for the project's Vegetation Management and Defensible Space Plan.

Sonoma County Code Chapters 7 and 13 require the installation of automatic fire sprinkler systems in all new residential buildings and conditionally require such systems at the time of the expansion of existing residential buildings.

### County General Plan

The Sonoma County General Plan was adopted by the Sonoma County Board of Supervisors Resolution 08-0808 on September 23, 2008, and includes broad goals and policies intended to ensure the safety of county residents and ensure adequate provision of public facilities and services to serve the existing and projected county population. Goals and policies from the General Plan are provided below.

#### *Public Safety Element Goals and Policies*

**Goal PS-3: Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.**

**Objective PS-3.2:** Regulate new development to reduce the risks of damage and injury from known fire hazards to acceptable levels.

Policy PS-3l: Require automatic fire sprinkler systems or other on-site fire detection and suppression systems in all new residential and commercial structures, with exceptions for detached utility buildings, garages, and agricultural exempt buildings.

Policy PS-3m: Consider additional impact or mitigation fees, or a benefit assessment, to offset the impact of new development on fire services.

*Public Facilities and Services Element Goals and Policies*

**Goal PF-2: Assure that park and recreation, public education, fire suppression and emergency medical, and solid waste services, and public utility sites are available to the meet future needs of Sonoma County residents.**

**Objective PF-2.6:** Integrate fire protection systems into new structures as a means of improving fire protection services through adoption of a County ordinance.

Policy PF-2a: Plan, design, and construct park and recreation, fire and emergency medical, public education, and solid waste services and public utilities in accordance with projected growth, except as provided in Policy LU-4d.

Policy PF-2b: Work with the Cities to provide park and recreation, public education, fire and emergency medical, and solid waste services as well as public utilities. Use proposed annexations, redevelopment agreements, revenue sharing agreements, and the CEQA process as tools to ensure that incorporated development pay its fair share toward provision of these services.

Policy PF-2c: Use the following standards for determination of park needs: Twenty acres of regional parks per 1,000 residents countywide and five acres of local and community parks per 1,000 residents in unincorporated areas. A portion of State parklands may be included to meet the standard for regional parks.

Policy PF-2f: Adopt and implement a new Outdoor Recreation Plan with parks and recreation facilities necessary to meet the needs of GP2020.

Policy PF-2g: Require dedication of land or in-lieu fees as a means of funding park and fire services and facilities.

Policy PF-2l: Continue to implement State law pertaining to school impact mitigation that allows for the dedication of land, the payment of fees, or both, as a condition of approval for development projects.

Policy PF-2m: Prepare a Fire Services Master Plan for urban and rural areas in cooperation with the Cities, State, and other fire service agencies. The minimum contents necessary for an adequate master plan are:

1. A statement of objectives, policies and programs,
2. A forecast of growth,
3. Projected fire and emergency medical service needs, and
4. A level of service assessment

Policy PF-2n: Require prior to discretionary project approval written certification that fire and related services customarily provided to comparable uses are available or will be available prior to occupancy for projects within the service area of the applicable fire agency.

Policy PF-2x: Utilize development fees to require that new development pay for its share of needed infrastructure as identified in existing and future Capital Improvement Plans prepared by the County.

*Land Use Element Goals and Policies*

**Goal LU-4: Maintain adequate public services in both rural and Urban Service Areas to accommodate projected growth. Authorize additional development only when it is clear that a funding plan or mechanism is in place to provide needed services in a timely manner.**

**Objective LU-4.1:** Assure that development occurs only where physical public services and infrastructure, including school and park facilities, public safety, access and response times, water and wastewater management systems, drainage, and roads are planned to be available in time to serve the projected development.

Policy LU-4f: Assure that new development contributes its fair share toward provision of the public services and infrastructure needed for projected growth.

### *Open Spaces and Resource Conservation Element Goals and Policies*

**Goal OSRC-17: Establish a countywide park and trail system that meets future recreational needs of the County's residents while protecting agricultural uses. The emphasis of the trail system should be near urban areas and on public lands.**

**Objective OSRC-17.1:** Provide for adequate parklands and trails primarily in locations that are convenient to urban areas to meet the outdoor recreation needs of the population, while not negatively impacting agricultural uses.

Policy OSRC-17d: The trails on Figure OSRC-3 make up the County's designated plan for trails. Trail locations are approximate and are described below. Roadways may be used where access cannot be obtained through private property.

[...]

5. Russian River Waterway Trail. The Russian River is a navigable waterway from Cloverdale to the coast and as such, public access is protected by Article XV, Section 2 of the California Constitution. This proposed waterway trail extends from the coast to Preston Bridge immediately north of Cloverdale.
6. Valley of the Moon Trail. The proposed trail traverses the Valley of the Moon between Jack London State Park and the Sonoma/Napa County line and links Sonoma Valley Regional Park to the Glen Ellen community.

Policy OSRC-17f: Consider requiring a dedication in fee or by easement for trails as a condition of approval of subdivisions. There must be a need identified on Figure OSRC-3 and the project must either block an existing access or result in the need for additional recreational opportunities. Locate and fence trails to minimize impacts on agricultural uses.

Policy OSRC-17h: Identify and evaluate alternative sites in the Boyes Hot Springs area to meet the projected need for a regional park facility in Sonoma Valley.

## 4.15.3 Impact Analysis

### a. Methodology and Significance Thresholds

The following thresholds are based on *CEQA Guidelines* Appendix G. For purposes of this Program EIR, impacts related to public services and recreation from the project would be significant if implementation of the proposed project would:

1. Result in substantial adverse physical impacts associated with the need for or provision of new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other objectives for:
  - a. Fire protection

- b. Police protection
  - c. Schools
  - d. Parks
  - e. Other public facilities
2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
  3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment

Additionally, for impacts to be considered significant, development of these public service and recreational facilities would also have to result in a significant physical environmental impact not already analyzed and disclosed in the other resource chapters of this Program EIR.

## b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?
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**Impact PS-1** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION OF NEW OR PHYSICALLY ALTERED FIRE FACILITIES TO MAINTAIN ACCEPTABLE SERVICE RATIO RESPONSE TIMES OR OTHER OBJECTIVES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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As discussed in Section 2, *Project Description*, development facilitated by the project would result in up to 2,975 future new housing units and an estimated 7,735 new residents in the unincorporated county, within designated urban service areas. Development facilitated by the project would be designed and constructed to meet all applicable current state and local codes and ordinances related to fire protection. The project would increase the density of development on each Potential Site, with new structures and infrastructure constructed to the latest fire and building code safety standards. The increase in population and residential development would generate additional demand for fire protection and emergency services.

As described in Section 4.15.1(a), above, local fire districts are all meeting the National Fire Protection Association response time goals for rural and suburban areas (depending on the location). The addition of new residences on the Potential Sites would not involve the construction of any barriers to movement that could prevent the local fire districts from meeting these response time goals. The sites themselves are all within 1.5 miles of the nearest fire station, and emergencies on these sites would be responded to within the response time goals. Refer to Table 4.15-5 for the anticipated increase in population and anticipated response time to each grouping of Potential Sites. As shown therein, the Potential Sites could be accessed from the nearest fire stations within the response time goal for the respective district, and would not increase the total population served by more than 10 percent, with the exception of the Forestville sites. Because the sites are located throughout the county, and in urbanized areas where local departments already respond to calls for service, no one fire station would become overburdened by development facilitated by the

project. It is not anticipated that the construction of a new fire station would be required to serve future development on any of the sites, due to the location of the Potential Sites close to existing fire stations. However, General Plan Policy PS-3m requires the consideration of payment of impact fees to ensure fire departments are adequately funded to serve new projects. Additionally, some of the Potential Sites are currently developed with uses that require fire protection services, although these uses would be replaced with higher density residential uses following project approval.

**Table 4.15-5 Potential Sites Demand on Fire Districts**

Site Group	Fire Protection District (FPD)	Existing Population Served by FPD	New Population Served Under Project <sup>1</sup>	Percentage Increase in Population Served	Response Time Goal (minutes)	Distance to Farthest Potential Site (Estimated Drive Time) <sup>2</sup>
Geyserville	Northern Sonoma County FPD	5,000	268	5.4	14	0.9 mile (3 min)
Guerneville, Larkfield, Santa Rosa	Sonoma County Fire District <sup>3</sup>	70,000	3,579	5.1	14	4.4 mile (12 min)
Forestville	Forestville FPD	8,500	1,484	17.4	14	0.6 mile (2 min)
Graton	Graton FPD	7,000	443	6.3	14	1.0 mile (3 min)
Glen Ellen; Agua Caliente	Sonoma Valley FPD <sup>4</sup>	48,000	570	1.2	14	2.0 mile (9 min)
Penngrove	Rancho Adobe FPD	28,000	562	2.0	14	0.8 mile (3 min)
Petaluma	Wilmar Volunteer Fire Company	4,500	432	9.6	14	1.6 mile (6 min)
Sonoma	Schell-Vista FPD	4,500	197	4.4	14	2.4 mile (4 min)

<sup>1</sup> Calculated based on data provided in Table 2-3

<sup>2</sup> Farthest distances used and time calculated assuming 1 minute reaction time

<sup>3</sup> The Russian River FPD and Rincon Valley FPD were recently consolidated with the Bennett Valley, Bodega Bay, Mountain Volunteer, and Windsor FPDs as the new Sonoma County Fire District.

<sup>4</sup> The Valley of the Moon FPD and Glen Ellen FPD were recently consolidated with the Mayacamas FPD as the new Sonoma Valley FPD.

Sources: Northern Sonoma County FPD 2020; Sonoma County Fire District 2020; Forestville FPD 2020; Sonoma LAFCO 2019a; Rancho Adobe FPD 2020; County of Sonoma 2020; Schell-Vista FPD 2020; National Fire Protection Association Code Section 1720; Taylor 2020

Development facilitated by the project, per the proposed land use and zoning of these sites, would be required to comply with existing laws and regulations regarding fire safety. The following requirements would be applicable to some or all the Potential Sites:

1. Compliance with California Fire Code Wildland-Urban Interface (WUI) building standards for sites in the WUI (including the following WUI interface, intermix, and influence zone sites: GEY-1, GUE-1, GUE-2, GUE-3, GUE-4, LAR-7, FOR-2, FOR-3, FOR-4, FOR-5, FOR-6, GRA-1, GRA-2, GRA-3, GRA-5, SAN-1, SAN-2, SAN-3, SAN-5, SAN-7, SAN-8, SAN-9, SAN-10, GLE-1, GLE-2, AGU-1, AGU-2, PEN-2, PEN-4, PEN-6, PEN-7, PET-2, and PET-4)<sup>2</sup>

<sup>2</sup> Refer to Section 4.19, *Wildfire*, for additional discussion of the WUI in relation to the Potential Sites.

2. Compliance with the California Fire and Building Code, which applies to construction, equipment, use and occupancy, location, and maintenance of proposed buildings and includes regulations for vegetation and fuel management
3. Compliance with Fire Safe Standards for new residential buildings in SRAs (including the following sites: GUE-1 through GUE-4, GLE-1, GLE-2, PEN-2, PEN-4, and PEN-7)
4. Completion of a fire hazard assessment and consultation by Sonoma County Fire Prevention
5. Installation of automatic fire sprinkler systems per Sonoma County Code Chapters 7 and 13 and General Plan Policy PS-3I
6. Payment of impact fees during the building permit process, per Policy LU-4f
7. Approval from the Fire Prevention Division during the building permit process that individual project plans meet the site access requirements and provide the required fire safety features

Therefore, while the project would generate additional demand, it would not substantially reduce existing response times or require the construction of new or altered fire stations and development facilitated by the project would be required to comply with existing regulations regarding fire safety. Therefore, impacts would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?
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**Impact PS-2** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION OF NEW OR PHYSICALLY ALTERED POLICE FACILITIES TO MAINTAIN ACCEPTABLE SERVICE RATIO RESPONSE TIMES OR OTHER OBJECTIVES. IMPACTS WOULD BE LESS THAN LESS THAN SIGNIFICANT.

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Development facilitated by the project would increase the number of individuals in the unincorporated county, with associated increases in activity at those sites. This increase in activity level at the sites may deter some crime, as the presence of more people can deter criminal activity. As for police protection services, the increase in population generated by the project would contribute to greater police service demands, including the need for more police officers. The project would result in 7,735 new residents in the unincorporated county, which would lower the existing ratio of 1.46 police staff per 1,000 residents to 1.43 staff per 1,000 resident, resulting in a need for 12 police officers to be added to the Sheriff's Office to maintain the service ratio of 1.46 staff per 1,000 residents. The need for new officers would be distributed throughout the County, with no more than 3 new officers required at any one station. Therefore, it is not anticipated that the construction of a new police station would be required to serve development on any of the sites. However, General Plan Policy LU-4f requires the payment of fair share impact fees during the

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building permit process, which fund the provision of public services, including police protection services, based on projected growth. Additionally, some of the Potential Sites are currently developed with uses that require police protection services, although these uses would be replaced with higher density residential uses following project approval. In summary, development facilitated by the project would not result in significant environmental impacts.

## Mitigation Measure

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?
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**Impact PS-3** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION OF NEW OR PHYSICALLY ALTERED SCHOOL FACILITIES, AND PURSUANT TO STATE LAW, PAYMENT OF IMPACT FEES TO MITIGATE DEMAND ON SCHOOL FACILITIES WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Students residing at the Potential Sites would attend various schools throughout the county, based on the district in which the Potential Site occurs. Table 4.15-6, Table 4.15-7, and Table 4.15-8 summarize the projected increase in students from development on the Potential Sites.

**Table 4.15-6 Elementary School District Capacity Analysis**

School District	Associated Potential Sites	Number of New Residents <sup>1</sup>	Number of New Students <sup>2</sup>	Projected Enrollment (2028-29) <sup>3</sup>	Projected Change in Enrollment (from 2018-19 to 2028-29) <sup>3</sup>
Guerneville Elementary	Guerneville	616	41	1,134	-207
Mark West Union Elementary	Larkfield	528	35	1,221	-223
Forestville Elementary	Forestville	1,484	99	200	-37
Oak Grove Elementary	Graton	443	29	1,050	-191
Bellevue Elementary	Santa Rosa	2,636	175	1,371	-250
Petaluma City Elementary	Penngrove, Petaluma	994	66	2,235	-228

<sup>1</sup> Based on Table 2-3, Change in Total Allowable Dwelling Units (Buildout Potential) column (Section 2, *Project Description*)

<sup>2</sup> Based on an elementary school student generation rate of 6.64 age 5 to 10 children per an increase of 100 people (US Census Bureau 2018)

<sup>3</sup> Based on Table 4.15-2 data

**Table 4.15-7 High School District Capacity Analysis**

School District	Associated Potential Sites	Number of New Residents <sup>1</sup>	Number of New Students <sup>2</sup>	Projected Enrollment (2028-29) <sup>3</sup>	Projected Change in Enrollment (from 2018-19 to 2028-29) <sup>3</sup>
Santa Rosa City High	Larkfield, Santa Rosa	3,164	258	9,391	-1,713
West Sonoma County Union High	Guerneville, Forestville, Graton	2,543	208	1,635	-298
Petaluma Joint Union High	Penngrove, Petaluma	994	81	4,531	-827

<sup>1</sup> Based on Table 2-3, Change in Total Allowable Dwelling Units (Buildout Potential) column (Section 2, *Project Description*)

<sup>2</sup> Based on a high school student generation rate of 8.16 age 11 to 18 children per an increase of 100 people (US Census Bureau 2018)

<sup>3</sup> Based on Table 4.15-2 data

**Table 4.15-8 Unified School District (K-12) Capacity Analysis**

School District	Associated Potential Sites	Number of New Residents <sup>1</sup>	Number of New Students <sup>2</sup>	Projected Enrollment (2028-29) <sup>3</sup>	Projected Change in Enrollment (from 2018-19 to 2028-29) <sup>3</sup>
Geyserville Unified	Geyserville	268	40	196	-36
Sonoma Valley Unified	Glen Ellen, Agua Caliente, Sonoma	767	114	3,361	-968

<sup>1</sup> Based on Table 2-3, Change in Total Allowable Dwelling Units (Buildout Potential) column (Section 2, *Project Description*)

<sup>2</sup> Based on a school student generation rate of 14.8 age 5 to 18 children per an increase of 100 people (US Census Bureau 2018)

<sup>3</sup> Based on Table 4.15-2 data

As shown in Table 4.15-6, Table 4.15-7, and Table 4.15-8, based on school-age population statistics provided by the United States Census Bureau, development facilitated by the project would generate approximately 1,145 school-aged children across 11 school districts in the county. The generation rates used for this analysis are considered conservative, as it assumes all school-age children would attend public schools and does not account for private schools or homeschooling.

As development facilitated by the project are proposed, laws would require project applicant(s) to pay school impact fees at the time building permits are issued. These fees are used by Sonoma County School Districts to mitigate impacts associated with long-term operation and maintenance of school facilities. The applicant's fees would be determined at the time of the building permit issuance and would reflect the most current fee amount requested by the applicable district. Pursuant to Section 65995(h) of the CGC, payment of these fees "is deemed to be full and complete mitigation of impacts of any legislative or adjudicative act, or both, involving but not limited to, the planning, use, or development of real property, or any change in government organization or reorganization."

Furthermore, based on the projected decline in enrollment across school districts serving the Potential Sites and the estimated 1,145 new school-aged children that would result from development facilitated by the project, most of the school districts would be able to absorb new and incoming students because the increases in the student population are not greater than the anticipated decreases in enrollment (with the exception of Forestville Elementary and Geyserville

Unified School Districts). Therefore, impacts to schools are considered less than significant without mitigation.

## Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?
<b>Threshold:</b>	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
<b>Threshold:</b>	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

**Impact PS-4** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE PROVISION OF NEW OR PHYSICALLY ALTERED PARKS, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL IMPACTS, TO MAINTAIN ACCEPTABLE SERVICE RATIOS, RESPONSE TIMES, OR OTHER OBJECTIVES AND WOULD NOT INCREASE THE USE OF EXISTING NEIGHBORHOOD AND REGIONAL PARKS SUCH THAT SUBSTANTIAL PHYSICAL DETERIORATION OF THE FACILITY WOULD OCCUR OR BE ACCELERATED. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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Sonoma County currently has 12,400 acres of land designated as regional, community, and neighborhood parks and recreation facilities (Davis-Brown 2020). Based on the County's 2019 population of 500,675 (DOF 2019), the County currently has a county-wide park-to-resident ratio of 24.8 acres of regional, community, and neighborhood parks per 1,000 residents.

Development facilitated by the project would increase demand and use of existing park and recreational facilities, resulting in approximately 7,735 new residents throughout the county. Development facilitated by the project would result in a total countywide population of 508,410 people, and a total park-to-resident ratio of approximately 24.4 acres of regional, community, and neighborhood park space per 1,000 residents. While this is lower than the existing ratio of 24.8 acres of total parks per 1,000 residents, the County would continue to fall short of its park ratio goal of 25 acres of regional, community, and neighborhood parks per 1,000 residents countywide (per General Plan Policy PF-2c). To address this shortage, the County requires payment of in-lieu fees to fund park facilities (per Sonoma County Code Section 20-65) offsetting any impacts related to increased demand at existing recreation facilities, and project applicant(s) of the Potential Sites would be required to pay this during the permit approval process. Therefore, the project is not anticipated to result in the need for new or physically altered parks or recreational facilities and would not result in substantial physical deterioration of existing parks.

Project implementation would not place demands on existing or future parks or recreational facilities such that substantial physical deterioration would occur. While existing and future parks would need periodic maintenance, the increased demand for parks and other recreational facilities would not outpace routine maintenance. Also, the project would not require construction of new parks or recreational facilities. Impacts would therefore be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

**Threshold:** Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities, or the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

**Impact PS-5** DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION OF NEW OR PHYSICALLY ALTERED LIBRARY OR OTHER PUBLIC FACILITIES TO MAINTAIN ACCEPTABLE SERVICE RATIOS, RESPONSE TIMES, OR OTHER OBJECTIVES, AND THE PAYMENT OF PROPERTY TAXES FUNDING LIBRARY OR OTHER PUBLIC FACILITIES WOULD BE REQUIRED. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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Development facilitated by the project would introduce approximately 7,735 new residents, which would be expected to increase library service utilization rates. Property taxes fund the County libraries, which development facilitated by the project would be required to pay, similar to other residential properties in the county. Approximately 44 percent of county residents have library cards with the Sonoma County Library system (Sonoma County Library 2015). Thus, it can be conservatively anticipated that library services would increase by approximately 3,403 additional registrants (44 percent of the projected new residents) because of project implementation. These additional registrants would visit their local library branch, check out items, and participate in library events, but such increased demand for library services would not necessarily compel the construction of a new or expanded library facility in the county due to the wide dispersal of demand across various library facilities in the county. In addition, the Roseland library is relocating to a larger space (anticipated to reopen in 2020), allowing the library to house more books and programs than it currently can (Sonoma County Library 2020). The Roseland Library would likely be operational (anticipated in 2020) prior to development of the Santa Rosa Potential Sites (anticipated in the next 10 years). The Potential Sites are located throughout the county, and increased demand would be spread across the Sonoma County Library system to the appropriate branch libraries closest to each site, as identified in Table 4.15-3. Therefore, the increase in demand at any one branch library is not anticipated to require new or expanded library facilities. Because adequate existing and planned facilities are available, development facilitated by the project would not require construction of new or expanded library facilities. This impact would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

### 4.15.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (*CEQA Guidelines* Section 15065[a][3]). Development considered part of the cumulative analysis includes buildout of the County General Plan, utilizing ABAG projections, and projects in Table 3-1.

#### Fire Protection

The geographical scope for cumulative fire protection impacts is the service area of each fire district or department serving the Potential Sites. This geographic scope is appropriate because projects within this area will increase the demand on these departments.

For this analysis, a cumulative impact would occur if growth in the service area requires physical expansion of facilities such as construction of new fire facilities that would result in adverse physical impacts. Fire protection services are maintained and expanded through property taxes and collection of fees that grow incrementally as development occurs within a service area. ABAG growth projections used as the basis of cumulative impacts analysis in this Program EIR take into consideration future growth anticipated by the County General Plan. The County General Plan includes goals and policies to provide funding and reduce the demand for new or expanded fire protection facilities, including Policies PS-3n, PF-2a, PF-2b, PF-2f, and PF-2m. However, it is likely that new or expanded fire protection facilities would be required to serve cumulative development in the county. Therefore, significant cumulative impacts related to adverse physical impacts from new or physically altered fire protection services could occur. Cumulative impacts would be significant.

As described under Impact PS-1 above, the project would generate additional demand for fire protection services. While development facilitated by the project would generate additional demand, General Plan Policy LU-4f requires the payment of fair share impact fees during the building permit process, to ensure fire departments are adequately funded to serve new projects. Development facilitated by the project would not result in construction of new or altered fire stations. Therefore, the project would not make a cumulatively considerable contribution to the previously identified significant cumulative impact related to fire protection services.

#### Police Protection

The geographical scope for cumulative police protection impacts is the Sheriff's Office service area, which includes the unincorporated county. This geographic scope is appropriate because projects within this area, like the project, will increase the demand from the Sheriff's Office.

Cumulative impacts would occur if growth within the service area requires the construction of a new or the expansion of an existing police station that would result in significant adverse physical impacts. Development facilitated by the project would result in new police officers that would need to be added to the Sheriff's Office. The increase in staffing required to maintain service ratios to serve cumulative projects may require modifications or expansion of existing police facilities to accommodate the increased staff. The need for new officers would be distributed throughout the County. Additionally, General Plan Policy LU-4f requires that cumulative development projects,

including development facilitated by the proposed project, pay of fair share impact fees during the building permit process, which fund the provision of public services, including police protection services, based on projected cumulative growth. Therefore, development facilitated by the project would not have a cumulatively considerable contribution to a significant cumulative impact related to police protection services.

## **Schools**

The geographical scope for cumulative school impacts is the school district boundaries serving the Potential Sites, as identified in Section 4.15.1(c), above. This geographic scope is appropriate because projects within this area, like the proposed project, will increase the demand on school district services and facilities.

Cumulative impacts would occur if growth within a district would result in significant adverse physical impacts with the provisions for, or the need for, new or physically altered school facilities. The project includes the development of up to 2,975 new housing units, which would generate additional an estimated 1,145 new students across 11 school districts in the county, which would increase the demand for school facilities. As described under Impact PS-3, all districts in the county are anticipating a decline in student enrollment and would be able to absorb new and incoming students from cumulative projects. Cumulative development, including development facilitated by the project, is required to pay school impact fees at the time building permits are issued. These fees are used by the local district to mitigate cumulative impacts associated with long-term operation and maintenance of school facilities. Because the districts have adequate capacity to serve cumulative development, cumulative impacts would be less than significant, and the project would not have a cumulatively considerable contribution to a significant cumulative impact regarding school services.

## **Libraries**

The geographical scope for cumulative library impacts is the Sonoma County Library network. This geographic scope is appropriate because projects within this area, like the proposed project, would increase the demand on library services.

Cumulative impacts could occur if growth within the system requires the construction of new or the expansion of an existing library that would result in adverse physical impacts. Cumulative population growth, including the proposed project, would increase the demand for new libraries. However, cumulative projects are expected to utilize existing library facilities and the expanded Roseland library. Because new (unplanned) or expanded facilities would not be required, cumulative impacts would be less than significant, and the proposed project would not have a cumulatively considerable contribution to a significant cumulative impact regarding library services.

## **Parks**

The geographic scope for cumulative parks and recreation impacts is unincorporated Sonoma County. This geographic scope is appropriate because new residents on the Potential Sites would use parks throughout the county.

Currently, the County provides 24.8 acres of total park space per 1,000 residents, which falls short of the County's goal of 25 acres of total park space per 1,000 residents. With the addition of 7,735 new residents expected by 2030 from the proposed project, this ratio would fall to 24.4 acres per 1,000

residents, increasing the acreage of additional parks needed to obtain the County's standard of 25 acres of total parks per 1,000 residents.

Cumulative impacts to parks and recreational facilities would occur if development, and related population growth, within the county increases the use of existing facilities such that substantial physical deterioration of those facilities would occur, or if new facilities would need to be constructed or existing facilities expanded that would have an adverse effect on the environment. Further, any subsequent subdivision project that would increase the population would be required to comply with the Quimby Act, which may require parkland dedication or an in-lieu fee and to provide on-site open space and recreational amenities. Development facilitated by the project in combination with other cumulative development in the county would result in an increase in the use of existing recreational facilities, but the payment of parkland fees would ensure cumulative projects are served by adequate park and recreational facilities. Therefore, cumulative impacts related to new or expanded park and recreation facilities, or the physical deterioration of existing park and recreation facilities, would be less than significant, and the proposed project would not have a cumulatively considerable contribution to a significant cumulative impact regarding park and recreation facilities.



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## 4.16 Transportation

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This section analyzes the impacts of the project on the local transportation system. The section includes analysis of the development facilitated by the project.

### 4.16.1 Setting

#### a. Existing Street Network

##### Regional

Regional access to the Potential Sites is provided by freeways and state highways, including State Route 1, State Route 128, State Route 116, State Route 12, State Route 121, State Route 37, and U.S. Highway 101 (Highway 101). Figure 2-1, Figure 2-2, Figure 2-3, Figure 2-4, Figure 2-6, Figure 2-7, and Figure 2-9 provide visuals for the proximity of these roadways to the Potential Sites.

##### Other Principal Arterials

**Guerneville Road**, located west of the City of Santa Rosa, is an east to west arterial with one automobile lane in each direction. The street connects Cleveland Avenue in the City of Santa Rosa to State Route 116. A bicycle lane is on both sides of the street. The speed limit on Guerneville Road in the unincorporated County is 55 miles per hour (mph).

**Leveroni Road**, located southwest of the City of Sonoma, is an east to west arterial with one automobile lane in each direction. The street connects Arnold Drive to State Route 12. The speed limit on Leveroni Road is 55 mph.

**Napa Road**, located southeast of the City of Sonoma, is a west to southeast arterial with one lane in each direction and a center lane for turning in either direction. The street connects State Route 12 at the southernmost boundary of the City of Sonoma and extends to the intersection of Napa Road and State Route 12. The speed limit on Napa Road is 55 mph.

##### Minor Arterials

**Arnold Drive**, located southwest of the City of Sonoma, is a north to south arterial with one automobile lane in each direction. The street connects State Route 116 south of the intersection with Watmaugh Road and ends at State Route 12 east of its intersection with Dunbar Road. The speed limit on Arnold Drive is 40 mph.

**Adobe Road**, located northeast of the City of Petaluma, is a north to south arterial with one automobile lane in each direction. A bicycle lane is on both sides of the street, which connects from the intersection of Old Adobe Road and State Route 116 and extends north to the intersection of Old Adobe Road and Old Redwood Highway North. The speed limit is 50 mph.

**Petaluma Boulevard**, located within the City of Petaluma, is a north to south arterial with two automobile lanes in each direction. The street connects from the intersection of Petaluma Boulevard south and Fire Road and connects with Old Redwood Highway to the north. The speed limit is 35 mph.

**Santa Rosa Avenue**, located within the City of Santa Rosa, is north to south arterial with one lane in each direction and a center lane. A bicycle lane is on both sides of the street, which connects from

Roberts Lake Road and ends at the intersection of Santa Rosa Avenue and 3<sup>rd</sup> Street in the City of Santa Rosa. The speed limit is 35 mph.

**Old Redwood Highway**, located north of the City of Santa Rosa, is a north to south arterial with one lane in each direction. The street connects from the intersection of Highway 101 off-ramp and Old Redwood Highway southeast of Rohnert Park and then extends to Healdsburg Avenue to the north. There are bicycle lanes on both sides of the street. The speed limit is 45 mph.

**Mark West Springs Road**, located east of the City of Fulton, is a north to south arterial with one lane in each direction. The street connects from the intersection of Highway 101 and Mark West Springs Road and ends at the intersection of Mark West Springs Road and Leslie Road. A bicycle lane is on both sides of the road where it passes through the project area. The speed limit is 40 mph.

**Rohnert Park Expressway**, located within the City of Rohnert Park, is an east to west arterial with one lane in each direction. A bicycle lane is on both sides of the street. The street connects from the intersection of Stony Point Road and Rohnert Park Expressway and ends at the intersection of Rohnert Park Expressway and Petaluma Hill Road. The speed limit is 40 mph.

## Major Collectors

**D Street**, located within the City of Petaluma, is a north to south collector with one lane in each direction. A bicycle lane is on both sides of the street, which connects at its intersection with San Antonio Road and ends at the intersection of D Street and Payran Street. The speed limit is 35 mph.

**Bodega Avenue**, located within the City of Petaluma, is an east to west collector with one lane in each direction. A bicycle lane is on both sides of the street. The street extends from its intersection with Spring Hill Road to its intersection with Howard Street. The speed limit is 35 mph.

**Old Adobe Road**, located northeast of Petaluma, is a north to south collector with one lane in each direction and a bicycle lane on both sides of the street. The street extends from its intersection with Rates Road and Adobe Road to its intersection with Old Redwood Highway. The speed limit is 50 mph, but drops to 35 mph in residential and commercial areas.

**Skillman Lane**, located west of the City of Petaluma, is an east to west collector with one lane in each direction. The street extends from its intersection with Petaluma Boulevard North to its intersection with Bodega Avenue. The speed limit is 35 mph, except in school zones where the speed limit is 25 mph.

**Stony Point Road**, partially located within the City of Petaluma, is a north to south collector with one lane in each direction and a bicycle lane on both sides of the street. The street extends from its intersection with Petaluma Boulevard North and to its intersection with West College Avenue. The speed limit is 55 mph.

**Mecham Road**, located south of the City of Cotati, is a north to south collector with one lane in each direction and a bicycle lane on both sides of the street. The street extends from its intersection with Stony Point Road to its intersection with Pepper Road. The speed limit is 45 mph.

**Pepper Road**, located south of the City of Cotati, is an east to west collector with one lane in each direction and a bicycle lane on both sides of the street. The street extends from its intersection with Stony Point to its intersection with Bodega Avenue. The speed limit is 45 mph.

**Valley Ford Road**, located northwest of Petaluma, is an east to west collector with one lane in each direction and a bicycle lane on both sides of the street. The street extends from its intersection with Bodega Avenue and connects with State Route 1. The speed limit is 45 mph.

**Tomales Road**, located northwest of Petaluma, is an east to west collector with one lane in each direction. The street extends from its intersection with Valley Ford Road to its intersection with State Route 1. The speed limit is 45 mph.

**Petaluma Hill Road**, portions of which are located within Santa Rosa, is a north to south collector with one lane in each direction, a center turn lane, a bicycle lane in each direction, and parallel parking on both sides of the street. The street extends from its intersection with Old Redwood Highway to its intersection with Santa Rosa Avenue. The speed limit is 35 mph.

**Crane Canyon Road**, located south of Santa Rosa, is an east to west collector with one lane in each direction, a center turn lane, and a bicycle lane in each direction. The street connects its intersection with Petaluma Hill Road and extends to Grange Road. The speed limit is 35 mph.

**Bennett Valley Road**, located southeast of Santa Rosa, is a north to south collector with one lane in each direction. The street extends from its intersection with Warm Springs Road to its intersection with Santa Rosa Avenue. The speed limit is 45 mph.

