DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

SPRINGS SPECIFIC PLAN
(SCH: 2018062068)

MAY 2022

Prepared for:
Sonoma County
Permit & Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Prepared by:
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INTRODUCTION

The County of Sonoma (County) has determined that a program-level environmental impact report (EIR) is required for the proposed Springs Specific Plan Project (Project) pursuant to the requirements of the California Environmental Quality Act (CEQA).

This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the Springs Specific Plan. CEQA Guidelines Section 15168 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 the 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.

The program-level analysis considers the broad environmental effects of the proposed Springs Specific Plan. The EIR examines all phases of the Project including planning, construction and operation. The program-level approach is appropriate for the Springs Specific Plan because it allows comprehensive consideration of the reasonably anticipated scope of development plan; however, not all aspects of the future development are known at this stage in the planning process. Development projects in the Specific Plan Area that require further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

PROJECT DESCRIPTION

The following provides a brief summary and overview of the Project. Chapter 2.0 of this EIR includes a detailed description of the Project, including maps and graphics. The reader is referred to Chapter 2.0 for a more complete and thorough description of the components of the Project.

The Springs Specific Plan area (Plan area) is defined as the approximately 180-acre area in the southeastern portion of Sonoma County that is located within the proposed Springs Specific Plan boundary. The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs, as well as the Donald Street and Verano Avenue neighborhood north of the City of Sonoma. The Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor.

The 'L'-shaped Plan area has several distinct settings: the 1.6-mile stretch of mixed use along the Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald and Verano Streets. Agua Caliente Creek crosses the Plan area south of Encinas Lane. In 2016, the Springs population was estimated to be 1,803.

The Plan area currently includes the following uses, as identified by the Sonoma County Assessor's office: 78.5 acres of single-family residential, 21.6 acres of multi-family residential (including duplexes

through fourplexes), 15.74 acres of commercial, 2.77 acres of office, 1.47 acres of industrial, 3.35 acres of mixed use, and 3.59 acres of public uses and 15.6 acres of vacant land.

The overall purpose of the Project is to identify the community's vision for the future growth, development, and community resources within the Specific Plan area in a manner consistent with the quality of life desired by residents and businesses. The proposed Springs Specific Plan contains detailed development standards, design guidelines, distribution of uses, infrastructure requirements, and goals and policies for the development of a specific geographic area.

These zoning designations, development standards, and regulations are critical components of a specific plan, since it is through these standards that the goals and policies of the General Plan are implemented.

The Specific Plan is similar in nature to the countywide zoning ordinance because it deals with implementation through the use of development regulations. Unlike the zoning ordinance however, the specific plans is targeted to a specific planning area. This allows for greater flexibility and provides an opportunity to focus regulations and standards on the goals of this specific geographic area. This is the primary purpose of a specific plan, which provides a mechanism to target implementation measures toward a specific planning area. In addition, detailed, project-level environmental review can provide streamlining benefits for future development within the respective specific plan area.

Under the Specific Plan, full buildout of the Plan area could accommodate up to 685 dwelling units and up to 356,903 square feet, including 120 hotel rooms, of non-residential uses.

The Specific Plan includes six chapters:

- **Introduction**. This chapter provides an overview of the Plan, describes the community outreach and engagement process used to develop the Plan, and identifies the guiding principles that informed preparation of the Plan.
- **Land Use**. The Land Use chapter establishes the General Plan and zoning designations for the Plan area, describes key land use concepts, identifies the Plan's development capacity, and provides the goals and policies to guide future land use.
- **Circulation**. The Circulation chapter provides goals and policies to guide future decisions related to pedestrian, bicycle, vehicle, and transit circulation in the Plan area. This chapter also provides road standards to be used for future development and roadway improvement projects.
- **Design Guidelines**. The Design Guidelines chapter is intended to facilitate well-designed projects that reflect the community's rich history and harmonize with the notable architectural styles found in the Springs. The Design Guidelines provide specific requirements for site design, architectural style, orientation, scale/massing, color, signs, lighting, landscaping, streetscapes, gateways, and development of the Plaza.
- **Infrastructure**. The Infrastructure chapter addresses community services and infrastructure, including water, sewer, storm drainage, dry utilities, and emergency services, needed to support development of the Plan area.
- **Implementation & Financing Plan**. The Implementation & Financing Plan chapter identifies the County department responsible for Plan implementation, provides an action plan identifying specific actions to be taken by the County to implement the Plan, identifies funding sources for Plan implementation, and identifies incentives to encourage development under the Plan.

Refer to Chapter 2.0, Project Description, for a more complete description of the details of the proposed project.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Springs Specific Plan Project that are known to the County of Sonoma, were raised during the Notice of Preparation (NOP) process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, air quality, biological resources, cultural and tribal resources, geology and soils, greenhouse gases, climate change, and energy, hazards and hazardous materials, hydrology and water quality, land use, noise, population and housing, public services and recreation, transportation/circulation, wildfire, and utilities.

The County received six written comments on the NOP for the proposed Springs Specific Plan Project Draft EIR. A brief summary of each comment letter is provided in the list below. A copy of each letter is provided in Appendix A of this Draft EIR. A public scoping meeting was held on July 10, 2018 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Oral comments received at the NOP scoping meeting are also included in Appendix A.

Aspects of the proposed Specific Plan that could be of public concern include the following:

- Vehicle trips, travel demand, and multi-modal planning;
- Parking and traffic analysis;
- Cultural resources and historic preservation;
- Biological resources and impacts to Agua Caliente Creek;
- Parks, open space, and community health;
- Zoning decisions and land use assumptions for various parcels in the Plan area.

ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126.6 of the CEQA Guidelines requires an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasibly attain most of the basic objectives of the Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the Project:

- Alternative 1 – No Project
- Alternative 2 – Reduced Growth
- Alternative 3—Low Growth

Alternatives are described in detail in Chapter 5.0, Alternatives to the Project. A comparative analysis of the Project and each of the Project alternatives is provided in Table ES-1. As shown in the table, Alternative 3 (i.e., the Low Growth Alternative) is the environmentally superior alternative. Alternative 1 would reduce 11 impacts and would worsen seven impacts. Alternative 2 would reduce 11 impacts and would not significantly worsen any impacts. Alternative 3 would reduce 12 impacts and would worsen one impact.

TABLE ES-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED SPECIFIC PLAN
TABLE 5.0-15: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROJECT

ENVIRONMENTAL ISSUE / IMPACT	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1 (Scenic Vista and Visual Character)	Less	Slightly Less	Slightly Less
Impact 3.1-2 (Scenic Resources)	Equal	Equal	Equal
Impact 3.1-3 (Light and Glare)	Equal	Equal	Equal
AIR QUALITY			
Impact 3.2-1 (Air Quality Plan and Criteria Pollutants)	Equal	Equal	Equal
Impact 3.2-2 (TACs)	Less	Equal	Equal
Impact 3.2-3 (Odors)	Equal	Equal	Equal
BIOLOGICAL RESOURCES			
Impact 3.3-1 (Species)	Worse	Equal	Equal
Impact 3.3-2 (Wetlands)	Equal	Equal	Equal
Impact 3.3-3 (Riparian Habitat and Sensitive Natural Communities)	Equal	Equal	Equal
Impact 3.3-4 (Wildlife Movement)	Equal	Equal	Equal
Impact 3.3-5 (Policies and Ordinances)	Equal	Equal	Equal
Impact 3.3-6 (Habitat Conservation Plan and Natural Community Conservation Plan)	Equal	Equal	Equal
CULTURAL AND TRIBAL RESOURCES			
Impact 3.4-1 (Historical Resources)	Worse	Equal	Equal
Impact 3.4-2 (Archaeological Resources)	Equal	Equal	Equal
Impact 3.4-3 (Human Remains)	Equal	Equal	Equal
GEOLOGY AND SOILS			
Impact 3.5-1 (Faults)	Equal	Equal	Equal
Impact 3.5-2 (Erosion and Loss of Topsoil)	Equal	Equal	Equal
Impact 3.5-3 (Unstable Soils)	Equal	Equal	Equal
Impact 3.5-4 (Expansive Soils)	Equal	Equal	Equal
Impact 3.5-5 (Septic Tanks)	Equal	Equal	Equal
Impact 3.5-6 (Paleontological Resources)	Worse	Equal	Equal
GREENHOUSE GASES AND ENERGY			
Impact 3.6-1 (GHG Policies)	Worse	Equal	Less
Impact 3.6-2 (GHG Generation)	Worse	Equal	Less
Impact 3.6-3 (Energy)	Less	Less	Less
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.7-1 (Hazardous Materials)	Equal	Equal	Equal
Impact 3.7-2 (Government Code Section 65962.5)	Equal	Equal	Equal
Impact 3.7-3 (Schools)	Equal	Equal	Equal
Impact 3.7-4 (Emergency Response and Evacuation)	Equal	Equal	Equal
Impact 3.7-5 (Wildland Fires)	Equal	Equal	Equal
Impact 3.7-6 (Airports and Airstrips)	Equal	Equal	Equal
HYDROLOGY AND WATER QUALITY			
Impact 3.8-1 (Water Quality Standards)	Equal	Equal	Equal
Impact 3.8-2 (Groundwater Supplies and Recharge)	Equal	Equal	Equal
Impact 3.8-3 (Drainage and Runoff)	Equal	Equal	Equal
Impact 3.8-4 (Flood Hazards)	Equal	Equal	Equal
Impact 3.8-5 (Water Quality Control Plan and Sustainable Groundwater Management Plan)	Equal	Equal	Equal
LAND USE			
Impact 3.9-1 (Established Community)	Equal	Equal	Equal
Impact 3.9-2 (Land Use Plan, Policy, and Regulation)	Equal	Equal	Equal
Impact 3.9-3 (Habitat Conservation Plan and Natural Community Conservation Plan)	Equal	Equal	Equal
NOISE			
Impact 3.10-1 (Ambient Noise)	Less	Slightly Less	Less
Impact 3.10-2 (Groundborne Vibration and Noise)	Equal	Equal	Equal
POPULATION AND HOUSING			
Impact 3.11-1 (Population Growth)	Less	Less	Less
Impact 3.11-2 (Displacement)	Equal	Equal	Equal
PUBLIC SERVICES AND RECREATION			

ENVIRONMENTAL ISSUE / IMPACT	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Impact 3.12-1 (Governmental Facilities and Public Services)	Less	Slightly Less	Slightly Less
Impact 3.12-2 (Park and Recreation Facilities)	Less	Slightly Less	Slightly Less
Impact 3.12-3 (Schools)	Less	Slightly Less	Slightly Less
TRANSPORTATION AND CIRCULATION			
Impact 3.13-1 (VMT)	Worse	Slightly Less	Worse
Impact 3.13-2 (Hazards Due to a Design Feature)	Equal	Equal	Equal
Impact 3.13-3 (Emergency Access)	Equal	Equal	Equal
Impact 3.13-4 (Multi-Modal)	Equal	Equal	Equal
UTILITIES			
Impact 3.14-1 (Wastewater)	Less	Slightly Less	Slightly Less
Impact 3.14-2 (Water)	Less	Slightly Less	Slightly Less
Impact 3.14-3 (Solid Waste)	Less	Slightly Less	Slightly Less
TRIBAL CULTURAL RESOURCES			
Impact 3.15-1 (Tribal Cultural Resources)	Worse	Equal	Equal
WILDFIRE			
Impact 3.16-1 (Emergency Responses/Evacuation Plan)	Equal	Equal	Equal
Impact 3.16-2 (Wildfire)	Worse	Equal	Equal

SUMMARY OF IMPACTS AND MITIGATION MEASURES

The environmental impacts of the Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: SPECIFIC PLAN IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: Project implementation could result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings	S	Impact reduced to extent feasible by Specific Plan components as discussed in Chapter 3.6 under Impact 3.6-2; no further mitigation available.	SU
Impact 3.1-2: Project implementation could result in substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway	LS	None required	--
Impact 3.1-3: Project implementation could result in the creation of new sources of nighttime lighting and daytime glare which could adversely affect day or nighttime views in the area	LS	None required	--
AIR QUALITY			
Impact 3.2-1: Implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants	LS	None required.	--
Impact 3.2-2: Implementation of the Project would not cause health risks associated with toxic air contaminants	LS	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.2-3: Implementation of the Project would not create objectionable odors or other emissions that would adversely impact a substantial number of people	LS	None required.	--
BIOLOGICAL RESOURCES			
Impact 3.3-1: Implementation of the Project could have a substantial adverse effect, either directly or through habitat modifications, on a 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	LS	None required.	--
Impact 3.3-2: Implementation of the Project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	LS	None required.	--
Impact 3.3-3: Implementation of the Project may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	LS	None required.	--
Impact 3.3-4: Implementation of the Project may result in interference with the movement of any native resident or migratory fish or wildlife species or with established native	LS	None required.	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites			
Impact 3.3-5: Implementation of the Project may result in conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	None required.	--
Impact 3.3-6: Implementation of the Project may result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	LS	None required.	--
CULTURAL AND TRIBAL RESOURCES			
Impact 3.4-1: Implementation of the Project has the potential to cause a substantial adverse change to a significant archaeological or historical resource, as defined in CEQA Guidelines Section 15064.5, or a significant tribal cultural resource, as defined in Public Resources Code Section 21074	LS	None required.	--
Impact 3.4-2: Implementation of the Project has the potential to directly or indirectly destroy a unique paleontological resource	LS	None required.	--
Impact 3.4-3: Implementation of the Project has the potential to disturb human remains, including those interred outside of dedicated cemeteries	LS	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
GEOLOGY AND SOILS			
Impact 3.5-1: Project implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides	LS	None required.	--
Impact 3.5-2: Project implementation has the potential to result in substantial soil erosion or the loss of topsoil	LS	None required.	--
Impact 3.5-3: Project implementation has the potential to result in development 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, lateral spreading, subsidence, liquefaction or collapse	LS	None required.	--
Impact 3.5-4: Project implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property	LS	None required.	--
Impact 3.5-5: Project implementation has the potential to result in development on soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems	LS	None required.	--

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Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
Greenhouse Gases and Energy			
Impact 3.6-1: Implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	S	Impact reduced to extent feasible by Specific Plan components as discussed in Chapter 3.6 under Impact 3.6-1; no further mitigation available.	SU
Impact 3.6-2: Implementation of the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	S	Impact reduced to extent feasible by Specific Plan components as discussed in Chapter 3.6 under Impact 3.6-2; no further mitigation available.	SU
Impact 3.6-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources	LS	None required.	--
Hazards and Hazardous Materials			
Impact 3.7-1: Implementation of the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	LS	None required.	--
Impact 3.7-2: Implementation of the Project has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS	None required.	--
Impact 3.7-3: Implementation of the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-	LS	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
quarter mile of an existing or proposed school			
Impact 3.7-4: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	None required.	--
Impact 3.7-5: Implementation of the Project has the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	LS	None required.	--
Impact 3.7-6: Implementation of the Project has the potential to result in a safety hazard or excessive noise for people residing or working in the project are due to proximity to a private airstrip or public airport	LS	None required.	--
HYDROLOGY AND WATER QUALITY			
Impact 3.8-1: Implementation of the Project could result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	LS	None required.	--
Impact 3.8-2: Implementation of the Project could result in decreased groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	LS	None required.	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.8-3: Implementation of the Project could alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site, increase the rate or amount of surface runoff which would result in flooding, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows	LS	None required.	--
Impact 3.8-4: Implementation of the Project could result in flood hazards or risk release of pollutants due to 100-year flood hazard, tsunami, or seiche zones	LS	None required.	--
Impact 3.8-5: Implementation of the Project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	LS	None required.	--
LAND USE			
Impact 3.9-1: Implementation of the Project would not physically divide an established community	LS	None required.	--
Impact 3.9-2: Implementation of the Project may conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect	LS	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.9-3: Implementation of the Project may conflict with an applicable habitat conservation plan or natural community conservation plan	LS	None required.	--
NOISE			
Impact 3.10-1: Implementation of the Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable standards	PS	Impact reduced by Specific Plan components as discussed in Chapter 3.10 under Impact 3.10-1; no further mitigation available.	SU
Impact 3.10-2: Implementation of the Project has the potential to generate excessive groundborne vibrations or groundborne noise	LS	None required.	--
POPULATION AND HOUSING			
Impact 3.11-1: Implementation of the Project would not induce substantial population growth	LS	None required.	--
Impact 3.11-2: Implementation of the Project would not displace substantial numbers of people or existing housing	LS	None required.	--
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1: Implementation of the Project could result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services	LS	None required.	--

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
Impact 3.12-2: Implementation of the Project may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities	LS	None required.	--
Impact 3.12-3: Implementation of the Project may increase demand for schools and result in the need to construct new schools	LS	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
TRANSPORTATION AND CIRCULATION			
Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT)	PS	Impact reduced to extent feasible by Specific Plan components as discussed in Chapter 3.13 under Impact 3.13-1; no further mitigation available.	SU
Impact 3.14-2: Implementation of the Project would not substantially increase hazards due to a design feature	LS	None required.	--
Impact 3.14-3: Implementation of the Project would not result in impacts related to emergency access	LS	None required.	--
Impact 3.13-4: Implementation of the Project would not conflict with a program, plans, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities	LS	None required.	--
UTILITIES			
Impact 3.14-1: Implementation of the Project would not 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 providers existing commitments, or require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant	LS	None required.	--

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
environmental effects			
Impact 3.14-2: Implementation of the Project would not require or result in the relocation of new or expanded water facilities, and would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years	LS	*None required.*	--
Impact 3.14-3: The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals	LS	None required.	--
TRIBAL CULTURAL RESOURCES			
Impact 3.15-1: Implementation of the Project has the potential to cause a substantial adverse change to a tribal cultural resource as defined in CEQA Guidelines 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), or to a resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1	LS	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
WILDFIRE			
Impact 3.16-1: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	None required.	--
Impact 3.16-2: Implementation of the Project has the potential: a) 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) 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; or c) 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	LS	None required.	--
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Project implementation may contribute to the cumulative degradation of the existing visual character of the region	PS	Impact reduced by Specific Plan components as discussed in Chapter 4.0 under Impact 4.1; no further mitigation available.	CC and SU

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
Impact 4.2: Project implementation may contribute to cumulative impacts on the region's air quality	LCC	None required.	--
Impact 4.3: Project implementation may contribute to the cumulative loss of biological resources including habitats and special status species	LCC	None required.	--
Impact 4.4: Project implementation may contribute to cumulative impacts on known and undiscovered cultural resources	LCC	None required.	--
Impact 4.5: Project implementation may contribute to cumulative impacts on geologic and soils characteristics	LCC	None required.	--
Impact 4.6: Project implementation may contribute to cumulative impacts on greenhouse gases and climate change	PS	Impact reduced by Specific Plan components as discussed in Chapter 4.0 under Impact 4.6; no further mitigation available.	CC and SU
Impact 4.7: Project implementation may contribute to cumulative impacts related to hazards and hazardous materials	LCC	None required.	--
Impact 4.8: Project implementation may contribute to cumulative increases in peak stormwater runoff flows from the Plan area	LCC	None required.	--
Impact 4.9: Project implementation may contribute to cumulative impacts related to degradation of water quality	LCC	None required.	--
Impact 4.10: Project implementation may contribute to cumulative impacts on communities and local land uses	LCC	None required.	--

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.11: Under Future Plus Project condition, implementation of the Project would contribute to the cumulative exposure of existing and future noise-sensitive land uses or to increased noise resulting from cumulative development	PS	Impact reduced by Specific Plan components as discussed in Chapter 4.0 under Impact 4.11; no further mitigation available.	CC and SU
Impact 4.12: Project implementation may contribute to cumulative impacts on population growth and displace substantial numbers of people or existing housing	LCC	None required.	--
Impact 4.13: Project implementation may contribute to cumulative impacts on public services and recreation	LCC	None required.	--
Impact 4.14: Under Future plus Project conditions, implementation of the Project would conflict with transportation and circulation thresholds established by the County of Sonoma	PS	Impact reduced by Specific Plan components as discussed in Chapter 4.0 under Impact 4.14; no further mitigation available.	CC and SU
Impact 4.15: Project implementation may contribute to cumulative impacts on utilities	LCC	None required.	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

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This section summarizes the purpose of the Environmental Impact Report (EIR) for the Springs Specific Plan (Project). The following discussion addresses the environmental procedures that are to be followed according to State law, the intended uses of the EIR, the project's relationship to the County's General Plan, the EIR scope and organization, and a summary of the agency and public comments received during the public review period for the Notice of Preparation (NOP).