**Llano Road**, located east of Sebastopol, is a north to south collector with one lane in each direction and a bicycle lane on both sides of the street. The street connects from the intersection with State Route 116 and ends at the intersection with State Route 12. The speed limit is 50 mph.

**Occidental Road**, located in Sebastopol, is an east to west collector with one automotive lane and a bicycle lane in each direction. The street extends from its intersection with Stony Point Road to its intersection with Cherry Ridge Road. The speed limit is 45 mph.

**Bohemian Highway**, located north of the City of Occidental, is a north to south collector with one lane in each direction. The street extends from its intersection with Bodega Highway to its intersection with State Route 116. The speed limit is 35 mph.

**Guerneville Road**, located west of the City of Santa Rosa, is an east to west collector with one lane in each direction. The street extends from Highway 101 to its intersection with State Route 116. The speed limit is 55 mph.

**River Road**, located northwest of the City of Santa Rosa, is an east to west collector with one lane in each direction and a bicycle lane in each direction. The street extends from Highway 101 and connects with State Route 116. The speed limit is 55 mph.

**Porter Creek Road**, located northeast of the City of Santa Rosa, is an east to west collector with one lane in each direction. The street extends from its intersection with Petrified Forest Road and transitions into Mark West Springs Road. The speed limit is 45 mph.

**Petrified Forest Road**, located west of the City of Calistoga, is a north to south collector with one lane in each direction. The street extends from its intersection with Porter Creek Road to its intersection with State Route 128. The speed limit is 50 mph.

**Chalk Hill Road**, located north of the City of Santa Rosa, is a north to south collector with one lane in each direction. The street connects from its intersection with Pleasant Avenue to its intersection with State Route 128. The speed limit is 40 mph.

**Westside Road**, located west of the Town of Windsor, is a north to south collector with one lane in each direction. The road connects from River Road and extends to Highway 101 in Healdsburg. The speed limit is 45 mph.

**Eastside Road**, located west of the Town of Windsor, is a north to south collector with one lane in each direction. The road extends from its intersection with Mark West Station Road to its intersection with Old Redwood Highway. The speed limit is 45 mph.

**Dry Creek Road**, located north of the City of Healdsburg, is a north to south collector with one lane in each direction and a bicycle lane in each direction. The road extends from its intersection with Dry Creek Road to its connection with Stewarts Point – Skaggs Springs Road. The speed limit is 50 mph.

**Stewarts Point-Skaggs Springs Road**, located west of the City of Geyserville, is a north to south collector with one lane in each direction. The road connects from the termination of Dry Creek Road and extends through Stewart’s Point where it terminates. The speed limit is 30 mph.

## Minor Collectors

**Ramal Road**, located in unincorporated County, southeast of the City of Sonoma, is a north to south collector with one lane in each direction. The road connects from its intersection with State Route 12 to its intersection with Wharf Road. The speed limit is 40 mph.

**Chileno Valley Road**, located southwest of the City of Petaluma, is an east to west collector with one lane in each direction. The road extends from its intersection with Western Avenue to its intersection with Tomales Road. The speed limit is 50 mph.

**Roblar Road**, located west of the City of Cotati, is an east to west collector with one lane in each direction. The road extends from its intersection with Stony Point Road to its intersection with Valley Ford Road. The speed limit is 45 mph.

**Bloomfield Road**, located south of Sebastopol, is a north to south collector with one lane in each direction. The road extends from its intersection with Valley Ford Road to its intersection with State Route 116. The speed limit is 45 mph.

**Todd Road**, located south of Santa Rosa, is an east to west collector with one lane in each direction. The road connects from the Highway 101 off-ramp and ends at its intersection with Old Gravenstein Highway. The speed limit is 40 mph.

**Trinity Road**, located north of Glen Ellen, is an east to west collector with one lane in each direction. The road extends from its intersection with Dunbar Road and terminates at the connection to Dry Creek Road. The speed limit is 40 mph.

**Laguna Road**, located east of unincorporated Forestville, is a north to south collector with one lane in each direction and a bicycle lane on each side of the street. The road extends from its intersection with Guerneville Road and connects with Trenton Road. The speed limit is 45 mph.

**Vine Hill Road**, located east of unincorporated Forestville is a north to south collector with one lane in each direction. The road extends from its intersection with State Route 116 and terminates at its intersection with Laguna Road. The speed limit is 40 mph.

**Trenton Road**, located east of unincorporated Forestville, is an east to west collector with one lane in each direction. The road begins at a split from River Road and extends to its intersection with Ritchurst Place. The speed limit is 35 mph.

**Wohler Road**, located north of unincorporated Forestville, is a north to south collector with one lane in each direction. The road begins at the intersection with Westside Road and ends at the intersection with River Road. The speed limit is 35 mph.

**Franz Valley Road**, located north of Santa Rosa, is a north to south collector with one lane in each direction and narrows to a single lane. The road begins at the intersection with State Route 128 and ends at the intersection with Porter Creek Road. The speed limit is 35 mph.

**Fort Ross Road**, located east of Timber Cove, is an east to west collector with one lane in each direction and narrows to a single lane. The road begins at the intersection with State Route 1 and ends at the intersection with Cazadero Highway. The speed limit is 25 mph.

**Geysers Road**, located east of Cloverdale, is a north to south collector with one lane in each direction. The road begins at an off-ramp of Highway 101 and ends at the connection to State Route 128. The speed limit is 45 mph.

**Dutcher Creek Road**, located south of Cloverdale, is a north to south collector with one lane in each direction and a bicycle lane in each direction. The road begins at its intersection with Kelly Road and ends at its intersection with Dry Creek Road. The speed limit is 45 mph.

## Transit Access and Circulation

Sonoma-Marin Area Rail Transit (SMART) provides rail service in southern and central Sonoma County. Sonoma County Transit offers bus service for the Potential Sites, supplemented by Golden Gate Transit and Mendocino County Transit Authority. City transit services also operate in the vicinity of the Potential Sites.

### *Sonoma-Marin Area Rail Transit*

SMART provides passenger rail service for Marin and Sonoma counties. The 45-mile system includes stations in the Sonoma County Airport area, and in Santa Rosa, Rohnert Park, Cotati, Petaluma, Novato, San Rafael, and Larkspur. The SMART system also includes a bicycle and pedestrian pathway along the rail corridor (SMART 2020a). Ridership counts between January and September 2019, totaled approximately 390,000 boardings for weekday travel and approximately 66,000 boardings for weekend travel. There were approximately 2,000 boardings per day during weekday travel and approximately 800 boardings per days during weekend travel. Cumulative total weekday passenger miles for the same timeframe were 7,857,740 and cumulative total weekend passenger miles were 1,354,640. (SMART 2020b). The SMART rail lines are planned to expand through the areas of Windsor, Healdsburg, Cloverdale, and north Petaluma. Construction of the Windsor extension began in 2020. None of the Potential Sites are within 0.5-mile of a SMART station.

### *Sonoma County Transit*

Sonoma County Transit provides local and intercity public transportation services within the county on 29 routes that service eight zones. These are described as follows in Table 4.16-1.

In addition, Sonoma County Transit provides six shuttle routes for connections to SMART (Sonoma County Transportation Authority [SCTA] 2020a). City bus services including Santa Rosa City Bus and Petaluma Transit provide additional transit services to the cities of Santa Rosa and Petaluma. The Santa Rosa City Bus has 14 fixed routes including paratransit options. Planned improvements for the Santa Rosa City Bus include implementation of service models to complement and feed into fixed routes such as partnerships with Lyft/Uber (SCTA 2020b). Petaluma Transit has six fixed routes, five “school tripper routes” and paratransit options. Improvements to Petaluma Transit include providing connections to Kaiser Hospital, increasing service to Petaluma Fairgrounds, and also includes the implementation of service models to complement and fee into fixed routes and partnerships with Lyft/Uber.

Table 4.16-1 Sonoma County Transit Authority Zones

Zone	Cities
1	Santa Rosa
2	Windsor/Healdsburg
3	Sebastopol/Forestville
4	Rohnert Park/Cotati/Petaluma
5	Kenwood/Glen Ellen
6	Russian River/Coast
7	Sonoma Valley
8	Geyserville/Cloverdale

Source: SCTA 2020a

### *Bicycle Conditions*

Based on the *County of Sonoma Bicycle and Pedestrian Plan* (County of Sonoma 2010), bicycle facilities are classified into several types, including:

1. **Class 1 Multi-Use Paths** – provide a completely separated, exclusive right-of-way for bicycling, walking, and other non-motorized uses.
2. **Class 2 Bicycle Lanes** – are striped, preferential lanes for one-way bicycle travel on roadways. Some Class 2 bicycle lanes include striped buffers that add a few feet of separation between the bicycle lane and traffic lane or parking aisle.
3. **Class 3 Bicycle Routes** – are signed bicycle routes where riders share a travel lane with motorists. Bicycle boulevards (Class 3E) are a special type of Class 3 bicycle route where the shared travel way has low motor vehicle volumes and low speed that prioritize convenient and safe bicycle travel through traffic calming strategies, wayfinding signage, and traffic control adjustments.
4. **Class 4 Bicycle Routes** – are on-street bike lanes that are buffered from traffic using physical barriers, such as curbs, planters, or parked cars.
5. **Unpaved Recreational Trails** – are trails that facilitate pedestrian and bicycle travel but are not included in the bikeways network.

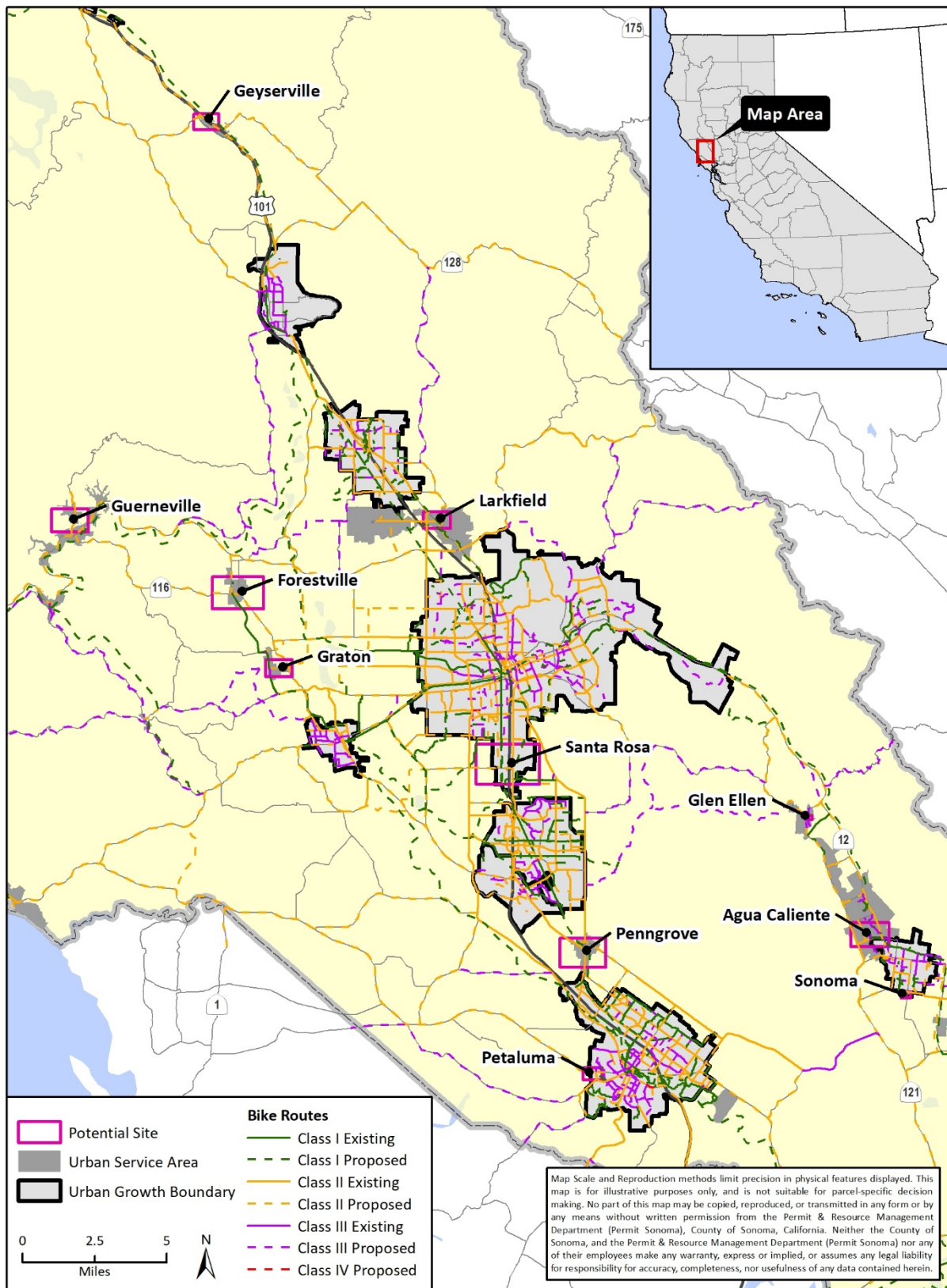
Sonoma County has approximately 257 miles of built bicycle infrastructure. Class 2 facilities are the dominant form of built bicycle infrastructure, followed by Class 3 and Class 1 facilities. Figure 4.16-1 provides a map of the existing and proposed bicycle routes within the County of Sonoma.

### *Pedestrian Conditions*

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Historic downtown areas such as those located in Sonoma, Sebastopol, Petaluma, Cotati, Santa Rosa, Windsor, Healdsburg, and Cloverdale have long-established, central areas where pedestrians can reach a variety of destinations. Sidewalks are in place in almost all recently built residential, civic, and business developments. System gaps exist between older and newer development. Discontinuous sidewalks are also present in the County's unincorporated towns, and most rural roads lack sidewalks and have a shoulder area for pedestrians to walk on. Barriers to safe pedestrian travel include freeways and high-speed and multiple-lane arterials.



Figure 4.16-1 Existing and Proposed Bicycle Routes



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri.

FigX Bicycle and Pedestrian Plan

## 4.16.2 Regulatory Setting

The determination of significance of project impacts is based on applicable policies, regulations, goals, and guidelines defined by Sonoma County, the SCTA, and the State.

### California Senate Bill 743

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law. SB 743 changed the way transportation impact analysis is conducted as part of CEQA compliance. These changes eliminated automobile delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts under CEQA.

Prior rules treated automobile delay and congestion as an environmental impact. Instead, SB 743 requires the *CEQA Guidelines* to prescribe an analysis that better accounts for transit and reducing greenhouse gas emissions. In November 2017, Office of Planning and Research (OPR) released the final update to *CEQA Guidelines* consistent with SB 743, which recommend using vehicle miles traveled (VMT) as the most appropriate metric of transportation impact to align local environmental review under CEQA with California's long-term greenhouse gas emissions reduction goals. The *Guidelines* require all jurisdictions in California to use VMT-based thresholds of significance by July 2020.

### Sonoma County Transportation Authority

The SCTA is governed by the Sonoma County board of Supervisors and a twelve-member Board of Directors representing nine cities – Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and Windsor. The SCTA acts as the countywide planning and fund programming agency for transportation and performs a variety of important functions related to advocacy, project management, planning, finance, grant administration, and research. The SCTA helps implement transportation projects throughout Sonoma County, which includes highways, roads, public transit, and active transportation – such as bike and pedestrian paths and trails.

The passage of Measure M, the Traffic Relief Act for Sonoma County, by Sonoma County voters in 2004 provided for a 0.25-cent sales tax collected over 20 years to be used to maintain local streets, fix potholes, accelerate the widening of Highway 101 for High Occupancy Vehicle lanes, improve local street operations, restore and enhance transit services, support the development of passenger rail service, and build safe bicycle and pedestrian routes. The funds are dedicated towards specific programs and projects specified in the voter approved Expenditure Plan.

The programs and projects contained in the Expenditure Plan are based upon the 2016 Comprehensive Transportation Plan developed by SCTA. The Comprehensive Transportation Plan identified goals to improve and maintain all modes of transportation related to the movement of people and goods.

### County of Sonoma General Plan

The Circulation and Transit Element of the Sonoma County General Plan (2016) contains the following objectives and policies relevant to the proposed project:

**Objective CT-1.2:** Supplement the Highway 101 and SMART rail corridors with improvements designed to provide east/west access to these corridors.

**Objective CT-1.5:** Reduce greenhouse gas emissions by minimizing future increase in VMT, with an emphasis on shifting short trips by automobile to walking and bicycling trips.

**Objective CT-1.6:** Require that circulation and transit system improvements be done in a manner that, to the extent practical, is consistent with community and rural character. Minimizes disturbance of the natural environment, minimizes air and noise pollution, and helps reduce greenhouse gas emissions.

**Objective CT-1.7:** Reduce travel demand countywide by striving to provide a jobs/housing balance of approximately 1.5 jobs per household and encourage creation of jobs and housing in urbanized areas along the SMART passenger rail corridor and other transit centers.

**Objective CT-1.8:** Improve demand for transit by development of a growth management strategy encouraging projects in urbanized areas that decrease distance between jobs and housing, increase the stock of affordable housing, and increase density.

Policy CT-1b: Focus commute and through traffic onto Highway 101. Designate major arterial routes to serve primarily as connectors between urban areas.

Policy CT-1c: Work with the Cities to provide locations for jobs, housing, shopping, and coordination of location of transit along the Highway 101 corridor to reduce the volume of traffic on east/west corridors.

Policy CT-1d: Work with the Cities to provide jobs, housing, shopping, and coordination of local transit along the SMART passenger rail corridor to reduce the need for automobile travel to and from work and shopping centers.

Policy CT-1e: Support development, implementation, and operation of a passenger rail system and contiguous north south pedestrian and bicycle path along the SMART passenger rail corridor including the funding necessary to support a multi-modal feeder system.

Policy CT-1k: Encourage development that reduces VMT, decreases distances between jobs and housing, reduces traffic impacts, and improves housing affordability.

Policy CT-2f: Require discretionary development projects to provide bicycle and pedestrian improvements and gap closures necessary for safe and convenient bicycle and pedestrian travel between the project and the public transit system.

Policy CT-2v: Require discretionary development projects, where nexus is identified, to provide crossing enhancements at bus stops, recognizing that many transit riders have to cross the street on one of the two-way commutes.

Policy CT-2w: Increase the convenience and comfort of transit riders by providing more amenities at bus stops, including adequately-sized all-weather surfaces for waiting, shelters, trash cans, bike racks, and pedestrian-sized lighting. Required that these improvements be provided as part of nearby public or private development projects.

Policy CT-3c: The Sonoma County Bicycle and Pedestrian Advisory Committee (BPAC) shall be responsible for advising the Board of Supervisors, Planning Commission, Board of Zoning Adjustments, Project Review Advisory Committee, and County staff on the ongoing planning and coordination of the County's bicycle and pedestrian transportation network.

Policy CT-3d: The Regional Parks Department shall be responsible for establishing and maintaining Class I bikeways, and the Department of Transportation and Public Works (TPW) shall be responsible for establishing and maintaining Class II and III bikeways and pedestrian facilities along public rights-of-way in unincorporated areas.

Policy CT-3v: Where nexus exists, require private or public development to plan, design, and construct bicycle and pedestrian facilities to integrate with the existing and planned bicycle and pedestrian network.

Policy CT-300: Require new development in Urban Service Areas and unincorporated communities to provide safe, continuous, and convenient pedestrian access to jobs, shopping and other local services and destinations. Maintain consistency with City standards for pedestrian facilities in Urban Service Areas that are within a City's Sphere of Influence or Urban Growth Boundary.

Policy CT-3pp: Require pedestrian-oriented street design in Urban Service Areas and unincorporated communities.

### 4.16.3 Methodology

Section 15064.3 of the *CEQA Guidelines* provides that vehicle miles traveled (VMT) is the most appropriate metric for the analysis of transportation impacts under CEQA.

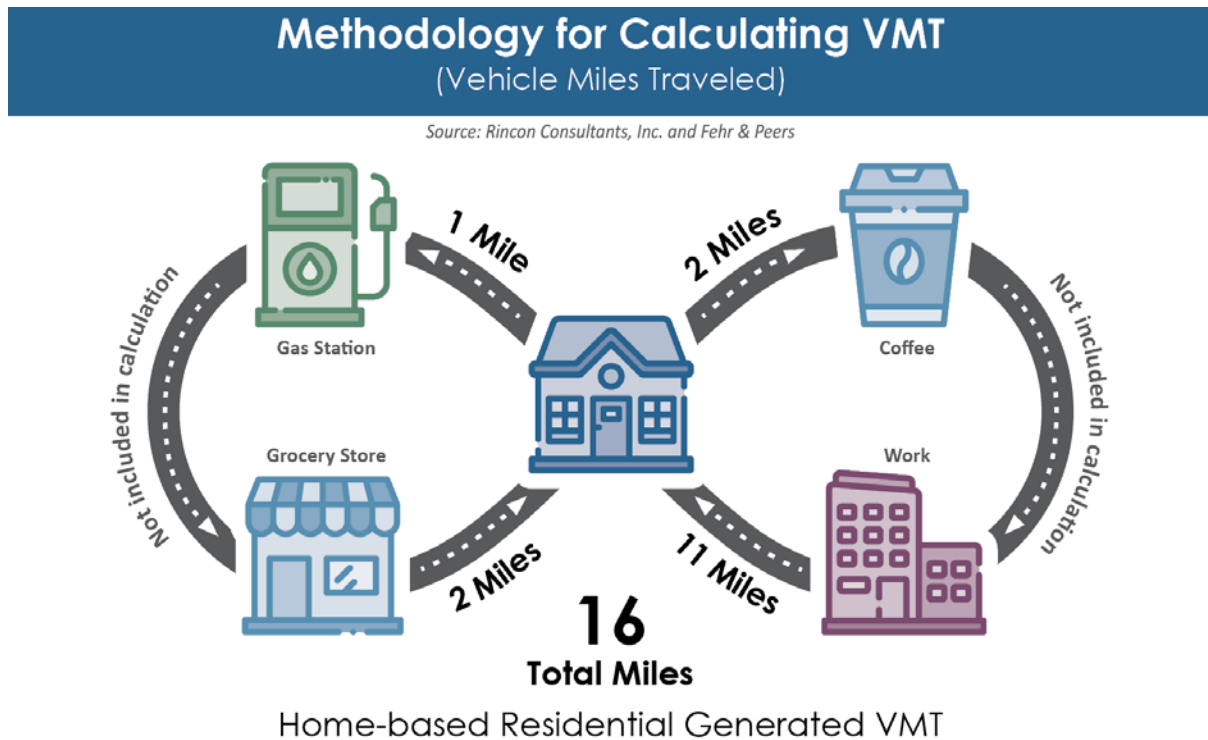
VMT measures the amount of driving that a project generates. For example, a project generating 100 total (inbound and outbound) vehicle trips per day with an average of 5.0 miles per trip results in 500 project-generated VMT per day. For the purposes of analyzing transportation impacts of residential projects, the VMT generated by the project is converted to an efficiency metric by dividing the amount of VMT generated by the number of residents. Efficiency metrics are used in VMT analysis because the goal of the analysis is to show whether or not a particular development would generate low enough VMT to aid the State in meeting its climate targets relative to projected growth in population, employment, etc.

The Governor's OPR provided guidance in its *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) on performing the analysis of VMT and what thresholds of significance could be applied. Based on the guidance in the *Technical Advisory*, the VMT analysis of the proposed project uses the following approach: the metric is total weekday home-based VMT per resident; the method used is the SCTA countywide travel demand model; the threshold used is 15 percent below regional baseline (nine-county Bay Area) total weekday home-based VMT per resident and impacts were evaluated against the near-term baseline (i.e. a cumulative analysis, or analysis of the project's impacts in combination with other nearby projects in the future, is not required). Home-based VMT per resident is calculated as the sum of mileage from vehicle trips with a start or end at a residence divided by the number of residents per household. Figure 4.16-2 shows a generic methodology for calculating VMT and illustrates how home-based VMT per resident considers some, but not all, of the amount of driving a person does during the day.

The *Technical Advisory* notes that for land use projects or programs in the unincorporated areas of a county that are included in a metropolitan planning organization (MPO) region (here, the nine-county San Francisco Bay Area), the threshold should be based on (1) the region (i.e., MPO) VMT per capita or (2) the aggregate population-weighted VMT per capita of all incorporated cities and towns in the region (i.e., MPO).

The use of a threshold based on the nine-county Bay Area region is consistent with the Metropolitan Transportation Commission (MTC) metropolitan planning organization (MPO) boundary. Consistency with the MTC boundary promotes consistency with SB 375 greenhouse gas emission targets, which are set at the MPO level. Other potential thresholds for the project, including those set at the Sonoma County-wide level, may be inconsistent with the substantial evidence developed by OPR and would require additional evidence to demonstrate that an alternative threshold would be sufficient to allow Sonoma County to make progress towards State-mandated climate-related goals, policies and legislation.

Figure 4.16-2 Methodology for Calculating VMT



The SCTA model used in this analysis (summer 2020) reflects a Year 2015 base year and incorporates “Big Data” trip length estimates at the model gateways. (Refer to Appendix TRA for more information on the use of Big Data). Big Data information was provided by Streetlight Data, which collects approximately 40 billion anonymous location records per month from smartphones and navigation devices in connected cars and trucks. The incorporation of Big Data trip length estimates provides a more precise understanding of the length of trips that occur beyond the County boundary and alleviates the trip length truncation issues associated with earlier versions of the model. Thus, the use of the SCTA model allows for the estimation of trip lengths (and VMT) into Mendocino and Lake counties, in addition to other counties in the nine-county Bay Area region. New housing units were modeled assuming 90 percent of the units would be multi-family housing, and the remaining 10 percent would be single-family housing. These assumptions, while conservative, did not materially affect the outcomes of the VMT analysis.

Based on data from MTC Travel Model One, the value of the nine-county Bay Area average total home-based VMT per resident is 15.3. The threshold of 15 percent below this regional baseline value is 13.0.

Data from MTC Travel Model One was used to set the threshold as it provides a more complete understanding of total weekday home-based residential VMT per resident for the entire nine-county Bay Area. The SCTA travel demand model was used to evaluate the project’s effect on VMT as the SCTA model provides additional land use and roadway network detail in Sonoma County (beyond that available in the MTC model) and also provides coverage of project VMT in Lake and Mendocino counties through the use of Big Data-informed trip lengths at the county boundary. This split-model analysis method is conservative as the SCTA model typically results in a higher amount of VMT estimated for a given project versus using the MTC model; while the SCTA model has been shown to

produce higher VMT estimates than the MTC model, the difference between the VMT estimates is relatively small, thus there is little material effect on the CEQA impact analysis conclusion(s).

The near-term baseline conditions (i.e., Existing Conditions) referred to in this section reflect conditions that prevailed prior to the COVID-19 pandemic, which substantially affected transportation conditions in the study area during Spring and Summer 2020. The VMT data, traffic counts, and other data used for the evaluation were collected prior to the pandemic. Subsequent forecasts of future conditions are based on models and predictions that do not account for the current, or potential on-going effects the pandemic may have on transportation demand. As the predominant effects of the pandemic have been an overall decrease in travel activity in the project area, this analysis provides a conservative estimate of transportation conditions.

### Significance Thresholds

VMT screening is a process related to reviewing the location and operating parameters of land use projects and programs to determine if a project or program does not need to perform a VMT analysis because it is presumed to generate a low amount of VMT. The *Technical Advisory* provides several potential screening criteria for identifying projects that are presumed to cause a less than significant transportation impact and accordingly do not need to perform a VMT analysis, including:

1. Development in a low VMT-generating area per the SCTA travel model
2. Development located within a 0.5-mile watershed of an existing major transit stop or existing stop along a high-quality transit corridor (defined in PRC 21064.3 and 21155)
3. Development in infill locations that are (1) 100 percent affordable and (2) in an area where a jobs/housing imbalance exists such that the infill development would promote shorter commute trips
4. Small developments that generate or attract fewer than 110 trips per day

Given the programmatic nature of the project, all Potential Sites are incorporated into the VMT analysis, even though some sites might, if considered individually, meet the fourth (small developments) criterion above and be screened out from further analysis.

#### 4.16.4 Impact Analysis

<b>Threshold:</b>	Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
<b>Threshold:</b>	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

**Impact TRA-1** THE ADDITION OF VEHICLE MILES TRAVELED (VMT) BY DRIVERS COMING FROM DEVELOPMENT FACILITATED BY THE PROJECT WOULD RESULT IN AN EXCEEDANCE OF VMT THRESHOLDS AND CONFLICT WITH POLICIES SEEKING TO REDUCE VMT IN SONOMA COUNTY. THIS WOULD NOT MEET THE VMT SCREENING CRITERIA. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

#### Vehicle Miles Traveled (VMT)

A low VMT-generating area is defined in the *CEQA Guidelines: Technical Advisory* as an area that is currently below the relevant threshold VMT level. The VMT threshold for identification as a low VMT-generating area would be an area where VMT is approximately 15 percent lower than existing per-capita light duty vehicle travel. Most Potential Sites under consideration do not meet the low VMT-generating area definition in the SCTA travel model. Depending on the type of development proposed for the Potential Sites, some projects may qualify for the affordable infill housing exemption or other CEQA exemption, and some developments may be sufficiently small that they would not generate more than 110 trips per day. For example, development facilitated by the project on GLE-2, LAR-4, PEN-1, and PEN-3 would generate less than 110 vehicle trips per day if they were to be built out at the maximum proposed density. Other development facilitated by the proposed project would not qualify for the affordable infill housing exemption or be small enough to generate fewer than 110 vehicle trips per day. The remaining 55 sites would not meet the VMT screening criteria, as described below.

Data on home-based VMT per resident from the summer 2020 version of the SCTA model were output for the base year (Year 2015), base year plus project, cumulative (Year 2040), and cumulative plus project scenarios. Data from project-affected traffic analysis zones in the model were considered as part of the analysis. The results are presented in Table 4.16-2. As noted previously, estimates of VMT from the SCTA travel demand model are conservative versus the thresholds set using data from MTC Travel Model One.

**Table 4.16-2 Home-Based Residential VMT per Resident Analysis**

Scenario	Total Home-Based VMT per Resident	Threshold Value <sup>1</sup>	Impact
Base Year (Year 2015)	16.4	N/A	N/A
Base Year + Project	16.0	13.0	<b>Yes</b>
Cumulative (Year 2040)	14.8	N/A	N/A
Cumulative + Project	14.8	13.0	<b>Yes</b>

Notes: <sup>1</sup> Threshold value is determined as 15 percent below regional (nine-county Bay Area) baseline total weekday home-based VMT per resident using data from MTC Travel Model One. This threshold is based on the *CEQA Guidelines: Technical Advisory* which states that for land use projects or programs located in unincorporated areas of a county that is included in an MPO region (as Sonoma County is), the threshold should be based on (1) the region (i.e. MPO) VMT per capita or (2) the aggregate population weighted VMT per capita of all incorporated cities and towns in the region (i.e. MPO).

Source: Fehr & Peers, July 2020



Under the base year and base year plus project scenarios, average total home-based VMT per resident would decrease minimally with implementation of the project. However, the VMT per resident with implementation of the project would be 16.0, which is greater than the threshold value of 13.0. Additionally, the net change VMT value for the additional residential units would be about 14.7, which would be higher than the threshold, and is considered a significant impact. Mitigation Measure TRA-1, designed to reduce the net increment change in VMT per resident to 13.0 would require a reduction of 1.7 VMT per resident, which represents an 11.5 percent reduction in the base year plus project value of 14.7.

## Public Transit Facilities

As noted in Section 4.16.1, *Setting*, the Potential Sites are not within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor, and do not meet the requirements for transit proximity or low VMT-generating areas.

The project would not cause significant adverse impacts to fixed-route service. The project would not conflict with plans, policies, ordinances, or regulations pertaining to public transit. Ridership on area transit lines is not expected to exceed available capacities with the addition of demand associated with development facilitated by the project.

## Bicycle Facilities

The project proposes no features that would be hazardous to bicycles, nor is it forecast to generate bicycle demand that would exceed the capacity of the area's bicycle network. Development facilitated by the project would not introduce a substantial number of vehicles to roadways and thus, would not create features hazardous to bicycles. No features are proposed by the project that would conflict with County or regional plans, policies or ordinances pertaining to bicycle facilities or travel. No significant impacts to bicycle facilities would occur.

## Pedestrian Facilities

Development facilitated by the project would propose no features that would be hazardous to pedestrians, nor is it forecast to generate pedestrian demand that would exceed the capacity of the area's pedestrian network. In addition, in compliance with the County of Sonoma's General Plan, development facilitated by the project would be required to provide safe, continuous, and convenient pedestrian access to local services and destinations. Pedestrians, therefore, would not be introduced to areas without safe, continuous sidewalks. No features are proposed that would conflict with County or regional plans, policies or ordinances pertaining to pedestrian facilities or travel. No significant impacts to pedestrian facilities would occur.