1.1 PURPOSE AND INTENDED USES OF THE EIR

The County of Sonoma, as lead agency, determined that the proposed Springs Specific Plan is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the Project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development. CEQA further provides that public agencies may balance a variety of public objectives, including economic, environmental, and social factors when deciding whether or not to approve a project with significant and unavoidable environmental impacts.

The County of Sonoma, as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from the construction and operation of future development projects within the Springs Specific Plan area (Plan area). The environmental review process enables all interested parties to evaluate the Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency may balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

The EIR will be used as the primary environmental document to evaluate future development, along with all associated infrastructure improvements, and permitting actions associated with the Project. All of the anticipated actions and components of the Project are described in detail in Section 2.0 of this Draft EIR.

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the Project. CEQA Guidelines Section 15168 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 the 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.

The program-level analysis considers the broad environmental effects of the Project. The program-level approach is appropriate for the Project because it allows comprehensive consideration of the reasonably anticipated scope of future development within the Plan area; however, not all aspects of the future development are known at this stage in the planning process, as the Specific Plan does not include any proposed development projects and would not entitle any individual development projects.
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1.3 INTENDED USES OF THE EIR

The County of Sonoma, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from adoption of the Project and subsequent implementation of projects consistent with the Specific Plan. The environmental review process enables interested parties to evaluate the Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the Plan area. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description.

1.4 SUBSEQUENT PROJECT APPROVALS

Future development projects and activities within the Plan area that require further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared. Subsequent projects and activities within the Plan area that are consistent with the requirements of the adopted Mitigation Monitoring Program and the adopted Springs Specific Plan, as applicable, may rely on this EIR to satisfy the environmental review requirements under CEQA. Subsequent projects and activities that are proposed within the Plan area and are not consistent with the requirements of the adopted Mitigation Monitoring Program and adopted Springs Specific Plan will be required to undergo further environmental review under CEQA. Subsequent actions related to the Project will include Site Plan and Design Review for specific development and infrastructure projects, pursuant to existing requirements of the County's Zoning Ordinance.

Additionally, CEQA Guidelines Section 15182 provides that residential, commercial, and mixed-used projects that are consistent with a specific plan adopted pursuant to Title 7, Division 1, Chapter 3, Article 8 of the Government Code are exempt from CEQA, as described in CEQA Guidelines Section 15182 paragraphs (b) and (c).

Thus, to the extent appropriate and consistent with the requirements of CEQA and the CEQA Guidelines, the County of Sonoma can rely on this EIR in conjunction with its consideration of subsequent projects undertaken pursuant to the Springs Specific Plan.

1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

As required by CEQA, this EIR identifies 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. The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

The following agencies are considered Responsible or Trustee Agencies for this Project, and may be required to issue permits or approve certain aspects of the Project:

- California Department of Fish and Wildlife (CDFW);
- California Department of Transportation (Caltrans); and
- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB)

1.6 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

The County circulated a NOP of an EIR for the Project on June 27, 2018 to trustee agencies, the State Clearinghouse, and the public. A public scoping meeting was held on July 10, 2018, to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and responses to the NOP by interested parties are presented in Appendix A and key concerns raised in the responses to the NOP are summarized under the Areas of Controversy discussion below.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of project impacts, mitigation measures for impacts found to be significant or potentially significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR evaluates the potential environmental effects from adoption and implementation of the Project in different environmental topic categories, and identifies for each category whether the Project is expected to no impact or a less than significant impact, and also provides a detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the County filed a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The County has provided a public notice of availability for the Draft EIR, and invites written comments from the general public, agencies, organizations, and other interested parties. Pursuant to CEQA requirements a forty-five (45) day review period is required for this Draft EIR, however the review period will be extended to a total of sixty (60) days to provide additional time for public review. Public comment on the Draft EIR will be accepted in written form and orally at a public meeting. All comments or questions regarding the Draft EIR should be set forth in writing and addressed to:

Doug Bush
Permit Sonoma
2550 Ventura Ave
Santa Rosa CA 95403
Email: SpringsSpecificPlan@sonoma-county.org

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to comments regarding environmental issues received during the public review period and to oral comments received at a public meeting during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The County will review and consider the Final EIR. If the County finds that the Final EIR is "adequate and complete", the County Council may certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and
2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

The level of detail contained throughout this EIR is consistent with Section 15151 of the CEQA Guidelines and recent court decisions, which provide the standard of adequacy on which this document is based. The Guidelines state as follows:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of the 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 the 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 the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

Following review and consideration of the Final EIR, the County may take action to approve, approve with modifications, or reject the project, and certify the EIR. If the project is approved, a Mitigation Monitoring Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the

environment. This Mitigation Monitoring Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.7 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the County of Sonoma, applicable local and regional planning documents, and responses to the NOP.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the Project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the Project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the Project, including the location of the Plan area, the Project's intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related infrastructure improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of the potential environmental effects from adoption and implementation of the Project in the environmental topic areas identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic,

identification of appropriate mitigation measures, and a conclusion as to the significance of each impact after the incorporation of mitigation measures.

The following environmental topics are addressed in this section:

- Aesthetics;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gases and Energy;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Population and Housing;
- Public Services and Recreation;
- Transportation and Traffic;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfire

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required analysis: impacts considered less-than-significant, significant irreversible changes, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental impacts.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain most of the basic objectives of the project and avoid and/or substantially lessen any significant environmental effects of the project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the project and the selected alternatives.

CHAPTER 6.0 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

CHAPTER 7.0 – REFERENCES

This section lists all source documents used in the preparation of the EIR.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis. The EIR appendices are available in electronic format. The appendices can be viewed online at:

https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/Springs-Specific-Plan/

1.8 SIGNIFICANCE CRITERIA

In general, CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial" adverse change in the physical environment. A potential impact is considered significant if a project would substantially degrade the environmental quality of land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance (CEQA Guidelines §§15360, 15382).

Definitions of significance vary with the physical condition affected and the setting in which the change occurs. The CEQA Guidelines set forth physical impacts that trigger the requirement to make "mandatory findings of significance" (CEQA Guidelines §15065).

This CEQA document relies on four levels of impacts:

1) No Impact, for which the issue would have no impact on the environment or is not relevant to the project;
2) Less-than-significant impact, for which no mitigation measures are warranted;
3) Significant impact that can be mitigated to a level that is less than significant; and
4) Significant impact that cannot be mitigated to a level that is less than significant. Such impacts are significant and unavoidable.

Each resource area uses a distinct set of significance criteria. For example, a proposed project resulting in an exposure of persons to noise levels in excess of standards established in the local general plan or community plan would be considered a significant impact. Construction of appropriate sound walls or other methods could reduce the impact to a less-than-significant level. If criteria for determining the significance of a potential environmental impact relative to a specific environmental resource is not identified in the Guidelines, criteria were developed for this Draft EIR consistent with the past pattern and practice of the County of Sonoma.

The significance criteria are identified at the beginning of the impacts discussion for each resource area. These significance criteria promote consistent evaluation of impacts for all alternatives considered, even though significance criteria are necessarily different for each resource considered.

1.9 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The County received six comments on the NOP for the Springs Specific Plan Draft EIR. A brief summary of each comment letter is provided in the list below. A copy of each letter is provided in Appendix A of this Draft EIR. A public scoping meeting was held on July 10, 2018 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Oral comments received at the NOP scoping meeting are also included in Appendix A.

1. California Department of Transportation (July 25, 2018);
2. DP&F Attorneys at Law (July 30, 2018);
3. Ellen Conlan (July 10, 2018);
4. J. Kapolchok & Associates (July 29, 2018);
5. Law Office of Michael R. Woods (July 30, 2018);
6. Shel Leader (July 11, 2018).

1.10 AREAS OF CONTROVERSY

Aspects of the Project that could be of public concern, including issues raised in response to the NOP, include the following:

- Vehicle trips, travel demand, and multi-modal planning;
- Parking and traffic analysis;
- Cultural resources and historic preservation;
- Biological resources and impacts to Agua Caliente Creek;
- Parks, open space, and community health; and
- Zoning decisions and land use assumptions for various parcels in the Plan area.

This chapter provides a comprehensive description of the Springs Specific Plan (Project), including proposed land uses, infrastructure improvements, requested entitlements, and project objectives.

Figures referenced throughout this section are located at the end of the chapter.

2.1 LOCATION AND ENVIRONMENTAL SETTING

LOCATION AND SETTING

The Springs is an unincorporated area located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs, as well as areas along Donald Street and Verano Avenue, north of the City of Sonoma. The Springs Specific Plan area (Plan area) is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor. The project's regional location is shown in Figure 2.0-1. Figure 2.0-2 shows the Sonoma County limits, nearby City limits, nearby County parks, and the Plan area.

The 'L'-shaped Plan area has several distinct settings: the 1.6-mile stretch of mixed use along the Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald Street and Verano Avenue. Agua Caliente Creek crosses the Plan area south of Encinas Lane. In 2016, the Springs Specific Plan area population was estimated to be 1,803.

PLAN AREA

The Plan area is located in the unincorporated area of Sonoma County, north of the City of Sonoma. The 180-acre Plan area includes the following uses, as identified by the Sonoma County Assessor's office: 78.5 acres of single-family residential, 21.6 acres of multi-family residential (including duplexes through fourplexes), 15.74 acres of commercial, 2.77 acres of office, 1.47 acres of industrial, 3.35 acres of mixed use, and 3.59 acres of public uses and 15.6 acres of vacant land. Figure 2.0-3 shows an aerial view of the Plan area.

The 178.81-acre Plan area encompasses all parcels within the Plan boundary, including local roadways and the Highway 12 right-of-way. The Plan area is made up of 460 full or partial assessor parcels. The parcel boundaries are shown in Figure 2.0-4.

The Plan area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west. Figure 2.0-5 shows the U.S. Geological Survey (USGS) Topographic Map of the Plan area.

SURROUNDING LAND USES

Adjoining lands to the north of the Plan area are designated for Urban Residential (UR), Rural Residential (RR), and Diverse Agriculture (DA) uses. Lands to the east of the Plan area are designated for Urban Residential (UR), Rural Residential (RR), Resources and Rural Development (RRD), and Land Intensive Agriculture (LIA). Lands to the west of the Plan area are designated for Urban Residential (UR), Rural

Residential (RR), Diverse Agriculture (DA), General Commercial (GC), and Recreation and Visitor Serving Commercial (RVSC) uses.

The Sonoma city limits are adjacent to the southern boundary of the Plan area. Surrounding land uses within the City of Sonoma include low density residential, rural residential, commercial, and park. Maxwell Farms Regional Park is located south of W. Verano Avenue.

GENERAL PLAN AND ZONING DESIGNATIONS

As shown in Figure 2.0-6, the Plan area is currently designated General Commercial, Limited Commercial, Limited Commercial Traffic Sensitive, Public/Quasi-Public, Recreation/Visitor-Serving Commercial, and Urban Residential by the Sonoma County General Plan Land Use Map. Table 2.0-1 summarizes the current land use designation acreages for the Plan area.

TABLE 2.0-1: EXISTING GENERAL PLAN LAND USE DESIGNATION ACREAGES

EXISTING LAND USE DESIGNATION	*ACRES*
General Commercial	8.43
Limited Commercial	14.72
Limited Commercial Traffic Sensitive	13.99
Public/Quasi-Public	1.28
Recreation/Visitor-Serving Commercial	4.39
Urban Residential	111.73
Rights-of-Way/Other (Not Designated)_	0.67

As shown in Figure 2.0-7, the Plan area is currently zoned Low Density Residential (R1), Medium Density Residential (R2), Retail Business and Services (C2), Limited Commercial (LC), Limited Commercial with Traffic Sensitive Combining District (LC TS), Administrative and Professional Office (CO), Administrative and Professional Office with Traffic Sensitive Combining District (CO TS) Planned Community (PC), Public Facilities (PF), and Recreation and Visitor-Serving Commercial (K). Table 2.0-2 summarizes the current zoning acreages for the Plan area. Additional combining zones, including the Valley Oak Habitat Combining Zone and Riparian Corridor Combining Zone may apply within the Plan area but will not be modified by the Project and are not addressed here.

TABLE 2.0-2: EXISTING ZONING DESIGNATION ACREAGES

EXISTING LAND USE DESIGNATION	*ACRES*
Low Density Residential (R1)	82.88
Medium Density Residential (R2)	22.29
Retail Business and Services (C2)	8.43
Limited Commercial, Traffic Sensitive Combining (LC TS)	24.73
Administrative and Professional Office, Traffic Sensitive Combining (CO TS)	2.41
Administrative and Professional Office (CO)	0.32
Planned Community (PC)	7.80
Public Facilities (PF)	1.28
Recreation and Visitor-Serving Commercial (K)	4.39
Rights-of-Way/Other (Not Zoned)	0.67

2.2 GOALS AND OBJECTIVES

GOALS AND OBJECTIVES

The overall purpose of the Springs Specific Plan is to foster a vibrant, attractive, multimodal community with increased opportunities for housing and improved circulation for pedestrians, bicyclists, and transit, consistent with the community's vision for the Plan area. The following guiding principles were identified for the Specific Plan, and represent the project objectives, consistent with California Environmental Quality Act (CEQA) Guidelines Section 15124(b).

1. ***Recognize and Promote the Springs Commercial Corridor as a Mixed-Use "Downtown" Serving the Larger Springs Community.*** *The Springs Specific Plan encompasses the primary commercial district that serves as the "downtown" area of the larger Springs community. New commercial development along the Highway 12 corridor will increase the variety of retail shops and neighborhood services. New mixed-use development will help meet the housing needs of the community while providing pedestrian-oriented retail and restaurants. Wider sidewalks enhanced with pedestrian- and bike-friendly features will make it easier and more pleasant for residents to access local stores and services.*

2. ***Develop a Centrally-Located Community Plaza.*** *Provide a central gathering place where farmers markets, concerts, and other community events can take place to enhance the vitality of the Springs area. The Community Plaza should be designed to reflect the multi-cultural character of the community.*

3. ***Celebrate the Unique, Multi-Cultural Identity of the Springs.*** *Recognize that the Springs is a diverse, multi-cultural community with significant historic resources and character. Ensure that new development respects the area's treasured past.*

4. ***Increase Affordable, Workforce, and Mixed Use Housing.*** *Create new infill opportunities for higher density housing, while also expanding the variety of housing choices on vacant parcels in the Plan area.*

5. ***Improve the Pedestrian, Bicycle, and Transit Network.*** *Provide bicycle, pedestrian, and transit facilities throughout the Springs that are safe, well-lit, shaded, comfortable, well-connected, and accessible. This improved multimodal network will provide greater incentive for people to choose non-vehicular travel for their daily trips to reduce Vehicle Miles Traveled and support local climate goals. The Springs mobility network should recognize that non-vehicular travel is the primary travel mode for some residents.*

6. ***Ensure an Adequate Parking Supply.*** *Provide parking garages and/or surface parking lots adjacent to Highway 12, particularly in areas where there are existing parking shortages and near the area planned for the community plaza.*

7. ***Address Community Safety.*** *Create a safe environment for residents and employees by providing attractive, well-lit, and well-maintained public and community facilities that encourage regular use.*

8. ***Create and Connect to More Parks and Open Space.*** *Create new public and semi-public spaces, such as plazas, pocket parks, parklets, and green space, to create a desirable system of parks and community gathering areas.*

9. ***Regional Planning.*** *Assist the County in meeting its Regional Housing Needs Allocation by designating and zoning sites for higher densities and maintain consistency with the Priority Development Area designation by the Association of Bay Area Governments.*

The Springs Specific Plan contains development standards, design guidelines, distribution of uses, infrastructure requirements, and goals and policies for the development of a specific geographic area.

These zoning distributions, development standards, and regulations are critical components of a specific plan, since it is through these standards that the goals and policies of the General Plan are implemented.

The specific plan is similar in nature to the Zoning Code because it deals with implementation through the use of development regulations. Unlike the Countywide zoning ordinance, however, specific plans are targeted to specific planning areas. This allows for greater flexibility and provides an opportunity to focus regulations and standards on the goals of a specific geographic area.

Full buildout of the Plan area could accommodate additional development of up to 706 dwelling units (DU), 120 hotel rooms, and up to 276,903 square feet (SF) of other commercial, office, recreation and non-residential uses. As detailed in Table 2.0-4, this is an increase of 559 residential units and 157,747 non-residential square feet and no change in the number of hotel rooms in comparison to existing development that may be accommodated under the existing General Plan.

2.3 PROJECT COMPONENTS

THE SPRINGS SPECIFIC PLAN

The Springs Specific Plan will be the primary planning document and reference guide for future development in the Springs. The Specific Plan is intended to be an expression of the community's vision for the Springs and constitutes the policy and regulatory framework by which future development projects will be reviewed and public improvements will be implemented. The County will implement the Specific Plan by requiring new development, infrastructure improvements, and other projects to be consistent with the policies and design guidelines of this plan.

The Specific Plan includes six chapters:

- **Introduction**. This chapter provides an overview of the Plan, describes the community outreach and engagement process used to develop the Plan, and identifies the guiding principles that informed preparation of the Plan.
- **Land Use**. The Land Use chapter establishes the General Plan and zoning designations for the Plan area, describes key land use concepts, identifies the Plan's development capacity, and provides the goals and policies to guide future land use.
- **Circulation**. The Circulation chapter provides goals and policies to guide future decisions related to pedestrian, bicycle, vehicle, and transit circulation in the Plan area. This chapter also provides road standards to be used for future development and roadway improvement projects.
- **Design Guidelines**. The Design Guidelines chapter is intended to facilitate well-designed projects that reflect the community's rich history and harmonize with the notable architectural styles found in the Springs. The Design Guidelines provide specific requirements for site design,

architectural style, orientation, scale/massing, color, signs, lighting, landscaping, streetscapes, gateways, and development of the Plaza.