## Air Traffic Patterns

Airports in Sonoma County include the Charles M. Schulz Sonoma County Airport, the Cloverdale Municipal Airport, the Healdsburg Municipal Airport, the Petaluma Municipal Airport, the Sonoma Skypark Airport, and the Sonoma Valley Airport. None of the Potential Sites are in an airport influence area<sup>1</sup>. Therefore, the project would not conflict with an airport land use compatibility plan. No significant impacts to air traffic patterns would occur.

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<sup>1</sup> The area around each County of Sonoma airport where current or future airport-related noise, over flight, safety, and/or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses (County of Sonoma 2020).

## Construction Traffic

Project-related demolition, excavation, grading, and construction of the Potential Sites would occur over an unspecified timeline to construct residential units. Due to the large-scale geographic spread of the Potential Sites, and uncertainty regarding their buildout schedules, Mitigation Measure TRA-2 would be required to reduce construction related traffic impacts.

## Mitigation Measure

### *TRA-1 Transportation Demand Management Program*

Prior to the issuance of building permits, the project applicant shall develop a Transportation Demand Management (TDM) program for the proposed project, including any anticipated phasing, and shall submit the TDM program to Permit Sonoma for review and approval. The TDM program shall identify trip reduction programs and strategies. The TDM program shall be designed and implemented to achieve trip reductions as required to meet thresholds identified by OPR to reduce daily VMT and vehicle trips forecast for the project by 11.5 percent from the base year plus project value to reach the threshold value of 13.0.

Trip reduction strategies that may be included in the TDM program include, but are not limited to, the following:

1. Provision of bus stop improvements or on-site mobility hubs
2. Pedestrian improvements, on-site or off-site, to connect to nearby transit stops, services, schools, shops, etc.
3. Bicycle programs including bike purchase incentives, storage, maintenance programs, and on-site education program
4. Enhancements to countywide bicycle network
5. Parking reductions and/or fees set at levels sufficient to incentivize transit, active transportation, or shared modes
6. Cash allowances, passes, or other public transit subsidies and purchase incentives
7. Enhancements to bus service
8. Implementation of shuttle service
9. Establishment of carpool, bus pool, or vanpool programs
10. Vanpool purchase incentives
11. Low emission vehicle purchase incentives/subsidies
12. Compliance with a future County VMT/TDM ordinance, if eligible
13. Participation in a future County VMT fee program
14. Participate in future VMT exchange or mitigation bank programs

The TDM strategies depend heavily on context and area surrounding the Potential Sites.

### *TRA-2 Construction Traffic Management Plan*

To mitigate potential impacts and disruptions during project construction, the applicant shall submit a Construction Traffic Management Plan for County review and approval. The plan shall include, but not be limited to, the following:

1. A prohibition on all construction truck activity during the period 30 minutes prior to the beginning of school and 30 minutes after the end of the school day.
2. The provision of flaggers at all on-site locations where construction trucks and construction worker vehicles conflict with school vehicle, bicycle, or pedestrian traffic.
3. Preservation of emergency vehicle access.
4. Identification of approved truck routes in communication with the County.
5. Location of staging areas and the location of construction worker parking.
6. Identification of the means and locations of the separation (i.e. fencing) of construction areas.
7. Provision of a point of contact for incorporated and unincorporated Sonoma County residents to obtain construction information, have questions answered and convey complaints.
8. Identification of the traffic controls and methods proposed during each phase of project construction. Provision of safe and adequate access for vehicles, transit, bicycles, and pedestrians. Traffic controls and methods employed during construction shall be in accordance with the requirements of the Manual of Uniform Traffic Control Devices (Federal Highway Administration, 2009 Manual on Uniform Traffic Control Devices with Revisions 1 and 2, May 2012).
9. Provision of notice to relevant emergency services, thereby avoiding interference with adopted emergency plans, emergency vehicle access, or emergency evacuation plans.
10. Maintenance of bicycle and pedestrian access along the project's driveway for the duration of project construction.

### **Significance After Mitigation**

Mitigation Measure TRA-1 would reduce home based VMT per resident. However, the reduction would not be sufficient to result in the 11.5 percent reduction required to reach a VMT value below the 13.0 base year plus project threshold value. TDM effectiveness research indicates that the implementation of all feasible TDM measures in suburban and rural environments would result in a maximum effectiveness of 10 Percent (CAPCOA 2010). Implementation of Mitigation Measure TRA-1 would reduce impacts, but not below the significance threshold, and therefore impacts would remain significant and unavoidable.

Mitigation Measure TRA-2 would reduce impacts associated with construction traffic to Potential Sites to a less than significant level.

<b>Threshold:</b>	Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?
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**Impact TRA-2** THE PROPOSED PROJECT WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO A DESIGN FEATURE (E.G., SHARP CURVES OR DANGEROUS INTERSECTIONS) OR INCOMPATIBLE USES (E.G., FARM EQUIPMENT). THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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Development projects facilitated by the project could include interim and long-term modifications to public rights-of-way, such as lane closures during construction or the addition of new driveways and sight distance issues as a result of development, and could affect transportation safety. Any modifications to public rights-of-way would be required to be consistent with appropriate regulations and design standards set forth by the County's applicable plans, programs, and policies.

The design of development facilitated by the project is not known at this time. Each development project would be reviewed by the County and required to be consistent with appropriate regulations and design standards set forth by applicable plans, programs, and policies. The proposed project would increase residential uses in unincorporated county adjacent to agricultural uses, but application of the County's required agricultural buffers as described in Section 4.2, *Agriculture and Forestry Resources*, would reduce this impact, because it would help minimize the conflicts between farm equipment and passenger vehicles on local roadways by requiring buffers between the agricultural and residential uses. In addition, General Plan Policies CT-2v and CT-2w provide for urban and community design that prioritizes pedestrian safety; and General Plan Policies CT-3c and CT-3d include provisions for traffic safety as part of the implementation of traffic calming measures or local community design guidelines. Therefore, consistency with County policies on traffic safety and agricultural buffers would ensure that the project would not because it would not substantially increase hazards due to design features or incompatible uses.

### Mitigation Measures

No mitigation measures are required.

### Significance After Mitigation

This impact would be less than significant without mitigation.

<b>Threshold:</b> Would the project result in inadequate emergency access?
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**Impact TRA-3** THE PROPOSED PROJECT WOULD NOT RESULT IN INADEQUATE EMERGENCY ACCESS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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As described in Section 4.15, *Public Services and Recreation*, the project would result in an increase in population and development. Development facilitated by the project would be required to meet all applicable current state and local codes and ordinances related to fire protection, including emergency access.

All of the Potential Sites are within 1.5 miles of a fire station and are in existing fire service areas. Compliance with Mitigation Measures WFR-1 and WFR-2 in Section 4.19, *Wildfire*, would reduce wildfire risk associated with construction of Potential Sites. In addition, development facilitated by the project would be required to provide adequate accommodation of fire access to structure frontages and, depending on the size of the development, multiple access points to development on Potential Sites, per 2019 California Building Code requirements, as well as relevant portions of the Sonoma County Fire Safety Ordinance, codified in Chapter 13 of the Sonoma County Code. Developments that do not meet required standards and codes would not be permitted. Therefore, there would be adequate emergency service and access to the Potential Sites and the project would not cause a significant impact on emergency access.

### Mitigation Measures

No mitigation measures are required.

### Significance After Mitigation

This impact would be less than significant without mitigation.

## 4.16.5 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative transportation impacts is Sonoma County. Adjacent development considered part of the cumulative analysis includes buildout of the County General Plan and areas adjacent to the Potential Sites including development of surrounding areas in specific development proposals for nearby properties as described in Section 3, *Environmental Setting*.

OPR provides the following guidance regarding cumulative impacts analysis and VMT:

When using an absolute VMT metric, i.e., total VMT (as recommended below for retail and transportation projects), analyzing the combined impacts for a cumulative impacts analysis may be appropriate. However, metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa (OPR 2018).

As described above in Section 4.16.4, *Impact Analysis*, the proposed project would result in significant and unavoidable impacts related to VMT (Impact T-1). Because the analysis for this project was based on a VMT per resident metric, the significant impact implies that the project would also have a cumulatively considerable contribution to a significant cumulative impact. While Mitigation Measure TRA-1 would require the implementation of a TDM program, Mitigation Measure TRA-1 would not reduce the impact to a less than significant level. VMT impacts would remain cumulatively significant.

Impact TRA-1 also describes the project's potential impacts on public transit, bicycle, pedestrian, and air traffic facilities. Cumulative development projects, like the proposed project, would be required to comply with local regulations and policies. The project's incremental contribution to cumulative impacts would be less than significant.

As described in Impact TRA-2, any modifications to public rights-of-way would be consistent with appropriate regulations and design standards set forth by the County's applicable plans, programs, and policies. Similarly, cumulative development projects would also be required to comply with the County's regulations and policies, and the project's incremental contribution to cumulative impacts would be less than significant.

Impact TRA-3 discusses potential impacts from inadequate emergency access. As stated therein, the project would be required to meet all applicable state and local codes and ordinances related to fire protection, including emergency access. Similarly, cumulative development projects would also be required to comply with local and statewide regulations, and the project's incremental contribution to cumulative impacts would be less than significant.

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## 4.17 Tribal Cultural Resources

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The analysis in this section has been prepared in accordance with CEQA Guidelines Section 15064.5 and considers potential impacts to Tribal Cultural Resources (TCR). This section includes a brief summary of TCR background information and a summary of consultation conducted by the County with local Native American groups. Potential impacts to cultural resources are addressed in Section 4.5, *Cultural Resources*.

### 4.17.1 Setting

Sonoma County lies within an area traditionally occupied by the Coast Miwok, Western Pomo, and Wappo. Each of these groups is discussed in further detail below.

#### a. Coast Miwok

Coast Miwok territory is centered on Marin and Sonoma Counties, extending roughly from Duncan's Point south to Point Bonita, with the inland boundary east of the Sonoma River (Kelly 1978:414; Kroeber 1925:443). The Miwok Language consists of two dialect groups, the southern, or Marin group, and the western, or Bodega group (Kelly 1978:414).

The pre-contact Coast Miwok inhabited villages made up of conical dwellings, semi-subterranean sweathouses, and dance houses (Kelly 1978:417). Each village had a chief to oversee village affairs and social and ceremonial life was organized around moieties, or dichotomous groups, classed as either Land or Water (Kelly 1978:419).

Coast Miwok subsistence was based on hunting, gathering, and fishing (Kelly 1978: 415-417). Dried acorns and kelp were primary food sources during the winter and early spring when food was scarce. Coast Miwok relied heavily on nearshore fish and shellfish and on fish from rivers, marshes, and the bay. Hunting focused on deer, elk, bear, and small game. The material culture of the Coast Miwok included clamshell disk beads as currency, and a variety of stone tools, shell ornaments, ceremonial artifacts, and baskets (Kelly 1978: 417-418).

#### b. Pomo

Southern Pomo territory extends roughly from Gualala south to Duncan's Point, east to the Russian River (McLendon and Oswalt 1978). Southern Pomo is one of several Pomo dialect groups.

The Pomo were organized into a series of independent tribelets ranging in size from 100 to 2,000 people, with the most significant social unit being the kin group (Bean and Theodoratus 1978: 293). The Pomo participated in a clamshell disk bead exchange system internally and among other groups (Bean and Theodoratus 1978: 298).

Pomo subsistence was based on hunting, gathering, and fishing, with acorns as a primary staple (Bean and Theodoratus 1978: 293). Other important plant resources included Buckeye nuts, berries, and seeds from approximately 15 types of grasses, roots, and bulbs. Big game included deer, elk, and antelope. Material culture included obsidian and chert tools, intricate basketry, and bone and shell implements (Bean and Theodoratus 1978: 291).

### **c. Wappo**

Wappo territory includes a small area on the southern edge of Clear Lake and a larger area extending from Cloverdale and Middletown in the north to Napa and Sonoma in the south (Sawyer 1978: 257).

The primary sociopolitical unit consisted of the village lead by a chief (Sawyer 1978: 258). Villages included oval houses made of grass thatch. Wappo material culture consisted of stone, shell, and bone tools. Basketry was also important. Additionally, the Wappo participated in the clamshell bean trade and traded in magnesite cylinders (Sawyer 1978: 261).

Wappo subsistence focused primarily on acorn, dried seaweed, and a variety of roots and grasses. Important game included ducks, geese, and quail. Fishing and shellfish gathering were also important, with critical species including abalone, clam, mussels, eels, turtles, chub, and salmon (Sawyer 1978: 261).

## **4.17.2 Regulatory Setting**

### **a. Assembly Bill 52**

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” Assembly Bill 52 establishes that “A project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a TCR, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines TCR as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

- a) Listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code (PRC) section 5020.1(k), or
- b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency. As of the date of publication of this Program EIR, the County and the Federated Indians of Graton Rancheria (FIGR) are continuing to engage in the AB 52 tribal consultation process.

### **b. Senate Bill 18**

California Government Code Section 65352.3 (adopted pursuant to the requirements of SB 18) requires local governments to contact, refer plans to, and consult with tribal organizations prior to making a decision to adopt or amend a general or specific plan. The tribal organizations eligible to consult have traditional lands in a local government’s jurisdiction, and are identified, upon request,

by the Native American Heritage Commission. As noted in the California Office of Planning and Research's Tribal Consultation Guidelines (2005), "The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places."

### 4.17.3 Regional Tribal Cultural Resources

The County of Sonoma prepared and mailed AB 52/SB 18 notification letters on March 25, 2020 to tribes listed by the Native American Heritage Commission. On May 5, 2020, the FIGR responded to request consultation under AB 52 and SB 18. Consultation occurred from May to October 2020.

### 4.17.4 Impact Analysis

#### a. Methodology and Significance Thresholds

According to CEQA Guidelines Appendix G, an impact on Tribal Cultural Resources from the proposed project would be significant if the following applies:

- 1) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k), or
  - b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
<b>Threshold:</b>	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

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### **Impact TCR-1      DEVELOPMENT FACILITATED BY THE PROJECT HAS THE POTENTIAL TO IMPACT TRIBAL CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.**

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TCRs are known to exist in the County of Sonoma. Development facilitated by the project has the potential to adversely impact tribal cultural resources. Potential impacts to tribal cultural resources would be less than significant with implementation of mitigation measures, conducted in tandem, when appropriate, with the mitigation measures included in Section 4.5, *Cultural Resources*.

## **Mitigation Measures**

### *TCR-1    Tribal Cultural Resources Coordination and Consultation*

If during the implementation of Mitigation Measure CUL-1, archival research results in the identification of an association between a historical built-environment resource and a local California Native American tribe, the qualified architectural historian or historian shall confer with the local California Native American tribe(s) on the implementation of Mitigation Measure CUL-2. Throughout the implementation of Mitigation Measures CUL-3 through CUL-9, the qualified archaeologist retained to implement the measures shall confer with local California Native American tribe(s) on the identification and treatment of tribal cultural resources and/or resources of Native American origin not yet determined to be tribal cultural resources through AB 52 consultation. If, during the implementation of Mitigation Measures CUL-3 through CUL-9, a resource of Native American origin is identified, the County shall be notified immediately in order to open consultation with the appropriate local California Native American tribe(s) to discuss whether the resource meets the definition of a tribal cultural resource as defined in AB 52.

### *TCR-2    Avoidance of Tribal Cultural Resources*

When feasible, development facilitated by the project shall be designed to avoid known tribal cultural resources. Any tribal cultural resource within 60 feet of planned construction activities shall be fenced off to ensure avoidance. The feasibility of avoidance of tribal cultural resources shall be determined by the County and applicant in consultation with local California Native American tribe(s).

### *TCR-3    Tribal Cultural Resource Plan*

A Tribal Cultural Resources Plan shall be required for Potential Sites identified as potentially sensitive for tribal cultural resources during consultation with local California Native American

tribe(s) during the implementation of TCR-1 and/or by the qualified archaeologist during the implementation of CUL-3 through CUL-9. Prior to any development facilitated by the project that would include ground disturbance, the project applicant or its consultant, shall prepare a tribal cultural resources treatment plan to be implemented in the event an unanticipated archaeological resource that may be considered a tribal cultural resource is identified during construction. The plan shall include any necessary monitoring requirements, suspension of all earth-disturbing work in the vicinity of the find, avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the local Native Americans and, if applicable, a qualified archaeologist. Examples of appropriate treatment for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery. As appropriate, the tribal cultural resources treatment plan may be combined with any Extended Phase I, Phase II, and/or Phase III work plans or archaeological monitoring plans prepared for work carried out during the implementation of Mitigation Measures CUL-4, CUL-6, CUL-7, or CUL-8. The plan shall be reviewed and approved by the County and the appropriate local California Native American tribe(s) to confirm compliance with this measure prior to construction.

#### *TCR-4 Native American Monitoring*

For Potential Sites identified as potentially sensitive for tribal cultural resources through consultation with local California Native American tribe(s) during the implementation of TCR-1 and/or identified as sensitive for cultural resources of Native American origin by the qualified archaeologist during the implementation of CUL-3 through CUL-9, the project applicant shall retain a locally affiliated Native American monitor to observe all ground disturbance, including archaeological excavation, associated with development facilitated by the project. Monitoring methods and requirements shall be outlined in a tribal cultural resources treatment plan prepared under Mitigation Measure TCR-3. In the event of a discovery of tribal cultural resources, the steps identified in the tribal cultural resources plan prepared under Mitigation Measure TCR-3 shall be implemented.

#### *TCR-5 Sensitive Location of Human Remains*

For any development facilitated by the project where human remains are expected to be present based on the results of tribal consultation during the implementation of TCR-1 and/or as identified by the qualified archaeologist, the County shall consult with local California Native American tribe(s) on the decision to employ a canine forensics team. If appropriate, the County shall require the use of a canine forensics team to attempt to identify human remains in a noninvasive way (e.g., non-excavation) for the purpose of avoidance, if avoidance is feasible (see Mitigation Measure TCR-2). Any requirements for the use of a canine forensics team shall be documented in the tribal cultural resources treatment plan prepared under Mitigation Measure TCR-3. Pending the results of any canine investigations, the tribal cultural resources treatment plan may require revision or an addendum to reflect additional recommendations or requirements if human remains are present.

### **Significance After Mitigation**

Implementation of Mitigation Measures TCR-1 through TCR-5 would reduce potential impacts to TCRs from development facilitated by the project to less than significant levels.

#### 4.17.5 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future project" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative TCRs impacts for the County include Coast Miwok, Southern Pomo, and Wappo territory. This geographic scope is appropriate for TCRs because TCRs are regionally specific and determined by the local tribes. Cumulative buildout in this region, including projects listed in Table 3-1 and in accordance with various applicable planning documents would have the potential to adversely impact TCRs. Cumulative development in the region would continue to disturb areas with the potential to contain TCRs. Given the potential to damage these unknown TCRs, cumulative impacts are considered significant without mitigation. Cumulative projects are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exists. In the event that future cumulative projects would result in impacts to known or unknown TCRs, impacts to such resources would be addressed on a case-by-case basis, and would likely be subject to mitigation measures similar to those imposed for this project as a result of the CEQA process. Cumulative impacts to TCRs would therefore be significant but mitigable.

As described under Impact TCR-1, development facilitated by the project would result in significant impacts without mitigation to unknown TCRs. Mitigation Measures TCR-1 through TCR-5 would reduce impacts to less than significant. Therefore, the project's contribution to significant cumulative impacts to TCRs would not be cumulatively considerable with mitigation.

## 4.18 Utilities and Service Systems

This section assesses impacts associated with water, wastewater, stormwater, electricity, natural gas, telecommunications, and solid waste associated with project implementation. This section incorporates the Water and Sewer Study completed by Wood Rodgers, included as Appendix WSS.

### 4.18.1 Setting

#### a. Water Supply

Various water districts provide water supply service in unincorporated Sonoma County. The Potential Sites are served by the water districts identified in Table 4.18-1.

**Table 4.18-1 Potential Sites Water Providers and Water Supply Sources**

Site Group	Water Provider	Water Supply Source
Geyserville	California American Water – Geyserville	Local wells
Guerneville	Sweetwater Springs Water District (GUE-1) California Water Service – Armstrong Valley (GUE-2 through GUE-4)	Local wells
Larkfield	California American Water – Larkfield	Local wells
Forestville	Forestville Water District	Sonoma Water
Graton	N/A	Local wells
Santa Rosa	City of Santa Rosa	Sonoma Water
Glen Ellen, Agua Caliente	Valley of the Moon Water District	Sonoma Water, local wells
Penngrove	Penngrove/Kenwood Water Company	Sonoma Water
Petaluma	City of Petaluma	Sonoma Water
Sonoma	City of Sonoma	Sonoma Water, local wells

N/A = not applicable

Source: Appendix WSS; Cal-Am 2019a, 2019b; Water Board 2020

Appendix WSS identifies the following Potential Sites as being directly adjacent<sup>1</sup> to existing water service infrastructure: GEY-1 through GEY-4, GUE-2 through GUE-4, LAR-1 through LAR-8, FOR-3 through FOR-5, SAN-2, SAN-4, SAN-6, SAN-7, SAN-9, SAN-10, GLE-1, GLE-2, AGU-1 through AGU-3, PEN-1, PEN-3, PEN-5 through PEN-9, and PET-1 through PET-4. The following sites are not located directly adjacent to existing water pipelines: GUE-1, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3, SAN-5, SAN-8, PEN-2, PEN-4, and SON-1 through SON-4.

The Sonoma County Water Agency (Sonoma Water) has the rights to store up to 122,500 acre-feet per year (AFY) of water in Lake Mendocino, and to divert 180 cubic feet per second of water from the Russian River (with a limit of 75,000 AFY). Sonoma Water maintains three groundwater wells in the Santa Rosa Plain, and has seven groundwater wells near the Mirabel Park groundwater wells as a backup supply. Sonoma Water has adequate water supply to meet the normal year water demands through 2040 (Appendix WSS).

<sup>1</sup> “Directly adjacent” is defined as having water and/or sewer service that can be directly accessed without cutting through another parcel or extending pipelines within a public right-of-way.



## b. Wastewater Collection and Treatment

Various wastewater districts provide wastewater collection and treatment services in unincorporated Sonoma County. The Potential Sites are served by the wastewater districts identified in Table 4.18-2. This table also provides the treatment facility and any capacity deficiencies of the wastewater system. Information provided is partially based on those agencies adopted capital improvement programs (CIP) that determine what projects will be funded in a 5-year cycle.

**Table 4.18-2 Potential Sites Sewer Providers and Treatment Facilities**

Site Group	Sewer Provider	Treatment Facility
Geyserville	Geyserville Sanitation Zone (Sonoma Water)	92,000 gpd WWTP (Secondary) – no capacity deficiencies; remaining capacity 47,000 gpd
Guerneville	Russian River County Sanitation District (Sonoma Water)	710,000 gpd WWTP (Tertiary) – one location of a potential surcharge deficiency
Larkfield	Airport-Larkfield-Wikiup Sanitation Zone (Sonoma Water)	900,000 gpd WWTP (Tertiary) – no capacity deficiencies; remaining capacity 150,000 gpd
Forestville	Forestville Water District	District’s Wastewater Treatment Reclamation and Disposal Plant – no capacity deficiencies
Graton	Graton Community Services District	GCSD (Ross Lane) WWTP
Santa Rosa	South Park County Sanitation District (Sonoma Water)	3.0 MGD Laguna Treatment Plant (Tertiary) – no capacity deficiencies
Glen Ellen, Agua Caliente, Sonoma	Sonoma Valley County Sanitation District	3.0 MGD Laguna Treatment Plant (Tertiary) – capacity deficiencies to be addressed by CIP projects by 2024
Penngrove	Penngrove Sanitation Zone (Sonoma Water)	Routed to City of Petaluma – capacity deficiencies to be addressed by CIP projects
Petaluma	City of Petaluma	6.7 MGD Ellis Creek Water Recycling Facility (Tertiary)

gpd = gallons per day; WWTP = wastewater treatment plant; MGD = millions of gallons per day; CIP = capital improvement program  
Source: Appendix WSS

Appendix WSS identifies the following Potential Sites as being directly adjacent to existing wastewater service infrastructure: GEY-2 through GEY-4, GUE-1 through GUE-4, LAR-1 through LAR-6, LAR-8, FOR-3 through FOR-5, GRA-1 through GRA-3, GRA-5, SAN-1 through SAN-9, GLE-1, GLE-2, AGU-1 through AGU-3, PEN-1, PEN-3, PEN-5 through PEN-8, and PET-2 through PET-4. The following sites are not located directly adjacent to existing wastewater collection systems: GEY-1, LAR-7, FOR-1, FOR-2, FOR-6, GRA-4, SAN-10, PEN-2, PEN-4, PEN-9, PET-1, and SON-1 through SON-4.

## c. Stormwater Drainage

As discussed in Section 4.10, *Hydrology and Water Quality*, the Potential Sites are in six different watersheds with various topographies. The existing stormwater drainage flow for each Potential Site depends on that site’s topography and the presence of structures. While most of the Potential Sites are not located directly adjacent to a surface water feature, AGU-1 and AGU-2 are adjacent to Sonoma Creek and Agua Caliente Creek; PEN-1, PEN-3, and PEN-8 are adjacent to Lichau Creek; GUE-4 is near Fife Creek; and GRA-2 is near Atascadero Creek. Most of the Potential Sites are not adjacent to curb and gutter storm drains, or stormwater drains following site topography or drainage ditches.

#### d. Electric Power

Either Sonoma Clean Power (SCP) or Pacific Gas and Electric Company (PG&E) serve Sonoma County residences. PG&E is responsible for all electric delivery and maintaining the electric grid, and SCP provides an optional electric generation service (customers can opt out of SCP's electric generation service). SCP provides electricity from cleaner power sources with lower greenhouse gas (GHG) emissions than PG&E. Energy is discussed in more detail in Section 4.6, *Energy*. Existing overhead power lines are in the vicinity of all Potential Sites, except SAN-6 and SAN-7, where power lines are undergrounded.

#### e. Natural Gas

California relies on out-of-state natural gas imports for nearly 90 percent of its natural gas supply. The California Energy Commission (CEC) estimates that 45 percent of the natural gas burned across the state is used for electricity generation, and much of the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. Building and appliance energy efficiency standards account for up to 39 percent in natural gas demand savings since 1975 (CEC 2020a).

The county is in PG&E's natural gas service area, which spans central and northern California (CEC 2020b). In 2018, PG&E customers consumed 4.8 billion therms of natural gas. Residential users accounted for approximately 38 percent of PG&E's natural gas consumption (CEC 2018a). The remainder was used for industry (37 percent), commercial buildings (19 percent), mining and construction (4 percent), other commercial (1.2 percent), and agricultural and water pump accounts (1 percent) (CEC 2018a). In 2018, Sonoma County users accounted for approximately 2.3 percent of PG&E's total natural gas consumption across the entire service area (CEC 2018b).

PG&E's service area is equipped with approximately 6,700 miles of gas transmission pipelines as 42,000 miles of gas distribution pipelines. Large-diameter gas transmission pipeline run along Highway 101 near the Geyserville and Santa Rosa sites; along Donald Street, Oak Grove Avenue, and Bowen Street near the Graton sites; along SR 12 near the Glen Ellen and Agua Caliente sites; along Broadway near the Sonoma sites; and Old Redwood Highway near the Penngrove sites (PG&E 2020).

Large-diameter gas transmission pipeline run along Highway 101 near the Geyserville and Santa Rosa sites; along Donald Street, Oak Grove Avenue, and Bowen Street near the Graton sites; along SR 12 near the Glen Ellen and Agua Caliente sites; along Broadway near the Sonoma sites; and Old Redwood Highway near the Penngrove sites (PG&E 2020). While some sites are not located near large-diameter gas transmission pipelines, smaller-diameter pipelines may serve some Potential Sites, or individual natural gas tanks would be required to provide natural gas service to some Potential Sites.

#### f. Telecommunication

In California, approximately 98 percent of households have access to telecommunication infrastructure, including telephone and cable access (California Cable & Telecommunications Association 2020). The county is in the 707 area code and Local Access and Transport Area 1 (California Public Utilities Commission [CPUC] 2010). A Local Access and Transport Area is a geographical area within which a divested Regional Bell Operating Company is permitted to offer exchange telecommunications and exchange access services (CPUC 2020a).

The Potential Sites are in AT&T California's "carrier of last resort" territory. A carrier of last resort is a telecommunications company that commits, or is required by law, to provide service to any

customer in a service area that requests it, even if serving that customer would not be economically viable at prevailing rates (CPUC 2018).

### g. Solid Waste

Recology Sonoma Marin would provide solid waste hauling services to Agua Caliente, Forestville, Geyserville, Glen Ellen, Graton, Guerneville, Larkfield, Penngrove, Petaluma, and Santa Rosa sites. Sonoma Garbage Collectors would provide solid waste hauling services to the Sonoma sites (Zero Waste Sonoma 2020). Table 4.18-3 provides the active solid waste disposal sites and transfer stations that would accept waste from construction and operation activities on the Potential Sites, and the permitted and remaining capacities of each site. Nearly all solid waste generated in the county is transported to and disposed of at the Central Disposal Site, which is southwest of Cotati, and operated by Republic Services of Sonoma County, Inc. The landfill and facility site comprise 398 acres. Approximately 173 acres of the site are permitted for disposal (California Department of Resources Recycling and Recovery [CalRecycle] 2020c).

**Table 4.18-3 Solid Waste Disposal Operations**

<b>Solid Waste Disposal Operation</b>	<b>Operation Type</b>	<b>Type of Waste Accepted</b>	<b>Total Permitted Capacity</b>	<b>Average Throughput</b>	<b>Remaining Capacity</b>	<b>Expected Closure Year</b>
Central Disposal Site	Disposal Site	Agricultural, C/D, industrial, mixed municipal, tires, wood waste, other designated, sludge (BioSolids)	2,500 tpd 32,650,000 cy	1,097 tpd n/a	1,403 tpd 9,181,519 cy	2043
Annapolis Transfer Station	Transfer Station	Agricultural, C/D, green materials, industrial, mixed municipal	99.9 tpd 25,245 tpy	14.7 tpd 3,050 tpy	85.2 tpd 22,195 tpy	n/a
Atlas Tree Surgery Reduction Yard	Private (Compost)	Green materials, wood waste	500 tpd 182,500 tpy	90 tpd n/a	422 tpd n/a	n/a
Grab N' Grow	Private (Compost)	Agricultural, green materials, manure	69 cy/d 90,000 cy/yr	0.1 cy/d n/a	68.9 cy/d n/a	n/a
Airport Landfill Chip & Grind Operation	Private (Compost)	Green materials, wood waste	199 tpd 72,635 tpy	n/a n/a	n/a n/a	n/a
Annapolis Chip & Grind Operation	Private (Compost)	Agricultural, C/D, green materials, wood waste	199 tpd 36,000 tpy	n/a n/a	n/a n/a	n/a
Atlas Tree Processing Yard	Private (Compost)	Green materials, wood waste	200 tpd 72,999 tpy	n/a n/a	n/a n/a	n/a
Atlas Tree Waste Recycling	Private (Compost)	Green materials, wood waste	200 cy/d 50,000 cy/yr	n/a n/a	n/a n/a	n/a
Daniel O. Davis, Inc.	Private (Compost)	C/D, wood waste	1,500 tpm 18,000 tpy	n/a n/a	n/a n/a	n/a

Solid Waste Disposal Operation	Operation Type	Type of Waste Accepted	Total Permitted Capacity	Average Throughput	Remaining Capacity	Expected Closure Year
DenBeste Yard & Garden, Inc.	Private (Compost)	Green materials, wood waste	200 tpd 73,000 tpy	n/a n/a	n/a n/a	n/a
Dolcini Brothers Composting Operation Ag	Private (Compost)	Agricultural, green materials	500 cy/d 50,000 cy/yr	n/a n/a	n/a n/a	n/a
Pruitt Transload Facility	Private (Compost)	Green materials, wood waste	99 tpd 36,135 tpy	n/a n/a	n/a n/a	n/a
SCWS Wood Processing Operation	Private (Compost)	Green materials, wood waste	199 tpd 72,966 tpy	n/a n/a	n/a n/a	n/a
Tierra Vegetables	Private (Compost)	Green materials	10 cy/d 1,000 cy/yr	n/a n/a	n/a n/a	n/a
WMTF	Private (Compost)	Green materials, mixed municipal, other designated	15 tpd 4,961 tpy	n/a n/a	n/a n/a	n/a

Notes: C/D = construction and demolition; tpd = tons per day; tpy = tons per year; n/a = not available; cy/d = cubic yards per day; cy/yr = cubic yards per year; tpm = tons per month; cy = cubic yards

Source: CalRecycle 2020c

## 4.18.2 Water Regulatory Setting

This regulatory setting discussion is specific to the assessment of water supply availability and reliability in addition to the Water and Sewer Study included in Appendix WSS. Regulations and policies pertaining to water quality and potable drinking water standards are discussed in Section 4.10, *Hydrology and Water Quality*.

### a. Federal

#### Clean Water Act

The federal Clean Water Act, enacted by Congress in 1972 and amended several times since, is the primary federal law that regulates water quality in the United States. It forms the basis for several State and local laws throughout the country. The Clean Water Act established the basic structure for regulating discharges of pollutants into the waters of the United States. The Clean Water Act gave the U.S. Environmental Protection Agency the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the Clean Water Act is administered by the U.S. Environmental Protection Agency and USACE. At the state and regional levels in California, the act is administered and enforced by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB).

## Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) regulates public water systems (PWS) that supply drinking water. 42 United States Code Section 300(f) et seq.; 40 Code of Federal Regulations (CFR) Section 141 et seq. The principal objective of the federal SDWA is to ensure that water from the tap is potable (safe and satisfactory for drinking, cooking, and hygiene). The main components of the federal SDWA are to:

1. Ensure that water from the tap is potable
2. Prevent contamination of groundwater aquifers that are the main source of drinking water for a community
3. Regulate the discharge of wastes into underground injection wells pursuant to the Underground Injection Control program (see 40 CFR Section 144)
4. Regulate distribution systems

### b. State

## California Safe Drinking Water Act

The California SDWA (Health & Safety Code Section 116270 et seq.; 22 Cal. Code Regs. Section 64400 et seq.) regulates drinking water more rigorously than the federal law. Like the Federal SDWA, California requires that primary and secondary maximum contaminant levels be established for pollutants in drinking water; however, some California maximum contaminant levels are more protective of health. The Act also requires the SWRCB to issue domestic water supply permits to public water systems.

Implementation of the federal SDWA is delegated to the State of California. The SWRCB enforces the federal and state SDWAs and regulates more than 7,500 PWSs across the state. The SWRCB's Division of Drinking Water oversees the State's comprehensive Drinking Water Program. The Drinking Water Program is the agency authorized to issue PWS permits.

## Sustainable Groundwater Management Act

In September 2014, the governor signed legislation requiring that California's critical groundwater resources be sustainably managed by local agencies. The Sustainable Groundwater Management Act gives local agencies the power to sustainably manage groundwater and requires groundwater sustainability plans to be developed for medium- and high-priority groundwater basins, as defined by the DWR. Please refer to Section 4.10, *Hydrology and Water Quality*, for more detailed descriptions of the groundwater basins underlying the Potential Sites.

## California Plumbing Code

The California Plumbing Code is codified in Title 24, California Code of Regulations, Part 5. The Plumbing Code contains regulations including, but not limited to, plumbing materials, fixtures, water heaters, water supply and distribution, ventilation, and drainage. More specifically, Part 5, Chapter 4, contains provisions requiring the installation of low flow fixtures and toilets. Existing development will also be required to reduce its wastewater generation by retrofitting existing structures with water efficient fixtures (SB 407 [2009] Civil Code Sections 1101.1 et seq.).

## Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code, Section 10610 et seq.), which requires urban water suppliers to develop water management plans to actively pursue the efficient use of available supplies. Every five years, water suppliers are required to develop Urban Water Management Plans to identify short-term and long-term water demand management measures to meet growing water demands.

### c. Local

#### Sonoma County General Plan

The County General Plan was adopted by the Sonoma County Board of Supervisors Resolution 08-0808 on September 23, 2008. The County General Plan includes broad goals and policies aimed at protecting the county's water supply and water quality and ensuring adequate water service is available.

**Goal PF-1:**      **Assure that water and wastewater services are available where necessary to serve planned growth and development without promoting unplanned growth.**

**Objective PF-1.3:** Limit extension of public water and sewer services into rural areas.

Policy PF-1c: Give the highest priority for water and sewer improvement planning to those service providers whose capacity for accommodating future growth is most limited. These include the Occidental County Sanitation District, the Geyserville Water Works and Geyserville Sanitation Zone, the Sweetwater Springs Water District, Monte Rio, the Town of Windsor (water supply to the Airport Industrial Area), the California American Water Company (Larkfield-Wikiup), the Airport-Larkfield-Wikiup County Sanitation Zone, the Valley of the Moon Water District, and the Sonoma Valley Sanitation District, or any entities which may succeed these service providers.

Policy PF-1d: Require as part of discretionary project applications within a water or sewer service area written certification that either existing services are available or needed improvements will be made prior to occupancy.

Policy PF-1e: Avoid General Plan amendments that would increase demand for water supplies or wastewater treatment services in those urban areas where existing services cannot accommodate projected growth as indicated in Table LU-1 or any adopted master plan.

## 4.18.3 Wastewater Regulatory Setting

### a. Federal Clean Water Act

The federal Clean Water Act is described in Section 4.18.2, *Water Regulatory Setting*.

### b. State and Regional

Standards for wastewater treatment plant effluent are established using State and federal water quality regulations. After treatment, wastewater effluent is either disposed of or reused as recycled water. The RWQCBs set the specific requirements for community and individual wastewater treatment and disposal and reuse facilities through the issuance of Waste Discharge Requirements, required for wastewater treatment facilities under the California Water Code Section 13260.

The California Code of Regulations Title 22, Division 4, Chapter 3, Sections 60301 through 60355 are used to regulate recycled wastewater and are administered by the RWQCBs. Title 22 contains effluent requirements for four levels of wastewater treatment, from un-disinfected secondary recycled water to disinfected tertiary recycled water. Higher levels of treatment have higher effluent standards, allowing for a greater number of uses under Title 22, including irrigation of freeway landscaping, pasture for milk animals, parks and playgrounds, and vineyards and orchards for disinfected tertiary recycled water.

### c. Local

#### Sonoma County General Plan

The County General Plan was adopted by the Sonoma County Board of Supervisors via Resolution 08-0808 on September 23, 2008. The County General Plan includes broad goals and policies aimed at protecting the county's water quality and ensuring adequate sewer service is available. In addition to the goals, objectives, and policies reproduced in Section 4.18.2(c), the following policies would apply to wastewater systems:

**Objective PF-1.4:** Plan for wastewater facilities adequate to serve the growth projected in the General Plan.

**Policy PF-1a:** Plan, design, and construct sewer services in accordance with projected growth except as provided in Policy LU-4d.

#### 4.18.4 Stormwater Drainage Regulatory Setting

Regulations and policies pertaining to stormwater drainage are discussed in Section 4.10, *Hydrology and Water Quality*.

#### 4.18.5 Electric Power and Natural Gas Regulatory Setting

As the State's primary energy policy and planning agency, the CEC collaborates with State and federal agencies, utilities, and other stakeholders to develop and implement State energy policies. Since 1975, the CEC has been responsible for reducing the State's electricity and natural gas demand, primarily by adopting new Building and Appliance Energy Efficiency Standards that have contributed to keeping California's per capita electricity consumption relatively low. The CEC is also responsible for the certification and compliance of thermal power plants 50 megawatts and larger, including all project-related facilities in California (CEC 2020c).

The California Public Utilities Commission (CPUC) regulates investor-owned electric and natural gas utilities operating in California. The energy work responsibilities of the CPUC are derived from the California State Constitution, specifically Article XII, Section 3 and other sections more generally, numerous State legislative enactments and various Federal statutory and administrative requirements. The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from PG&E and other natural gas utilities across California (CPUC 2020b).

Additional regulations and policies pertaining to electric power are discussed in Section 4.6, *Energy*.



#### 4.18.6 Telecommunication Regulatory Setting

The CPUC develops and implements policies for the telecommunication industry. The Communications Division is responsible for licensing, registration and the processing tariffs of local exchange carriers, competitive local carriers, and non-dominant interexchange carriers. It is also responsible for registration of wireless service providers and franchising of video service providers. The Division tracks compliance with commission decisions and monitors consumer protection and service issues and Commission reliability standards for safe and adequate service. The Communications Division is responsible for oversight and implementation of the six public purpose Universal Service Programs (CPUC 2020c).

#### 4.18.7 Solid Waste Regulatory Setting

##### a. Federal

###### **Title 40 of the Code of Federal Regulations**

Title 40 of the CFR, Part 258 (Resource Conservation and Recovery Act, Subtitle D), contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the Federal landfill criteria.

##### b. State

###### **PRC Chapter 476 (Assembly Bill 341) and PRC Chapter 295 (Senate Bill 1383)**

The purpose of Assembly Bill (AB) 341 of 2011 (PRC Chapter 476, Statutes of 2011) is to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California. In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

SB 1383 of 2016 (PRC Chapter 395, Statutes of 2016) established the following goals: a 50-percent reduction in the level of the statewide disposal of organic waste from 2014 levels by 2020, and a 75-percent reduction in the level of the statewide disposal of organic waste from 2014 levels by 2025. This bill also authorized CalRecycle to adopt regulations, to take effect on or after January 1, 2022, to achieve these targets.

###### **PRC 41780 (Assembly Bill 939)**

AB 939 (PRC 41780) requires cities and counties to prepare integrated waste management plans and to divert 50 percent of solid waste from landfills beginning in calendar year 2000 and each year thereafter. AB 939 also requires cities and counties to prepare source reduction and recycling elements as part of the integrated waste management plans. These elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing, and stimulate the purchase of recycled products.

###### **PRC Chapter 727 (Assembly Bill 1826)**

AB 1826 of 2014 (PRC Chapter 727, Statutes of 2014) requires businesses that generate a specified amount of organic waste per week to arrange for recycling services for that waste, and that jurisdictions implement a recycling program to divert organic waste from businesses subject to the

law. The jurisdictions must report to CalRecycle on their progress in implementing an organic waste recycling program. As of January 1, 2017, businesses that generate four cubic yards or more of organic waste per week shall arrange for organic waste recycling services.

### PRC Chapter 343 (Senate Bill 1016)

SB 1016 of 2007 (PRC Chapter 343, Statutes of 2007) requires that the 50 percent solid waste diversion requirement established by AB 939 be expressed in pounds per person per day. SB 1016 changed the CalRecycle review process for each municipality's integrated waste management plan. After an initial determination of diversion requirements in 2006 and establishing diversion rates for subsequent calendar years, the Board reviews a jurisdiction's diversion rate compliance in accordance with a specified schedule. Since January 1, 2018, the Board is required to review a jurisdiction's source reduction and recycling element and hazardous waste element once every two years.

### c. Local

#### County General Plan

The Public Facilities and Services Element of the County General Plan identifies goals and policies related to solid waste, reproduced below.

**Goal PF-2: Assure that park and recreation, public education, fire suppression and emergency medical, and solid waste services, and public utility sites are available to the meet future needs of Sonoma County residents.**

**Objective PF-2.9:** Use the ColWMP, and any subsequent amendments thereto, as the policy document for solid waste management in the County.

Policy PF-2a: Plan, design, and construct park and recreation, fire and emergency medical, public education, and solid waste services and public utilities in accordance with projected growth, except as provided in Policy LU-4d.

Policy PF-2b: Work with the Cities to provide park and recreation, public education, fire and emergency medical, and solid waste services as well as public utilities. Use proposed annexations, redevelopment agreements, revenue sharing agreements, and the CEQA process as tools to ensure that incorporated development pay its fair share toward provision of these services.

Policy PF-2q: Review projects on or near designated solid waste facilities sites for compatibility with such facilities.

#### Countywide Integrated Waste Management Plan

The Countywide Integrated Waste Management Plan (ColWMP), dated October 15, 2003, provides a solid waste disposal strategy through the year 2050. The plan includes the following goals, objectives, and policies to ensure adequate waste prevention, reuse, recycling, composting, and disposal services.

**Goal A: In order to help ensure the sustainability of our communities and to conserve natural resources and landfill capacity, the Sonoma County Waste Management Agency (SCWMA), County and the Cities will continue to improve their municipal solid waste management system through**

**emphasis on the solid waste management hierarchy of waste prevention (source reduction), reuse, recycling, composting and disposal.**

**Goal B: The County and the Cities will exercise regional cooperation in the achievement of solid waste planning objectives through the SCWMA.**

**Goal C: The solid waste management system in Sonoma County will be planned and operated in a manner to protect public health, safety, and the environment.**

**Objective:** The County and the Cities will achieve a 50 percent diversion (see Figure 1-1) of wastes being disposed of in County landfills by the year 2003 and a 70 percent diversion rate (see Figure 1-2) by 2015 based on 1990 rates.

**Objective:** The SCWMA will achieve measurable reduction of landfill disposal of prohibited wastes documented by waste characterization studies at the end of the short term and medium-term planning periods.

**Objective:** The County will develop disposal capacity for solid waste not handled by other elements of the management hierarchy for a 50-year horizon. Disposal capacity is addressed in the Siting Element of the CoIWMP.

2.4.1 Source Reduction Implementation Policy: The SCWMA, County and the Cities will encourage and support the use of waste minimization practices for business, government agencies, and the public by distributing information on the availability of waste minimization options.

2.4.1 Source Reduction Implementation Policy: The SCWMA, the County, and the Cities will continue to encourage and support backyard composting for businesses, residences, and government agencies by providing information and technical assistance.

2.4.2 Recycling Implementation Policy: The County and the Cities will provide access to residential recycling programs for all households, including single-family, multi-family, and mobile homes, that subscribe to garbage services by the end of the short-term planning period.

2.4.3 Composting Implementation Policy: The SCWMA, County and the Cities will provide access to composting opportunities through implementation of composting facilities and programs which may be regional or local, public or private.

2.4.4 Special Waste Implementation Policy: The SCWMA, County and the Cities will promote recycling of construction and demolition debris through education, regulation and economic incentives.

2.4.4 Special Waste Implementation Policy: The County will provide alternative disposal options for recyclable items or materials such as, but not limited to, yard debris, recyclable wood waste, whole tires, and appliances and ban the landfill disposal of these items.

2.4.6 Solid Waste Management Implementation Policy: Satisfy the AB 939 solid waste planning and diversion mandates in a manner that is consistent with the objectives of the community, as reflected by the deliberations and documents of the AB 939 Local Task Force and Sonoma County Waste Management Agency.

## 4.18.8 Impact Analysis

### a. Methodology and Significance Thresholds

The proposed project would have a significant effect on water supplies, wastewater, solid waste, or storm water conveyance if demand associated with projected growth would result in any of the following conditions, as listed in Appendix G of the *CEQA Guidelines*:

1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects
2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects' projected demand in addition to the provider's existing commitments
4. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals
5. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste

### b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
<b>Threshold:</b>	Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
<b>Threshold:</b>	Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

**Impact UTIL-1** IMPACTS RELATED TO STORMWATER DRAINAGE, ELECTRIC POWER, NATURAL GAS, AND TELECOMMUNICATION INFRASTRUCTURE WOULD BE LESS THAN SIGNIFICANT. HOWEVER, WATER SUPPLY AND WASTEWATER GENERATION IMPACTS WOULD BE POTENTIALLY SIGNIFICANT AND MITIGATION IS REQUIRED.

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### Water

Development facilitated by the project would create additional demand for water supply in the unincorporated county. Because development facilitated by the project would occur within designated Urban Service Areas, existing water infrastructure exists at most of the Potential Sites. As described in Appendix WSS, the following sites are not located adjacent to existing water pipelines: GUE-1, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3, SAN-5, SAN-8, PEN-2, PEN-4, and SON-1 through SON-4. Additionally, the water supply capacity for sites GEY-1 through GEY-4, GUE-2 through GUE-4, and LAR-1 through LAR-8 is uncertain. These sites would require the

construction of expanded water supply facilities, including upgraded pipeline and potentially new pumps, to develop at the densities contemplated by this project. This impact would be potentially significant and Mitigation Measure UTIL-1 would be required.

Generally, the ground disturbance required to construct these upgrades would occur in previously disturbed or developed areas, such as public rights-of-way, thereby reducing the potential for environmental impacts. Compliance with mitigation measures in this Program EIR, including Mitigation Measures BIO-1 through BIO-17, CUL-1 through CUL-9, and TCR-1 through TCR-5, would minimize impacts to sensitive environmental resources where upgrades require off-site construction for the expansion of water supply services. Therefore, the proposed project would not result in construction or relocation of water facilities such that significant environmental impacts would result.

The water demand calculations for the Potential Sites were based on water demand factors set by the County's regional compliance target and calculated using the increase in population (Appendix WSS). The increase in total projected water demand that would be generated by development facilitated by the project is 574.9 AFY for sites adjacent to existing water supply facilities, 498.1 AFY for sites requiring the extension of water facilities, and 1,073.0 AFY total for all Potential Sites. Table 4.18-4 provides the increase in water demand per water service provider for the Potential Sites adjacent to existing water infrastructure.

**Table 4.18-4 Increase in Water Demand by Water Service Provider**

Site Group	Water Provider	Water Demand Increase (AFY) for Potential Sites Near Existing Water Infrastructure
Geyserville	Cal-Am – Geyserville	24.3
Guerneville	Cal-Am – Armstrong Valley	53.0
Larkfield	Cal-Am – Larkfield	66.0
Forestville	Forestville Water District	56.6
Santa Rosa	City of Santa Rosa	239.2
Glen Ellen, Agua Caliente	Valley of the Moon Water District	79.1
Penngrove	Penngrove/Kenwood Water Company	56.6

AFY = acre-feet per year

Source: Appendix WSS

Each water service provider was contacted and assessed in the Water and Sewer Study (provided in Appendix WSS) for its ability to provide water service to the Potential Sites. With the implementation of proposed capital improvement projects, development facilitated by the project would have access to adequate water service. However, the Potential Sites that are not currently directly adjacent to water supply infrastructure (GUE-1, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3, SAN-5, SAN-8, PEN-2, PEN-4, and SON-1 through SON-4) were not fully evaluated in Appendix WSS for adequate water supply capacity. Development on these sites would require implementation of Mitigation Measure UTIL-1 to ensure adequate water service is available.

## Wastewater

Development facilitated by the proposed project would create additional demand for wastewater treatment in the unincorporated county. Because development facilitated by the project would occur within designated Urban Service Areas, existing wastewater infrastructure exists at most of

the Potential Sites. As described in Appendix WSS, the following sites are not located adjacent to existing wastewater collection systems: GEY-1, LAR-7, FOR-1, FOR-2, FOR-6, GRA-4, SAN-10, PEN-2, PEN-4, PEN-9, PET-1, and SON-1 through SON-4. Additionally, the wastewater capacity for sites LAR-1 through LAR-8 is limited. These sites would require the construction of expanded wastewater facilities, including upgraded pipeline and potentially new pumps. Generally, the ground disturbance required to construct these upgrades would occur in previously disturbed or developed areas, such as public rights-of-way, reducing the potential for environmental impacts. Compliance with mitigation measures in this Program EIR, including Mitigation Measures BIO-1 through BIO-17, CUL-1 through CUL-9, and TCR-1 through TCR-5, would minimize impacts to sensitive environmental resources where upgrades require off-site construction for the expansion of wastewater services. Therefore, the proposed project would not result in construction or relocation of wastewater facilities such that significant environmental impacts would result.

The wastewater generation calculations for the Potential Sites were based on sewage generation factors from the County's development guidelines and calculated using the increase in population (Appendix WSS). The increase in total projected wastewater that would be generated by development facilitated by the project is 326,251.5 gallons per day (gpd) for sites adjacent to existing wastewater conveyance facilities, 268,849.8 gpd for sites requiring the extension of wastewater facilities, and 595,101.3 gpd total for all Potential Sites. Table 4.18-5 provides the increase in wastewater generation per sewer service provider for the Potential Sites adjacent to existing wastewater infrastructure.

**Table 4.18-5 Increase in Wastewater Generation by Sewer Service Provider**

Site Group	Wastewater Provider	Average Dry-Weather Wastewater Generation Increase (gpd) for Potential Sites Near Existing Wastewater Infrastructure
Geyserville	Geyserville Sanitation Zone	14,000.0
Guerneville	Russian River County Sanitation District	26,624.6
Larkfield	Larkfield-Wikiup Sanitation Zone	33,148.0
Forestville	Forestville Water District	29,734.6
Santa Rosa	South Park County Sanitation District	151,989.1
Glen Ellen, Agua Caliente	Sonoma Valley County Sanitation District	43,846.2
Penngrove	Penngrove Sanitation Zone	27,000.0

gpd = gallons per day  
Source: Appendix WSS

Each wastewater service provider was contacted and assessed in the Water and Sewer Study (Appendix WSS) for its ability to provide wastewater service to the Potential Sites. With the implementation of proposed capital improvement projects, development facilitated by the project would have access to adequate wastewater service. However, the Potential Sites that are not currently directly adjacent to wastewater collection infrastructure (pipelines) were not fully evaluated in Appendix WSS for adequate sewer capacity (GEY-1, LAR-7, FOR-1, FOR-2, FOR-6, GRA-4, SAN-10, PEN-2, PEN-4, PEN-9, PET-1, and SON-1 through SON-4). Development on these sites would require implementation of Mitigation Measure UTIL-1 to ensure adequate wastewater service is available.

## Stormwater

Impacts regarding stormwater drainage facilities are discussed in Section 4.10, *Hydrology and Water Quality*.

## Electric Power

The project would require connections to existing electrical transmission and distribution systems on site to serve the Potential Sites. This service would be provided in accordance with the rules and regulations of PG&E on file with and approved by CPUC. Based on the availability of existing electrical infrastructure, it is not anticipated that the construction of new electrical transmission and distribution lines would be required, and all sites would be able to connect to existing infrastructure. Therefore, there would be adequate electrical facilities to serve future development on the Potential Sites and impacts related to electricity would be less than significant.

## Natural Gas

Future projects on the Potential Sites would connect to existing natural gas infrastructure to meet the needs of site residents and tenants. Based on the availability of existing natural gas infrastructure, construction of new natural gas pipelines would not be required, and all sites would be able to connect to existing infrastructure. Therefore, there would be adequate natural gas facilities to serve the future development on the Potential Sites and impacts related to natural gas would be less than significant.

## Telecommunications

Project implementation requires connections to existing adjacent utility infrastructure to meet the needs of site residents and tenants. Based on the availability of existing telecommunications infrastructure, construction of new telephone and cable lines would not be required, and all sites would be able to connect to existing infrastructure. The project would be required to adhere to applicable laws and regulations related to the connection to existing telecommunication infrastructure. Therefore, there would be adequate telecommunications facilities to serve the future development on the Potential Sites and impacts related to telecommunications would be less than significant.

## Summary

As discussed above, there is adequate stormwater drainage, electric power, natural gas, and telecommunication infrastructure to serve the project. Impacts related to the provision of these utility facilities would be less than significant. However, several of the Potential Sites are not adjacent to existing water or wastewater infrastructure and require further evaluation at the project level during the plan review and permit approval phase. Mitigation Measure UTIL-1 is required to reduce impacts related to water supply and wastewater system sufficiency to a less than significant level.

## Mitigation Measure

The County shall require the following mitigation measure for applicable projects.



### *UTIL-1 Water and Wastewater Provider Capacity*

Future development proposed on the following sites shall be required to demonstrate that the applicable water and/or sewer service provider has sufficient capacity and that existing water and/or sewer services are available to serve future development projects, or that the necessary improvements to serve a Potential Site will be made prior to occupancy:

1. Potential Sites that need to demonstrate capacity from the applicable water service provider: GEY-1 through GEY-4, GUE-1 through GUE-4, LAR-1 through LAR-8, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3, SAN-5 through SAN-8, PEN-2, PEN-4, and SON-1 through SON-4.
2. Potential Sites that need to demonstrate capacity from the applicable wastewater service provider: GEY-1, GUE-2, GUE-3, LAR-1 through LAR-8, FOR-1, FOR-2, FOR-6, GRA-4, SAN-6, SAN-7, SAN-10, PEN-2, PEN-4, PEN-9, PET-1, and SON-1 through SON-4.

The required documentation shall be provided to the County during the plan review and permit approval process for projects on the above-listed Potential Sites.

### **Significance After Mitigation**

With implementation of Mitigation Measure UTIL-1, development on Potential Sites GEY-1 through GEY-4, GUE-1 through GUE-4, LAR-1 through LAR-8, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3, SAN-5 through SAN-8, SAN-10, PEN-2, PEN-4, PEN-9, PET-1, and SON-1 through SON-4 would be adequately served by water and wastewater service providers. Impacts would be less than significant with mitigation.

<b>Threshold:</b>	Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
<b>Threshold:</b>	Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

**Impact UTIL-2** THE PROJECT WOULD NOT GENERATE SOLID WASTE IN EXCESS OF STATE OR LOCAL STANDARDS, OR IN EXCESS OF THE CAPACITY OF LOCAL INFRASTRUCTURE, INCLUDING THE CENTRAL DISPOSAL SITE. THE PROJECT WOULD NOT IMPAIR THE ATTAINMENT OF SOLID WASTE REDUCTION GOALS AND WOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Project implementation would result in the addition of up to 2,975 residential units throughout the unincorporated county. Based on a solid waste generation rate of 12 pounds per household per day (CalRecycle 2020a), the project would generate an estimated 17.9 tons, or 44.0 cubic yards,<sup>2</sup> of solid waste per day associated with future projects. According to CalRecycle, the remaining capacity of the Central Disposal Site is approximately 9 million cubic yards. The Central Disposal Site is projected to reach its maximum capacity in year 2043 (CalRecycle 2020c). This equates to an average annual disposal capacity of approximately 399,196 cubic yards per year. The project would yield an annual solid waste generation rate of approximately 16,058 cubic yards per year. This accounts for approximately 1.3 percent of the average daily throughput capacity and less than 0.1

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<sup>2</sup> Household trash is approximately 800 pounds per cubic yard (CalRecycle 2020b).

percent of the annual disposal capacity of the Central Disposal Site. Therefore, the project would not generate solid waste in excess of the capacity of local solid waste infrastructure.

Policies in the County General Plan and ColWMP address solid waste generation and disposal at residential properties. Future projects on the Potential Sites would be required to comply with these policies, including paying a fair share for solid waste services and achieving greater diversion rates than required by AB 939. Additionally, the County, per the ColWMP, is required to provide access to residential recycling programs, composting opportunities, and other waste reduction programs for all residential uses in the county. Therefore, the project would not impede the implementation of county solid waste reduction goals.

AB 939 requires the County to divert 50 percent of solid waste from landfills. In 2011, approximately 74 percent of the waste stream was diverted from landfilling and recycled (County of Sonoma 2020). Local infrastructure would have the capacity to accommodate solid waste generated by the project. The project would be required to demonstrate compliance with all applicable regulations. The project's solid waste disposal would have a less than significant impact for local solid waste infrastructure.

### **Mitigation Measures**

No mitigation measures would be required.

### **Significance After Mitigation**

Impacts would be less than significant without mitigation.

## **4.18.9 Cumulative Impacts**

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (*CEQA Guidelines* Section 15065[a][3].)

### **Water**

The geographic scope for cumulative water supply impacts is the water district service areas. This geographic scope is appropriate because the local water purveyors are responsible for supplying potable water to all residential, commercial, industrial, and fire protection uses within their respective service areas. Development considered part of the cumulative analysis includes buildout of local General Plans, and development projects identified in Section 3, *Environmental Setting*.

Cumulative development in the local water purveyor service areas will continue to increase demands on water supplies. Each water service provider was individually addressed in Appendix WSS for its ability to provide water service to the Potential Sites, including through 2040, where local water purveyor data was available. With mitigation applicable to Sites GEY-1 through GEY-4, GUE-1 through GUE-4, LAR-1 through LAR-8, FOR-1, FOR-2, FOR-6, GRA-1 through GRA-5, SAN-1, SAN-3, SAN-5 through SAN-8, PEN-2, PEN-4, and SON-1 through SON-4, there would be sufficient existing water supplies to accommodate anticipated cumulative development and achieve full buildout of the Potential Sites. Additionally, Appendix WSS determined that, with the implementation of proposed capital improvement projects, development facilitated by the project would have access to adequate water service. Mitigation Measure UTIL-1 would require development on the Potential Sites not located adjacent to existing water facilities to obtain written

certification from the water purveyor that there is adequate capacity to serve the Potential Sites. With mitigation, impacts related to water supply sufficiency would be less than significant. Therefore, after mitigation, the proposed project would not have a cumulatively considerable contribution to a significant cumulative impact regarding water supply services.

## **Wastewater**

The geographic scope for cumulative wastewater facilities impacts encompasses all areas within the local wastewater district service areas. This geographic scope is appropriate because the local wastewater operators are responsible for treating and discharging wastewater to all land uses within their service areas. Development considered part of the cumulative analysis includes buildout of local General Plans, and development projects identified in Section 3, *Environmental Setting*. Impacts would be cumulatively significant if cumulative development in the service area would exceed the capacity of the wastewater treatment plants.

Cumulative development in the local wastewater purveyor service areas will continue to increase wastewater generation. Each wastewater service provider was individually addressed in Appendix WSS for its ability to provide water service to the Potential Sites, including through 2040, where local wastewater purveyor data was available. There is sufficient existing wastewater capacity to accommodate anticipated cumulative development and achieve full buildout of the Potential Sites. Additionally, Appendix WSS determined that, with the implementation of proposed capital improvement projects, development facilitated by the project would have access to adequate wastewater service. Mitigation Measure UTIL-1 would require development on the Potential Sites not adjacent to existing wastewater facilities to obtain written certification from the wastewater purveyor that there is adequate capacity to serve the Potential Sites. With mitigation, impacts related to wastewater facility capacity would be less than significant. Therefore, after mitigation, the proposed project would not have a cumulatively considerable contribution to a significant cumulative impact regarding wastewater generation.

## **Electric Power and Natural Gas Transmission Facilities**

The geographic scope for cumulative electricity and natural gas impacts is the PG&E and SCP service area. This geographic scope is appropriate because, as the local providers, PG&E and SCP responsible for transmitting electricity (both companies) and natural gas (PG&E only) to all land uses within its service area, including the Potential Sites. Development considered part of the cumulative analysis includes buildout of local General Plans.

PG&E is subject to the requirements set forth and/or enforced by the CPUC. The need for electric and natural gas infrastructure would be addressed on a case-by-case basis for each cumulative project, and would be subject to CPUC requirements, similar to those applicable to the project. Therefore, cumulative impacts related to electric power and natural gas transmission facilities would be less than significant. Therefore, the proposed project would not have a cumulatively considerable contribution to a cumulative impact regarding electricity and natural gas.

## **Telecommunication**

The geographic scope for cumulative telecommunications impacts is the unincorporated county. This geographic scope is appropriate because local providers are responsible to provide adequate telecommunication infrastructure to all land uses within the unincorporated county, including the Potential Sites. Development considered part of the cumulative analysis includes buildout of the County General Plan.

As discussed above under Impact UTIL-1, project implementation requires connections to existing utility infrastructure to meet the needs of site residents and tenants. Cumulative development would increase demand for telecommunications infrastructure in the county. However, cumulative projects would each be required to provide adequate telecommunications infrastructure on a project-by-project basis and would be subject to the same requirements as the project. Therefore, cumulative impacts related to telecommunications infrastructure would be less than significant. The project would not have a cumulatively considerable contribution to a cumulative impact regarding telecommunication services.

## **Solid Waste**

The geographic scope for cumulative solid waste impacts encompasses all areas in the county that contribute solid waste to the Central Disposal Site. This geographic scope is appropriate because, as the local provider, the Central Disposal Site is responsible for accepting solid waste from all land uses within its service area, including the Potential Sites. Development considered part of the cumulative analysis includes buildout of the County General Plan and buildout of cities and unincorporated areas within the County that dispose of waste at the Central Disposal Site, which will continue to increase solid waste generation.

As discussed under Impact UTIL-2, the Central Disposal Site is projected to reach its maximum capacity in year 2043 (CalRecycle 2020c). Compliance with applicable solid waste regulations and with General Plan goals, objectives, and policies would maintain or improve upon diversion rates. Cumulative development in the county would be required to adhere to objectives in the ColWMP, which aim to reduce solid waste sent to the landfill via increased recycling and waste diversion. Other cities in the region have implemented waste diversion programs and policies to meet state-mandated solid waste diversion rates. For example, AB 939 requires a solid waste diversion rate of 50 percent, and the County is currently achieving an approximately 74 percent diversion. Thus, cumulative impacts to solid waste facilities would be less than significant.

The solid waste generated by the project would account for approximately 1.3 percent of the average daily throughput capacity and less than 0.1 percent of the annual disposal capacity of the Central Disposal Site. Although the project would increase development on the Potential Sites compared to existing conditions, the Central Disposal Site has sufficient capacity to accommodate the projected increase in solid waste generation. Therefore, the project would not have a cumulatively considerable contribution to a significant cumulative impact regarding solid waste services.

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## 4.19 Wildfire

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The analysis in this section addresses the potential for the proposed project to exacerbate wildfire risks. The requirement to evaluate wildfire hazards was added to the California Environmental Quality Act (CEQA) Guidelines along with a number of revisions that went into effect in late 2018.

### 4.19.1 Setting

#### a. Overview of Wildfire

A wildfire is an uncontrolled fire in an extensive area of combustible vegetation. Wildfires differ from other fires in that they take place in areas of grassland, woodlands, brushland, scrubland, peatland, and other wooded areas that act as a source of fuel, or combustible material. Buildings may become involved if a wildfire spreads to adjacent communities. The primary factors that increase an area's susceptibility to wildfire include slope and topography, vegetation type and condition, and weather and atmospheric conditions. Extreme wildfire events are expected to increase in frequency by 20 percent by 2050 and by 50 percent by the end of the century (County of Sonoma 2017). The Office of Planning and Research has recognized that although high-density structure-to-structure loss can occur, structures in areas with low- to intermediate-density housing were most likely to burn, potentially due to intermingling with wildland vegetation or difficulty of firefighter access. Fire frequency also tends to be highest at low to intermediate housing density, at least in regions where humans are the primary cause of ignitions (California Natural Resources Agency 2018).

The indirect effects of wildfires can be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards.