- **Infrastructure**. The Infrastructure chapter addresses community services and infrastructure, including water, sewer, storm drainage, dry utilities, and emergency services, needed to support development of the Plan area.

- **Implementation & Financing Plan**. The Implementation & Financing Plan chapter identifies the County department responsible for Plan implementation, provides an action plan identifying specific actions to be taken by the County to implement the Plan, identifies funding sources for Plan implementation, and identifies incentives to encourage development under the Plan.

SPECIFIC PLAN ZONING MAP

The Springs Specific Plan Land Use Map identifies land use designations for each parcel within the Plan Area. The Springs Specific Plan Zoning Map is shown in Figure 2.0-8.

SPECIFIC PLAN ZONING CLASSIFICATIONS

The Springs Specific Plan's zoning districts are listed in Table 2.0-3. This table also includes a summary of permitted uses and standards for each zone. The Sonoma County Zoning Code should be consulted for a detailed list of allowed uses and specific development standards for each particular zoning district. All of the following zoning districts exist in the current Zoning Code with the exception of the proposed Mixed-Use Community (CM) zone, which will be added to the Zoning Code concurrent with the adoption of the Project.

TABLE 2.0-3: ZONING DISTRICTS, TOTAL ACRES, ALLOWED USES, AND STANDARDS SUMMARY

ZONING DISTRICT	*COUNTY CODE SECTION*	*ACRES*	*PERMITTED USES* [1]	*STANDARDS*
Low Density Residential (R1)	26.08	15.21	▪ Single family ▪ Accessory dwelling unit ▪ Junior accessory dwelling unit ▪ Cottage housing	Density: 4 to 6 units per acre Minimum lot size: 6,000 square feet Main building height: 35 feet
Medium Density Residential (R2)	26.08	68.85	▪ Single family attached & detached ▪ Accessory dwelling unit ▪ Junior accessory dwelling unit ▪ Duplex ▪ Triplex ▪ Fourplex ▪ Multifamily ▪ Cottage Housing ▪ Single Room Occupancy	Density: 6 to 12 units per acre Minimum lot size: 4,000 square feet Main building height: 35 feet
High Density Residential (R3)	26.08	16.71	▪ Single family attached ▪ Accessory dwelling unit ▪ Junior accessory dwelling unit ▪ Micro apartments ▪ Duplex ▪ Triplex	Density: 12 to 20 units per acre Minimum lot size: 4,500 square feet Main building height: 35 feet, except maximum 40 feet for three stories

ZONING DISTRICT	*COUNTY CODE SECTION*	*ACRES*	*PERMITTED USES* [1]	*STANDARDS*
			▪ Fourplex ▪ Multifamily ▪ Single Room Occupancy	
Planned Community (PC)	26.14	6.21	The PC district allows for a range of uses that are consistent with the General Plan land use designation for the parcel.	<u>Residential Density:</u> As allowed by the General Plan, subject to any zoning restrictions Non-Residential Maximum floor-area-ratio[2]: 1.0 Lot coverage: 50% Building height: 35 feet
Neighborhood Commercial (C1)	26.10	6.50	▪ Neighborhood retail ▪ Restaurants ▪ Neighborhood and community services ▪ Offices ▪ Mixed Use ▪ Work/Live units	Maximum floor-area-ratio[2]: 1.0 Lot coverage: 65% Building height: 35 feet
Retail Business and Service (C2)	26.10	10.49	▪ Community Retail ▪ Auto repair and services ▪ Restaurants ▪ Financial institutions ▪ Theaters	Maximum floor-area-ratio[2]: 1.0 Lot coverage: 50% Building height: 35 feet
Mixed-Use Community (CM)	N/A	21.04	<u>Ground Floor of Mixed-Use or Single-Story Commercial</u> ▪ Neighborhood-serving retail: Grocery stores, drug stores book stores, gift shops, floral shops, art supplies, candy and ice cream shops, etc. ▪ Community-oriented services: Hair salons, barber shops, child day care, etc. ▪ Restaurants & retail food: Restaurants, coffee & tea shops, bakeries, candy and ice cream shops, sale of other foods ▪ Public Facilities <u>Upper floor(s)</u> ▪ Multifamily residential, office <u>Other Uses</u> ▪ Parking (standalone) ▪ Community serving uses: Library, schools, museums, clinics, post office, etc. ▪ Work/live units	Maximum floor-area-ratio[2] (mixed-use): 2.0 Maximum floor-area-ratio[2] (other): 1.0 Lot coverage: 65% Building height: 35 feet, except maximum 40 feet for three stories with a use permit

ZONING DISTRICT	*COUNTY CODE SECTION*	*ACRES*	*PERMITTED USES* [1]	*STANDARDS*
Recreation and Visitor Serving Commercial (K)	26.10	5.80	▪ Public parks ▪ Aquatic centers ▪ Sport fields ▪ Retail as part of recreational use	Maximum floor-area-ratio[2]: 1.0 Lot coverage: 50% Building height: 35 feet
Public Facilities (PF)	26.14	4.24	▪ County- and city-owned facilities ▪ Special district facilities for utilities ▪ Schools	Maximum floor-area-ratio[2]: 0.8 Lot coverage: 40% Building height: 35 feet
Rights-of-Way/Not Zoned	N/A	0.15	--	--

NOTES:

[1] *ZONING STANDARDS MAY APPLY AND PLANNING PERMITS MAY BE REQUIRED, SEE ZONING CODE FOR ADDITIONAL DETAILS.*

[2] *FLOOR AREA RATIO IS BASED ON THE LOT COVERAGE MULTIPLIED BY THE NUMBER OF BUILDING STORIES ALLOWED AS A PERMITTED USE; 35 FT BUILDING HEIGHTS ARE ASSUMED TO ALLOW TWO STORIES AND 40 FOOT OR GREATER BUILDING HEIGHTS ARE ASSUMED TO ALLOW THREE STORIES.*

GROWTH PROJECTIONS

While no specific development projects are proposed as part of the Project, the Project is intended to facilitate future growth, including new businesses, expansion of existing businesses, and new residential development. Table 2.0-4 summarizes the range of residential (single family units, multifamily units, and mixed use or live-work units, measured in units) and commercial, office, and recreation (measured in square footage) that could occur. Actual future development would depend on future market conditions, property owner preferences, site-specific constraints, and other factors.

Table 2.0-4 compares new growth potential under the existing General Plan to new growth potential under the Project at buildout conditions. Table 2.0-5 summarizes the existing and proposed General Plan land use designations for the Plan Area. This Draft EIR analyzes the effect of future growth accommodated by the Project in comparison to existing conditions.

As shown in Table 2.0-4, full buildout of the Project within the Plan area would result in up to:

- 706 dwelling units; and
- 276,903 SF of non-residential uses, including:
  - 168,029 SF of commercial uses;
  - 82,226 SF of office uses; and
  - 26,648 SF of recreation uses; and
- 120 hotel rooms

TABLE 2.0-4: NEW DEVELOPMENT PROJECTIONS: SPRINGS SPECIFIC PLAN VS. EXISTING GENERAL PLAN

TYPE OF DEVELOPMENT	*EXISTING GENERAL PLAN*	*SPRINGS SPECIFIC PLAN*	*CHANGE*
Single Family	94 units	88 units	-6 units
Multifamily	13 units	461 units	+448 units
Mixed Use or Live Work	40 units	157 units	+117 units

TYPE OF DEVELOPMENT	*EXISTING GENERAL PLAN*	*SPRINGS SPECIFIC PLAN*	*CHANGE*
Commercial	108,796 SF	168,029 SF	+59,233 SF
Hotel[2]	120 rooms	120 rooms	-
Office	2,712 SF	82,226 SF	+79,514 SF
Recreation	7,648 SF	26,648 SF	+19,000 SF
TOTAL	**147 residential units 119,276 non-residential SF 120 hotel rooms**	**706 residential units 276,903 non-residential SF 120 hotel rooms**	**+559 residential units 157,747 non-residential SF**

NOTES:

[1] RESIDENTIAL UNITS ARE BASED ON THE MAXIMUM UNITS ALLOWED FOR EACH ZONING DISTRICT AND OVERLAY PLUS DENSITY BONUS UNITS BASED ON THE STATE AND COUNTY DENSITY BONUS PROGRAMS.

[2] A HOTEL USE IS ASSUMED IN THE K ZONE FOR PURPOSES OF ENVIRONMENTAL REVIEW BECAUSE IT IS THE MOST INTENSE USE ALLOWED IN THAT ZONING DESIGNATION.

GENERAL PLAN AMENDMENT

The Project includes a General Plan amendment to replace the current designations in the Land Use Map with the designations in the Specific Plan. The Land Use Map would be amended to reflect the uses shown on Figure 2.0-9 and summarized in Table 2.0-5.

TABLE 2.0-5: PROPOSED LAND USE DESIGNATION ACREAGES

PROPOSED LAND USE DESIGNATION	*ACRES*
General Commercial	10.49
Limited Commercial	28.38
Public/Quasi-Public	4.24
Recreation/Visitor-Serving Commercial	5.80
Urban Residential	106.14
Rights-of-Way/Other (Not Designated)_	0.15

The General Plan text will be updated to amend policies to refine the approach to the Springs area, including revisions to address language that is no longer relevant or accurate and to address

- Amend Policy LU-20e to note that the Limit Commercial Traffic Sensitive zoning will not apply to parcels in the Plan Area;
- Eliminate Policy LU-20p because it was intended to accommodate the Clement Inn which no longer exists;
- Eliminate Policy LU-20t because it required CEQA analysis to rezone several specific parcels, some of which no longer exist and the others which are now analyzed in this EIR; and
- Amend Policy LU-20i to except parcels within the Plan Area because the Plan addresses size, scale, and intensity of uses, capacity of public services, and planned infrastructure the Plan Area.

REZONE

As discussed previously, the Plan area currently includes the following zoning districts: Low Density Residential (R1), Medium Density Residential (R2), Retail Business and Services (C2), Limited Commercial

(LC), Administrative and Professional Office (CO), Planned Community (PC), Public Facilities (PF), and Recreation and Visitor-Serving Commercial (K). The Springs Specific Plan would rezone the Plan area to replace the existing zoning with the zoning districts described in Table 2.0-3 and shown on Figure 2.0-8. In addition, the Traffic Sensitive (TS) combining zone and the Local Guidelines/The Springs Highway 12 (LG/SPR) combining zone would be eliminated from the Plan area.

In addition to updating the zoning map for the Plan area, the Sonoma County Code will be amended as follows:

- Amend 26-10 (Commercial Uses) to create a new Mixed Use Community Zone;
- Amend 26-63 (Local Guidelines Combining District) to apply Springs Specific Plan design guidelines to the Plan area;
- Amend 26-90 (Local Area Development Guidelines) to reference applicable Springs Plan guidelines and standards; and
- Update 26-88-123 (Mixed Use – Special Use Standards).

PERMITS AND APPROVALS

Although the project does not propose a specific development project, it provides a framework under which specific development projects within the Plan Area would be planned, designed and executed in the future to meet the established goals and objectives. Implementation of the proposed project would require the following discretionary actions and approvals by the County of Sonoma:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Adoption of amendments to the General Plan Land Use Map, as shown on Figure 2.0-9;
  Adoption of General Plan text amendments, including:
  - Amend Policy LU-20e to note that the Limit Commercial Traffic Sensitive zoning will not apply to parcels in the Plan area;
  - Eliminate Policy LU-20p because it was intended to accommodate the Clement Inn which no longer exists;
  - Eliminate Policy LU-20t because it required CEQA analysis to rezone several specific parcels, some of which no longer exist and the others which are now analyzed in this EIR; and
  - Amend Policy LU-20i to except parcels within the Plan area because the Plan introduces a new Mixed Use zoning district that would be subject to criteria in the Plan and zoning code.
- Adoption of the Springs Specific Plan;
- Amendments to Sonoma County Code including:
  - Amend 26-10 (Commercial Uses) to create a new Mixed Use Community Zone;
  - Amend 26-63 (Local Guidelines Combining District) to apply Springs Specific Plan design guidelines to the Plan area;
  - Amend 26-90 (Local Area Development Guidelines) to reference applicable Springs Plan guidelines and standards;
  - Update 26-88-123 (Mixed Use – Special Use Standards);
  - Chapter 26 (Zoning Regulations) to create a new Mixed Use Zone; and

- Amendments to the zoning database to rezone parcels within the Plan area to reflect the new base zoning districts shown on Figure 2.0-8 and remove the LG/SPR and TS combining districts from applicable lots within the Plan area.

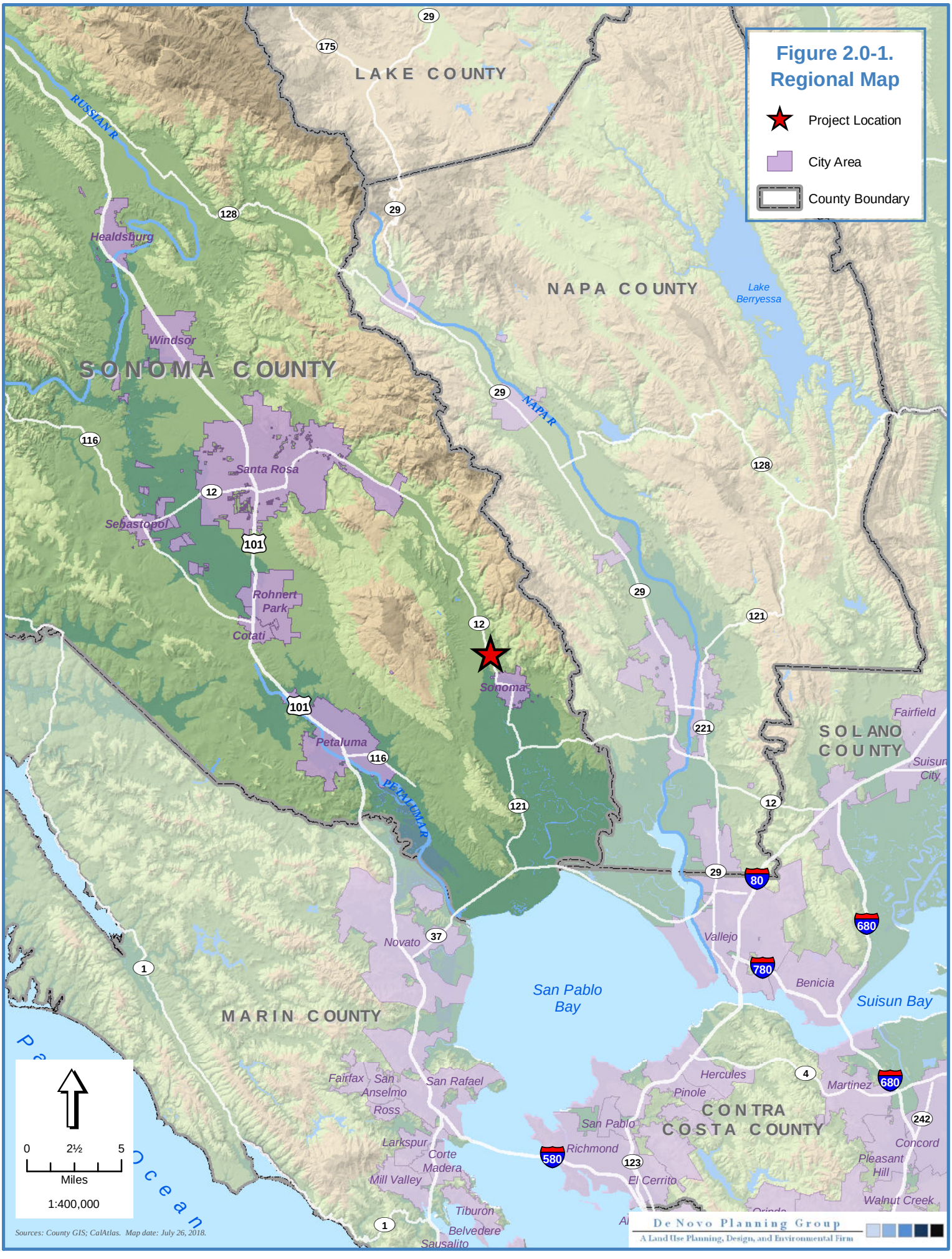
Figure 2.0-1.
Regional Map
Project Location
City Area
County Boundary
LAKE COUNTY
NAPA COUNTY
SONOMA COUNTY
MARIN COUNTY
SOLANO COUNTY
CONTRA COSTA COUNTY
Lake Berryessa
RUSSIAN R
NAPA R
PETALUMA R
Healdsburg
Windsor
Santa Rosa
Sebastopol
Rohnert Park
Cotati
Petaluma
Sonoma
Fairfield
Suisun City
Vallejo
Benicia
Suisun Bay
San Pablo Bay
Novato
Hercules
Pinole
Martinez
San Pablo
Richmond
Concord
Pleasant Hill
Walnut Creek
El Cerrito
Fairfax
San Anselmo
San Rafael
Ross
Larkspur
Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
0 2½ 5
Miles
1:400,000
Sources: County GIS; CalAtlas. Map date: July 26, 2018.
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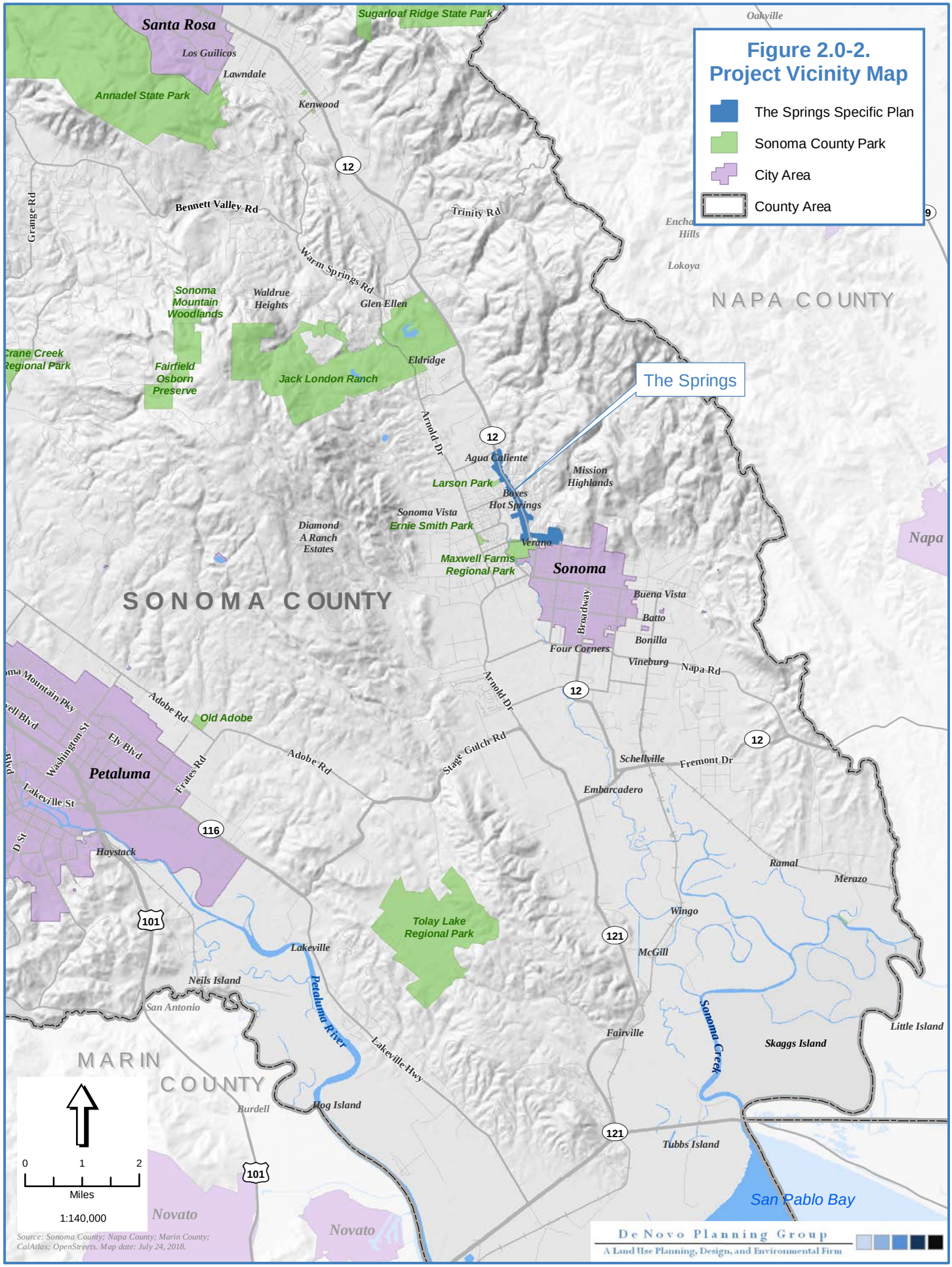
Figure 2.0-2.
Project Vicinity Map
The Springs Specific Plan
Sonoma County Park
City Area
County Area
The Springs
Santa Rosa
Los Guilicos
Lawndale
Annadel State Park
Sugarloaf Ridge State Park
Oakville
Kenwood
Bennett Valley Rd
Grange Rd
Trinity Rd
Warm Springs Rd
Sonoma Mountain Woodlands
Waldrue Heights
Glen Ellen
Crane Creek Regional Park
Fairfield Osborn Preserve
Jack London Ranch
Eldridge
Hills
Lokoya
NAPA COUNTY
Arnold Dr
Agua Caliente
Larson Park
Mission Highlands
Boyes Hot Springs
Sonoma Vista
Ernie Smith Park
Diamond A Ranch Estates
Verano
Maxwell Farms Regional Park
Sonoma
Napa
SONOMA COUNTY
Buena Vista
Batto
Broadway
Bonilla
Four Corners
Vineburg
Napa Rd
Adobe Rd
Old Adobe
Petaluma
Washington St
Ely Blvd
Frates Rd
Lakeville St
Stage Gulch Rd
Schellville
Fremont Dr
Embarcadero
Haystack
Ramal
Merazo
Wingo
McGill
Tolay Lake Regional Park
Lakeville
Neils Island
San Antonio
Petaluma River
Lakeville Hwy
Sonoma Creek
Fairville
Skaggs Island
Little Island
MARIN COUNTY
Burdell
Hog Island
Tubbs Island
San Pablo Bay
Novato
12
101
116
121
0
1
2
Miles
1:140,000
Source: Sonoma County; Napa County; Marin County; CalAtlas; OpenStreets. Map date: July 24, 2018.
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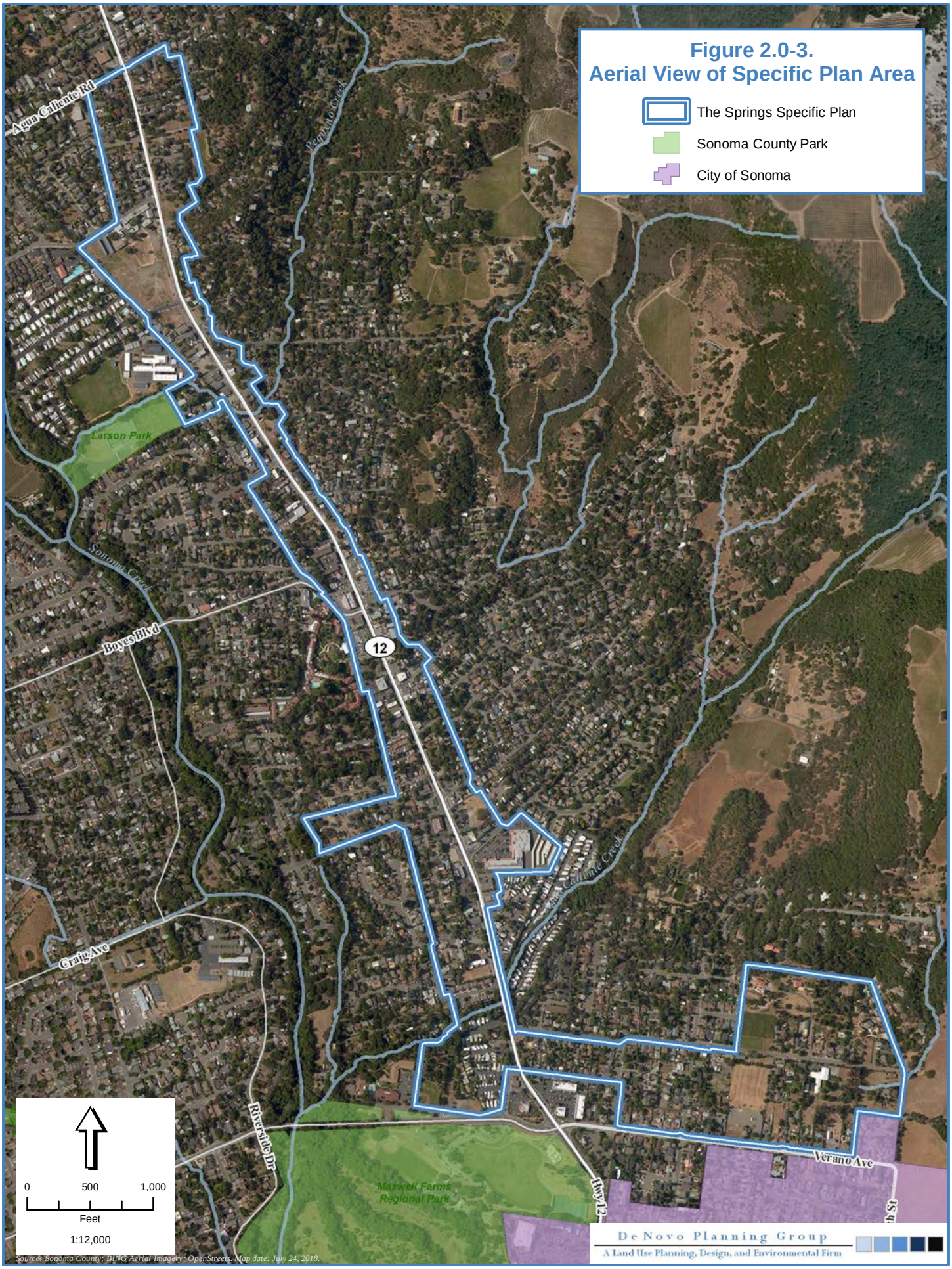
Figure 2.0-3.
Aerial View of Specific Plan Area
The Springs Specific Plan
Sonoma County Park
City of Sonoma
Agua Caliente Rd
Larson Park
Sonoma Creek
Boyes Blvd
12
Craig Ave
Riverside Dr
Maxwell Farms Regional Park
Verano Ave
0
500
1,000
Feet
1:12,000
De Novo Planning Group
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Source: Sonoma County; BING Aerial Imagery; OpenStreets. Map date: July 24, 2018.

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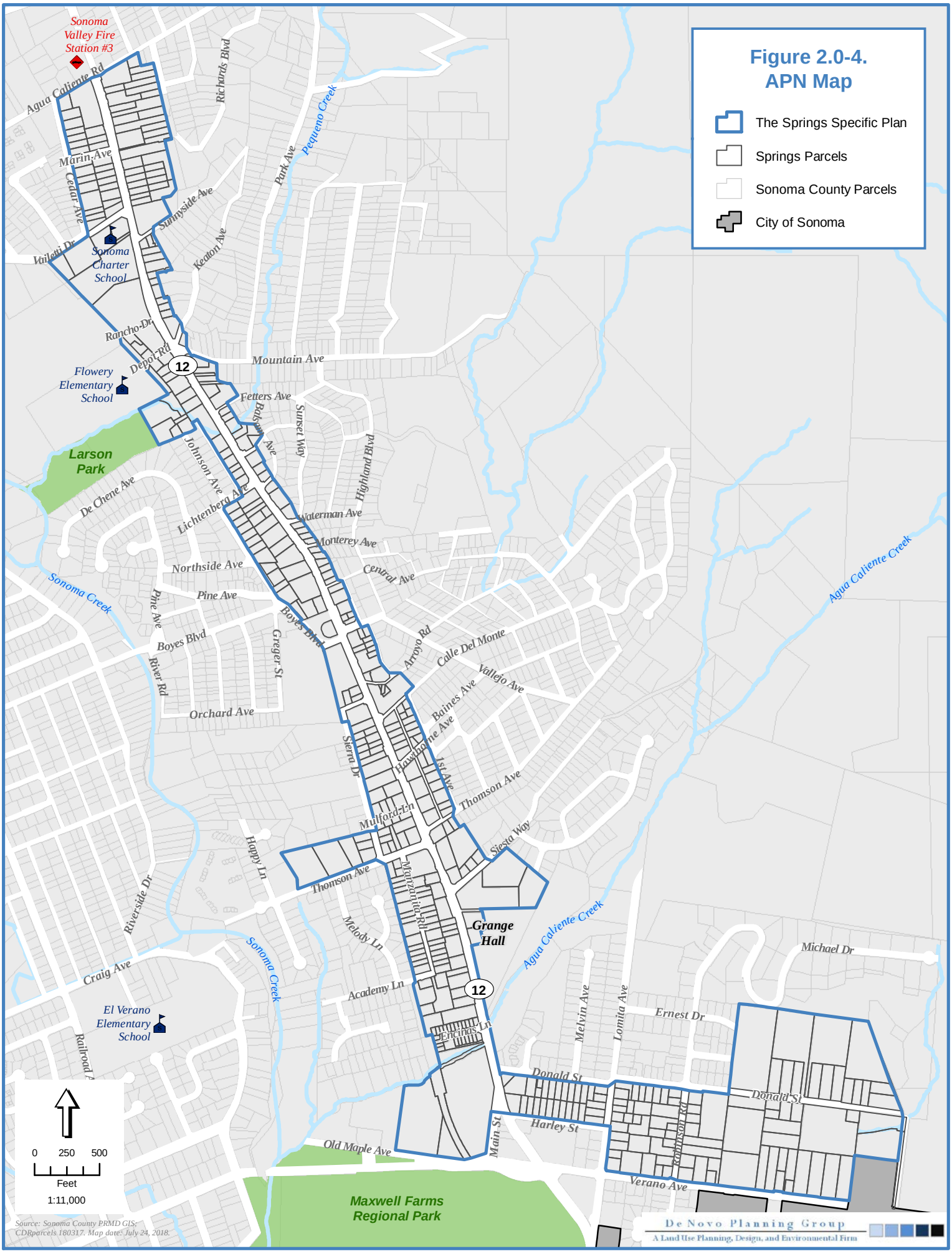
Figure 2.0-4.
APN Map
The Springs Specific Plan
Springs Parcels
Sonoma County Parcels
City of Sonoma
Sonoma Valley Fire Station #3
Sonoma Charter School
Flowery Elementary School
El Verano Elementary School
Larson Park
Maxwell Farms Regional Park
Grange Hall
Agua Caliente Rd
Marin Ave
Cedar Ave
Vallejo Dr
Richards Blvd
Pequeno Creek
Park Ave
Sunnyside Ave
Keaton Ave
Rancho Dr
Depot Rd
Mountain Ave
Fetters Ave
Balsam Ave
Sunset Way
Highland Blvd
Johnson Ave
Lichtenberg Ave
De Chene Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Pine Ave
Boyes Blvd
Greger St
River Rd
Orchard Ave
Sonoma Creek
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawbaine Ave
1st Ave
Thomson Ave
Siesta Way
Mulford Ln
Sierra Dr
Happy Ln
Riverside Dr
Melody Ln
Manzanita Rd
Academy Ln
Craig Ave
Railroad Ave
Encinas Ln
Agua Caliente Creek
Michael Dr
Melvin Ave
Lomita Ave
Ernest Dr
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
12
0
250
500
Feet
1:11,000
Source: Sonoma County PRMD GIS; CDRparcels 180317. Map date: July 24, 2018.
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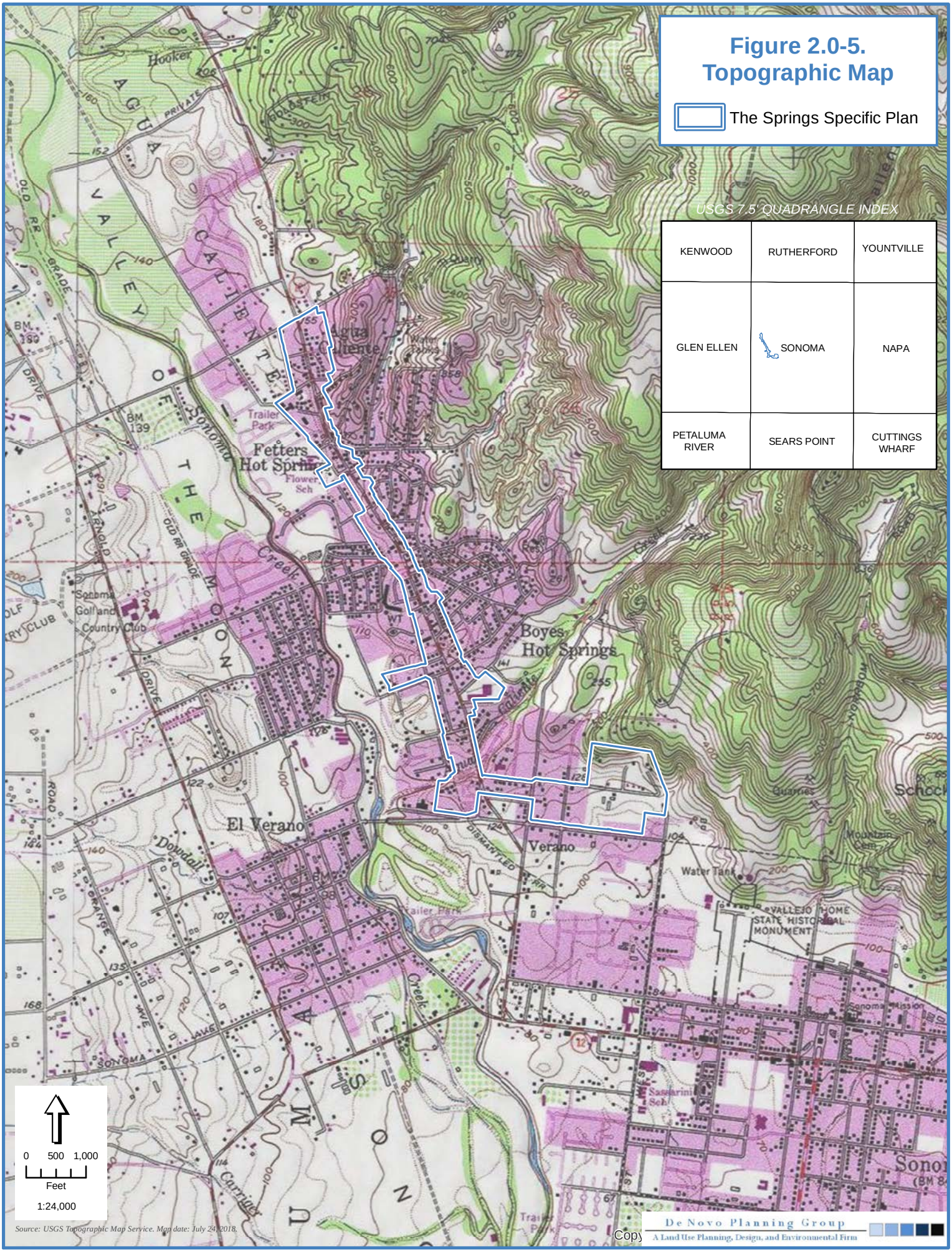
Figure 2.0-5.
Topographic Map
The Springs Specific Plan
USGS 7.5' QUADRANGLE INDEX
KENWOOD
RUTHERFORD
YOUNTVILLE
GLEN ELLEN
SONOMA
NAPA
PETALUMA RIVER
SEARS POINT
CUTTINGS WHARF
Fetters Hot Springs
Boyes Hot Springs
El Verano
Verano
Sonoma Golf and Country Club
Trailer Park
Water Tank
VALLEJO HOME STATE HISTORICAL MONUMENT
0 500 1,000
Feet
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Source: USGS Topographic Map Service. Map date: July 24, 2018.
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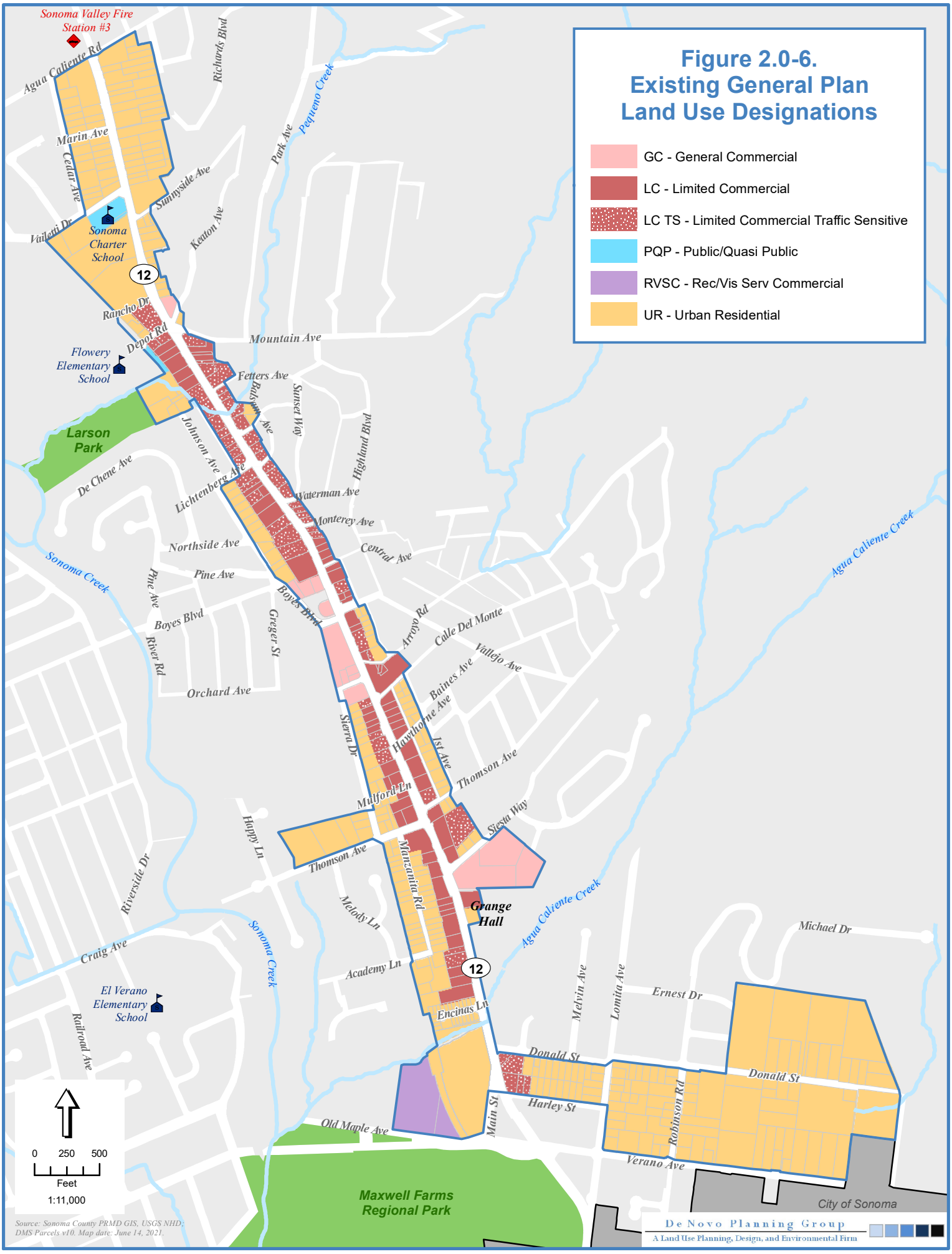
Figure 2.0-6.
Existing General Plan
Land Use Designations
GC - General Commercial
LC - Limited Commercial
LC TS - Limited Commercial Traffic Sensitive
PQP - Public/Quasi Public
RVSC - Rec/Vis Serv Commercial
UR - Urban Residential
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Vailetti Dr
Sonoma Charter School
Keaton Ave
12
Rancho Dr
Depot Rd
Mountain Ave
Flowery Elementary School
Fetters Ave
Broadway Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
De Chene Ave
Lichtenberg Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
River Rd
Greger St
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Sierra Dr
Thomson Ave
Mulford Ln
Siesta Way
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
El Verano Elementary School
Railroad Ave
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
0 250 500
Feet
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Source: Sonoma County PRMD GIS, USGS NHD; DMS Parcels v10. Map date: June 14, 2021.
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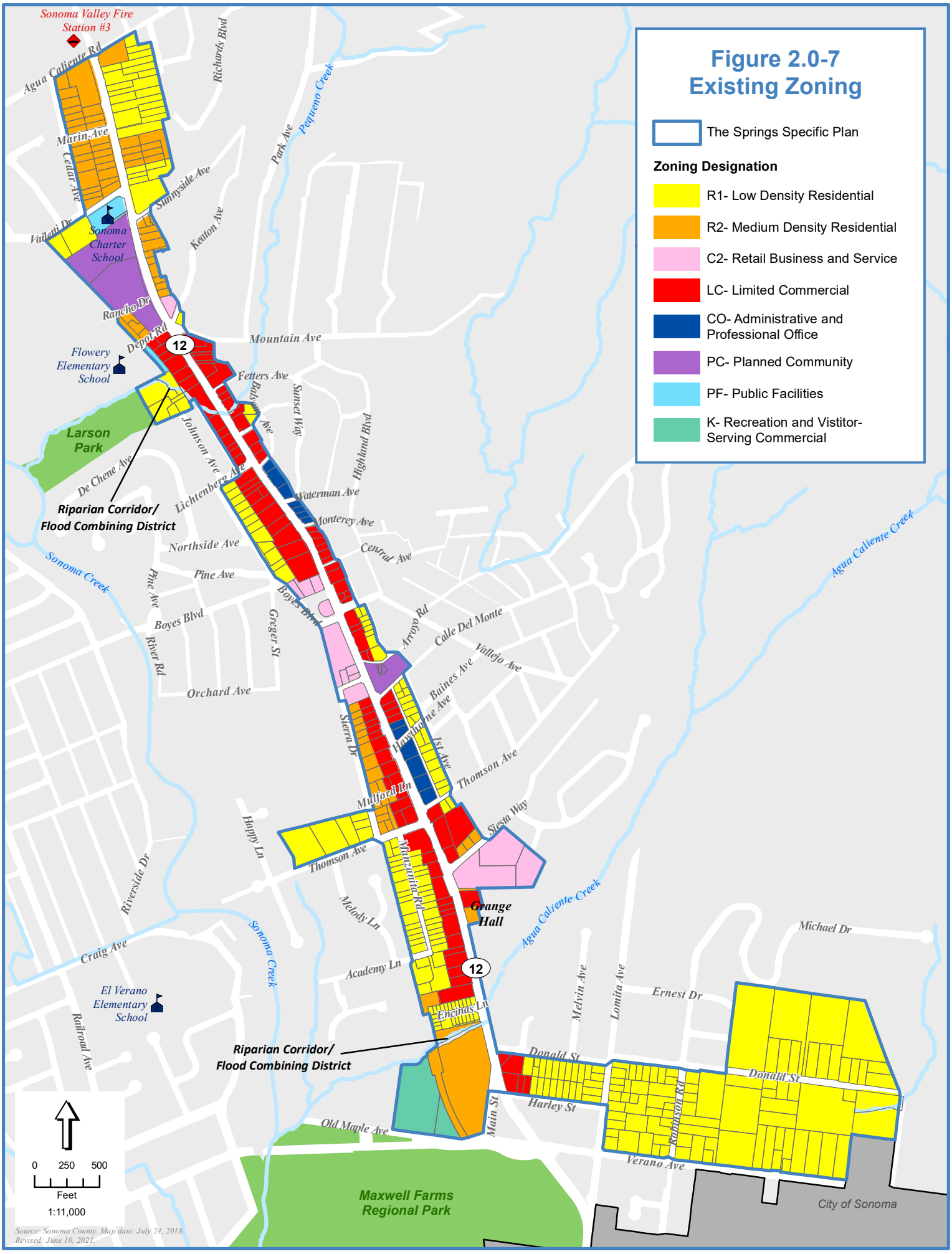
Figure 2.0-7
Existing Zoning
The Springs Specific Plan
Zoning Designation
R1- Low Density Residential
R2- Medium Density Residential
C2- Retail Business and Service
LC- Limited Commercial
CO- Administrative and Professional Office
PC- Planned Community
PF- Public Facilities
K- Recreation and Visitor-Serving Commercial
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Keaton Ave
Vallejo Dr
Sonoma Charter School
Rancho Dr
Depot Rd
12
Mountain Ave
Flowery Elementary School
Fetters Ave
Broadway Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
De Chene Ave
Lichtenberg Ave
Riparian Corridor/ Flood Combining District
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Pine Ave
Sonoma Creek
Agua Caliente Creek
Boyes Blvd
Greger St
River Rd
Orchard Ave
Arroyo Rd
Calle Del Monte
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Hawthorne Ave
1st Ave
Sierra Dr
Thomson Ave
Mulford Ln
Siesta Way
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Riverside Dr
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Grange Hall
Craig Ave
Academy Ln
Michael Dr
Melvin Ave
Lomita Ave
Ernest Dr
Encinas Ln
El Verano Elementary School
Railroad Ave
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Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
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Revised: June 10, 2021.