Between 1964 and 2015, Sonoma County experienced 18 large or costly wildfires (County of Sonoma 2017). Most recently, the 2017 Sonoma Complex Fires caused 24 deaths, burned over 112,000 acres, and destroyed about 5,300 homes; the 2019 Kincade Fire burned 77,758 acres, destroyed 374 structures, including 174 residences, and damaged 60 additional structures, including 34 residences (California Department of Forestry and Fire Protection [CAL FIRE] 2019a); the Glass Fire of 2020 burned over 67,000 acres, destroyed 1,555 structures, and damaged an additional 282 structures across both Napa and Sonoma counties (CAL FIRE 2020); and the LNU Lightning Complex fires of 2020 burned over 355,000 acres, destroyed 159 residences, and damaged an additional 10 residences in Sonoma County (Graff 2020).<sup>1</sup> The mountainous, highly combustible areas in eastern Sonoma County have a Fire Hazard Severity Zone (FHSZ) ranking of "very high" (CAL FIRE 2007a) and, therefore, are most susceptible to wildfires. Communities near this area include Cloverdale, Geyserville, eastern Santa Rosa, and Sonoma.

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<sup>1</sup> Please note these fires occurred after the Notice of Preparation (NOP) was released on March 11, 2020.

## Slope and Aspect

According to CAL FIRE, sloping land increases susceptibility to wildfire because fire typically burns faster up steep slopes and they may hinder firefighting efforts (CAL FIRE 2007b). Following severe wildfires, sloping land is also more susceptible to landslide or flooding from increased runoff during substantial precipitation events. Aspect is the direction that a slope faces, and it determines how much radiated heat the slope will receive from the sun. Slopes facing south to southwest will receive the most solar radiation; thus they are warmer and the vegetation drier than on slopes facing a northerly to northeasterly direction, increasing the potential for wildfire ignition and spread (University of California 2018).

The Potential Sites are located throughout the county, and each of the location clusters is near urban development that tends to occur in relatively flat portions of the county, although sites may be adjacent to steep slopes. For example, near Geyserville the sites are relatively flat, but mountains are located to the west, immediately across Highway 101. Similarly, sites near Guerneville and Glen Ellen are situated in small valleys surrounded by mountainous terrain. Sites near Larkfield and Santa Rosa have generally flat terrain, with mountains located outside the urban areas to the east. Sites near Forestville and Graton tend to be slightly sloped, with mountainous terrain nearby to the west. Sites near Agua Caliente and Sonoma are in a larger and mostly flat valley, with mountainous terrain to the east and west. Finally, sites near Penngrove and Petaluma are slightly sloped, with less steep mountainous terrain to the east and west, and south and west, respectively. Please refer to Table 4.19-1 for the approximate slope percent on each Potential Site and in the general vicinity of each site. Steeper slopes (greater than 15 percent) are more likely to experience fast wildfire spread, while flatter slopes (5 percent or less) are not as likely to experience fast wildfire spread.

**Table 4.19-1 Potential Sites Slope Information**

Potential Site	Slopes on Site	Slopes Near Site
GEY-1	0-5%	0-50%
GEY-2	0-5%	0-50%
GEY-3	0-5%	0-50%
GEY-4	0-5%	0-50%
GUE-1	30-50%	0-50%
GUE-2	0-5%	0-50%
GUE-3	0-5%, 50-75%	0-50%
GUE-4	0-2%	0-50%
LAR-1	0-9%	0-15%
LAR-2	0-9%	0-15%
LAR-3	0-9%	0-15%
LAR-4	0-5%	0-15%
LAR-5	0-9%	0-15%
LAR-6	0-9%	0-15%
LAR-7	0-5%	0-15%
LAR-8	0-5%	0-15%
FOR-1	2-9%, 9-15%	0-75%
FOR-2	2-9%	0-75%



Potential Site	Slopes on Site	Slopes Near Site
FOR-3	2-9%	0-75%
FOR-4	9-15%	0-75%
FOR-5	2-9%	0-75%
FOR-6	2-9%	0-75%
GRA-1	2-9%	0-30%
GRA-2	2-5%	0-30%
GRA-3	9-30%	0-30%
GRA-4	2-9%	0-30%
GRA-5	2-15%	0-30%
SAN-1	0-2%	0-9%
SAN-2	0-2%	0-9%
SAN-3	0-2%	0-9%
SAN-4	0-2%	0-9%
SAN-5	0-2%	0-9%
SAN-6	0-2%	0-9%
SAN-7	0-2%	0-9%
SAN-8	0-2%	0-9%
SAN-9	0-2%	0-9%
SAN-10	0-2%	0-9%
GLE-1	2-9%	2-50%
GLE-2	2-9%	2-50%
AGU-1	0-2%	0-15%
AGU-2	0-2%	0-15%
AGU-3	0-2%	0-15%
PEN-1	9-15%	0-30%
PEN-2	2-15%	0-30%
PEN-3	9-15%	0-30%
PEN-4	2-15%	0-30%
PEN-5	9-15%	0-30%
PEN-6	9-15%	0-30%
PEN-7	2-9%	0-30%
PEN-8	9-15%	0-30%
PEN-9	0-2%, 9-15%	0-30%
PET-1	2-9%	2-15%
PET-2	2-15%	2-15%
PET-3	2-15%	2-15%
PET-4	2-15%	2-15%
SON-1	0-9%	0-9%
SON-2	0-9%	0-9%

Potential Site	Slopes on Site	Slopes Near Site
SON-3	0-9%	0-9%
SON-4	0-9%	0-9%

Source: National Resources Conservation Service 2020

## Vegetation

Vegetation is fuel to a wildfire and it changes over time with seasonal growth and die-back. The relationship between vegetation and wildfire is complex, but generally some vegetation is naturally fire resistant, while other vegetation is extremely flammable. It is worth noting that some plant types in California landscapes are fire resistant, while others are actually fire dependent for their seed germination cycles. Wildfire behavior depends on the type of fuels present, such as ladder fuels, surface fuels, and aerial fuels. Ladder fuels provide a path for a surface fire to climb upward into the crowns of trees; surface fuels include grasses, logs, and stumps low to the ground; and aerial fuels include limbs, foliage, and branches not in contact with the ground (CAL FIRE 2020a). Weather and climate conditions, including drought cycles, can lead to dry vegetation with low moisture content, increasing its flammability.

The Potential Sites are in urbanized areas and vary in the existing vegetation present on each site. For example, GEY-1 consists of undeveloped grassland, while GEY-2 through GEY-4 are developed with structures and contain both grassy areas and mature trees. Sites near Guerneville tend to have more vegetation in the form of trees and landscaping, while sites near Larkfield tend to be undeveloped grassland with few trees. Sites near Forestville are less vegetated than those near Guerneville but more vegetated than those near Larkfield. Sites near Graton vary substantially between areas of dense tree vegetation, disturbed sites used for storage, and grassy fields. Sites near Santa Rosa are typically developed, with primarily landscaped vegetation, or disturbed with little vegetation present or disked grassland. Sites near Glen Ellen and Agua Caliente contain some existing structures and trees. Sites near Penngrove are either minimally developed grassland areas with few trees, commercially-developed sites, or moderately developed sites with existing structures and perimeter trees. Site near Petaluma are partially developed, with large portions of the sites undeveloped grassland with few trees. Finally, sites near Sonoma contain existing structures, grassy areas, and scattered trees.

## Weather and Atmospheric Conditions

Wind, temperature, and relative humidity are the most influential weather elements in fire behavior and susceptibility (National Parks Service 2017). Fire moves faster under hot, dry, and windy conditions. Wind may also blow embers ahead of a fire, causing its spread. Drought conditions lead to extended periods of excessively dry vegetation, increasing the fuel load and ignition potential.

The Western Regional Climate Center maintains numerous weather monitoring stations throughout the County. According to data collected at weather stations located near Potential Sites, most precipitation is received from November through March, with an average annual rainfall ranging between 25 and 47 inches (Western Regional Climate Center 2016). May through September is the driest time of the year and coincides with what has traditionally been considered the fire season in California. However, increasingly persistent drought and climatic changes in California have resulted in drier winters, and fires during the autumn, winter, and spring months are becoming more common. Prevailing winds in Sonoma are generally from the northwest to the southeast (National Oceanic and Atmospheric Administration 2020).

## b. Wildfire Hazards

In California, responsibility for wildfire prevention and suppression is shared by federal, state, and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas. The State of California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by CAL FIRE (US Department of the Interior, US Department of Agriculture, and CAL FIRE 2018). All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA).

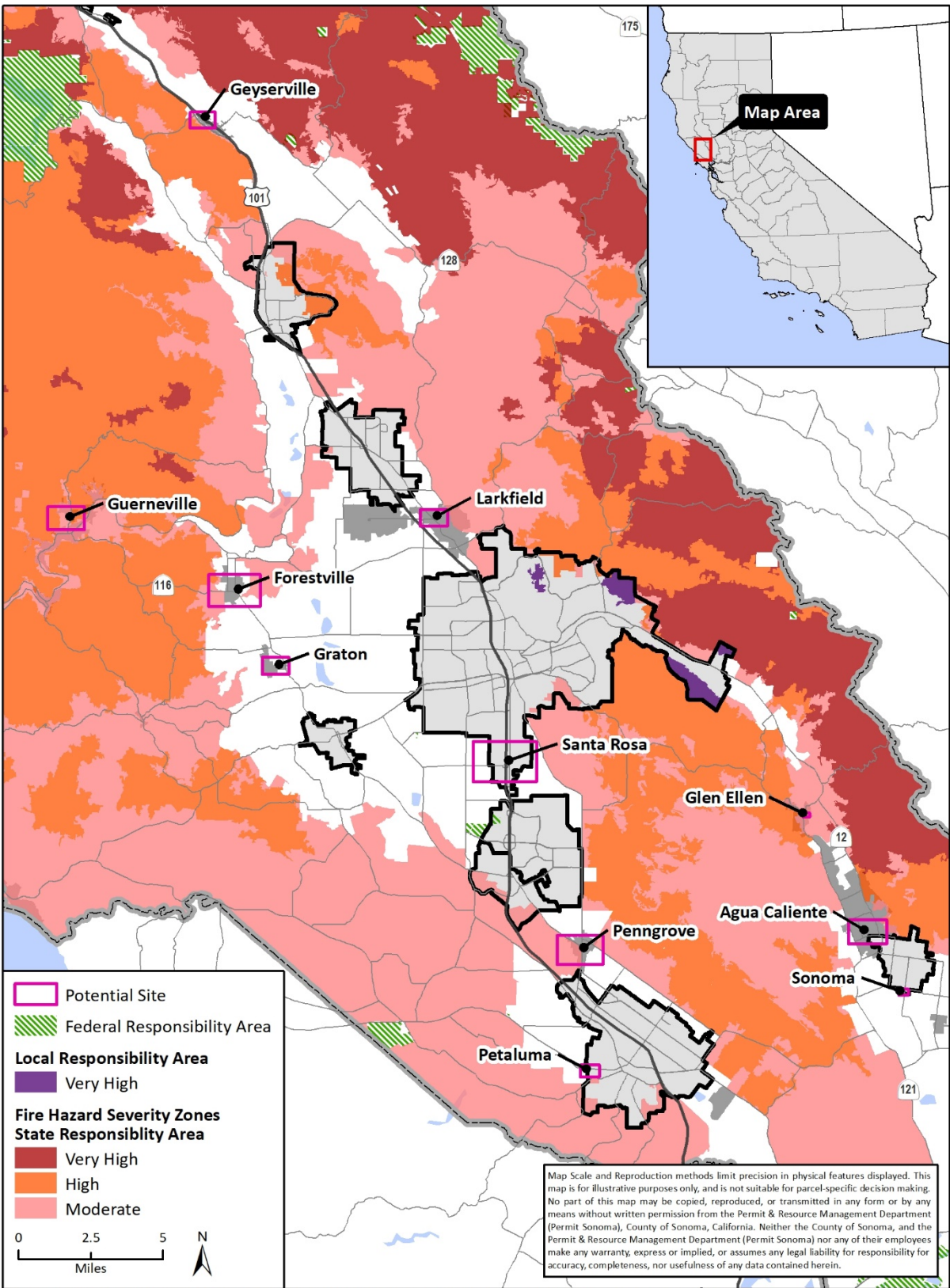
CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors (Public Resources Code Sections 4201-4204 and California Government Code Sections 51175-89). As described above, the primary factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. CAL FIRE maps fire hazards based on zones, referred to as FHSZs. CAL FIRE maps three zones in SRA: 1) Moderate FHSZs; 2) High FHSZs; and 3) Very High FHSZs. Only the Very High FHSZs are mapped in LRA. Each of the zones influence how people construct buildings and protect property to reduce risk associated with wildfires. Under state regulations, areas within Very High FHSZs must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas. Table 4.19-2 provides the FHSZ designation and distance to the nearest Very High FHSZ for each Potential Site and Table 4.19-3 provides the distance to the nearest SRA for each Potential Site. Figure 4.19-1 through Figure 4.19-12 map the Potential Sites in relation to FHSZs and SRAs.

**Table 4.19-2 FHSZ Designation of Potential Sites**

Potential Site	FHSZ Designation	Distance to Nearest Very High FHSZ
GEY-1 through GEY-4	None	<1.2 miles
GUE-1 through GUE-4	Moderate	>2 miles
LAR-1 through LAR-8	None	>2 miles
FOR-1, FOR-4	None	<1.3 mile to Very High FHSZ
FOR-2	None	<1 mile to Very High FHSZ
FOR-3, FOR-5, FOR-6	None	<1.5 mile to Very High FHSZ
GRA-1 through GRA-5	None	>2 miles
SAN-1 through SAN-10	None	>2 miles
GLE-1, GLE-2	Moderate	<1.2 mile
AGU-1 through AGU-3	None	<2 miles
PEN-1, PEN-3, PEN-5, PEN-6, PEN-8, PEN-9	None	>2 miles
PEN-2, PEN-4, PEN-7	Moderate	>2 miles
PET-1 through PET-4	None	>2 miles
SON-1 through SON-4	None	>2 miles

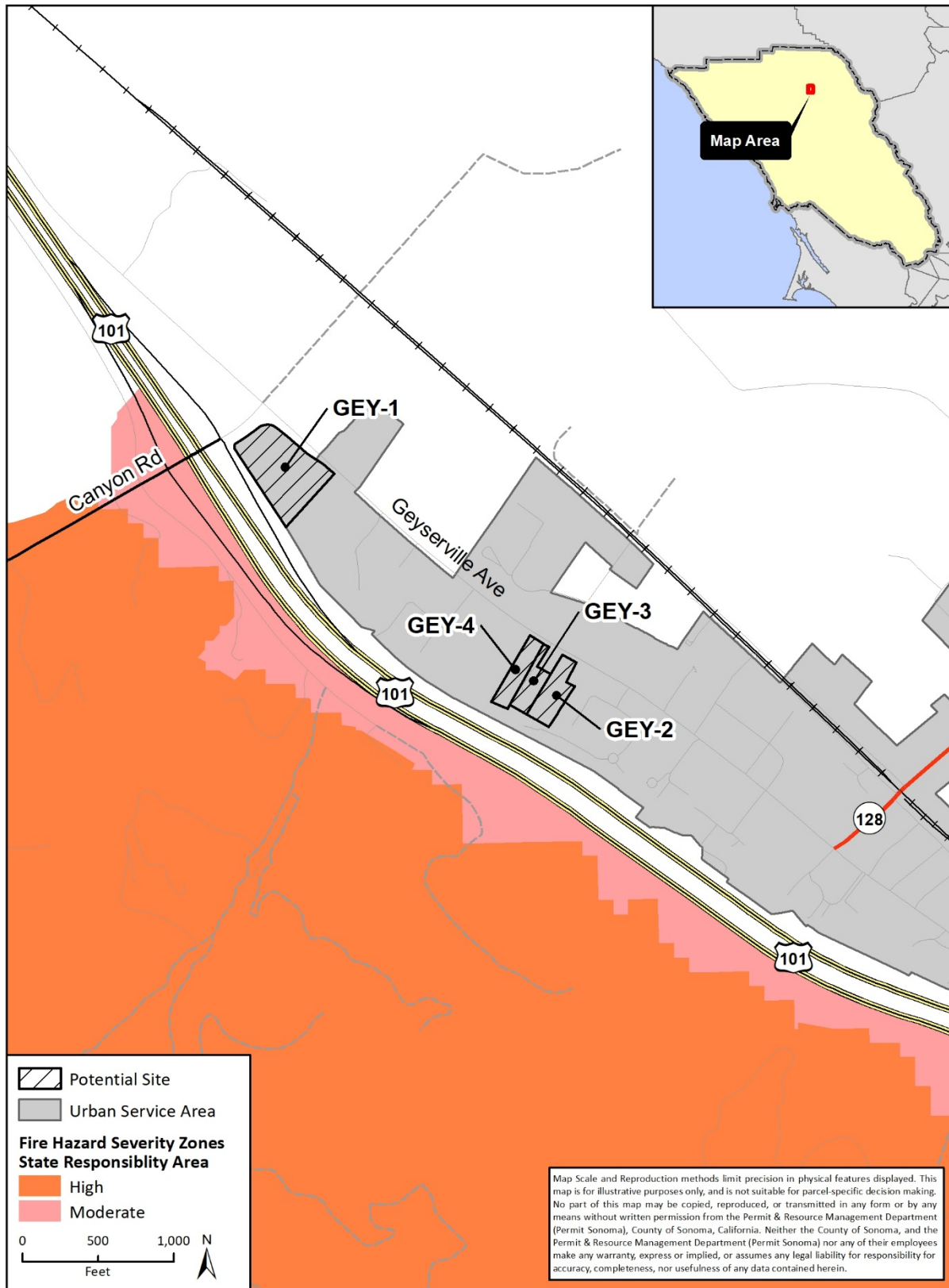
Source: National Resources Conservation Service 2020

Figure 4.19-1 Fire Hazard Severity Zones – Countywide



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

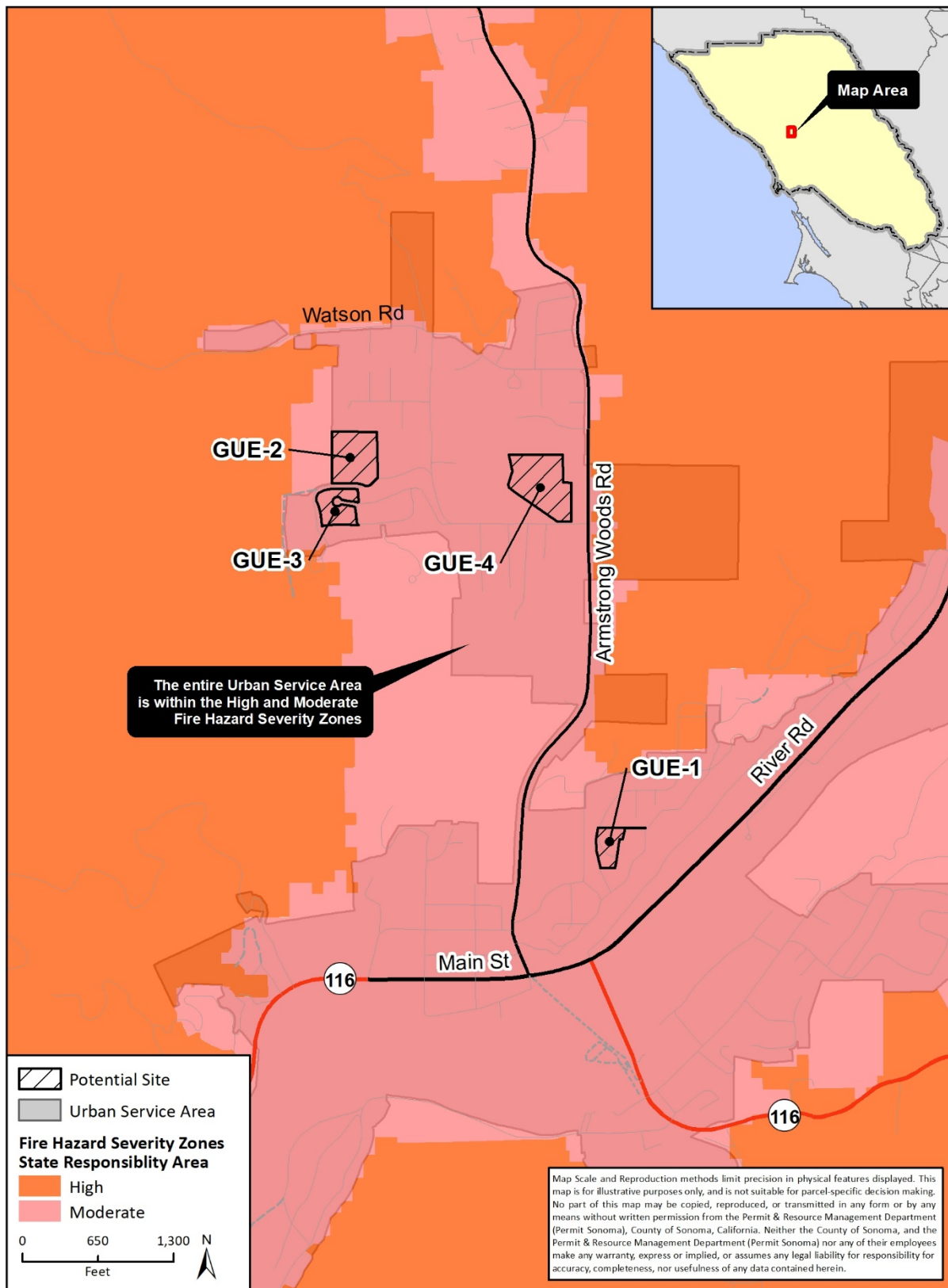
Figure 4.19-2 Fire Hazard Severity Zones – Geyserville



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

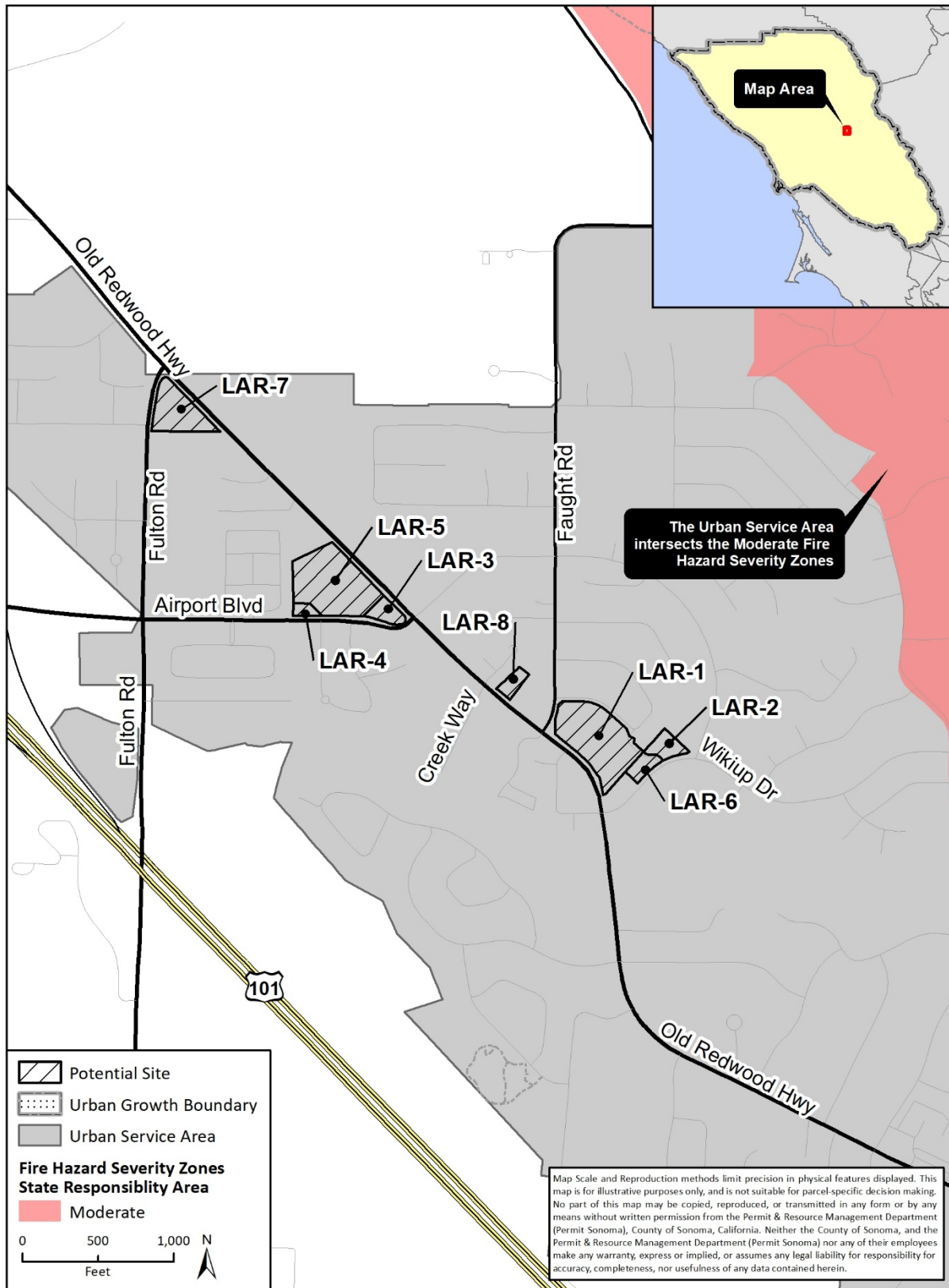


Figure 4.19-3 Fire Hazard Severity Zones – Guerneville



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

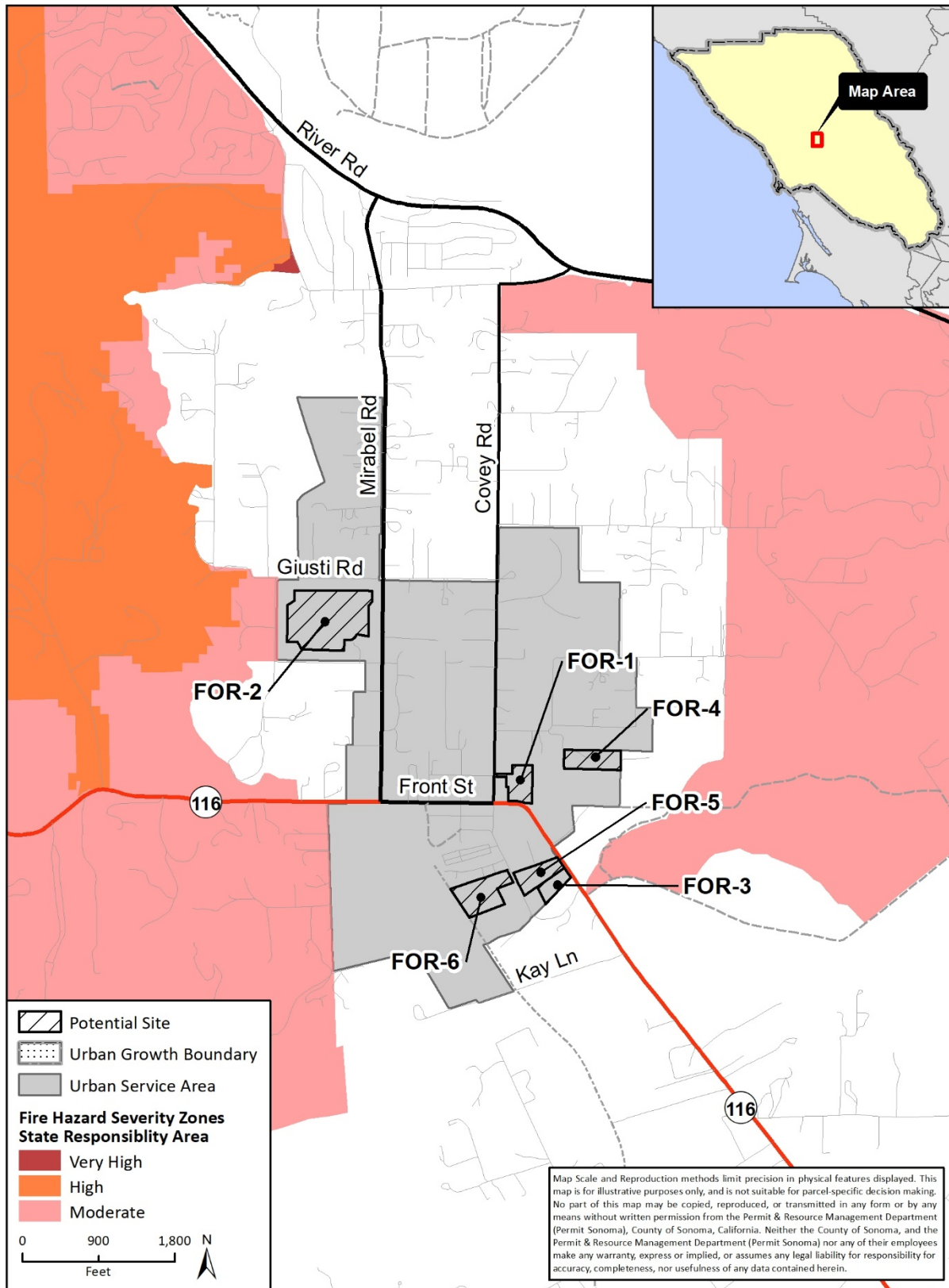
Figure 4.19-4 Fire Hazard Severity Zones – Larkfield



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri. CALFIRE.