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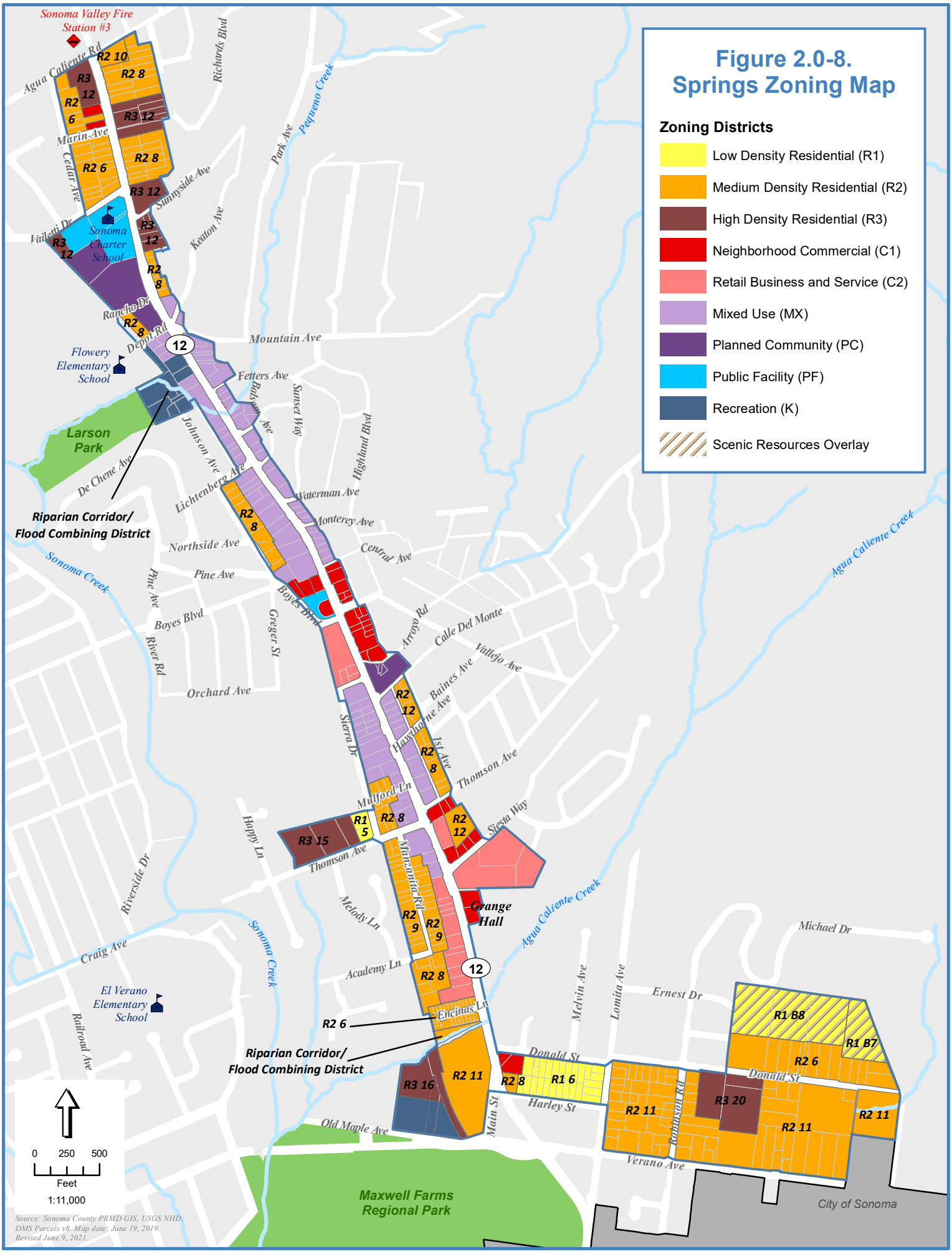
Figure 2.0-8.
Springs Zoning Map
Zoning Districts
Low Density Residential (R1)
Medium Density Residential (R2)
High Density Residential (R3)
Neighborhood Commercial (C1)
Retail Business and Service (C2)
Mixed Use (MX)
Planned Community (PC)
Public Facility (PF)
Recreation (K)
Scenic Resources Overlay
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Keaton Ave
Vallerti Dr
Sonoma Charter School
Rancho Dr
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Flowery Elementary School
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Riparian Corridor/ Flood Combining District
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
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Orchard Ave
Arroyo Rd
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Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Sierra Dr
Thomson Ave
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Riverside Dr
Manzanita Rd
Grange Hall
Agua Caliente Creek
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Melody Ln
Craig Ave
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Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
El Verano Elementary School
Railroad Ave
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
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Source: Sonoma County PRMD GIS, USGS NHD; DMS Parcels v8. Map date: June 19, 2019. Revised June 9, 2021.

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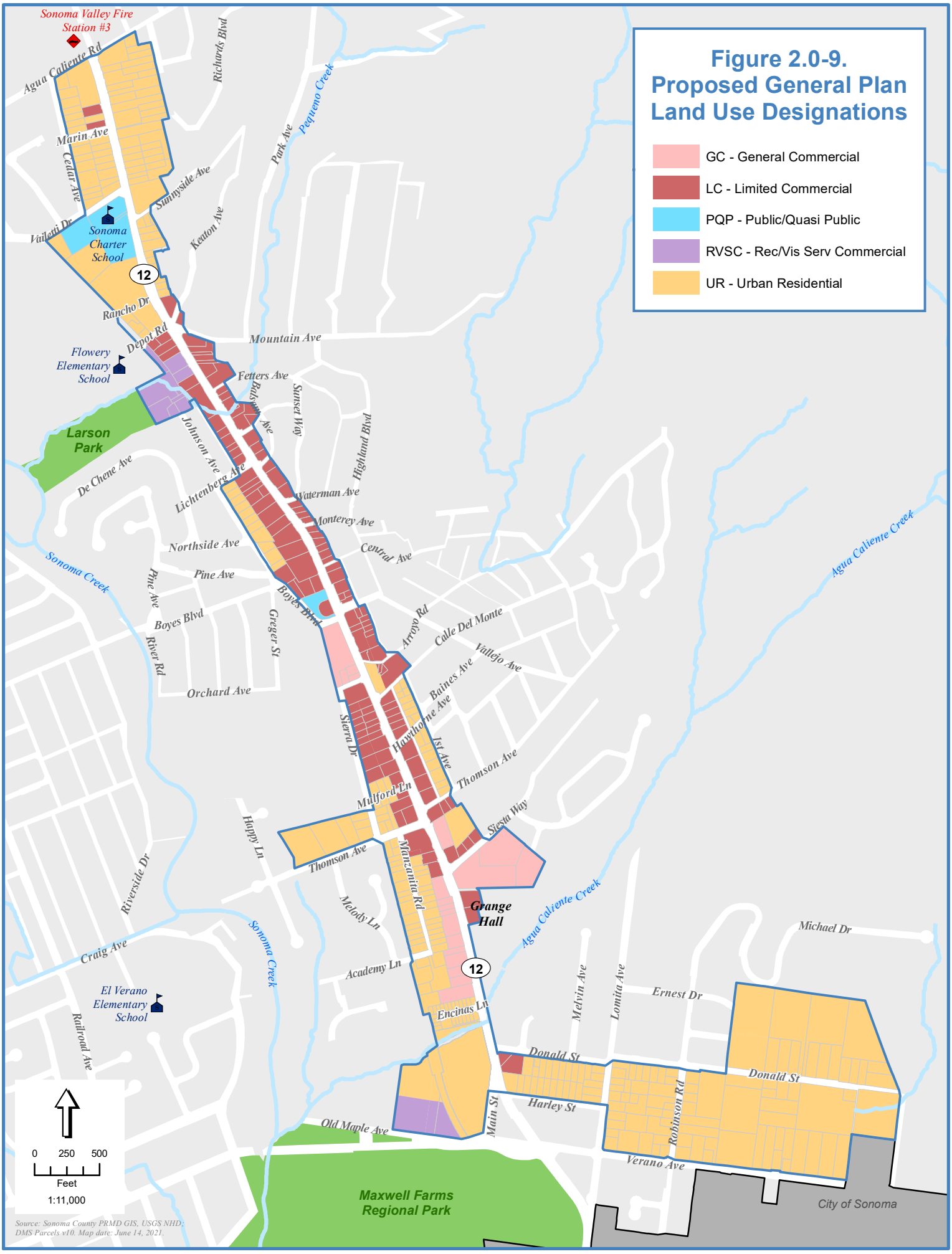
Figure 2.0-9.
Proposed General Plan
Land Use Designations
GC - General Commercial
LC - Limited Commercial
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RVSC - Rec/Vis Serv Commercial
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Cedar Ave
Sunnyside Ave
Vailetti Dr
Sonoma Charter School
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Rancho Dr
Depot Rd
Mountain Ave
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De Chene Ave
Lichtenberg Ave
Waterman Ave
Monterey Ave
Central Ave
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Hawthorne Ave
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Thomson Ave
Mulford Ln
Siesta Way
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
El Verano Elementary School
Railroad Ave
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
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Source: Sonoma County PRMD GIS, USGS NHD; DMS Parcels v10. Map date: June 14, 2021.

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This section addresses aesthetics, including natural scenic resources such as waterways, open space areas, and prominent visual features, scenic highways and corridors, and light and glare. This section provides a discussion of concepts and terminology, the environmental setting, the regulatory framework, an impact analysis, and where applicable, mitigation measures.

This section was prepared based on several reconnaissance-level site visits to the Plan area conducted between Summer 2016 and Spring 2018, a review of aerial and street-level photographs of the Plan area, and a review of various existing reports, including the Sonoma County General Plan and General Plan EIR (2007). Additional sources of information included the California Department of Transportation's (Caltrans) Designated Scenic Route map for Sonoma County.

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

CONCEPTS AND TERMINOLOGY

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (Federal Highway Administration 1983). Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area (U.S. Bureau of Land Management 1980). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed as viewed from a public viewpoint. These terms and criteria are described in detail below.

Visual Character. Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features (U.S. Forest Service 1974; Federal Highway Administration 1983). The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality. Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration, employing the concepts of vividness, intactness, and unity (Federal Highway Administration 1983), which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

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

According to the County's Visual Assessment Guidelines, visual sensitivity of a project site should be given a rating of low, moderate, high, or maximum using the following characteristics:

- *Low*: The site is within an urban land use designation and has no land use or zoning designations protecting scenic resources. The project vicinity is characterized by urban development or the site is surrounded by urban zoning designations and has no historic character and is not a gateway to a community. The project site terrain has visible slopes less than 20 percent and is not on a prominent ridgeline and has no significant natural vegetation of aesthetic value to the surrounding community.
- *Moderate*: The site or portion thereof is within a rural land use designation or an urban designation that does not meet the criteria above for low sensitivity, but the site has no land use or zoning designations protecting scenic resources. The project vicinity is characterized by rural or urban development but may include historic resources or be considered a gateway to a community. This category includes building or construction sites with visible slopes less than 30 percent or where there are significant natural features of aesthetic value that is visible from public roads or public use areas (i.e. parks, trails etc.).
- *High*: The site or any portion thereof is within a land use or zoning designation protecting scenic or natural resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for the community or scenic corridor. This category includes building and construction areas within the SR designation located on prominent hilltops, visible slopes less than 40 percent or where there are significant natural features of aesthetic value that are visible from public roads or public use areas (i.e. parks, trails etc.). This category also includes building or construction sites on prominent ridgelines that may not be designated as scenic resources but are visible from a designated scenic corridor.
- *Maximum*: The site or any portion thereof is within a land use or zoning designation protecting scenic resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for a designated scenic corridor. This category includes building or construction sites within the scenic resource designation on or near prominent ridgelines, visible slopes greater than 40 percent or where there are significant natural features of aesthetic value that are visible from a designated scenic corridor.

Public Viewing Points. Public viewing points in the Plan area or with views that may be affected by the Plan area include public roads, Larson Park, and Maxwell Farms Regional Park.

Visual Dominance. According to the County's Visual Assessment Guidelines, the visual dominance of a project is determined by comparing the contrast of the following elements or characteristics of the project with its surroundings and giving a rating of inevident, subordinate, co-dominant, or dominant:

- Form: shape, geometry, complexity
- Line: the edge of the shape, boldness, complexity of silhouette, orientation
- Color: reflectivity, hue (actual color), value (dark or light)
- Texture: surface characteristics, randomness, grain (fine or coarse)
- Night Lighting

Based on the criteria above, visual dominance is given a rating of inevident, subordinate, co-dominant, or dominant using the following characteristics:

- *Dominant*: Project elements are strong – they stand out against the setting and attract attention away from the surrounding landscape. Form, line, color, texture, and night lighting contrast with existing elements in the surrounding landscape.
- *Co-Dominant*: Project elements are moderate – they can be prominent within the setting, but attract attention equally with other landscape features. Form, line, color, texture, and night lighting are compatible with their surroundings.
- *Subordinate*: Project is minimally visible from public view. Element contrasts are weak – they can be seen but do not attract attention. Project generally repeats the form, line, color, texture, and night lighting of its surroundings.
- *Inevident*: Project is generally not visible from public view because of intervening natural land forms or vegetation.

Scenic Highway Corridor. The area outside of a highway right-of-way that is generally visible to persons traveling on the highway.

Scenic Highway/Scenic Route. A highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources and access or direct views to areas or scenes of exceptional beauty (including those of historic or cultural interest). Scenic highways are designated by the State.

View Corridor. A view corridor is a highway, road, trail, or other linear feature that offers travelers a vista of scenic areas within a city or county.

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Visual characteristics of Sonoma County range from the flat valley floors where vineyards dominate the landscape to the mountain ranges in the northwest and eastern portions of the county. Redwood forests and the coastal mountain range are prominent in the west. Rolling foothills and grazing lands form the visual landscape in the southern portion of the county. However, a significant characteristic of the quality of Sonoma County's scenic environment is the interface of small rural communities and the natural landscape.

The Sonoma Valley area includes the Mayacama Mountains, which provide a backdrop to the valley and the agricultural areas bordering the valley.

PROJECT AREA

The Springs Specific Plan area (Plan area) is defined as the approximately 180-acre area in the southeastern portion of Sonoma County, as shown on Figure 2.0-2. The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. The Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor.

The 'L'-shaped Plan area has several distinct settings: the 1.6-mile stretch of mixed use along Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald and Harley Streets. Agua Caliente Creek crosses the Plan area south of Encinas Lane.

The project's regional location is shown in Figure 2.0-1. Figure 2.0-2 shows the Sonoma County limits, nearby City limits, nearby County parks, and the Plan area.

The Plan area currently includes the following uses, as identified by the Sonoma County Assessor's office: 78.5 acres of single-family residential, 21.6 acres of multi-family residential (including duplexes through fourplexes), 15.74 acres of commercial, 2.77 acres of office, 1.47 acres of industrial, 3.35 acres of mixed use, and 3.59 acres of public uses and 15.6 acres of vacant land. Figure 2.0-3 shows an aerial view of the Plan area.

The 180-acre area includes all of the land area within the Plan area boundary, including all taxable and non-taxable parcels, the on-site local roadway right-of-way, and the on-site Highway 12 right-of-way. The Plan area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west.

As noted above, public viewing points include public roads, public trails, and public parks. Other public gathering places may be considered on a case-by-case basis. Designated public viewpoints are not located in the Plan area; however, the Plan area does include or is adjacent to various public areas which offer public views, including Larson Park, Maxwell Park, and public roads including but not limited to, Highway 12, Vailetti Drive, Depot Road, Lichtenberg Avenue, Boyes Boulevard, Thomson Avenue, and Donald Street.

STATE SCENIC HIGHWAYS

The State of California has officially designated two Scenic Highways in Sonoma County that have a total length of approximately 40 miles. The criteria for official designation and eligibility includes the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The officially designated Scenic Highways are Highway 116, from Highway 1 to the Sebastopol city limit, and Highway 12, from Danielli Avenue east of Santa Rosa to London Way north of Agua Caliente Road. Both Scenic Highways are located outside the Plan area.

COUNTY SCENIC RESOURCE DESIGNATIONS

Sonoma County has designated three categories of Scenic Resources: Scenic Landscape Units, which include numerous natural features that are highly scenic and of special significance, Community Separators, and an extensive network of Scenic Corridors. The Plan area does not include lands designated as Scenic Landscape Units or as Community Separators (Sonoma County General Plan 2020, Figures OSRC-1 and OSRC-5i).

The County's Scenic Corridor network threads throughout the unincorporated area, offering a diversity of viewsheds to travelers. They include State Highways 1, 12, 37, 101, 116, 121, and 128 as well as County roadways. In the Plan area, Highway 12 is a designated scenic corridor (Sonoma County General Plan 2020, Figures OSRC-1 and OSRC-5i).

PLAN AREA VISUAL SENSITIVITY

Based on the County's Visual Assessment Guidelines, while the majority of the Plan area is developed with or designated for urban uses, the presence of the Scenic Corridor designation along the Highway 12 corridor results in the Plan area having a visual sensitivity rating of High. The County's Visual Assessment Guidelines are described in Section 3.1.2, Regulatory Framework.

LIGHT AND GLARE

During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be divided into both stationary and mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, and streetlights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination. This ambient light environment can be accentuated during periods of low clouds or fog.

The existing developed areas within the Springs are the main source of daytime and nighttime light and glare. Additionally, existing residences surrounding the Plan area contribute to the light and glare environment in the project vicinity. These areas and their associated human activities (inclusive of vehicular traffic) characterize the existing light and glare environment present during daytime and nighttime hours in the urbanized portions of the Plan area.

Highway 12, which bisects the project site in a northwest-southeast direction, is also a notable source of existing daytime glare and nighttime lighting. Glare results from vehicle windshields and paint, whereas nighttime lighting is generated by vehicle headlights.

Sources of glare in urbanized portions of the Plan area come from light reflecting off surfaces, including glass, and certain siding and paving materials.

3.1.2 REGULATORY SETTING

FEDERAL

There are no Federal regulations that apply to the proposed project related to visual resources in the study area.

STATE

California Scenic Highway Program

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and map showing their locations may be obtained from the Caltrans Scenic Highway Coordinators.

If a route is not included on a list of highways eligible for scenic highway designation in the Streets and Highways Code Section 263 et seq., it must be added before it can be considered for official designation. A highway may be designated scenic depending on the extent of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

LOCAL

Sonoma County General Plan

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to aesthetics and visual resources:

OPEN SPACE & RESOURCE CONSERVATION ELEMENT

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.

Policy OSRC-1a: 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.

Policy OSRC-1b: Avoid commercial or industrial uses in Community Separators other than those that are permitted by the agricultural or resource land use categories.

Policy OSRC-1c: Require development within Community Separators to be clustered and limited in scale and intensity.

Policy OSRC-1f: Unless there are existing design guidelines that have been adopted for the affected area, require that new structures within Community Separators meet the following criteria:

(1) Site and design structures to take maximum advantage of existing topography and vegetation in order 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 in order 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) To the extent feasible, cluster structures on each parcel within existing built areas, and near existing natural features such as tree groupings.
(7) Utilities are underground where economically practical.
(8) 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.
(9) Minimize impervious surfaces and encourage groundwater recharge with effective design features and materials that allow stormwater infiltration and detention.

This policy does not apply to farmworker housing or agricultural accessory structures, such as barns, proposed 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, if their use does not require a use permit in the Zoning Code. If compliance with these standards would make a parcel unbuildable, site structures where minimum visual impacts would result.

Exempt telecommunication facilities if they meet the siting and design criteria of the Scenic Resources (SR) Zoning District.

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-2.2: Protect hills and ridges in Scenic Landscape Units from cuts and fills.

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.

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.

GOAL OSRC-4: Preserve and maintain views of the night time 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 night time lighting levels at the minimum necessary to provide for security and safety of the use and users to preserve night time skies and the night time character of urban, rural and natural areas.

Objective OSRC-4.2: Ensure that night time 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 is minimized.

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-8.1: Designate all streams shown on USGS 7.5 minute quadrangle topographic maps as of March 18, 2003, as Riparian Corridors and establish streamside conservation areas along these designated corridors.

Objective OSRC-8.2: Provide standards for land use and development in streamside conservation areas that protect riparian vegetation, water resources and habitat values while considering the needs of residents, agriculture, businesses and other land users.

Objective OSRC-8.3: Recognize and protect riparian functions and values of undesignated streams during review of discretionary projects.

Policy OSRC-8f: Develop and/or adopt, where appropriate, revised streamside specific standards, guidelines, and/or best management practices that provide for protection of Riparian Corridors by watershed, stream, or other geographic areas. Once adopted, the revised standards would replace the standards that are in effect at the time.

Sonoma County Visual Assessment Guidelines

The County's Visual Assessment Guidelines are an administrative procedure which provide guidance for the assessment of visual impacts on the preparation of Initial Studies and Environmental Impact Reports. To analyze the visual effects of a specific project the following procedures should be followed:

1. Determine viewpoints and characterize environmental setting;
2. Prepare photos to illustrate visual impacts;
3. Characterize the site' sensitivity (Low, Moderate, High, and Maximum);
4. Determine visual dominance (Dominant, Co-Dominant, Subordinate, and Inevident);
5. Determine significance of visual impacts based on an assessment of the project site's sensitivity and the project's visual dominance; and
6. Mitigation measures.

The assessment herein addresses items 1 (see Section 3.1.1), 3 (see Section 3.1.1), 4 (see Impact 3.1-1), 5 (see Impact 3.1-1), and 6 (see Impact 3.1-1). The guidance provided for Item 2, photos to illustrate visual impacts, addresses individual development projects and was determined by County staff to not be applicable to the Specific Plan.

The County's Visual Assessment Guidelines identify characteristics used to determine visual sensitivity of a project site as summarized in Table 3.1-1.

TABLE 3.1-1: VISUAL ASSESSMENT GUIDELINES - SITE SENSITIVITY RATINGS AND CHARACTERISTICS

SENSITIVITY	*CHARACTERISTICS*
Low	The site is within an urban land use designation and has no land use or zoning designations protecting scenic resources. The project vicinity is characterized by urban development or the site is surrounded by urban zoning designations and has no historic character and is not a gateway to a community. The project site terrain has visible slopes less than 20 percent and is not on a prominent ridgeline and has no significant natural vegetation of aesthetic value to the surrounding community.
Moderate	The site or portion thereof is within a rural land use designation or an urban designation that does not meet the criteria above for low sensitivity, but the site has no land use or zoning designations protecting scenic resources. The project vicinity is characterized by rural or urban development but may include historic resources or be considered a gateway to a community. This category includes building or construction sites with visible slopes less than 30 percent or where there is significant natural features of aesthetic value that is visible from public roads or public use areas (i.e. parks, trails etc.).
High	The site or any portion thereof is within a land use or zoning designation protecting scenic or natural resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for the

SENSITIVITY	*CHARACTERISTICS*
	community or scenic corridor. This category includes building and construction areas within the SR designation located on prominent hilltops, visible slopes less than 40 percent or where there are significant natural features of aesthetic value that are visible from public roads or public use areas (i.e. parks, trails etc.). This category also includes building or construction sites on prominent ridgelines that may not be designated as scenic resources but are visible from a designated scenic corridor.
Maximum	The site or any portion thereof is within a land use or zoning designation protecting scenic resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for a designated scenic corridor. This category includes building or construction sites within the scenic resource designation on or near prominent ridgelines, visible slopes greater than 40 percent or where there are significant natural features of aesthetic value that are visible from a designated scenic corridor.

SOURCE: SONOMA COUNTY VISUAL ASSESSMENT GUIDELINES, 2019

The County's Visual Assessment Guidelines identify characteristics used to determine the visual dominance of a project, as identified by Table 3.1-2.

TABLE 3.1-2: VISUAL ASSESSMENT GUIDELINES – VISUAL DOMINANCE RATINGS AND CHARACTERISTICS

DOMINANCE	*CHARACTERISTICS*
Dominant	Project elements are strong – they stand out against the setting and attract attention away from the surrounding landscape. Form, line, color, texture, and night lighting contrast with existing elements in the surrounding landscape.
Co-Dominant	Project elements are moderate – they can be prominent within the setting, but attract attention equally with other landscape features. Form, line, color, texture, and night lighting are compatible with their surroundings.
Subordinate	Project is minimally visible from public view. Element contrasts are weak – they can be seen but do not attract attention. Project generally repeats the form, line, color, texture, and night lighting of its surroundings.
Inevident	Project is generally not visible from public view because of intervening natural land forms or vegetation.

SOURCE: SONOMA COUNTY VISUAL ASSESSMENT GUIDELINES, 2019

Sonoma County Code

The Sonoma County Code includes requirements for design review, use permits, and other discretionary project entitlements. The following regulations allow for mitigation of visual impacts through the environmental review process.

SCENIC RESOURCES COMBINING DISTRICT

The Scenic Resources (SR) combining district is intended 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. The SR combining district addresses development criteria for land zoned as Community Separators, Scenic Landscape Units, and Scenic Corridors, and for telecommunications facilities in the SR district.

There are no lands zoned as Community Separators or Scenic Landscape Units within the Plan area, as discussed below. While Highway 12 is designated a Scenic Corridor, the SR combining district applies only to sections of the Highway 12 corridor located outside the Urban Service Area. The entire Plan area is located within the Urban Service Area, therefore the regulations for Scenic Corridors do not apply to the planning area.

Community Separators

County Ordinance No. 6170 requires voter approval for a revision or amendment to the boundaries or land use designations and densities of the Community Separators as designated in the existing *General Plan Open Space Element*. The Plan area does not include any lands designated as Community Separators.

Scenic Landscape Units

The Zoning Code also includes standards for the development within Scenic Landscape Units. These development standards also reduce the visibility of permitted development in order to maintain the natural appearance of the landscape as much as possible. The Plan area does not include any lands designated as Scenic Landscape units.

Scenic Corridors

The County's protective measures for the Scenic Corridors rely on Sonoma County zoning regulations to control the visual impact of development, primarily through the use of the Scenic Resources (SR) overlay zoning district and the design review process. Highway 12 through the Plan area is designated a Scenic Corridor. The SR combining district establishes a setback of 30 percent of the lot depth up to a maximum of 200 feet from the centerline of the road. Within this setback area, development is prohibited with certain exceptions. As previously described, these setback requirements do not apply to areas like the Springs Plan Area which lie within an Urban Service Area. In Scenic Corridors the design review process requires that all non-exempt development be reviewed by the planning director or an appointed design review committee to assure that it meets certain visual and design standards.

DESIGN REVIEW – DEVELOPMENT STANDARDS

Section 26-82-030, Design Review Development Standards, establishes regulations for development, including building orientation, street and parking design, screening, parking lot lighting, site design, and architectural compatibility. The Zoning Code specifically regulates lighting for parking lots where a design review application is required, for appurtenant signs, and for projects within three Local Area Development Guidelines areas. In addition to the zoning code's general design standards, the county-wide design guidelines provide design standards for site planning, circulation, parking, landscape architecture, building design, signs, and outdoor lighting.

LOCAL AREA GUIDELINES - THE 1994 SPRINGS HIGHWAY 12 DESIGN GUIDELINES

Section 26-90-110 of the code references Sonoma County's local area development guidelines. The 1994 Highway 12 Design Guidelines apply to any parcel with frontage on Highway 12 from its intersection at Verano Avenue, north, to its intersection at Agua Caliente Road, and as shown in the Zoning Database as being within the Local Guidelines combining zone.

The stated purpose of the 1994 Highway 12 Design Guidelines is to provide a vision and a design vocabulary that will lead to the beautification of the Corridor, through public and private efforts. The vocabulary aims to be flexible, nurturing eclectic expressions without stifling creativity. The guidelines are intended as a supplement to the existing Sonoma County-wide ordinances, standards, and guidelines. The

Design Guidelines include design criteria for private development to ensure the consistency of each individual project with the overall character of the Corridor. The Guidelines language is permissive and is thus considered a set of recommendations rather than requirements.

It is noted that the 1994 Highway 12 Design Guidelines would be superseded if the proposed Specific Plan Design Guidelines are adopted.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on aesthetics if it will:

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

The County's Visual Assessment Guidelines establish the following methodology and thresholds for the determination of visual impact significance:

a. Establishing the level of visual sensitivity of the site using the criteria discussed in Table 1 (see Table 3.1-1).
b. Characterizing the visual dominance of the project by comparing the project's form, line, color, texture, and lighting against that of the surrounding area as described in Table 2 (see Table 3.1-2).
c. Determining significance of the visual impact by comparing site sensitivity with visual dominance of the project in accordance with Table 3 (see Table 3.1-3).

TABLE 3.1-3: VISUAL ASSESSMENT GUIDELINES - THRESHOLDS OF SIGNIFICANCE FOR VISUAL IMPACT ANALYSIS

SENSITIVITY	*DOMINANT*	***CO-DOMINANT***	*SUBORDINATE*	*INEVIDENT*
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: SONOMA COUNTY VISUAL ASSESSMENT GUIDELINES, 2019

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation would result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings (Significant and Unavoidable)

VIEWPOINTS AND VISUAL SETTING

The Plan area contains various public roads which are considered public viewpoints. These public roads are located throughout the Plan area including, but not limited to: Highway 12, Vailetti Drive, Depot Road, Lichtenberg Avenue, Boyes Boulevard, Thomson Avenue, and Donald Street. The views from these existing public roadways varies from roadway to roadway. Along Highway 12 and along roadways adjacent to Highway 12, the view can generally be described as developed with urban uses. Views from public roads in the developed portions of the Plan area include buildings one to three stories in height, roadways, and public improvements (such as fencing, retaining walls, sidewalks, etc.). Along roadways further from Highway 12, such as portions of Donald Street, views can generally be described as residential, but with a greater proportion of views including natural features. At the eastern end of Donald Street along the eastern Plan area boundary, views east of the Plan area include rolling hillsides, grassy fields, and some rural residential uses. The Plan area is also visible from Maxwell Farms Regional Park and Larson Park.

The 'L'-shaped Plan area has several distinct settings: the 1.6-mile stretch of mixed use Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald and Harley Streets. The area's terrain generally slopes gently down from east to west. Properties on the west of the highway in many areas sit lower than the highway, and those on the east often sit above the highway. The highway corridor's character taken as a whole is suburban. Commercial, residential, and light industrial uses front the highway. The highway alignment is predominantly straight with three widely spaced bends. The visual character transitions gradually at each stretch between the bends.