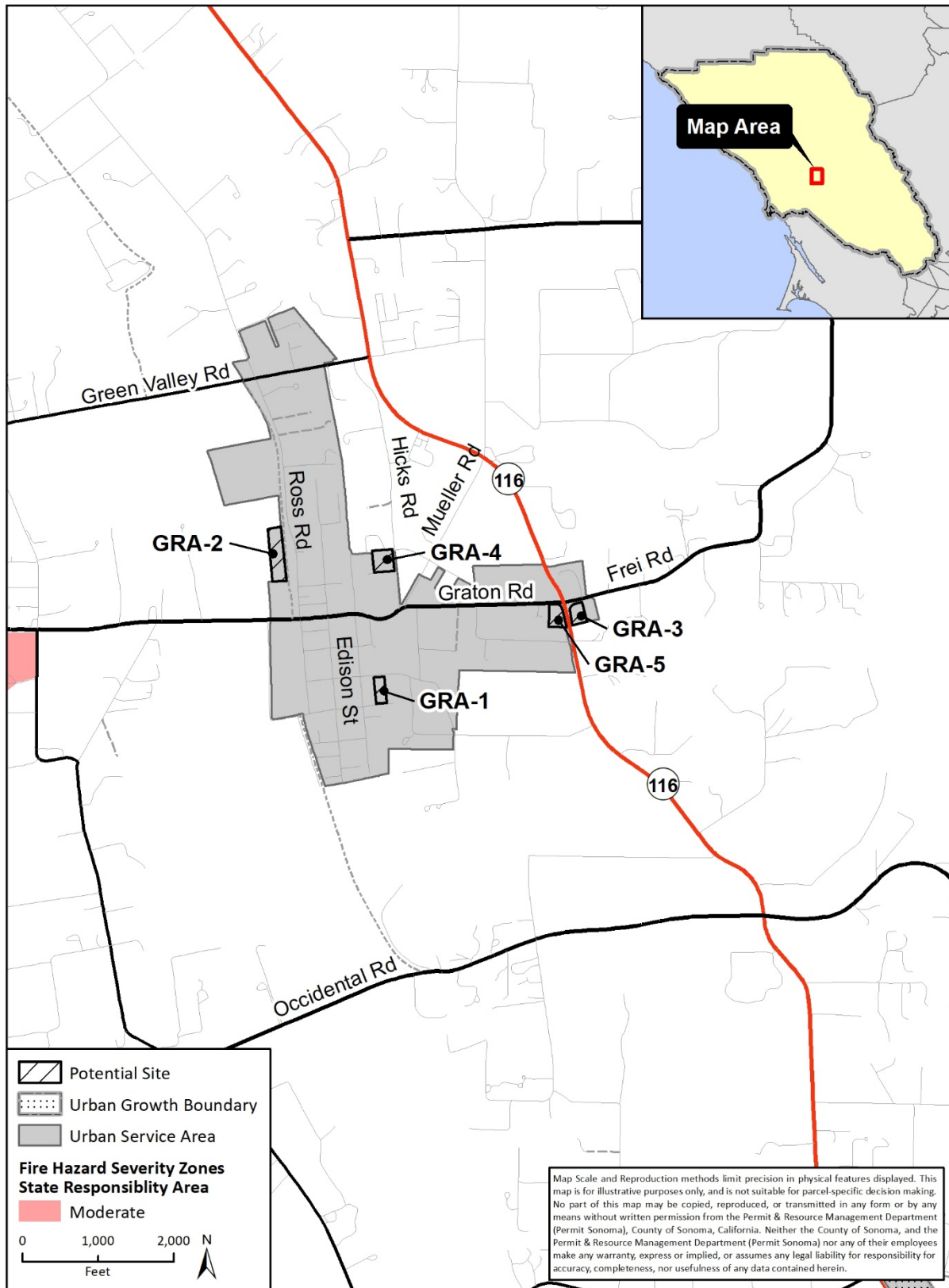


Figure 4.19-5 Fire Hazard Severity Zones – Forestville



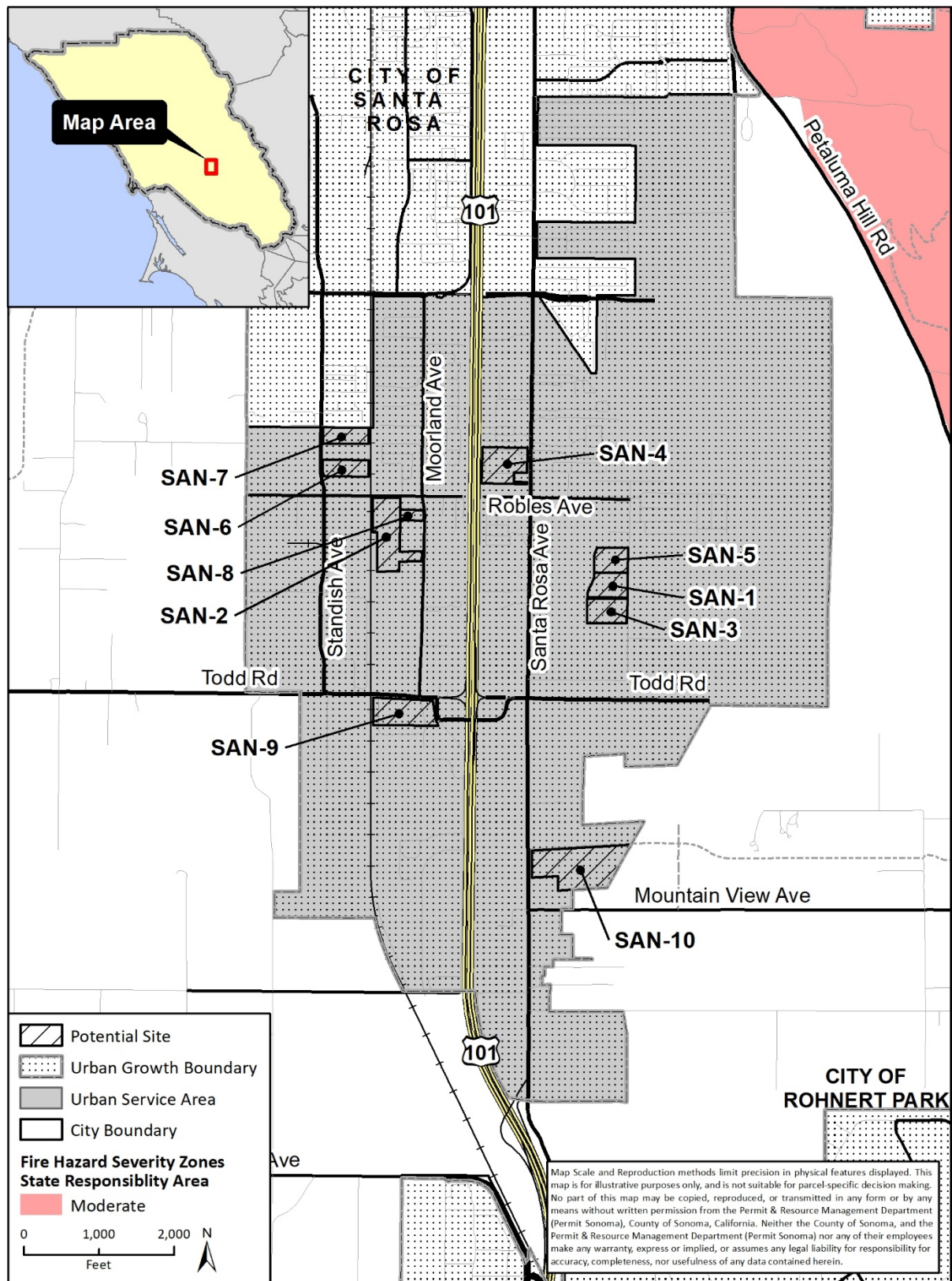
Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

Figure 4.19-6 Fire Hazard Severity Zones – Graton



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

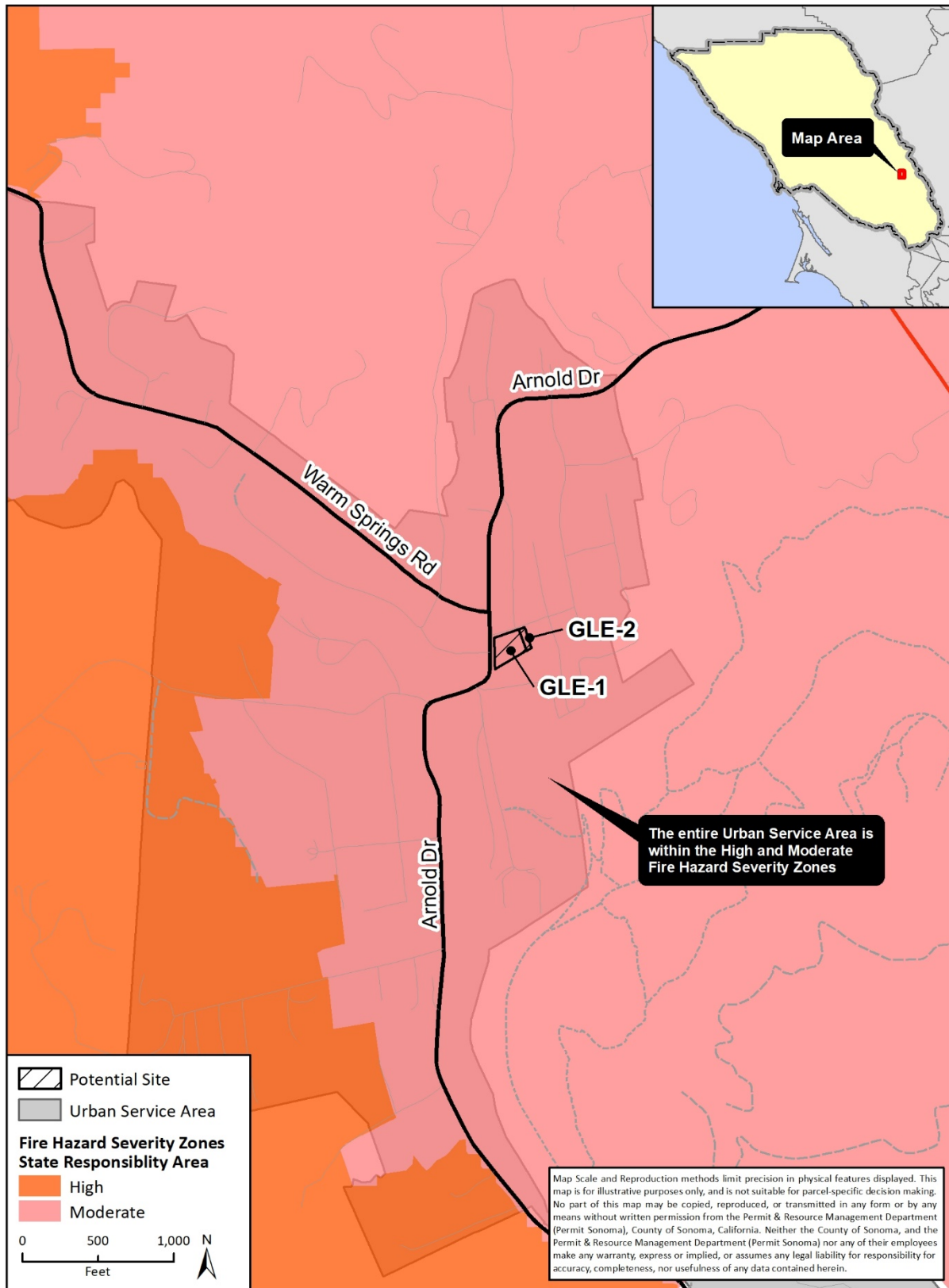
Figure 4.19-7 Fire Hazard Severity Zones – Santa Rosa



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

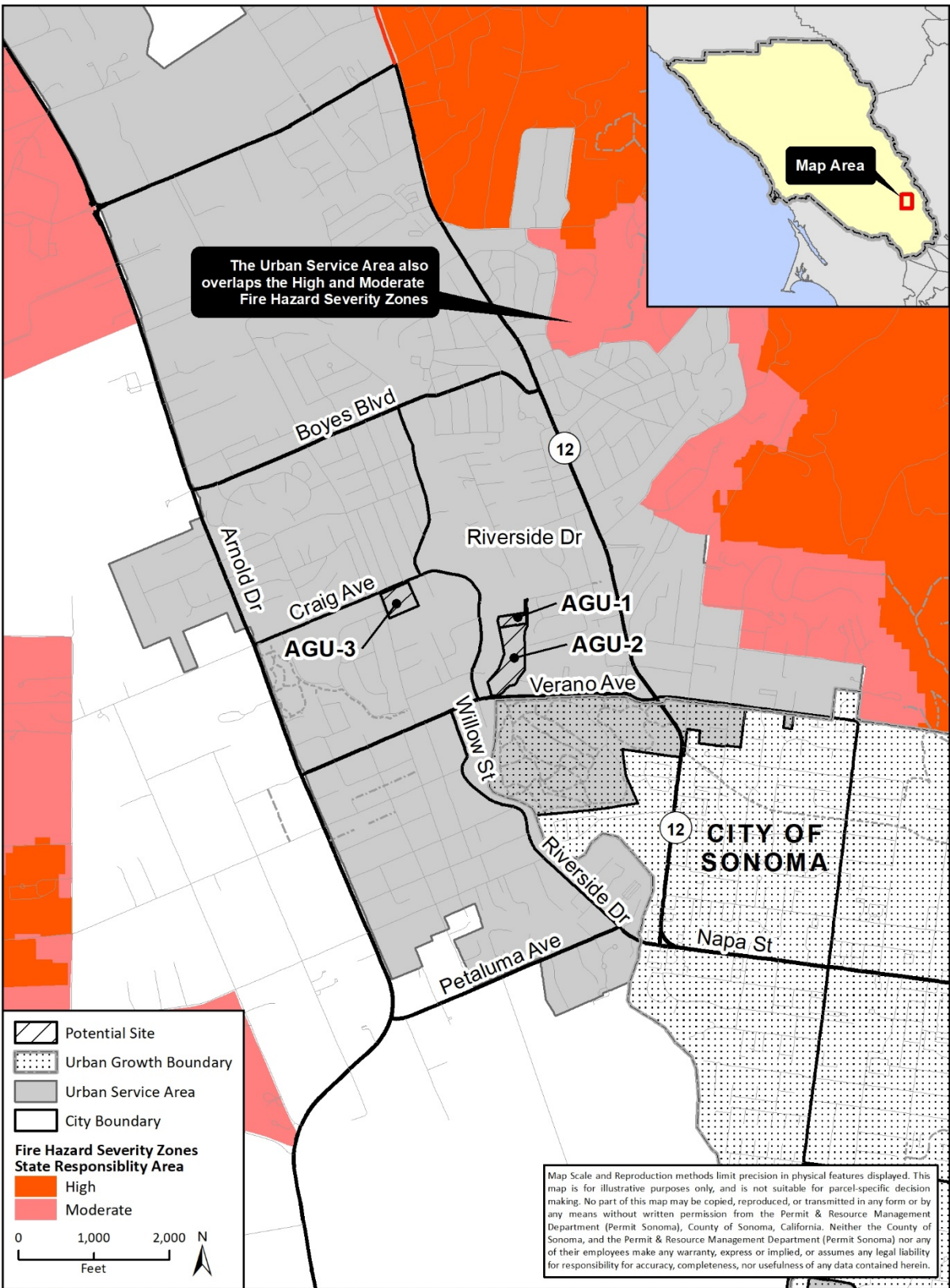


Figure 4.19-8 Fire Hazard Severity Zones – Glen Ellen



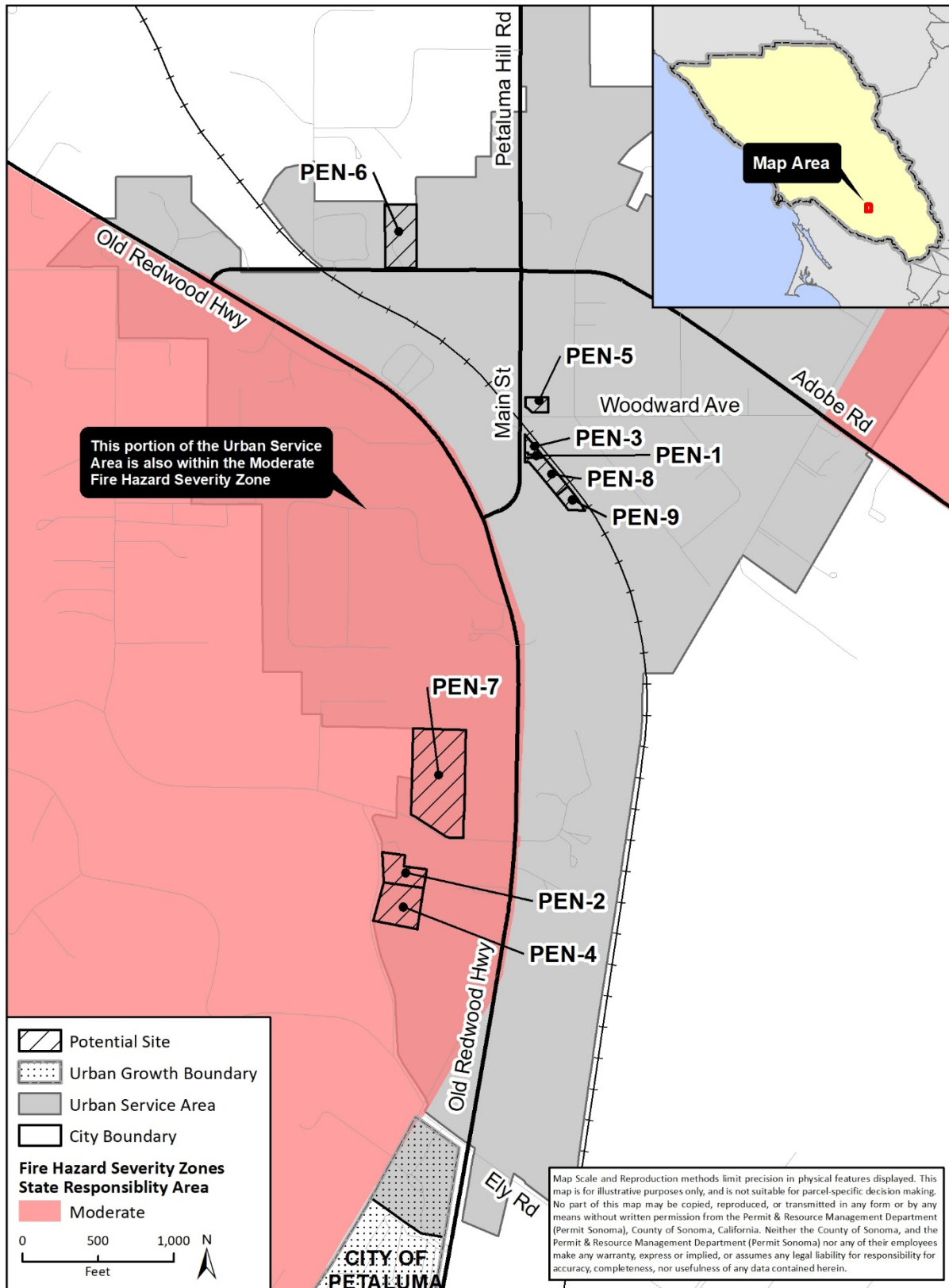
Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

Figure 4.19-9 Fire Hazard Severity Zones – Agua Caliente



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

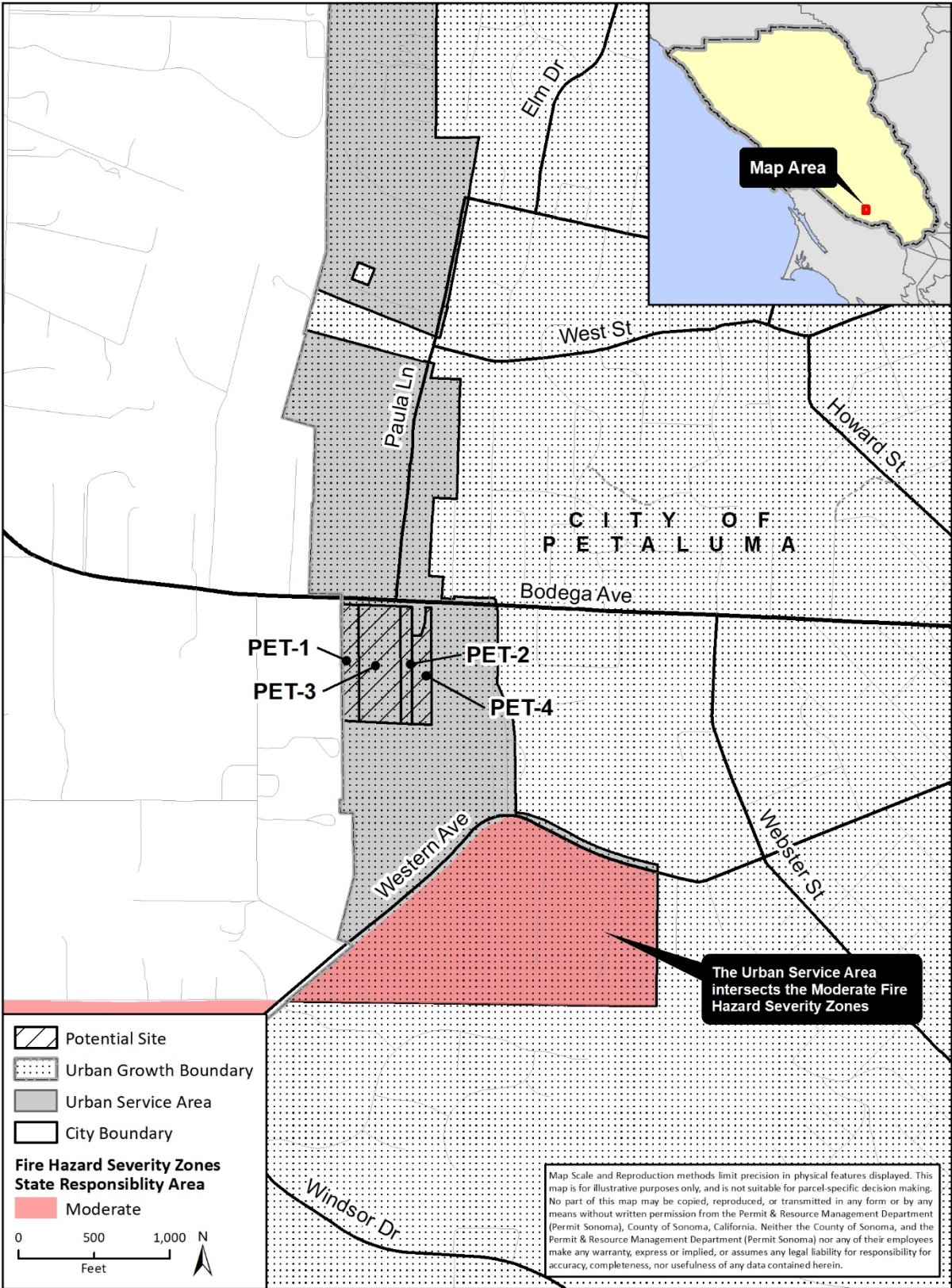
Figure 4.19-10 Fire Hazard Severity Zones – Penngrove



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.



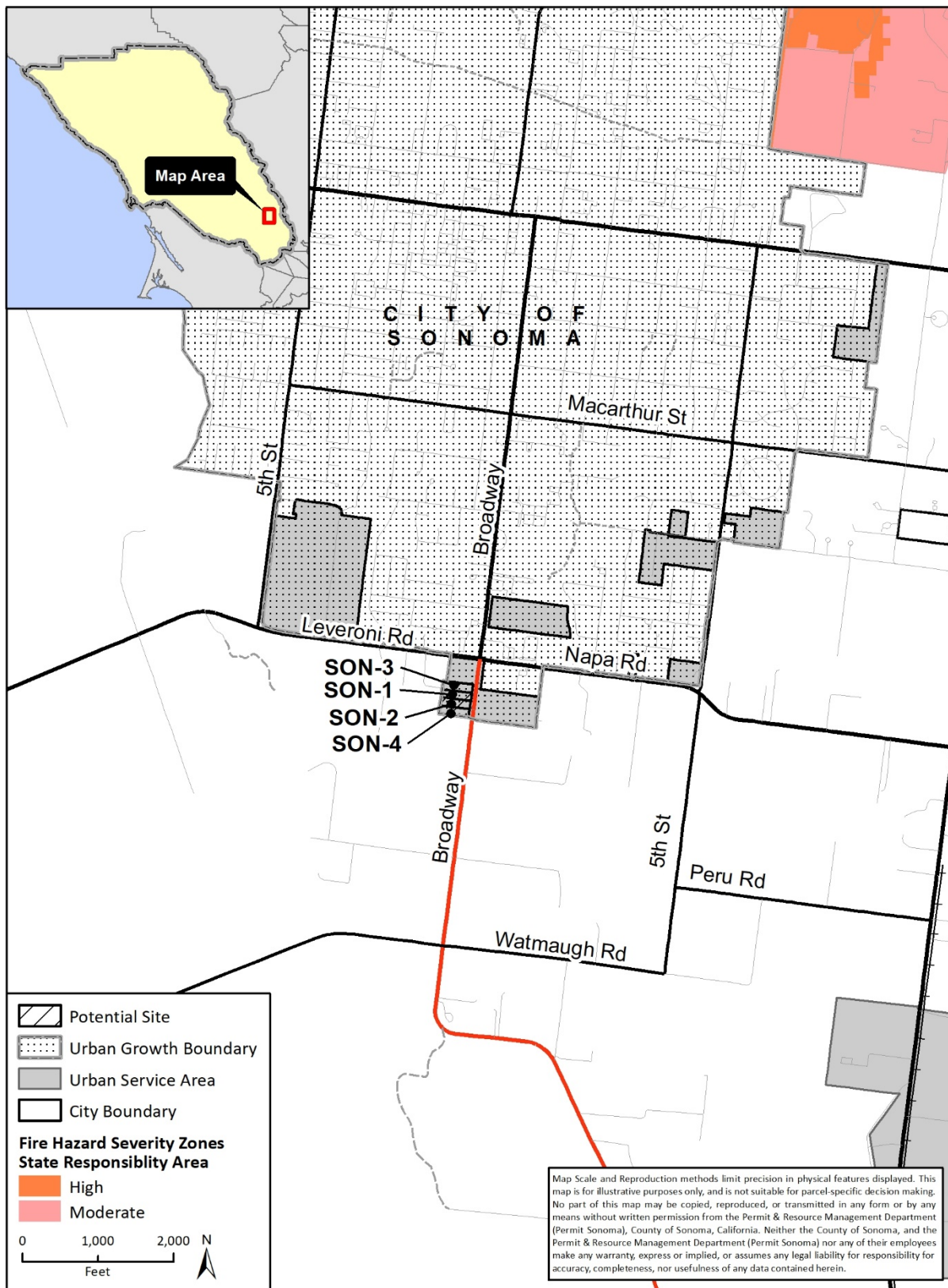
Figure 4.19-11 Fire Hazard Severity Zones – Petaluma



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.



Figure 4.19-12 Fire Hazard Severity Zones – Sonoma



Source: Modified from data obtained with permission from the County of Sonoma, Permit & Resource Management Department (Permit Sonoma).  
Data and/or analysis depicted may be altered from the original Permit Sonoma dataset source therefore not representative of Permit Sonoma data; Esri; CALFIRE.

**Table 4.19-3 Potential Sites Distance to SRA**

Potential Site	Distance to Nearest SRA
GEY-1 through GEY-4	0 mile, adjacent to SRA
GUE-1 through GUE-4	0 mile, within SRA
LAR-1 through LAR-8	<1 mile to SRA
FOR-1 through FOR-6	<1 mile to SRA
GRA-1, GRA-2, GRA-4	<1 mile to SRA
GRA-3, GRA-5	1.3 mile to SRA
SAN-1, SAN-3, SAN-4, SAN-5, SAN-10	<1 mile to SRA
SAN-2, SAN-6 through SAN-9	1.1 mile to SRA
GLE-1, GLE-2	0 mile, within SRA
AGU-1 through AGU-3	<1 mile to SRA
PEN-1, PEN-3, PEN-8, PEN-9	0 mile, adjacent to SRA
PEN-2, PEN-4, PEN-7	0 mile, within SRA
PEN-5, PEN-6	<1 mile to SRA
PET-1 through PET-4	<1 mile to SRA
SON-1 through SON-4	1.7 mile to SRA

Source: National Resources Conservation Service 2020

## 4.19.2 Regulatory Setting

### a. Federal Regulations

#### The Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 requires a state-level mitigation plan as a condition of disaster assistance. There are two different levels of state disaster plans: “Standard” and “Enhanced.” States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Act also established new requirements for local mitigation plans.

#### National Fire Plan

The National Fire Plan was developed in August 2000, following a historic wildfire season. Its intent is to establish plans for active response to severe wildfires and their impacts to communities while ensuring sufficient firefighting capacity. The plan addresses firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability.

### b. State Regulations

#### California Board of Forestry

The Board of Forestry maintains fire safe road regulations, as part of Title 14 of the California Code of Regulations (CCR). This includes requirements for road width, surface treatments, grade, radius, turnarounds, turnouts, structures, driveways, and gate entrances. These regulations are intended to ensure safe access for emergency wildland fire equipment and civilian evacuation.

## California Fire and Building Codes (2019)

The California Fire Code is Chapter 9 of CCR Title 24. It establishes the minimum requirements consistent with nationally-recognized good practices to safeguard public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structure, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The California Fire Code regulates the use, handling and storage requirements for hazardous materials at fixed facilities. The California Fire Code and the California Building Code (CBC) use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines and specialized equipment. To ensure that these safety measures are met, the California Fire Code employs a permit system based on hazard classification. The provisions of this Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout California.

More specifically, the Fire Code is included in Title 24 of the CCR. Title 24, part 9, Chapter 7 addresses fire-resistances-rated construction; CBC (Part 2), Chapter 7A addresses materials and construction methods for exterior wildfire exposure; Fire Code Chapter 8 addresses fire related Interior finishes; Fire Code Chapter 9 addresses fire protection systems; and Fire Code Chapter 10 addresses fire related means of egress, including fire apparatus access road width requirements. Fire Code Section 4906 also contains existing regulations for vegetation and fuel management to maintain clearances around structures. These requirements establish minimum standards to protect buildings located in FHSZs within SRAs and Wildland-Urban Interface (WUI) Fire Areas. This code includes provisions for ignition-resistant construction standards for new buildings.

## Wildland-Urban Interface Building Standards

On September 20, 2007, the Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the CCR Title 24, Part 2, known as the 2007 CBC. These codes include provisions for ignition-resistant construction standards in the WUI.

Interface zones are areas with dense housing adjacent to vegetation that can burn and meeting the following criteria:

1. Housing density class 2 (one house per 20 acres to one house per 5 acres), 3 (more than one house per 5 acres to one house per acre), or 4 (more than one house per acre)
2. In Moderate, High, or Very High Fire Hazard Severity Zone
3. Not dominated by wildland vegetation (i.e., lifeform not herbaceous, hardwood, conifer, or shrub)
4. Spatially contiguous groups of 30-meter cells<sup>2</sup> that are 10 acres and larger

Intermix zones are housing development interspersed in an area dominated by wildland vegetation and must meet the following criteria:

1. Not interface

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<sup>2</sup> Note that "30-meter cells" refers to raster data, and indicates data is presented as 30-meter by 30-meter squares.

2. Housing density class 2
3. Housing density class 3 or 4, dominated by wildland vegetation
4. In moderate, high, or very high fire hazard severity zone
5. Improved parcels only
6. Spatially contiguous groups of 30-meter cells 25 acres and larger

Influence zones have wildfire-susceptible vegetation up to 1.5 miles from an interface zone or intermix zone (CAL FIRE 2019b).

## **The California Fire Plan**

The Strategic Fire Plan for California is the State's road map for reducing the risk of wildfire. The most recent version of the Plan was finalized in August 2018 and directs each CAL FIRE Unit to revise and update its locally-specific Fire Management Plan (CAL FIRE 2018). These plans assess the fire situation within each of the 21 CAL FIRE units and six contract counties. These plans address wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their geographical boundaries.

## **California Office of Emergency Services**

The California Office of Emergency Services (CalOES) prepares the State of California Multi-Hazard Mitigation Plan (SHMP). The SHMP identifies hazard risks and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is federally required under the Disaster Mitigation Act of 2000 for the State to receive Federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

## **State Emergency Plan**

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation.

The California Disaster and Civil Defense Master Mutual Aid Agreement (California Government Code Sections 8555–8561) requires signatories to the agreement to prepare operational plans to use within their jurisdiction, and outside their area. These plans include fire and non-fire emergencies related to natural, technological, and war contingencies. The State of California, all State agencies, all political subdivisions, and all fire districts signed this agreement in 1950.

Section 8568 of the California Government Code, the "California Emergency Services Act," states that "the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." The Act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a City Manager. The provisions of the act are further reflected and expanded on by appropriate local emergency ordinances. The Act further describes the function and operations of government at all levels during extraordinary emergencies, including war.

All local emergency plans are extensions of the State of California Emergency Plan. The State Emergency Plan conforms to the requirements of California's Standardized Emergency Management System (SEMS), which is the system required by Government Code 8607(a) for managing

emergencies involving multiple jurisdictions and agencies (CalOES 2020). The SEMS incorporates the functions and principles of the Incident Command System (ICS), the Master Mutual Aid Agreement, existing mutual aid systems, the operational area concept, and multi-agency or inter-agency coordination. Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster assistance programs. The SEMS consists of five organizational levels that are activated as necessary, including: field response, local government, operational area, regional, and state. CalOES divides the state into several mutual aid regions. The County of Sonoma is located in Mutual Aid Region II, which includes Del Norte, Humboldt, Mendocino, Sonoma, Lake, Napa, Marin, Solano, Contra Costa, San Francisco, San Mateo, Alameda, Santa Clara, Santa Cruz, San Benito, and Monterey Counties (CalOES 2019).

## **Government Code Sections 65302 and 65302.5, Senate Bill 1241 (Kehoe) of 2012**

Senate Bill (SB) 1241 requires cities and counties to address fire risk in SRAs and Very High FHSZs in the safety element of their general plans. The bill also amended CEQA to direct amendments to the CEQA Guidelines Appendix G environmental checklist to include questions related to fire hazard impacts for projects located in or near lands classified as SRAs and Very High FHSZs. In adopting these Guidelines amendments, the Governor's Office of Planning and Research recognized that generally, low-density, leapfrog development may create higher wildfire risks than high-density, infill development.<sup>3</sup>

## **California Public Utilities Commission General Order 166**

General Order 166 Standard 1.E requires that investor-owned utilities (IOU) develop a Fire Prevention Plan which describes measures that the electric utility will implement to mitigate the threat of power-line fires generally. Additionally, this standard requires that IOUs outline a plan to mitigate power line fires when wind conditions exceed the structural design standards of the line during a Red Flag Warning in a high fire threat area. Fire Prevention Plans created by IOUs are required to identify specific parts of the utility's service territory where the conditions described above may occur simultaneously. Standard 11 requires that utilities report annually to the California Public Utilities Commission (CPUC) regarding compliance with General Order 166 (CPUC 2017b). In compliance with Standard 1.E of this General Order, Pacific Gas and Electric Company adopted a Fire Prevention Plan dated October 31, 2018. Pacific Gas and Electric Company developed an interim fire threat map that shows very high fire threats near existing overhead lines along the eastern border of Sonoma County, none of which are directly adjacent to any of the Potential Sites (CPUC 2018b).

### **c. Regional and Local Regulations**

#### **Sonoma County Community Wildfire Protection Plan**

The Sonoma County Community Wildfire Protection Plan was developed with input from many organizations, including state and local fire departments, federal agencies, community groups, and land management agencies. The purpose of the Sonoma County Community Wildfire Protection Plan is to help reduce the potential loss of human life and damage to property, natural and cultural resources within Sonoma County due to wildfire. The plan describes the wildfire risk and potential

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<sup>3</sup> "Leapfrog development" describes the construction of new development at a distance from existing developed areas, with undeveloped land between the existing and new development.

throughout the County, designates WUI areas, discusses assets at risk throughout the County, provides mitigation strategies, and discusses resources available (Fire Safe Sonoma 2016).

## Sonoma County Hazard Mitigation Plan

The Sonoma County Hazard Mitigation Plan incorporates wildfire hazard mitigation principles and practices into the routine government activities and functions of the County. The Plan recommends specific actions that are designed to protect people and community assets from losses to those hazards that pose the greatest risk. Mitigation programs and activities identified in the Plan include fuel reduction and vegetation management, roadside chipper service, grant programs for fire management assistance, and fire prevention fees (County of Sonoma 2017). The County's Hazard Mitigation Plan is incorporated by reference into the Public Safety Element of the General Plan.