Highway 12 is most consistently residential in character between Agua Caliente Road and Rancho Drive with single and multi-family residences, the Sonoma Charter School, and a fire station. A steep hillside abuts the highway south of Sunnyside Avenue. Additionally, the area in the vicinity of Boyes Boulevard has a community-commercial orientation, with several businesses and the Post Office centrally located. Further south, there are a range of commercial land uses with some residential parcels mixed in. The residential neighborhoods at the base of the 'L' accessed along Donald and Harley Streets exist visually as enclaves of low density development that are separate from the Highway 12 corridor. Most homes are single story with low pitched gable roofs. The area includes primarily single family housing except for a few large parcels, including a small vineyard, a convalescent hospital, and a bed and breakfast, at the eastern end of this area. There are mature trees throughout these neighborhoods.

SITE SENSITIVITY

While Sonoma County contains numerous areas and viewsheds with relatively high scenic value, there are no officially designated "scenic vista" points in Sonoma County. The County's General Plan does established three types of scenic resources that signify important areas of the County that warrant protection of scenic values: Community Separators, Scenic Landscape Units, and Scenic Corridors. These three types of scenic resources are discussed in detail below as they relate to the Plan area.

Community Separators were created as an open space category in the County's first General Plan. The purpose is to avoid urban sprawl and corridor-style urbanization, in which there is little distinction between communities, by keeping some land areas open or otherwise retaining a rural character. The closest Community Separator to the Plan area is located in Glen Ellen / Agua Caliente. This Separator contains approximately 1,400 acres between Glen Ellen and Agua Caliente / Boyes Hot Springs along Highway 12 and is approximately ½ mile from the plan area. Due to the distance and location of this Community Separator outside of the Plan area, future development allowed under the Project would not substantially adversely affect this area.

Scenic Landscape Units include natural features within Sonoma County that are scenic and of special significance. These landscapes have little capacity to absorb development without affecting scenic value. Fifteen Scenic Landscape Units are designated in the existing General Plan to protect the scenic quality of these areas. The closest Scenic Landscape Units to the Plan area include the Mayacama Mountains to the east and the Sonoma Mountains to the west, both of which provide a backdrop to the valley and the agricultural areas bordering the valley. Due to the location of these Scenic Landscape Units outside of the Plan area, future development allowed under the Project would not substantially adversely affect these areas.

Sonoma County has also designated an extensive network of roadways as Scenic Corridors. This network threads throughout unincorporated areas offering a diversity of viewsheds to travelers. The Scenic Corridors within or near the Plan area include Highway 12, which runs through the Plan area, and Arnold Drive, which is located west of the Plan area. Areas with this designation are considered by the County's Visual Assessment Guidelines to be at least "High" for visual sensitivity and may be considered "Maximum" sensitivity, depending upon consideration of additional factors.

Areas with a "High" sensitivity rating are those that meet the following criteria:

- The site or any portion thereof is within a land use or zoning designation protecting scenic or natural resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors;
- The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for the community or scenic corridor;
- This category includes building and construction areas within the SR designation located on prominent hilltops, visible slopes less than 40 percent or where there are significant natural features of aesthetic value that are visible from public roads or public use areas (i.e. parks, trails etc.); and
- This category also includes building or construction sites on prominent ridgelines that may not be designated as scenic resources but are visible from a designated scenic corridor.

The Plan Area is predominantly urbanized, is not a scenic natural setting and does not include potential development on prominent hillsides, or ridgetops with scenic natural areas. As discussed above however, because portions of the Plan area are in a designated scenic corridor the visual sensitivity of the Specific Plan is considered to be High.

PROJECT VISUAL DOMINANCE

The Sonoma County General Plan 2020 Draft EIR includes extensive and detailed information regarding the visual characteristics and scenic resources of the County and the County's General Plan Planning Area,

which includes the Plan area. The information, findings, and analysis contained in the Sonoma County General Plan 2020 Draft EIR, and specifically, Chapter 4.11, Visual Resources, are hereby incorporated by reference into this EIR.

The proposed Specific Plan includes a Design Guidelines chapter (Chapter 4) that establishes the aesthetic vision for architecture, building character, land massing, site design, streetscape, lighting, signage, and landscape standards within the Plan area. The purpose of the Guidelines is to ensure consistency of design across a wide range of uses within the Plan area. Furthermore, development standards included within the Specific Plan regulate building intensity and separation, façade design, massing, height, and setback requirements. Design Guidelines included within the Specific Plan provide guidance for the development of well-designed projects that are compatible with adjacent land uses, while continuing to advance residential opportunities, economic vitality and job growth in the County.

To assess the visual dominance of the project, the County Visual Assessment Guidelines call for comparing the contrast of the following elements or characteristics of the project with its surroundings and giving a rating of inevident, subordinate, co-dominant, or dominant:

- Form: shape, geometry, complexity
- Line: the edge of the shape, boldness, complexity of silhouette, orientation
- Color: reflectivity, hue (actual color), value (dark or light)
- Texture: surface characteristics, randomness, grain (fine or coarse)
- Night Lighting

Buildout of the Project would allow for development to occur in areas that are currently either disturbed or developed. The majority of development which would be permitted under the Project would include redevelopment of sites with existing development, retrofitting of existing buildings, and infill development on parcels that are mostly surrounded by development. Depending on the location, new development could result in changes to the skyline throughout the Plan area. For example, as shown in Table 2.0-3 in Chapter 2.0, Project Description, building heights of 35 to 40 feet would be permitted throughout the Plan area, including along Highway 12. All existing zoning districts in the Plan area have a 35 foot height limit so the Project would potentially allow buildings up to 5 feet higher than current maximums. Buildings of this size and located along Highway 12, a public viewpoint, may modify or interfere with views of distant hillsides to the east.

Development allowed under the Project could result in increased development along the Highway 12 corridor which is identified as being a County designated Scenic Corridor. Highway 12 is the only highway corridor through the Plan area bisecting the Specific Plan east and west. The dominant visual features along Highway 12 through the Plan area include existing development that occurs through a majority of the corridor. The hillside and open agricultural lands west and east of the Plan area are secondary visual features visible from the Plan area and Highway 12. Some future development allowed under the Project would be located on infill parcels which are vacant or underutilized. These infill parcels could be developed with structures up to 40 feet tall, which could alter views of distant natural features from adjacent and nearby public viewpoints.

The Visual Assessment Guidelines define a “Dominant” level of visual dominance for projects with strong visual elements that stand out against the setting and attract attention away from the surrounding landscape. The Guidelines identify that a “Co-dominant” rating is most appropriate for projects with moderate visual elements that can be prominent within the setting, but attract attention equally with other landscape features. Implementation of the Plan would support maintenance of existing visual

characteristics through the application of design guidelines, including those stating that "colors and materials must harmonize well with the styles of the Springs Community and the natural scenic backdrop." This and other guidelines in the plan, as discussed below, would generally limit the visual dominance of new construction. However, existing buildings in the Springs reflect a variety of colors and styles and development supported by the Plan and would accommodate buildings with dominant elements, such as bold colors, murals, and distinctive design features. The Design Guidelines include II.A.5 which supports creative, innovative design and architecture and encourage use of color, as described on p. 4-19 of the Design Guidelines. In terms of the County's Visual Assessment Guidelines, development supported by the project could include dominant features that attract attention in comparison with the existing visual landscape in the Plan area.

CONCLUSION

The implementation of the Specific Plan, including policies in the Land Use Chapter and the Design Guidelines (listed below), the goals, policies, and objectives of the General Plan (listed in Section 3.1.2, Regulatory Setting), and the County's Zoning Code requirements (summarized in Section 3.1.2, Regulatory Setting), would ensure that impacts are reduced to the greatest extent feasible. Specifically, the Land Use Chapter of the Specific Plan includes Policies SLU-1b, SLU-1c, SLU-1m, SLU-3e, SLU-3j, and SLU-3k, which generally require and/or encourage that future development be compatible with the character of the Springs, include open space or other public spaces, and integrate with the surrounding environment. Additionally, the proposed Design Guidelines include various provisions related to building scale and design, surrounding land uses, public spaces, landscaping, and fences. These proposed policies and guidelines would ensure that future development and redevelopment projects would integrate into the surrounding environment.

The proposed Project includes Design Guidelines and policies which promote consistency of each individual project with the overall character of the Highway 12 corridor. For example, the proposed Design Guidelines note that development should blend with, preserve, and incorporate existing natural features, including creeks, mature trees, and riparian habitat, into the site design. The Guidelines also ensure that new and renovated buildings are designed to enhance the built environment, complement the surrounding uses, and harmonize well with the few iconic buildings that remain in the Springs. Future development would be subject to these proposed Design Guidelines and Specific Plan policies through the Design Review process.

As noted above, the Plan area is largely urbanized and developed. The Project would allow for an increase in intensity and density of the existing land uses than currently allowed. Development would occur on either vacant, infill parcels, or on parcels where redevelopment potential exists. Future development could result in densification of urban uses throughout the Plan area, including along the Highway 12 corridor and local roads that provide public viewpoints. As described above, future development and design review processes would ensure that future uses are pedestrian scale, blend with the existing built environment, and connect to existing and future open space and public space.

Based on the analysis of the Specific Plan based on County's Visual Assessment Guidelines, the Specific Plan would have a High rating for visual sensitivity and a Co-dominant rating for visual dominance. Based on this combination of ratings, according to the County's Visual Assessment Guidelines, the Specific Plan would generate a significant impact to this topic area. Therefore, the Specific Plan is required to implement mitigation. The discussion below identifies the mitigation recommended by the Visual Assessment Guidelines in italics and discusses how the Specific Plan implements the recommendation:

- *Limit the extent of grading, tree removal, amount of cuts and fills, length of roadways, height of retaining walls and areas for building envelopes.* It is noted that no new roadways are proposed in the Specific Plan, therefore, the recommendation to limit roadways is not applicable. The Specific Plan includes Measure AES-1 which requires development and infrastructure projects to limit the extent of grading, tree removal, amount of cuts and fills, height of retaining walls, and areas for building envelopes.

- *Conservation easements may be appropriate to protect viewsheds and sensitive visual resources*. Views along the Highway 12 corridor, a scenic corridor, will be changed by development under the Specific Plan. The Specific Plan includes Measure AES-1 to ensure that future projects identify viewsheds and sensitive visual resources and ensure that development retains views of these resources to the extent feasible.

- *Building envelopes may need to be adjusted or moved back to avoid the most visible locations and/or reduced in size to protect vegetation that may screen the structures. Structures could be limited in their size or height to reduce bulk and contrast.* The Specific Plan includes design measures to ensure that development is pedestrian-scale, oriented toward the street, is directly accessible from the public sidewalk, with maximum setbacks of 20 feet, and provides a continuous frontage along the street. The maximum setback and continuous frontage requirements reduce the potential to move back or adjust building envelopes to avoid the most visible locations or reduce size to ensure that vegetation would screen structures from views. This street- and pedestrian-oriented approach is consistent with the Specific Plan's guiding principles of promoting the Specific Plan area as a mixed-use Downtown that serves the larger Springs community. Section II, Building Character, of the Design Guidelines chapter encourages variations in wall planes to create a sense of depth, requires new buildings to reflect the traditional widths in the area of 25- to 30-foot wide buildings by dividing larger buildings into smaller components to give the appearance of a series of smaller buildings, and requires three-story buildings to step back the third story; these measures reduce the bulk of the building and visual contrast with existing views.

- *Color and texture of building materials should be consistent with the surrounding environment. Non-reflective surfaces and darker colors should be utilized to avoid glare and contrast.* Section II, paragraph C, of the Design Guidelines addresses building color and materials, requiring colors and materials to harmonize well with the styles of the Springs community and the natural scenic backdrop. It is recognized that buildings in the Springs area reflect a variety of colors and styles and that restrictions to a neutral palette or dark colors would not reflect the colors and style of the community, so the Specific Plan accommodates a range of colors that harmonize with the area harmonize well with the styles of the Springs community and the natural scenic backdrop. The Design Guidelines prohibit the use of excessively reflective building materials, including mirrored glass.

- *Require screening vegetation and landscape plans subject to Design Review.* Section III, Site Design, of the Design Guidelines chapter requires parking areas to be visually screened and requires service areas to be located to the rear of the building, screened from public view, consolidated in one area, and incorporated into the design of the building, to the extent feasible.

- *Require exterior lighting plans subject to Design Review. Exterior lighting shall be low mounted, downward casting and fully shielded to prevent glare. Lighting shall not wash out structures or any portions of the site. Light fixtures shall not be located at the periphery of the property and*

shall not spill over onto adjacent properties or into the sky. Flood lights are not permitted. Parking lot fixtures should be limited in height (20-feet). All parking lot and/or street light fixtures shall use full cut-off fixtures. Lighting shall shut off automatically after closing and security lighting shall be motion-sensor activated. The Design Guidelines chapter of the Specific Plan establishes exterior lighting requirements in Section VI. Development projects in the Specific Plan area are required to use full cutoff light fixtures for all exterior lighting, with lighting directed downward and not resulting in glare, spill-over lighting onto any adjacent property, or illumination of the night sky. Outdoor lighting must be pedestrian-scale. Accent lighting is required to be subtle, indirect, directed downward, and have the light source concealed from view.

- *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).* Development is required to comply with the most recent Title 24 standards. Part 1, Section 10-114, of Title 24 establishes outdoor lighting zones and requirements similar to those found in the 2005 version of Title 24. These requirements apply to all development projects.

The Specific Plan includes design guidelines that will be applied through design review to ensure future development is visually compatible with the Springs area, including design of buildings to reduce bulk, use of color consistent with the community, and use of high quality materials. Measure AES-1, further requires development projects to limit the extent of site disturbance, reduce building envelopes, make building colors and textures consistent with the surrounding environment, require screen vegetation and landscape plans prior to design review, require exterior lighting plans to be subject to design review, reduce the impact from exterior lighting, and provide for energy efficient lighting. While Specific Plan requirements reduce visual impacts and incorporate measures to reduce and minimize impacts as recommended by the Visual Assessment Guidelines, the project has the potential to modify views along the scenic corridor and introduce dominant and co-dominant features into an area with a High visual sensitivity. The impact would be **significant and unavoidable**.

SPECIFIC PLAN POLICIES AND DESIGN GUIDELINES REQUIREMENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Land Use Chapter

Policy SLU-1b: Ensure that new and redeveloped buildings are compatible with the traditional architectural character of the Springs in terms of scale, height, and design. Development projects must also integrate well with surrounding development.

Policy SLU-1c: Ensure that all development projects be designed to contribute to a visually rich, pedestrian-friendly streetscape by providing architectural interest at the street level and pedestrian-oriented amenities, such as awnings, planters, benches, etc.

Policy SLU-1m: Require the adaptive reuse of historic and architecturally significant buildings rather than demolition.

Policy SLU-3e: Require that community open space include shade, seating, greenery, and other amenities that encourage public use and make the Springs an inviting, walkable community.

Policy SLU-3j: Encourage developments to restore adjacent creeks and feature them in the project design.

Policy SLU-3k: Require that plazas, parklets, outdoor seating areas, and other community spaces, are well-designed and constructed of high-quality, durable materials to ensure that these spaces remain attractive and functional for years to come.

Design Guidelines Chapter

Building Character – Design

Objective 1: *Ensure that new and renovated buildings are designed to enhance the built environment, complement the surrounding uses, and harmonize well with the few iconic buildings that remain in the Springs.*

Objective 2: *Create an attractive and inviting pedestrian-oriented environment featuring well-designed buildings, active storefronts, and a pedestrian scale.*

1. *Harmonize with Iconic Architecture. The architectural style of new and renovated buildings must harmonize well with the iconic architecture found in The Springs. Iconic architectural styles of The Springs include Mission Revival, Mid-Century Modern, and Vernacular Commercial.*

2. *Complement Surrounding Uses. New and renovated buildings must be designed to complement the surrounding environment and fit well with adjoining development.*

3. *Four-sided Architecture. Buildings must be designed to be aesthetically pleasing from all angles. All sides of new and renovated buildings shall exhibit high quality design, variations in massing and wall planes, and architectural features and detailing. Blank, featureless walls are not permitted.*

4. *Pedestrian Scale Design. All new development must be designed to achieve a pedestrian scale.*

5. *Building Base, Body, Roof. The design of new and renovated commercial structures should include a well differentiated base, body, and roof.*

6. *Variations in wall plane (modulation). The design shall create variations in wall surfaces to create varied massing, a sense of depth, and a pedestrian scale. This can typically be addressed through the use of recesses, or by setting a portion of the wall back, or by projecting a section of the wall forward a distance of at least one foot.*

7. *Building Width. New development must be designed to contribute to a traditional rhythm along the street frontage of 25- to 30-foot-wide buildings. Wider buildings must be architecturally divided into smaller components to give the appearance of a series of smaller buildings. Vertical variations in the wall plane (projections and recesses), along with architectural elements such as pilasters, can be used to create smaller bays.*

8. *Three-Story Buildings. The third story of any building that fronts onto a public street must be stepped back at least twelve feet (12') from the lower floor footprint. If there*

are multiple buildings proposed on a site, three-story buildings should be placed farther from the street than single or two-story buildings to provide a gradient in height from the street to the interior of the project site. The third story façade may include railings to allow for the outdoor use of the recessed area. The use of horizontal detailing (e.g. stringcourse, frieze, etc.) to demarcate floor levels on the exterior of the building is encouraged.

Site Design: Colors and Materials

1. *General Concepts*

   a. *Colors and materials should respect the architectural style of the building.*

   b. *Colors and materials must harmonize well with the styles of the Springs community and the natural scenic backdrop.*

   c. *Colors and materials should be used in an authentic manner, reinforcing the architectural style and overall development concept.*

   d. *A well-coordinated palette of colors must be used to tie building elements together.*

   e. *The color palette must complement the type of exterior materials used.*

   f. *The materials and colors used for additions and renovations to existing structures should complement the original building architecture and color scheme.*

   g. *Franchise uses shall use alternative color schemes when determined by the County that their standard color scheme would not be complementary to the Springs community.*

3. *Materials.*

   a. *Buildings must use high-quality, durable materials that retain their appearance over time and convey a sense of permanence and richness.*

   b. *Buildings shall incorporate a combination of materials to provide relief and texture, and break up wall surfaces.*

   c. *Changes in exterior materials shall not occur at exterior corners, but should be wrapped around the corner to give the material depth and appearance of a structural function.*

   d. *Use of excessively reflective building materials, including mirrored glass, is not permitted.*

Site Design: Pedestrian Circulation

5. *Connect to Creeks. Where new non-residential development occurs adjacent to creeks, pedestrian access must be provided to allow pedestrian views of the creek and should include a shaded seating area for public viewing and enjoyment.*

Site Design: Parking

6. Screening of Parking Areas

a. A three-foot high fence, wall, or other visual barrier (raised planter, benches, etc.) must be provided in combination with landscaping to screen and separate parked vehicles from the street.

b. Walls and fences must include architectural detailing designed to complement the development and greater Springs community.

c. The buffer should be designed to provide for stormwater retention.