## Sonoma County Emergency Operations Plan

The County's Emergency Operations Plan addresses the planned response to extraordinary emergency situations associated with large-scale disasters, and includes all cities, special districts, and unincorporated areas of the County. The plan aims to provide effective safety measures and reduce property loss and damage to the environment through management and coordination of emergency response operations, establishing priorities, and spreading information to the public.

## Sonoma County General Plan

The County's General Plan includes goals and policies to reduce damage from wildfires, including:

**Goal PS-3: Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.**

**Objective LU-7.1:** Restrict development in areas that are constrained by the natural limitations of the land, including but not limited to fire hazards.

**Policy LU-7d:** Avoid new commercial, industrial, and residential land use designations in areas subject to "high" or "very high" fire hazards, as identified in the Public Safety Element, unless the combination of fuel load, access, water supply, and other project design measures will reduce the potential fire related impacts of new development to insignificant levels.

The General Plan notes that to reduce the risk of fire damage in rural areas, the types and intensities of land uses should be limited. Wildfire hazards may be reduced by mitigation measures such as the removal of vegetation and installation of dependable water systems, but the hazards cannot be eliminated entirely. Rural development should be most restricted where natural fire hazards are high, fire protection is limited, and inadequate road access prevents timely response by firefighting personnel and rapid evacuation by residents. As a result, the General Plan land use densities restrict land uses and density in hazardous areas, thereby limiting the number of people and buildings exposed to hazards.

## Sonoma County Fire Prevention Division

The Sonoma County Fire Prevention Division is responsible for programs, procedures, and projects for preventing the outbreak of fires within the unincorporated areas of the county. The goal of this Division is to minimize the danger to persons and damage to property caused by fires that do occur. In addition to code enforcement, Fire Prevention Division staff are responsible for hazardous

materials incident response, fire investigations, emergency scene management support at emergencies, and review of new development permit applications.

## **Sonoma County Department of Emergency Management**

The Sonoma County Department of Emergency Management is responsible for the mitigation, preparedness, planning, coordination of response, and recovery activities related to county emergencies and disasters. The Department serves as the primary coordination point for emergency management's activities affecting more than one jurisdiction, and the unincorporated areas of the county. The Department became an independent county department in July 2019.

## **Sonoma County Code**

The Sonoma County Code, Chapter 13, Sonoma County Fire Code, requires fire sprinklers in residential developments and to remove hazardous vegetation and combustible material from around the exterior of improvements in unincorporated areas of the county. Fire sprinklers are required in structures greater than 640 square feet using a pressurized water delivery system (Sonoma County Code Section 7A-34).

### **4.19.3 Impact Analysis**

#### **a. Methodology and Significance Thresholds**

##### **Methodology**

Impacts related to wildfire hazards and risks were evaluated using FHSZ mapping for Sonoma County, aerial imagery, and topographic mapping. Additionally, weather patterns related to prevailing winds and precipitation trends were evaluated as they relate to the spread and magnitude of wildfire. CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. Consequently, impacts under the thresholds identified below would only be considered significant if the proposed project risks exacerbating those existing environmental conditions.

##### **Significance Thresholds**

For purposes of this Program EIR, development facilitated by the project may have a significant adverse impact if the Potential Sites are in or near (within 2 miles of) SRAs or FHSZs and would do any of the following:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan
2. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire
3. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment
4. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes



## b. Project Impacts and Mitigation Measures

<b>Threshold:</b>	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?
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**Impact WFR-1** THE PROJECT INCLUDES POTENTIAL SITES THAT ARE IN OR NEAR A SRA OR VERY HIGH FHSZs, BUT DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT SUBSTANTIALLY IMPAIR AN ADOPTED EMERGENCY RESPONSE OR EVACUATION PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As shown in Figure 4.19-1 through Figure 4.19-12, CAL FIRE has mapped many of the Potential Sites in or within 2 miles of a Very High FHSZ or SRA. The project would result in development of these sites with higher-density housing. Main transportation routes are identified in the County's Emergency Operations Plan (2014), including Highway 101, State Route 12, State Route 116, State Route 37, State Route 128, and State Route 1. The sites would be accessed by preexisting roadways and would not impair the use of emergency evacuation routes through the modification of existing roadways (either through elimination, reduction in width, or blockage). While the increase in population that would result from project implementation is beyond County General Plan growth projections, the county is experiencing an overall housing shortage and has identified a need for new housing in areas already designated for urban growth. The project would be consistent with this identified housing need and the newly adopted RHNA allocation, as described in Section 4.14, *Population and Housing*. Therefore, the population increase encouraged by the project would not impair adopted emergency response and emergency evacuation plans. Additionally, as described in Section 4.15, *Public Services and Recreation*, the project would not result in the need for new or expanded emergency services, including police and fire protection. Therefore, the implementation of emergency response procedures would not be affected. The County's Emergency Operations Plan establishes the emergency management organization for emergency response, establishes operational concepts associated with emergency management, and provides a flexible platform for planning emergency response in the county. Development facilitated by the project would be constructed in accordance with federal, state, regional, and local requirements, which are intended to ensure the safety of county residents and structures to the extent feasible. Compliance with these standard regulations would be consistent with the County's Emergency Operations Plan. The project would not impair an emergency response or emergency evacuation plan and impacts would be less than significant.

### Mitigation Measures

No mitigation measures would be required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

<b>Threshold:</b>	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
<b>Threshold:</b>	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
<b>Threshold:</b>	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

**Impact WFR-2** THE PROJECT INCLUDES POTENTIAL SITES THAT ARE IN OR NEAR MODERATE, HIGH, AND VERY HIGH FHSZs. DEVELOPMENT FACILITATED BY THE PROJECT WOULD EXPOSE PROJECT OCCUPANTS AND STRUCTURES TO WILDFIRE RISKS FOR SITES LOCATED IN OR NEAR (WITHIN 2 MILES OF) SRAS OR VERY HIGH FHSZs. WILDFIRE RISK WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As shown in Figure 4.19-1 through Figure 4.19-12 and described in Table 4.19-2, CAL FIRE has mapped all of the Potential Sites as within or near (within 2 miles of) a Very High FHSZ or SRA. Development facilitated by the project would increase the potential buildout of the Potential Sites, concentrating this population growth in urban service areas of the unincorporated county, where the risk of wildfire is less than in more rural areas where fuels are more abundant. However, as evidenced by recent wildfires in the county, urban areas, particularly those on the outer edges of urban development are also susceptible to wildfires, despite the having less abundant typical wildfire fuels.

Severe wildfires damage the forest or shrub canopy, the plants below, as well as the soil. In general, this can result in increased runoff after intense rainfall, which can put homes and other structures below a burned area at risk of localized floods and landslides. Some of the Potential Sites are located near steep slopes, known landslide-susceptible areas, and vegetative wildfire fuels, as described in Section 4.19.1(a), *Overview of Wildfire*, above. If a severe wildfire were to occur adjacent to those locations, structures directly downslope (including Potential Sites) may be at risk of flooding or landslides and would expose project residents to wildfire pollutants. If a fire were to occur in more flat and urbanized areas, the risk of flooding or landslides afterward would be negligible because of the nearly flat topography and because little soil would be exposed due to the developed conditions. Therefore, sites located in more flat or urban settings, including SAN-1 through SAN-10, and SON-1 through SON-4, as identified under Section 4.19.1, *Setting*, would not expose people or structures to significant risks, including downslope or downstream flooding or landslides.

Access to Potential Sites FOR-2, FOR-4, GRA-2, AGU-1, and AGU-2 currently does not meet County road standards of 20 feet in width or greater, under Title 14 of the CCR. Prior to approval of development on those Potential Sites, on- and off-site improvements to County and/or private roadways could be required. Those improvements would require a County encroachment permit if on a public right-of-way; however, widening County roads would not exacerbate fire risk.

Road widening could result in temporary or ongoing impacts to the environment through vegetation removal and ground-disturbing activities. Given that road widening locations have not been identified, it would be speculative to analyze potential impacts at this time. However, if it is determined that road widening is needed to access Potential Sites for future development, road widening would require site-specific CEQA compliance that could include additional mitigation measures for aesthetics, biological resources, cultural and tribal cultural resources, among other issues.

As described in Section 4.18, *Utilities and Service Systems*, development facilitated by the project would not require the installation of new power line infrastructure, and therefore would not exacerbate fire risk on that basis. The project would increase the density of development within the Potential Sites, with new structures and on-site infrastructure which would be constructed to current fire and building codes and safety standards. Furthermore, as noted in Section 4.19.2, *Regulatory Setting*, increases in density, such as those from the project have also been shown to reduce fire risk.

The project would result in the development of residential structures on various sites throughout the county, some areas, including sites near Geyserville, Guerneville, Forestville, Glen Ellen, and Penngrove, of which are in proximity to woodlands, shrublands, and chaparral with flammable vegetation. New construction would also be subject to the California Fire Code, which include safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves and vents to prevent intrusion by flame or embers. Fire sprinklers would be required in residential developments (with some exceptions) per the Sonoma County Code, including the Fire Safety Ordinance (Chapter 13). Construction would also be required to meet CBC requirements, including CCR Title 24, Part 2, which includes specific requirements related to exterior wildfire exposure. The Board of Forestry, via CCR Title 14, sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards. The codes and regulations would reduce the risk of loss, injury, or death from wildfire for new residential developments encouraged by the project, but not entirely.

However, the project would have potentially significant wildfire impacts, as existing codes and regulations cannot fully prevent wildfires from damaging structures or occupants. The project would increase the exposure of new residential development to risk of loss or damage from wildfire. Therefore, Mitigation Measure WFR-1 would be required to reduce the risk of wildfire for future development on all Potential Sites. Mitigation Measures WFR-2 and WFR-3, which reduce construction wildfire risk and include project siting considerations, would apply to development on all Potential Sites.

## Mitigation Measures

The County shall impose the following mitigation measures for future development on all Potential Sites.

### *WFR-1 Wildfire Risk Reduction*

The County shall require the following measures to reduce risk of loss, injury, or death from wildfire:

1. Use fire-resistant vegetation native to Sonoma County and/or the local microclimate of the site and prohibit the use of fire-prone species especially non-native, invasive species.

2. Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that shall be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings.
3. Require fire extinguishers to be onsite during project construction. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher.

At the County's discretion, additional wildfire risk reduction requirements may be required. The County shall review and approve the project-specific methods to be employed prior to building permit approval.

#### *WFR-2 Spark Arresters*

Construction equipment powered by internal combustion engines shall be equipped with spark arresters. The spark arresters shall be maintained per manufacturer recommendations to ensure adequate performance.

#### *WFR-3 New Structure Locations*

Prior to finalizing site plans, proposed structure locations shall, to the extent feasible given site constraints, meet the following criteria:

1. Located outside of known landslide-susceptible areas; and
2. Located at least 50 feet from sloped hillsides.

Should the location meet the above criteria, no additional measures are necessary. Should the location be within a known landslide area or within 50 feet of a sloped hillside, structural engineering features shall be incorporated into the design of the structure to reduce the risk of damage to the structure from post-fire slope instability resulting in landslides or flooding. These features shall be recommended by a qualified engineer and approved by the County prior to the building permit approval.

### **Significance After Mitigation**

With implementation of Mitigation Measures WFR-1, WFR-2, and WFR-3, the risk of loss of structures and the risk of injury or death due to wildfires would be reduced. These measures would make structures more fire resistant and less vulnerable to loss in the event of a wildfire. These measures would also reduce the potential for construction to inadvertently ignite a wildfire. However, it is not possible to prevent a significant risk of wildfires or fully protect people and structures from the risks of wildfires, despite implementation of mitigation. Thus, this impact would remain significant and unavoidable.

### **4.19.4 Cumulative Impacts**

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative wildfire impacts is all of Sonoma County. This geographic scope is appropriate for wildfire because wildfires can cause impacts to large areas. Adjacent development that is considered part of the cumulative analysis includes buildout of the

County General Plan, and buildout of areas adjacent to the Potential Sites, including development of surrounding areas in specific development proposals for nearby properties as described in Table 3-1 of Section 3, *Environmental Setting*.

In Sonoma County, the Very High FHSZs are located largely along the eastern boundary and in the central-western portion of the county, as shown in Figure 4.19-1. Most of the unincorporated county is designated as an SRA. Within the geographic scope for this cumulative analysis (all of Sonoma County), wildfire-related impacts could be significant if development is in rural or high fire hazard areas that could exacerbate risks. Cumulative development throughout Sonoma County would increase the density of development in urban areas and within designated urban service areas, which could exacerbate wildfire risks. All new development and infrastructure would be subject to statewide standards for fire safety in the California Fire Code, as described in Impact WFR-2. However, existing codes and regulations cannot fully prevent wildfires from damaging structures or populations, and cumulative wildfire impacts would be significant.

As described in Impact WFR-2, the project would result in significant and unavoidable impacts related to the exposure of people to wildfire risks. While mitigation is provided, it is not possible to prevent a significant risk of wildfires or fully protect people and structures from the risks of wildfires. Therefore, the project would have a cumulatively considerable contribution to a significant cumulative impact regarding wildfires.

## 5 Other CEQA Required Discussions

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This section discusses growth-inducing impacts and irreversible environmental impacts that could result from by the proposed project, in addition to the environmental impacts analyzed in Sections 4.1 to 4.19.

### 5.1 Growth Inducement

*CEQA Guidelines* Section 15126(d) requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth or the construction of additional housing. Growth does not necessarily create significant physical changes to the environment, but increases in population may tax existing facilities, requiring the construction of new facilities that could cause significant effects. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth-inducing potential is therefore considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas. Future development facilitated by the project would have direct and indirect impacts on the environment including significant adverse effects. These issues are addressed, and mitigation measures are provided throughout this Program EIR, particularly in Sections 4.1 to 4.19.

#### 5.1.1 Population Growth

As discussed in Section 4.14, *Population and Housing*, while development facilitated by the proposed rezoning would directly generate population growth, the County has established the need for additional housing due to overcrowding, shortages in high-density housing, and destruction of residences by recent wildfires. The project would facilitate an estimated population growth of 7,735 persons based on the maximum project-facilitated buildout of 2,975 new housing units. The unincorporated county is experiencing a housing shortage of approximately 4,000 units due to the 2017 Sonoma Complex fires, 2019 Kincade Fire, 2020 Glass Fire, and 2020 LNU Lightning Complex fires (California Department of Forestry and Fire Protection 2019, 2020; Graff 2020). The County has also identified 20,700 units of high-density housing need (County of Sonoma 2018). While the proposed project would increase the buildout potential beyond that anticipated in the current General Plan, the project would be consistent with the County-identified housing need and the newly adopted RHNA allocation, as it would allow the future development of new housing on the Potential Sites. Additionally, the increase in housing and population from the provision of this new housing would be within the estimates for the high-density housing need and replacement housing need.

Moreover, as discussed in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, buildout under the proposed rezoning would not generate air quality or greenhouse gas emissions that would result in a significant impact. Additionally, the project does not involve the expansion of existing urban service areas or extension of infrastructure outside of existing urban service areas; rather, it involves increased density within established urban service areas, which has been analyzed in detail throughout this Program EIR. Therefore, population growth associated with the project would not result in significant long-term physical environmental effects, as described throughout Section 4.

## 5.1.2 Economic Growth

The proposed project would generate temporary employment opportunities during construction. Because construction workers would be expected to be drawn from the existing regional work force, project construction would not be growth-inducing from an employment standpoint. The proposed project would not be expected to induce substantial economic expansion to the extent that direct physical environmental effects would result.

## 5.1.3 Removal of Obstacles to Growth

The Potential Sites are located in urban service areas that are served by existing infrastructure. As discussed in Section 4.18, *Utilities and Service Systems*, and Section 4.16, *Transportation*, existing infrastructure would be adequate to serve the project in most locations. Mitigation measures would be required for some sites. Improvements to water, sewer, and drainage connection infrastructure would be needed at some of the Potential Sites (including expanded pipeline and potentially new pumps) but would be sized to specifically serve the individual project and site. These water and sewer utility extensions would be limited in extent and would be contained within designated urban service areas. These extensions would not result in additional growth surrounding the Potential Sites, as future development in urban service areas is already anticipated in the county. No new roads would be required. Because the project would facilitate development within already established urbanized areas, project implementation would not remove an obstacle to growth.

## 5.2 Irreversible Environmental Effects

*CEQA Guidelines* Section 15126.2(c) requires EIRs contain a discussion of significant irreversible environmental changes. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project.

The proposed rezoning would facilitate infill residential development on underdeveloped sites in unincorporated Sonoma County. Construction and operation of development facilitated by the project would involve an irreversible commitment of construction materials and non-renewable energy resources. Development would involve the use of building materials and energy, some of which are non-renewable resources, to construct new residential buildings and associated infrastructure and landscaping. Consumption of these resources would occur with any development in the region and are not unique to the proposed project.

Development facilitated by the proposed project would also irreversibly increase local demand for non-renewable energy resources such as petroleum products and natural gas. However, increasingly efficient building design would offset this demand to some degree by reducing energy demands of the project. As described in Section 4.6, *Energy*, the project would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California, and the Green Building Standards Code requires solar access, natural ventilation, and stormwater capture. Consequently, the project would not use unusual amounts of energy or construction materials and impacts related to consumption of non-renewable and renewable resources would be less than significant. Again,



consumption of these resources would occur with any development in the region and is not unique to the proposed project.

### 5.2.1 Significant and Unavoidable Impacts

Additional vehicle trips associated with the proposed project would incrementally increase local traffic and regional air pollutant and greenhouse gas emissions. Section 4.16, *Transportation*, concludes that long-term transportation impacts associated with the proposed project would be remain significant and unavoidable even with incorporation of mitigation measures. This is considered an irreversible environmental effect.

Although vehicle trips in the county would be increased by the proposed project, as discussed in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, development facilitated by the project would not generate air quality or greenhouse gas emissions that would result in a significant impact.

The project would also require a commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. However, as discussed in Section 4.15, *Public Services and Recreation*, and Section 4.18, *Utilities and Service Systems*, impacts to these service systems would either not be significant or would be reduced to less than significant with implementation of mitigation measures.

CEQA requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this Program EIR concludes that the proposed project would result in a significant and unavoidable cultural resources, transportation, and wildfire impacts. Although development facilitated by the project would be required to implement mitigation measures, impacts would remain significant and unavoidable due to this irreversible loss.

## 5.3 Secondary Effects

According to *CEQA Guidelines* Section 15126.4(a)(1)(D), an EIR should analyze whether mitigation measures would cause one or more significant effects in addition to those that would be caused by the project as proposed. As such, this section discusses potential secondary effects from implementation of mitigation measures that would be imposed on development facilitated by the project.

Mitigation Measures AES-1 through AES-5 would not result in secondary effects on the environment, as they relate to project design and envelope constraints, limitations to material color and texture, planting of screening vegetation, and requiring downcast lighting. These mitigation measures would reduce aesthetic impacts to the environment and would not create additional environmental impacts.

Mitigation Measures AQ-1 and AQ-2 are construction measures designed to reduce emissions of air pollutants and include reduction of idling times, limitations on vehicle speeds, proper vehicle maintenance, vehicle washing, and erosion control. These measures would reduce air pollution emissions and air quality nuisances and would not create additional environmental impacts.

Mitigation Measures BIO-1 through BIO-17 would reduce or avoid environmental impacts to sensitive species and habitats. They include requirements to perform biological resources screening, assessments, and plant surveys; worker education; and avoidance, restoration, and minimization

measures. These measures may place restrictions on construction activities but would not result in additional environmental impacts.

Mitigation Measures CUL-1 through CUL-9 and Mitigation Measures TCR-1 through TCR-5 would prevent impacts to historic, archaeologic, and tribal cultural resources through surveys and avoidance or monitoring. They may restrict, delay, or halt construction (such as during unanticipated discovery of a resources), but they would not result in additional environmental impacts.

Mitigation Measures GEO-1 through GEO-6 are designed to protect paleontological resources during ground disturbance through consultation with a qualified paleontologist to implement worker training or paleontological monitoring and recovery and reporting if necessary. Like the biological and cultural mitigation described above, these measures have the potential to affect construction but would not result in additional environmental impacts.

Mitigation Measures NOI-1 through NOI-7 are noise reduction measures aimed at reducing noise from construction activities and operational noise sources, as well as ensuring exterior and interior land use noise compatibility by performing additional analysis and/or limiting hours some activities could take place. These would reduce noise levels but would not create new environmental impacts.

Mitigation Measure PH-1 requires preparation of a relocation plan. Preparation of the plan would not create environmental impacts by itself, and replacement housing could be subject to additional CEQA compliance prior to project approval.

Mitigation Measures TRA-1 and TRA-2 would involve development of transportation demand management programs and construction traffic management plans. Construction traffic management plans would generally coordinate and centralize details of construction traffic management and would not result in new environmental impacts. However, some items in the transportation demand management could result in secondary environmental effects, such as pedestrian and bus stop improvements and bicycle network enhancements. These improvements would be minor and take place in existing public rights-of-way, and therefore would result in less than significant environmental effects. Additionally, it is likely that any major project would require its own CEQA compliance process. At the time these impacts are assessed based on project-specific design information, if there is an increase in severity of impacts beyond that analyzed in this Program EIR, additional project-specific mitigation measures may be necessary to reduce or avoid impacts.

Mitigation Measure UTIL-1 requires a demonstration that applicable water or sewer service is available to serve future development. To demonstrate capacity, additional water or sewer pipelines or infrastructure upgrades may be necessary. These projects would require their own CEQA analysis before approval. At the time these impacts are assessed based on project-specific design information, if there is an increase in severity of impacts beyond that analyzed in this Program EIR, additional project-specific mitigation measures may be necessary to reduce or avoid impacts.

Mitigation Measures WFR-1 and WFR-2 aim to reduce wildfire risk by prohibiting certain kinds of construction, using native vegetation, and ensuring fire extinguishers are on-site and that certain equipment contains spark arresters. These measures would not result in additional environmental impacts. Mitigation Measure WFR-2 restricts new structure locations to those outside landslide-susceptible areas and within 50 feet of sloped hillsides. These would limit where future development would be proposed but would not result in new environmental impacts beyond those analyzed within Section 4 of this Program EIR.

## 6 Alternatives

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As required by *CEQA Guidelines* Section 15126.6, this chapter examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives but would avoid or substantially lessen the significant adverse impacts.

As discussed in Section 2, *Project Description*, the project objectives are as follows:

1. Add to inventory of sites zoned for by-right housing development sufficient for the County to meet its projected fair share of the regional housing need for the upcoming eight-year housing element cycle, in compliance with California Housing Element law (Government Code Section 65580 et seq.)
2. Encourage the development of high-density housing in the County, leading to an increase in the overall availability of housing
3. Provide housing development opportunities throughout the urban service areas of the unincorporated County near existing and planned jobs, transit, services, and schools
4. Implement goals, objectives, and policies of the Sonoma County General Plan that focus growth in established Urban Service Areas and encourage the development of infill sites to prevent sprawl and protect agricultural land and open space

This analysis presents three alternatives including the CEQA-required “no project” alternative that involve changes to the project that may reduce the project-related environmental impacts identified in this Program EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

1. Alternative 1: No Project (no change in zoning of the Potential Sites; maximum buildout assumed based on existing zoning and land uses)
2. Alternative 2: Workforce Housing Combining District (placing the Workforce Housing Combining District on all Potential Sites)
3. Alternative 3: Fewer Potential Sites (analysis of 53 total Potential Sites, with 6 total removed due to greater environmental constraints)

Table 6-1 provides a summary comparison of the proposed project and each of the alternatives considered. Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.1 through 6.3.

**Table 6-1 Comparison of Project Alternative Buildout Scenarios**

	<b>Proposed Project</b>	<b>Alternative 1: No Project</b>	<b>Alternative 2: Workforce Housing Combining District<sup>1</sup></b>	<b>Alternative 3: Fewer Potential Sites<sup>2</sup></b>
Total Allowable Dwelling Units Under Alternative (Number of Units)	3,329	354	2,220	2,953
Change in Total Allowable Dwelling Units (Number of Units)	+2,975	+0	+1,846	+2,599
Total Additional Residents Under Alternative (Number of Residents) <sup>3</sup>	8,655	920	5,770	7,675
Change in Population Potential (Number of Residents)	+7,735	+0	+4,850	+6,759

<sup>1</sup> This alternative assumes two-thirds of the buildout potential of the proposed project, with the remaining potential as commercial or retail (see description in Section 6.2 below).

<sup>2</sup> This alternative assumes 53 Potential Sites (see description in Section 6.3 below). The Potential Sites under this alternative are included in the calculation of total allowable units and total population using the current allowable buildout density on those sites; however, no change in buildout potential would occur at the six sites removed from the analysis.

<sup>3</sup> Calculations based on 2.6 people per dwelling unit (California Department of Finance 2019).

## 6.1 Alternative 1: No Project Alternative

The *CEQA Guidelines* (Section 15126.6[e][2]) require that the alternatives discussion include an analysis of a No Project Alternative. Pursuant to CEQA, the No Project Alternative refers to the analysis of existing conditions and what would reasonably be expected to occur in the foreseeable future if the project was not approved, based on current plans and consistent with available infrastructure and community services. The No Project Alternative typically will proceed along one of two lines: (1) when a project is a revision of an existing regulatory plan or policy, the No Project Alternative will be continuation of the existing plan or policy; or (b) if a project is a development project on identifiable property, the No Project Alternative is the circumstance under which the project does not proceed. In this case, the No Project Alternative represents the continuation of existing zoning and General Plan designations on the Potential Sites, and full buildout under those existing designations is assumed to occur under this alternative. Typical development assumptions are included in the below analysis of this alternative, including compliance with applicable regulations or typical County-required measures.

### 6.1.1 Description

The No Project Alternative assumes there is no change in zoning or General Plan land use designations for the parcels identified by the project. Current uses on the sites would continue under this alternative, with future full buildout of the Potential Sites limited by the existing zoning and General Plan designations. Buildout of the Potential Sites under existing zoning would allow for up to 354 total housing units, housing a population of 920 residents (refer to Table 6-1). This alternative would not accomplish the project objectives to provide more housing development opportunities in urban service areas or encourage the development of additional high-density housing.

## 6.1.2 Impact Analysis

### Aesthetics

Under the No Project Alternative, buildout consistent with the existing zoning and land use of the Potential Sites would occur. The Potential Sites occur in scenic vistas and viewsheds from State scenic highways as described under Impact AES-1, Impact AES-2, and Table 4.1-4. Design review would be required for future development on parcels with scenic resources zoning, but specific design review of sites identified in Mitigation Measures AES-1 through AES-4 would no longer be required, as development allowed under existing zoning would be smaller in scale than that anticipated under the proposed project. Development allowed under existing zoning would also increase lighting and glare on some of the Potential Sites, but fewer than under the proposed project. Similarly, compliance with County General Plan goals and policies required through the design review process and building permit applications would still be required, but Mitigation Measure AES-5 would no longer be required. Impacts would be reduced when compared to the proposed project.

### Agriculture and Forestry Resources

As described in Section 4.2, *Agriculture and Forestry Resources*, none of the Potential Sites contain important farmland, timberland, or forest land. While the No Project Alternative would keep the existing zoning of the Potential Sites, development allowed under existing zoning could still result in conflicts with nearby agricultural lands, although it is anticipated that these conflicts would be less than those under the proposed project, due to the smaller scale and density of development allowed under the existing zoning. Impacts would be reduced when compared to the proposed project.

### Air Quality

Under the No Project Alternative, less development would occur consistent with allowed existing zoning. Temporary construction-related air quality impacts from grading and construction and long-term air quality impacts from building operation (energy usage, maintenance), would be lower than under the proposed project. Impacts would be reduced when compared to the proposed project.

### Biological Resources

The No Project Alternative would allow development under existing zoning. Because the sensitive species and habitats of the Potential Sites would remain, direct impacts to biological resources would be similar to those that would occur with the proposed project, but at much fewer sites as only up to 354 dwelling units would be developed. Development allowed under the No Project Alternative would be smaller in scale; however, ground disturbance would result in similar impacts to biological resources. Impacts would be similar to, and slightly reduced from the proposed project.

### Cultural Resources

The No Project Alternative would allow development under existing zoning at a smaller scale than under the proposed project but could still entail ground disturbance or excavation activities. It is assumed that development under existing zoning would result in similar impacts to historic or potentially historic buildings on some of the Potential Sites; therefore, the No Project Alternative would not eliminate a significant and unavoidable impact to historic resources. Ground disturbance

from development allowed under existing zoning would still have potential impacts to archaeological resources and human remains, although likely to a lesser extent than under the proposed project due to decreased size and scale of potential new structures. Impacts would be similar to, and slightly reduced from the proposed project.

## **Energy**

Under the No Project Alternative, construction- and operation-related energy use from development allowed under the existing zoning of the Potential Sites would occur, but the decreased scale and intensity of the allowed development would be less than under the proposed project. Impacts would be reduced when compared to the proposed project.

## **Geology and Soils**

The No Project Alternative would allow for development under existing zoning, which would involve construction or ground disturbance that could expose and loosen soils and increase the potential for erosion. The Potential Sites remain outside Alquist-Priolo fault zones, and future construction on any of the sites would be required to comply with California Building Code requirements, ensuring the stability of new structures during seismic events or due to expansive soils. Development allowed under existing zoning, similar to development facilitated by the proposed project, would occur in areas of high paleontological sensitivity; however, development allowed under the No Project Alternative would be smaller in scale and scope than allowed under the proposed project. Impacts would be reduced when compared to the proposed project.

## **Greenhouse Gas Emissions**

Under the No Project Alternative, less development would occur, consistent with allowed existing zoning. Temporary construction-related greenhouse gas (GHG) emissions that result from grading and construction of new development and long-term impacts resulting from building operation (energy use, maintenance, and traffic) would be lower than under the proposed project. Impacts would be reduced when compared to the proposed project.

## **Hazards and Hazardous Materials**

Under the No Project Alternative, the transport, storage, and use of hazardous materials associated with construction of development allowed under existing zoning, and operation of housing, commercial and industrial uses, such as paints and solvents, would be required to comply with existing regulations, similar to the proposed project. Sites containing existing contamination would continue to require remediation and compliance with State and local regulations to allow for development under existing zoning. The Potential Sites remain outside airport influence areas, and no impact related to airport safety hazards would occur under the No Project Alternative, as with the proposed project. Impacts would be similar to those under the proposed project.

## **Hydrology and Water Quality**

The No Project Alternative would allow development under existing zoning, which could include construction activities that would loosen and expose soils, otherwise increase the potential for soil erosion and sedimentation, and create new or additional impervious surfaces. Due to the more limited extent of development allowed under existing zoning, these impacts would be less than those under the proposed project. Similar to the proposed project, development allowed under the No Project Alternative would not substantially decrease groundwater supplies or violate water

quality standards, following compliance with applicable laws and regulations. The smaller total buildout allowed under existing zoning would have fewer impacts on hydrology and water quality than the proposed project. Impacts would be reduced when compared to the proposed project.

## **Land Use and Planning**

Under the No Project Alternative, the Potential Sites would retain their existing zoning, allowing future buildout in accordance with that zoning. The No Project Alternative would not alter connectivity with adjacent areas or divide established communities. Future development under existing zoning would be required to comply with regulatory goals and policies, similar to the proposed project, as discussed in Impact LU-2. The No Project Alternative would result in less intensive future development, which would not promote high-density housing opportunities to the extent that the proposed project would. Impacts would be similar to the proposed project.

## **Mineral Resources**

Similar to the proposed project, the No Project Alternative would allow development under existing zoning on the Potential Sites, which are not located on mineral resources extraction sites. No impact to mineral resources would occur. Impacts would be similar to the proposed project.

## **Noise**

Under the No Project Alternative, less intensive impacts associated with temporary construction-related noise would result from grading and construction of development allowed under existing zoning, as less intensive development of the Potential Sites would be allowed. Less intensive long-term noise impacts resulting from building operation would also occur. Impacts would be reduced when compared to the proposed project.

## **Population and Housing**

Since development would follow existing zoning, the No Project Alternative would not induce substantial population growth, as the development allowed under existing zoning is already accounted for in regional population and housing projections. As a result, the No Project Alternative would not contribute to unplanned growth and would also not displace people or housing.

The No Project Alternative would have no impacts to population and housing, while the proposed project would have less than significant impacts. Impacts under the No Project Alternative would be less than those for the proposed project. However, the No Project Alternative would not provide the benefits associated with the provision of housing that would occur under the proposed project.

## **Public Services and Recreation**

Development allowed by existing zoning would occur under the No Project Alternative, and this alternative would result in a smaller increase to emergency calls to the area, as well as a smaller increase in additional demand for schools, parks, libraries, recreational facilities, or other public services. Impacts under the No Project Alternative would be less than that under the proposed project.

## **Transportation**

Under the No Project Alternative, less intensive temporary construction-related traffic impacts from grading and construction of development allowed under existing zoning would occur. The No



Project Alternative would have a smaller increase in transit demand or interference with existing or planned transit facilities than the proposed project. The No Project Alternative would not alter vehicle miles traveled (VMT); similar to the proposed project, the No Project Alternative would not achieve a 15 percent reduction in VMT. Impacts would be reduced when compared to the proposed project.

### **Tribal Cultural Resources**

The No Project Alternative would allow development under existing zoning, which could entail ground disturbance or excavation activities, but at a smaller scale than under the proposed project. However, the No Project Alternative would still have the potential to unearth and impact tribal cultural resources. Impacts would be similar to, and slightly reduced from the proposed project.

### **Utilities and Service Systems**

Development allowed under existing zoning would occur under the No Project Alternative, and this would result in an increase in demand for water, wastewater, electricity, natural gas, telecommunications, and solid waste service. This increase in demand would be less than the proposed project due to the reduced scale of development allowed under existing zoning, compared with the proposed project; however, the expansion of water and wastewater infrastructure would still be required for sites not already adjacent to existing infrastructure. Impacts would be reduced when compared to the proposed project.

### **Wildfire**

Under the No Project Alternative, development under existing zoning would be allowed on sites that are mapped within or near State Responsibility Areas (SRA) and fire hazard zones. Construction would require building permits and would be required to comply with applicable fire code regulations; however, as noted in Section 4.19, *Wildfire*, existing codes and regulations cannot fully prevent wildfires from damaging structures or injuring occupants. Impacts would be similar to the proposed project.

### **Cumulative Impacts**

Based on the analysis herein, the No Project Alternative would have less impacts to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hydrology and water quality, noise, population and housing, public services and recreation, transportation, tribal cultural resources, and utilities and service systems than the proposed project. Impacts to hazards and hazardous materials, land use and planning, mineral resources, and wildfire would be similar to the proposed project. Because impacts under the No Project Alternative would be less than or similar to the proposed project, and the proposed project's contribution to cumulative impacts for most of these resource areas was determined not to be cumulatively considerable (with the exception of historic resources, VMT, and wildfire impacts), the No Project Alternative would also not be cumulatively considerable (with the exception of historic resources, VMT, and wildfire impacts).

## 6.2 Alternative 2: Workforce Housing Combining District

### 6.2.1 Description

This alternative would involve amending the zoning code to allow for the placement of the Workforce Housing Combining District on all the Potential Sites and placing the Workforce Housing Combining District on all the Potential Sites, which would allow for both commercial development and new residences to be constructed on the Potential Sites. For purposes of the environmental analysis, it was assumed all 59 sites would be developed with a combination of commercial and residential uses. This assumption was used to develop an alternative that would reduce or avoid environmental impacts, particularly vehicle miles traveled, to the extent feasible. This gives the decision makers a reasonable range of alternatives as outlined in CEQA Guidelines Section 15126.6.

Buildout under this alternative would accommodate fewer new residents but would contribute to increasing housing development opportunities in unincorporated Sonoma County. It is assumed that approximately two thirds of the development proposed under the project would occur under this alternative, resulting in approximately 2,220 new dwelling units and approximately 5,770 new residents. This would result in approximately 1,846 new dwelling units and approximately 4,850 new residents more than would be developed under existing zoning. This pattern of development would allow locally serving retail uses along with residential uses at the Potential Sites, which would reduce the VMT for residents of those sites and surrounding areas because they would live close to some commercial uses. The commercial component of this alternative would allow for commercial uses on the ground floor with up to two stories of residential uses above. The building envelopes under this alternative would be identical to those under the proposed project, as the reduction in housing square footage would be balanced by the increase in commercial square footage. This alternative would provide housing development opportunities, and encourage the development of additional high-density housing, although to a lesser extent than the proposed project. However, this alternative would not meet project objectives because no sites would be zoned exclusively for housing.

### 6.2.2 Impact Analysis

#### Aesthetics

Under Alternative 2, buildout of the Potential Sites would occur, similar to the proposed project. For purposes of the analysis it was assumed the development facilitated by Alternative 2 would be mixed use in nature, but the building envelope and height would be the same as under the proposed project. Because building sizes would be similar to the proposed project, impacts on scenic vistas, scenic resources, visual character or quality, and light and glare would be the same, and Mitigation Measures AES-1 through AES-5 would be required to reduce impacts to less than significant. Impacts would be similar to the proposed project.

#### Agriculture and Forestry Resources

As described in Section 4.2, *Agriculture and Forestry Resources*, none of the Potential Sites contain important farmland, timberland, or forest land. For purposes of the analysis it was assumed Alternative 2 would encourage mixed-use development of the Potential Sites, which would result in conflicts with nearby agricultural lands, similar to the proposed project. However, the Potential Sites

would be subject to County Zoning Code agricultural protection buffers, which would ensure impacts would be less than significant. Impacts would be similar to the proposed project.

## **Air Quality**

Under Alternative 2, a similar amount of development would occur, with approximately one third of residential square footage under the proposed project replaced with commercial uses. Temporary construction-related air quality impacts that result from grading and construction would be similar to the proposed project, as building envelopes and sizes would be approximately the same.

Alternative 2 would have a lower VMT during operation than the proposed project, as locally serving retail would be closer to new residences due to the mixed-use nature of this alternative. Therefore, Alternative 2 would result in lower operational air quality emissions than the proposed project and would have lower air quality impacts as a result. Impacts would be reduced when compared to the proposed project.

## **Biological Resources**

Under Alternative 2, buildout of the Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 2 would be mixed use in nature, but the building envelope and required ground disturbance would be the same as under the proposed project. Because building sizes and ground disturbance would be similar to the proposed project, impacts on special-status species, riparian or sensitive habitats, protected wetlands, wildlife movement, conflicts with local ordinances, and conflicts with the Santa Rosa Plain Conservation Strategy would be the same, and Mitigation Measures BIO-1 through BIO-17 would be required to reduce impacts to less than significant. Impacts would be similar to the proposed project.

## **Cultural Resources**

Under Alternative 2, buildout of the Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 2 would be mixed use in nature, but the building envelope and required ground disturbance would be the same as under the proposed project. Because building sizes and ground disturbance would be similar to the proposed project, impacts on historic resources, archaeological resources, and human remains would be the same, and Mitigation Measures CUL-1 through CUL-9 would be required to lessen impacts, although impacts to historic resources would remain significant and unavoidable. Impacts would be similar to the proposed project.

## **Energy**

The development facilitated by Alternative 2 would be mixed use in nature, but the energy requirements for construction and operation would be similar to the proposed project, due to the similar building sizes and envelopes. Similar to the proposed project, development facilitated by Alternative 2 would comply with the 2019 California Building Energy Efficiency Standards for Residential Buildings and CALGreen (California Code of Regulations Title 24, Parts 6 and 11) or later versions, which require certain energy-efficient development features. Alternative 2 would have a lower VMT than the proposed project, as locally serving retail would be close to new residences, due to the mixed-use nature of this alternative. Therefore, Alternative 2 would require less fuel for vehicle travel than the proposed project and would have lower energy demands as a result. Impacts would be reduced when compared to the proposed project.

## Geology and Soils

Under Alternative 2, buildout of the Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 2 would be mixed use in nature, but the building envelope and required ground disturbance would be the same as under the proposed project. Because building sizes and ground disturbance would be similar to the proposed project, impacts from earthquakes, seismic-related ground failure, erosion, expansive soils, and paleontological resources would be the same, and Mitigation Measures GEO-1 through GEO-6 would be required to reduce impacts to less than significant. Impacts would be similar to the proposed project.

## Greenhouse Gas Emissions

Under Alternative 2, a similar amount of development would occur as mixed-use development on the Potential Sites. Temporary, construction-related GHG emissions that result from grading and construction would be similar to the proposed project, as building envelopes and sizes would be approximately the same.

Alternative 2 would have a lower VMT during operation than the proposed project, as locally serving retail would be close to new residences due to the mixed-use nature of this alternative. Therefore, Alternative 2 would result in lower operational GHG emissions than the proposed project and would have lower GHG impacts as a result. Impacts would be reduced when compared to the proposed project.

## Hazards and Hazardous Materials

Under Alternative 2, buildout of the Potential Sites would occur similar to the proposed project. The development facilitated by Alternative 2 would be mixed use in nature, but the building envelope and required ground disturbance would be the same as under the proposed project. Because building sizes and ground disturbance would be similar to the proposed project, impacts from hazardous materials transport, development on sites included on a list of sites pursuant to Government Code Section 65926.5, development near an airport, and impairment of an emergency plan would be the same. Impacts would be less than significant following compliance with applicable hazardous materials laws and regulations. Impacts would be similar to the proposed project.

## Hydrology and Water Quality

Alternative 2 would allow mixed-use development on the Potential Sites, which would include construction activities of a similar scale as the proposed project. Alternative 2 would have a similar development footprint and intensity of development as the proposed project; therefore, impacts related to erosion, impervious surfaces, and flooding would be similar. Similar to the proposed project, development allowed under Alternative 2 would not substantially decrease groundwater supplies or violate water quality standards, following compliance with applicable laws and regulations. Impacts would be similar to the proposed project.

## Land Use and Planning

Alternative 2 would facilitate mixed-use development on the Potential Sites. Similar to the proposed project, Alternative 2 would not alter connectivity with adjacent areas or divide established communities, as it would encourage infill development within designated urban service areas. Alternative 2 would reduce VMT associated with the project by locating locally serving retail with

residential developments; therefore, this alternative would result in lower transportation costs than the proposed project in relation to Plan Bay Area 2040. Alternative 2 would be consistent with the General Plan goals and policies included in Section 4.11, *Land Use and Planning*, similar to the proposed project, as similar utilities upgrades would be required. This alternative would also result in the future development of infill sites, and the intensity of development would be similar to the proposed project. Alternative 2 would introduce additional commercial uses to the urban service areas, which better aligns with Policy LU-6i than the proposed project. However, this alternative would introduce both commercial and residential uses to some existing commercial-only and residential-only areas, which would slightly alter the land use character of the area. This alternative would reduce housing opportunities compared to the proposed project, which would result in a lesser increase in high-density housing per goals and policies in the General Plan Housing Element. Overall, impacts would be lesser than the proposed project.

## **Mineral Resources**

Similar to the proposed project, Alternative 2 would allow for the development of mixed uses on the Potential Sites, which are not located on mineral resources extraction sites. No impact to mineral resources would occur. Impacts would be similar to the proposed project.

## **Noise**

Under Alternative 2, the amount of construction required would be comparable to the proposed project, resulting in similar temporary construction-related noise and vibration impacts. Long-term noise impacts resulting from building operation would be similar to the proposed project, if slightly reduced due to the fewer vehicle trips that would be associated with this alternative. Impacts would be similar to and slightly less than the proposed project.

## **Population and Housing**

Development facilitated by Alternative 2 would result in approximately 2,220 new dwelling units and approximately 5,770 new residents, or approximately 1,846 dwelling units and 4,850 residents above allowable development under existing General Plan designations. However, this increase would not induce substantial population growth, as the County has been assigned a substantial increase in its approved draft RHNA allocation of more than 3,900 units (ABAG 2021). As a result, Alternative 2 would not contribute to unplanned growth; neither would it displace people or housing. However, Alternative 2 would not provide as much housing as the proposed project and would address the County's replacement housing and high-density housing need to a lesser extent than the proposed project. Impacts under Alternative 2 would be similar to the proposed project.

## **Public Services and Recreation**

Development facilitated by Alternative 2 would increase the demand for fire protection, police protection, schools, parks, recreational facilities, and other public facilities. This alternative would introduce less housing than the proposed project, which would result in lesser demands for schools, parks, and recreational facilities. The reduction in housing would be supplemented by an increase in locally serving commercial uses, which would result in an overall similar increase in demand for fire and police protection services. Impacts under Alternative 2 would be lesser than the proposed project.

## Transportation

Under Alternative 2, similar temporary construction-related traffic impacts would occur. The addition of commercial uses would result in a more efficient travel pattern, especially in areas that lack locally serving retail. This would result in a lower increase in VMT as compared to the proposed project; however, travel to schools, employment, recreation, and other destinations would remain the same as the proposed project. Alternative 2 would have a smaller increase in transit demand than the proposed project, as a smaller increase in new residents would occur. Impacts would be reduced when compared to the proposed project. While VMT would be reduced by Alternative 2 compared to the proposed project, a significant and unavoidable VMT impact would still occur (Appendix TRA).

## Tribal Cultural Resources

Under Alternative 2, buildout of the Potential Sites would occur similar to the proposed project. The development facilitated by Alternative 2 would be mixed use in nature, but the building envelope and required ground disturbance would be the same as under the proposed project. Because building sizes and ground disturbance would be similar to the proposed project, impacts on tribal cultural resources would be the same, and Mitigation Measures TCR-1 through TCR-5 would be required to lessen impacts. Impacts would be similar to the proposed project.

## Utilities and Service Systems

Development facilitated by Alternative 2 would result in an increase in demand for water, wastewater, electricity, natural gas, telecommunications, and solid waste service. This increase in demand would be similar to the proposed project despite the reduction in residential uses, as commercial uses would be developed alongside the residential uses. As with the proposed project, water and wastewater infrastructure upgrades would be required for sites not already adjacent to existing infrastructure. The required upgrades would be similar under this alternative as under the proposed project. Impacts would be similar to the proposed project.

## Wildfire

Alternative 2 would facilitate the development of mixed-use buildings on sites that are mapped within or near SRAs and fire hazard zones. Construction would require building permits and would be required to comply with applicable fire code regulations; however, as noted in Section 4.19, *Wildfire*, existing codes and regulations cannot fully prevent wildfires from damaging structures or injuring occupants. Mitigation Measures WFR-1, WFR-2, and WFR-3 would still be required under this alternative for development on Potential Sites. Similar to the proposed project, impacts would remain significant and unavoidable. Impacts would be similar to the proposed project.

## Cumulative Impacts

Based on the analysis herein, Alternative 2 would have lesser impacts to air quality, energy, GHG emissions, land use and planning, noise, public services and recreation, and transportation than the proposed project. Impacts to aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, population and housing, tribal cultural resources, utilities and service systems, and wildfire would be similar to the proposed project. Because impacts under Alternative 2 would be lesser or similar to the proposed project, and the proposed project's contribution to cumulative

impacts for most of these resource areas was determined not to be cumulatively considerable (with the exception of historic resources, VMT, and wildfire impacts), Alternative 2 would also not be cumulatively considerable (with the exception of historic resources, VMT, and wildfire impacts).

## 6.3 Alternative 3: Fewer Potential Sites

### 6.3.1 Description

This alternative analyzes fewer Potential Sites. Those sites with the most environmental constraints that would make developing sites more difficult, have greater environmental impacts, or would be more costly to develop have been removed from Alternative 3. These Potential Sites are described below.

1. FOR-1
2. FOR-2
3. SON-1
4. SON-2
5. SON-3
6. SON-4

These six Potential Sites have greater than average environmental constraints compared to the other Potential Sites. In particular, these sites would require off-site infrastructure water and sewer improvements to serve future development. Under this alternative, the remaining 53 Potential Sites would be rezoned for future development, identical to the proposed project. Development facilitated by Alternative 3 would result in approximately 2,953 new dwelling units and approximately 7,675 new residents. This would add approximately 2,599 new dwelling units and approximately 6,759 new residents more than development that occurs under existing zoning.

### 6.3.2 Impact Analysis

#### **Aesthetics**

Under Alternative 3, buildout of 53 Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 3 on those sites would be the same as under the proposed project. Because building sizes would be the same as the proposed project, impacts on scenic vistas, scenic resources, visual character or quality, and light and glare would be the same, and Mitigation Measures AES-1 through AES-5 would be required to reduce impacts to less than significant. Impacts would be similar to the proposed project, except on fewer sites.

#### **Agriculture and Forestry Resources**

As described in Section 4.2, *Agriculture and Forestry Resources*, none of the Potential Sites contain important farmland, timberland, or forest land. Alternative 3 would allow development of the 53 Potential Sites, which would result in conflicts with nearby agricultural lands, similar to the proposed project. However, the Potential Sites would be subject to County Zoning Code agricultural protection buffers, which would ensure impacts would be less than significant. Impacts would be similar to the proposed project, except on fewer sites.



## **Air Quality**

Under Alternative 3, the same amount of development would occur on the 53 Potential Sites as the proposed project. Temporary construction-related air quality impacts that result from grading and construction would be similar to the proposed project, except on fewer sites.

Alternative 3 would have a similar VMT during operation than the proposed project on the 53 Potential Sites. Overall, Alternative 3 would result in slightly lower operational air quality emissions than the proposed project and would have slightly smaller air quality impact as a result. Impacts would be slightly reduced when compared to the proposed project.

## **Biological Resources**

Under Alternative 3, buildout of the 53 Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 3 would result in the same ground disturbance as under the proposed project for the 53 Potential Sites. Because building sizes and ground disturbance would be similar to the proposed project, impacts on special-status species, riparian or sensitive habitats, protected wetlands, wildlife movement, conflicts with local ordinances, and conflicts with the Santa Rosa Plain Conservation Strategy would be the same, and Mitigation Measures BIO-1 through BIO-17 would be required to reduce impacts to less than significant. Impacts would be similar to the proposed project, except on fewer sites.

## **Cultural Resources**

Under Alternative 3, buildout of the 53 Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 3 would result in the same ground disturbance as under the proposed project on the 53 Potential Sites. Because building sizes and ground disturbance would be similar to the proposed project, impacts on historic resources, archaeological resources, and human remains would be the same, and Mitigation Measures CUL-1 through CUL-9 would be required to reduce impacts, although impacts to historic resources would remain significant and unavoidable. Impacts would be similar to the proposed project, except on fewer sites.

## **Energy**

Under Alternative 3, buildout of the 53 Potential Sites would occur, similar to the proposed project. Similar to the proposed project, development facilitated by Alternative 3 would comply with the 2019 California Building Energy Efficiency Standards for Residential Buildings and CALGreen (California Code of Regulations Title 24, Parts 6 and 11) or later versions, which require certain energy efficient development features. Alternative 3 would require less fuel for vehicle travel than the proposed project with the development of only 53 Potential Sites and would have lower energy demands as a result. Impacts would be reduced when compared to the proposed project.

## **Geology and Soils**

Under Alternative 3, buildout of 53 Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 3 would result in the same ground disturbance as under the proposed project. Because building sizes and ground disturbance would be the same as the proposed project for the 53 Potential Sites, impacts from earthquakes, seismic-related ground failure, erosion, expansive soils, and paleontological resources would be the same, and Mitigation Measures GEO-1 through GEO-6 would be required to reduce impacts to less than significant. Impacts would be similar to the proposed project, except on fewer sites.

## Greenhouse Gas Emissions

Under Alternative 3, the amount of development would occur on the 53 Potential Sites. Temporary construction-related GHG emissions that result from grading and construction would be similar to the proposed project, except on fewer sites.

Alternative 3 would have a similar VMT during operation than the proposed project. Overall, Alternative 3 would result in slightly lower operational GHG emissions than the proposed project and would have slightly smaller GHG impact as a result. Impacts would be slightly reduced when compared to the proposed project.

## Hazards and Hazardous Materials

Under Alternative 3, buildout of the 53 Potential Sites would occur, similar to the proposed project. The development facilitated by Alternative 3 would result in the same ground disturbance as under the proposed project. Because building sizes and ground disturbance would be similar to the proposed project, impacts from hazardous materials transport, development on sites included on a list of sites pursuant to Government Code Section 65926.5, development near an airport, and impairment of an emergency plan would be the same, and impacts would be less than significant following compliance with applicable hazardous materials laws and regulations. Impacts would be similar to the proposed project.

## Hydrology and Water Quality

Alternative 3 would allow future residential development on the 53 Potential Sites, which would include construction activities of a similar scale as the proposed project. Therefore, impacts related to erosion, impervious surfaces, and flooding, would be the same as the proposed project for the 53 Potential Sites. Similar to the proposed project, development allowed under Alternative 3 would not substantially decrease groundwater supplies or violate water quality standards, following compliance with applicable laws and regulations. Impacts would be similar to the proposed project, except on fewer sites.

## Land Use and Planning

Alternative 3 would facilitate residential development on the 53 Potential Sites. Similar to the proposed project, Alternative 3 would not alter connectivity with adjacent areas or divide established communities, as it would encourage infill development within designated urban service areas. Alternative 3 would lower VMT associated with the project by removing six of the Potential Sites from the proposed rezoning; therefore, this alternative would result in slightly lower transportation costs than the proposed project. Alternative 3 would be consistent with the General Plan goals and policies included in Section 4.11, *Land Use and Planning*, similar to the proposed project, as fewer utilities upgrades would be required. This alternative would also result in the future development of infill sites, and the intensity of development would be similar to the proposed project for the 53 Potential Sites. This alternative would reduce housing opportunities compared to the proposed project, due to the reduction in the number of total sites, which would result in a smaller increase in high-density housing per goals and policies in the General Plan Housing Element. Impacts would be similar to than the proposed project.

## Mineral Resources

Similar to the proposed project, Alternative 3 would allow for the development of residential uses on the 53 Potential Sites, which are not located on mineral resources extraction sites. No impact to mineral resources would occur. Impacts would be similar to the proposed project.

## Noise

Under Alternative 3, the amount of construction required would be the same as the proposed project for the 53 Potential Sites, resulting in similar temporary construction-related noise and vibration impacts. Long-term noise impacts resulting from building operation would be the same as the proposed project for the 53 Potential Sites. Alternative 3 would result in lesser noise impacts at the six removed sites. Impacts would be similar to the proposed project, except on fewer sites.

## Population and Housing

Development facilitated by Alternative 3 would result in approximately 2,953 new dwelling units and approximately 7,675 new residents, or approximately 2,599 new dwelling units and approximately 6,759 new residents more than allowed under existing General Plan designations at the 53 Potential Sites. However, this increase would not induce substantial population growth, as the County has been assigned a substantial increase in its approved draft RHNA allocation of more than 3,900 units (ABAG 2021). As a result, Alternative 3 would not contribute to unplanned growth and would also not displace people or housing. However, Alternative 3 would not provide as much housing as the proposed project and would address the County's replacement housing and high-density housing need to a lesser extent than the proposed project. Impacts under Alternative 3 would be similar to the proposed project.

## Public Services and Recreation

Development facilitated by Alternative 3 would increase the demand for fire protection, police protection, schools, parks, recreational facilities, and other public facilities. This alternative would introduce less housing than the proposed project, which would result in lesser demands for schools, parks, and recreational facilities in the vicinity of the Forestville and Sonoma sites. Impacts under Alternative 3 would be lesser than the proposed project.

## Transportation

Alternative 3 would result in the same temporary construction-related traffic impacts at the 53 Potential Sites. Alternative 3 would result in the same VMT at the 53 Potential Sites. Similarly, Alternative 3 would have a similar increase in transit demand at the 53 Potential Sites as the proposed project. Impacts would be similar to the proposed project, except on fewer sites.

## Tribal Cultural Resources

Under Alternative 3, buildout of the 53 Potential Sites would occur, similar to the proposed project. The ground disturbance resulting from development facilitated by Alternative 3 would be the same as under the proposed project for the 53 Potential Sites. Therefore, impacts on tribal cultural resources would be the same on these sites, and Mitigation Measures TCR-1 through TCR-5 would be required to reduce impacts. Impacts would be similar to the proposed project, except on fewer sites.

## Utilities and Service Systems

Development facilitated by Alternative 3 would result in an increase in demand for water, wastewater, electricity, natural gas, telecommunications, and solid waste service at the 53 Potential Sites. This increase in demand would be the same as the proposed project for the 53 Potential Sites; however, fewer sites would require water and sewer infrastructure improvements and extensions with the removal of the six sites. Impacts would be similar to the proposed project, except on fewer sites.

## Wildfire

Alternative 3 would facilitate the development of residential uses on the 53 Potential Sites, which are mapped within or near SRAs and fire hazard zones. Sites GUE-1 through GUE-4, GLE-1, GLE-2, PEN-2, PEN-4, and PEN-7 are in Moderate Fire Hazard Severity Zones, with sites GEY-1 through GEY-4, FOR-1 through FOR-6, GLE-1, GLE-2, and AGU-1 through AGU-3 near (within 2 miles of) a Very High Fire Hazard Severity Zone and all sites within or near (within 2 miles of) a SRA. Construction would require building permits and would be required to comply with applicable fire code regulations; however, as noted in Section 4.19, *Wildfire*, existing codes and regulations cannot fully prevent wildfires from damaging structures or injuring occupants. Mitigation Measures WFR-1, WFR-2, and WFR-3 would still be required under this alternative for development on the 53 Potential Sites. Similar to the proposed project, impacts would remain significant and unavoidable. Impacts would be similar to the proposed project.

## Cumulative Impacts

Based on the analysis herein, Alternative 3 would have fewer impacts to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hydrology and water quality, noise, public services and recreation, transportation, tribal cultural resources, and utilities and service systems than the proposed project. Impacts to hazards and hazardous materials, land use and planning, mineral resources, population and housing, and wildfire would be similar to the proposed project. Because impacts under Alternative 3 would be lesser or similar to the proposed project, and the proposed project's contribution to cumulative impacts for most of these resource areas was determined not to be cumulatively considerable (with the exception of historic resources, VMT, and wildfire impacts), Alternative 2 would also not be cumulatively considerable (with the exception of historic resources, VMT, and wildfire impacts).

## 6.4 Alternatives Considered but Rejected

The County considered numerous alternatives as suggested by commenters during the scoping period (see Table 1-1), and other alternatives suggested by staff. The following summarizes those alternatives considered, but ultimately rejected for inclusion in this Program EIR analysis as they would not meet most of the project objectives, did not substantially reduce impacts compared to the proposed project, or were determined to be infeasible.

1. The County looked at an alternative that would reduce vacation rental use and convert vacation rentals back to "regular" residential rental housing countywide. This alternative would not encourage the development of new residences for Sonoma's workforce, and therefore would not meet most of the project objectives, particularly to increase the overall availability of housing as well as providing housing opportunities throughout the urban areas of unincorporated County near jobs, transit, services, and schools. Additionally, there is no

guarantee that former vacation rental housing would be converted into full-time residential use rather than being retained by owner-occupants, and it is speculative to assume that all former vacation rentals would become housing units for new residents. Vacation rentals are already prohibited within the medium and high-density residential zones where most of the Potential Sites are located. The County has several policies restricting vacation rental use, including Sonoma County Code Section 26-88-120, which is intended to ensure vacation rentals are compatible with and do not adversely impact surrounding residential and agricultural uses and limits the maximum number of guestrooms, overnight occupancy, guests and daytime visitors, and residences or structures per parcel. County Code Section 26-88-120 also contains provisions regarding parking and performance standards for noise limits, pets, trash/recycling facilities, outdoor fire areas, utilities connections, and emergency access. County Code Section 26-75-050 prohibits vacation rentals or other transient occupancies in high-density housing combining districts. County Code Section 26-24-030 prohibits vacation rentals in the R3 zoning district and in the R2 district for developments with more than 5 units. County Code Section 26-88-120 only allows vacation rentals in single-family residences or guest houses. County Code Sections 40-47 and 40A-47 prohibit the establishment and operation of new vacation rentals within the 2017 Sonoma Complex Fires and 2019 Kincadee Fire burn areas until December 31, 2021, and County Code sections 40C-47 and 40D-47 similarly prohibit new vacation rentals in the 2020 LNU Lightning Complex Fires and 2020 Glass Fire burn areas until December 31, 2022. County Code Chapter 26, Article 79 establishes the Vacation Rental Exclusion Combining District, which prohibits vacation rentals in areas that lack adequate road access of off-street parking, residential character is preferred, where the residential housing stock is to be protected from conversion to visitor-serving uses, where there is a significant fire hazard, or other areas as determined by the Board of Supervisors. Due to the extent of existing County regulations restricting vacation rentals in certain areas and in certain residential zones, this alternative would not be substantially different from existing conditions in the County and would not achieve project objectives.

2. The County considered an alternative that would require deed-restricted, legally affordable housing on all the Potential Sites. Although this alternative could meet most of the project objectives, it would not reduce or avoid an environmental impact under CEQA. Additionally, to receive the maximum density bonus and other incentives for affordable housing development, a project is already required to be deed restricted as to affordability.
3. The County considered an alternative to encourage development within existing infill sites in unincorporated communities and Urban Service Areas with existing sewer and water that are not inside cities' Spheres of Influence and/or voter approved-Urban Growth Boundaries (UGBs). Proper location is an important consideration for new housing in the unincorporated County, as there has been a long-standing countywide commitment to avoid sprawl and protect open space. General Plan Goal LU-3; Objectives LU-2.5 and LU-5.1; and Policies LU-2c, LU-3b, LU-3c, LU-5e, and LU-20a protect designated Community Separators and facilitate city- and community-centered growth, voter-approved UGBs, and General Plan-designated Urban Service Areas. Developing outside of UGBs in particular would disrupt the existing land use patterns in UGBs and introduce incompatible uses. The 59 Potential Sites were carefully selected after a preliminary evaluation of over 100 sites to determine the most appropriate sites to move forward for comprehensive evaluation (see Section 2.4.3, *Project Background*, for full description of the site selection process). Therefore, this alternative would substantially reduce the number of sites to analyze because few vacant infill sites meet all of these requirements,

which would further reduce the County's ability to encourage increased residential development.

4. The County considered a lower density alternative, but this would not achieve project objectives because lower densities would not meet the County's projected housing need for the upcoming eight-year regional housing need cycle due to the limitations of finding additional sites that could support residential uses. Therefore, this alternative was rejected. Additionally, Alternatives 2 and 3 already consider lower levels of housing development across the Potential Sites.
5. The County considered an alternative where development "by right" is not an integral project component. By-right means that no discretionary land use approvals would be required for the development of medium-density housing on the Potential Sites. This alternative was eliminated because it would not reduce or avoid an environmental impact, as the same level of future buildout would be anticipated as under the proposed project.

## 6.5 Environmentally Superior Alternative

CEQA requires identification of the environmentally superior alternative among the alternatives to the proposed project. The environmentally superior alternative must be an alternative that reduces some of the project's environmental impacts, regardless of the financial costs associated.

Identification of the environmentally superior alternative is an informational procedure and the alternative identified as the environmentally superior alternative may not be that which best meets the goals or needs of the proposed project. Table 6-2 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied. Based on the alternatives analysis provided above, Alternative 3 would be the environmentally superior alternative.

Based on the analysis of alternatives in this section, the No Project Alternative is the environmentally superior alternative as it would either avoid or lessen the severity of most impacts of the proposed project. The No Project Alternative would still result in significant and unavoidable transportation, cultural resources, and wildfire impacts. Because the No Project Alternative would not generate new population within the County above existing buildout projections, impacts to public services and recreation, and utilities and service systems would also be eliminated. In addition, significant but mitigable impacts related to aesthetics, air quality, biological resources, geology and soils, noise, tribal cultural resources, and utilities and service systems would be reduced compared to the project. However, this alternative would not meet the project objectives, as it would not increase the opportunities or encourage the development of housing in the County.

If the No Project Alternative is determined to avoid or reduce more impacts than any other alternative, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives (*CEQA Guidelines* Section 15126.6[e]). Of the other alternatives evaluated in this EIR, Alternative 3 (Fewer Potential Sites) would be environmentally superior. Because this alternative would generate fewer residents within the County, impacts to public services and recreation, and utilities and service systems would also be reduced. In addition, this alternative would not rezone the six of the more environmentally-constrained Potential Sites, which would reduce significant but mitigable impacts to related to aesthetics, air quality, biological resources, geology and soils, noise, tribal cultural resources, and utilities and service systems. However, the significant and unavoidable impacts to cultural resources, transportation, and wildfire would remain significant and unavoidable under Alternative 3. Furthermore, this alternative would achieve the

project objectives to a lesser extent than the proposed project, as it would rezone fewer sites for increased housing development opportunities.

**Table 6-2 Impact Comparison of Alternatives**

Issue	Proposed Project Impact Classification	Alternative 1: No Project	Alternative 2: Workforce Housing Combining District	Alternative 3: Fewer Potential Sites
Aesthetics	LTSM	+	=	+
Agriculture and Forestry Resources	LTS	+	=	+
Air Quality	LTSM	+	+	+
Biological Resources	LTSM	=/+	=	+
Cultural Resources	SU	=/+	=	+
Energy	LTS	+	+	+
Geology and Soils	LTSM	+	=	+
Greenhouse Gas Emissions	LTS	+	+	+
Hazards and Hazardous Materials	LTS	=	=	=
Hydrology and Water Quality	LTS	+	=	+
Land Use and Planning	LTS	=	+	=
Mineral Resources	NI	=	=	=
Noise	LTSM	+	=/+	+
Population and Housing	LTS	+	=	=
Public Services and Recreation	LTS	+	+	+
Transportation	SU	+	+	+
Tribal Cultural Resources	LTSM	=/+	=	+
Utilities and Service Systems	LTSM	+	=	+
Wildfire	SU	=	=	=

NI = No Impact; LTS = Less than Significant; LTSM = Less than Significant with Mitigation; SU = Significant and Unavoidable

+ Superior to the proposed project (reduced level of impact)

- Inferior to the proposed project (increased level of impact)

= Similar level of impact to the proposed project

Alternative 2 (Workforce Housing Combining District) would generally result in similar or decreased environmental impacts compared to the proposed project. By allowing for commercial land uses alongside residential uses, this alternative would reduce VMT, reducing impacts to air quality, energy, GHG emissions, land use and planning, noise, and transportation. However, the VMT reduction achieved by Alternative 2 would not avoid the significant VMT impacts of the proposed project. This alternative would also result in reduced impacts to public services and recreation.



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