Site Design - Service Areas

1. General Requirements. Equipment, utilities, trash collection, etc. shall be, to the extent feasible:

a. Located to the rear of buildings

b. Screened from public view by wall or enclosure

c. Consolidated in one area

d. Incorporated into the design of the building

2. Screening

a. Walls and enclosures must be architecturally compatible in design, color, and material with the primary building and must be carefully integrated into the overall project design.

b. Walls and enclosures must be constructed of durable materials and designed to adequately conceal its contents.

c. Walls and enclosures must be integrated into the overall site design to provide for ease of access and to minimize visual impacts.

d. Landscaping should be provided to enhance the appearance of walls and enclosures.

e. Trash enclosures must be covered and provided with adequate access for trash collection trucks.

f. Project plans must include the location, design, and materials of screening elements for all service equipment and utility areas.

g. Cyclone fencing shall not be used for screening.

3. Roof-top equipment. Roof-top equipment shall be concealed from public view. Architectural elements used to screen equipment shall be well integrated with the building's architecture and designed to present a unified appearance.

4. Electrical Equipment. Equipment such as transformers, shall be located to minimize its visual impact and be screened from view whenever possible.

5. *Loading Area. Uses requiring the loading and unloading of merchandise should provide adequate space on site for this purpose. Loading docks should be located at the rear of buildings.*

Site Design: Public Spaces

4. *Incorporate Nature. Development should blend with, preserve, and incorporate existing natural features, including creeks, mature trees, and riparian habitat, into the site design.*

Landscaping and Fences

1. *In General. A generous amount of landscaping should be used to enhance and define public and private spaces.*

   a. *Landscaping should consist of a combination of trees, shrubs, and ground cover in a variety of sizes, as appropriate.*

   b. *Native plants adopted to the local climate, soil and hydrology should be used generously to reduce the need for irrigation. Nonnative ornamentals may be used as color accents and in planters and pots.*

   c. *Landscaping should be extended vertically onto walls through the use of climbing plants, espaliered trees and shrubs, wall and window planters, and roof gardens.*

2. *Riparian Areas. Only native riparian vegetation shall be used in or adjacent to a riparian corridor (see Sonoma County Zoning Code, Article 65).*

3. *Safety. Landscaping should be designed to allow natural surveillance of pedestrian areas.*

4. *Fences. Fences and walls shall not be placed along the Highway 12 non-residential frontage, unless required for the screening of parking areas. Fences, wall, hedges, and similar barriers shall not be more than 3 feet in height and shall be consistent with the requirements of the Sonoma County Zoning Code.*

Exterior Lighting

1. *Compatible Design. Light fixtures shall be architecturally compatible with the associated development.*

2. *Full Cutoff Light Fixtures. All exterior lighting shall be designed and positioned to direct light downward and shall not result in glare or spill-over lighting onto any adjacent property or into the night sky. Only full cutoff light fixtures shall be used.*

3. *Pedestrian-scale light fixtures. All exterior lighting shall be pedestrian-scale. Pedestrian-scale light fixtures are lower in height than standard fixtures and spaced closer together.*

   a. *Bollard light fixtures should be no more than three feet in height.*

   b. *Ornamental post light fixtures should not exceed 12 feet in height.*

4. *Accent Lighting. Subtle, indirect light must be used when illuminating architectural elements, landscape features, building entrances, fountains, and public art. Accent lighting must be cast downward and the light source must be concealed from view.*

***Measure AES-1**: Development and infrastructure projects shall:*

- *Be designed to limit the extent of grading, tree removal, amount of cuts and fills, and areas for building envelopes where necessary to maintain scenic views or avoid sensitive visual resources, to the extent feasible given that the Specific Plan has been developed to ensure community- and pedestrian-oriented development with specific design requirements, including maximum building setbacks and continuous frontage requirements.*
- *Identify any scenic viewsheds and sensitive visual resources. Sites shall maintain scenic viewsheds and sensitive visual resources to the extent feasible, recognizing that the Design Guidelines require pedestrian-oriented measures, including maximum building setbacks and continuous frontage requirements, that may reduce scenic viewsheds or adversely affect sensitive visual resources.*
- *Color and texture of building materials should be consistent with the surrounding environment. Non-reflective surfaces and darker colors should be utilized to avoid glare and contrast.*
- *Require screening vegetation and landscape plans subject to Design Review.*
- *Exterior lighting shall be low mounted, downward casting and fully shielded to prevent glare. Lighting shall not wash out structures or any portions of the site. Light fixtures shall not be located at the periphery of the property and shall not spill over onto adjacent properties or into the sky. Flood lights are not permitted. Lighting shall shut off automatically after closing and security lighting shall be motion-sensor activated.*
- *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).*

Impact 3.1-2: Project implementation could result in substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway (No Impact)

As described previously, the officially designated Scenic Highways in Sonoma County are Highway 116, from Highway 1 to the Sebastopol city limit, and Highway 12, from Danielli Avenue east of Santa Rosa to London Way near Agua Caliente. The termination of the designated scenic portion of Highway 12 is located near the northern boundary of the Plan area. Because the Plan area is not located within a state scenic highway, implementation of the Project would not result in substantial damage to scenic resources within a state scenic highway. Therefore, the Project would have **no impact** to scenic resources within a state scenic highway**.**

Impact 3.1-3: Project implementation could result in the creation of new sources of nighttime lighting and daytime glare which would adversely affect day or nighttime views in the area (Less than Significant)

The primary sources of daytime glare are generally sunlight reflecting from structures and other reflective surfaces and windows. Implementation of the Project would introduce new sources of daytime glare into previously undeveloped areas of the Plan area. Daytime glare impacts would be most severe in areas that

have been previously undisturbed, and in areas that receive a high level of daily viewership, such as the Highway 12 corridor that bisects the Plan area.

The primary sources of nighttime lighting are generally from exterior building lights, street lights, and vehicle headlights. Exterior lighting around commercial and industrial areas may be present throughout the night to facilitate extended employee work hours, ensure worker safety, and to provide security lighting around structures and facilities. Nighttime lighting impacts would be most severe in areas that do not currently experience high levels of nighttime lighting. Increased nighttime lighting can reduce visibility of the night sky, resulting in fewer stars being visible and generally detracting from the quality of life in the area.

The Specific Plan includes Design Guidelines for exterior lighting that would reduce potential adverse impacts associated with light and glare. The exterior lighting guidelines require the use of light shielding fixtures. The building character guidelines prohibit the use of reflective or mirrored glass in order to reduce glare. Future development within the Plan area is also subject to design review and approval.

Implementation of the Design Guidelines in the Specific Plan would ensure that project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements, and the subsequent design review of future projects within the Plan area, would ensure that excessively reflective building materials are not used, and that the proposed project would not result in significant impacts related to daytime glare. As such, through implementation of the Specific Plan's Design Guidelines, including those identified below, the County can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a **less than significant** level.

SPECIFIC PLAN DESIGN GUIDELINES REQUIREMENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Design Guidelines - Building Character: Color and Materials

3. Materials

d. Use of excessively reflective building materials, including mirrored glass, is not permitted.

Design Guidelines – Sidewalk Amenities

9. Street Lights.

a. Pedestrian-scale street lights should be provided at regular intervals along each roadway.

b. A traditional luminaire with a decorative post must be used.

c. The streetlights must have a full-cutoff optical design.

Design Guidelines – Exterior Lighting

Objective 1: Provide exterior lighting that is designed to enhance the ambiance of the environment and increase pedestrian comfort and safety.

Objective 2: Preserve the dark sky and avoid the spillover of light and glare onto adjacent properties and residences.

1. *Compatible Design. Light fixtures shall be architecturally compatible with the associated development and complement the traditional theme of the Springs.*

2. *Full Cutoff Light Fixtures. All exterior lighting shall be designed and positioned to direct light downward and shall not result in glare or spill-over lighting onto any adjacent property or into the night sky. Only full cutoff light fixtures shall be used.*

3. *Pedestrian-scale light fixtures. All exterior lighting shall be pedestrian-scale. Pedestrian-scale light fixtures are lower in height than standard fixtures and spaced closer together.*

    a. *Bollard light fixtures should be no more than three feet in height.*

    b. *Ornamental post light fixtures should not exceed 12 feet in height.*

4. *Accent Lighting. Subtle, indirect light must be used when illuminating architectural elements, landscape features, building entrances, fountains, and public art. Accent lighting must be cast downward and the light source must be concealed from view.*

5. *Walkways and Outdoor Seating. All walkways and outdoor seating areas should be illuminated with pedestrian-scale light fixtures to provide for the comfort and safety of pedestrians.*

6. *Lighting for Signs. Goose neck lamps are encouraged to illuminate storefront signboards.*

This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from project implementation. The analysis contained in this section addresses air quality impacts associated with the future development of the Springs Specific Plan area to urban uses, as described in Chapter 2.0, Project Description.

This section is based in part on the following technical studies: Air Quality and Land Use Handbook: A Community Health Perspective (California Air Resources Board [CARB], 2005), *California Environmental Quality Act Air Quality Guidelines* (Bay Area Air Quality Management District [BAAQMD], 2017), and *Plan Bay Area 2040* (Metropolitan Transportation Commission, 2017).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: California Department of Transportation (July 2018). This comment is addressed within this section.

The Greenhouse Gases and Energy analysis is located in Chapter 3.7 of this document.

3.2.1 ENVIRONMENTAL SETTING

ACRONYMS

BAAQMD	Bay Area Air Quality Management District
CARB	California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CCAA	California Clean Air Act
CO	Carbon monoxide
FCAA	Federal Clean Air Act
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen dioxide
O_3	Ozone
Pb	Lead
PM	Particulate matter (including PM_{10} – respirable particulate matter, and $PM_{2.5}$, fine particulate matter)
PPM	Parts per million
SO_2	Sulfur dioxide
TAC	Toxic Air Contaminant
U.S. EPA	United States Environmental Protection Agency
$\mu g/m^3$	Micrograms per Cubic Meter

SAN FRANCISCO BAY AREA AIR BASIN

The Springs Specific Plan area (Specific Plan area) is defined as the approximately 180-acre area in the southeastern portion of Sonoma County, as shown in Figures 2.0-1 and 2.0-2. The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs,

and Boyes Hot Springs. The Springs Specific Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor.

The Specific Plan area is located within the San Francisco Bay Area Air Basin (Air Basin), which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

Climate, Topography, and Air Pollution Potential

The Air Basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Plan Area itself is located within the central portion of an inland valley (Sonoma Valley), at an average elevation of 82 feet above sea level. Nearby mountains, such as Moon Mountain and Sonoma Mountain, are located northeast and northwest of the Plan Area, respectively.

The climate of the Air Basin, including the Plan Area, is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern portion of the Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band resulting in condensation and the presence of fog and stratus clouds along the Northern California coast.

In the winter, the Pacific high-pressure cell weakens and shifts southward resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

HIGH PRESSURE CELL

During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high-pressure cell centered over the northeastern portion of the Pacific Ocean. This high-pressure cell keeps storms from affecting the California coast. Hence, the Air Basin experiences little precipitation in the summer months. Winds tend to blow on shore out of the north/northwest.

The steady northwesterly flow induces upwelling of cold water from below. This upwelling produces a band of cold water off the California coast. When air approaches the California coast, already cool and moisture-laden from its long journey over the Pacific, it is further cooled as it crosses this bank of cold water. This cooling often produces condensation resulting in a high incidence of fog and stratus clouds along the Northern California coast in the summer, including within the Plan Area.

Generally, in the winter, the Pacific high-pressure cell weakens and shifts southward, winds tend to flow offshore, upwelling ceases, and storms occur. During the winter rainy periods, inversions (layers of warmer air over colder air; see below) are weak or nonexistent, winds are usually moderate, and air pollution potential is low. The Pacific high-pressure cell does periodically become dominant, bringing strong inversions, light winds, and high pollution potential.

TOPOGRAPHY

The topography of the Air Basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays. This complex terrain, especially the higher elevations, distorts the normal wind flow patterns in the Air Basin. The greatest distortion occurs when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summer time.

The only major break in California's Coast Range occurs in the Air Basin. Here the Coast Range splits into western and eastern ranges. Between the two ranges lies San Francisco Bay. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the Air Basin (including the Plan Area) and the Central Valley.

WIND PATTERNS

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited and stagnant conditions are likely to result.

In the winter, the Air Basin frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the Air Basin. Although the Plan Area is protected from some of these stormy conditions, being located somewhat inland from the coast, stormy conditions and strong winds are not uncommon within the Plan Area during winter.

TEMPERATURE

Summertime temperatures in the Air Basin are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35ºF cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases

to less than 10º. Since the Plan Area is located somewhat inland from the coast, temperatures within the Plan Area tend to be significantly warmer in the summer compared with those areas directly adjacent to the coast.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

PRECIPITATION

The Air Basin is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the Air Basin to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high, and thus pollution levels tend to be low. However, frequent dry periods do occur during the winter where mixing and ventilation are low and pollutant levels build up.

AIR POLLUTION POTENTIAL

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day, and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the Air Basin generally occur during inversions.

There are two types of inversions that occur regularly in the Air Basin. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high-pressure zone, and from the cool marine air layer that is drawn into the Air Basin by the heated low-pressure region in the Central Valley.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas. Urban areas usually have deeper minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions, downwind transport is slow, the mixing depths are shallow, and turbulence is minimal, all factors which contribute to ozone formation.

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the Air Basin also induces significant variations among subregions.

Solar Radiation

The frequency of hot, sunny days during the summer months in the Air Basin is another important factor that affects air pollution potential. It is at the higher temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone. Because temperatures in many of the Air Basin inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution.

In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the Air Basin during these seasons.

Sheltered Terrain

The hills and mountains in the Air Basin, including those near the Plan Area, contribute to the high pollution potential of some areas. During the day, or at night during windy conditions, areas in the lee sides of mountains are sheltered from the prevailing winds, thereby reducing turbulence and downwind transport. At night, when wind speeds are low, the upper atmospheric layers are often decoupled from the surface layers during radiation conditions. Where elevated terrain is present, it will tend to block pollutant transport in that direction. Elevated terrain also can create a recirculation pattern by inducing upvalley air flows during the day and reverse downvalley flows during the night, allowing little inflow of fresh air.

The areas having the highest air pollution potential tend to be those that experience the highest temperatures in the summer and the lowest temperatures in the winter. The coastal areas are exposed to the prevailing marine air, creating cooler temperatures in the summer, warmer temperatures in winter, and stratus clouds all year. The inland valleys, such as the area that makes up the Plan Area, are sheltered from the marine air and experience hotter summers and colder winters. Thus, the topography of the inland valleys creates conditions conducive to higher air pollution potential.

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends upon the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use, and/or industrialization. These contaminants created by

photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals.

Sonoma Valley Climatological Subregion

There are 11 climatological subregions within the Air Basin. The Specific Plan area is located within the Sonoma Valley subregion. It is separated from the Napa Valley subregion to the east and from the Cotati and Petaluma Valley subregions to the west by mountains. The Sonoma Valley is long and narrow, approximately 5 miles wide at its southern end and less than a mile wide at the northern end.

The strongest upvalley winds occur in the afternoon during the summer and the strongest downvalley winds occur during clear, calm winter nights. Prevailing winds follow the axis of the valley, northwest/southeast, while some upslope flow during the day and downslope flow during the night occurs near the base of the mountains. Summer average maximum temperatures are usually in the high-80's, and summer minimums are around 50 degrees. Winter maximums are in the high-50's to the mid-60's, with minimums ranging from the mid-30's to low-40's.

The air pollution potential of the Sonoma Valley could be high if there were significant sources of pollution nearby. Prevailing winds can transport local and nonlocally generated pollutants northward into the narrow valley, which often traps and concentrates the pollutants under stable conditions. The local upslope and downslope flows set up by the surrounding mountains may also recirculate pollutants.

However, local sources of air pollution are minor. With the exception of some processing of agricultural goods, such as wine and cheese manufacturing, there is little industry in this valley. Increases in motor vehicle emissions and woodsmoke emissions from stoves and fireplaces may increase pollution as the valley grows in population and as a tourist attraction.

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, the California Air Resources Board (CARB) sets California Ambient Air Quality Standards (CAAQS) for the same six pollutants. Each criteria pollutant is described below. California law does not require that the CAAQS be met be at a specified date as is the case with NAAQS. Rather, California Law only requires incremental progress be made toward attainment of the CAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.2-1) are set to protect public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While ozone in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of ozone at ground level are a major health and environmental concern. Ozone is not emitted directly into the air but is formed through complex chemical reactions between precursor

emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak ozone levels occur typically during the warmer times of the year. Both VOCs and NOx are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of ozone causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of ozone not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to ozone for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Ozone concentrations tend to be highest in summer and lowest in winter. In 2019, the highest daily average ozone concentration at the highest site in Sonoma County were 44 parts per billion (on February 26, 2019) (California Air Resources Board, 2019a). According to the California Air Resources Board (CARB) Almanac, ozone concentrations in Sonoma County have on average steadily decreased from when monitoring began in Sonoma County (in 1975).

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects (California Air Resources Board, 2019c). Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (California Air Resources Board, 2019d).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

CO concentrations tend to be highest in fall and winter and lowest in spring and summer. In 2019, the highest daily average CO concentration at the highest site in Sonoma County was 585 parts per billion (on October 25, 2019) (California Air Resources Board, 2019a). Over the long-term, CO concentrations have decreased throughout the United States, including the Sonoma County region. On a wider scale, average concentrations of CO in the western portion of the United States (in California and Nevada, also known as the West region, as defined by the U.S. EPA) have reduced from an average of approximately 333 parts per billion in 2000 to approximately 132 parts per billion in 2017 (U.S. EPA, 2018).

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain, and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NOx). NOx plays a major role, together with VOCs, in the atmospheric reactions that produce ozone. NOx forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 concentrations tend to be highest in winter and lowest in summer. In 2019, the highest daily average NO_2 concentration at the highest site in Sonoma County was 14 parts per billion (on January 4, 2019) (California Air Resources Board, 2019a). Over the long-term, nitrogen dioxide concentrations have generally been decreasing throughout the United States, including the Sonoma County region (U.S. EPA, 2018). Average concentrations of NO_2 in California and Nevada as a whole (i.e. the West region, as defined by the U.S. EPA) have reduced from approximately 69 parts per billion in 2000 to approximately 48 parts per billion in 2017, (U.S. EPA, 2018). The most recent forecast from the California Air Resources Board suggests that NOx concentrations in the Air Basin have decreased and will continue to decrease over time, from an average of approximately 591 tons per day in 2000 and 272 tons per day in 2015 to 176 tons per day in 2035 (California Air Resources Board, 2014b).

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SO_2). SO_2 can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

The CARB maintains no monitoring sites for SO_2 in Sonoma County. However, in 2019, the highest daily average SO_2 concentrations at the highest site in the Air Basin was 24 parts per billion (on January 30, 2019) (California Air Resources Board, 2019a). Over the long-term, nitrogen dioxide concentrations have decreased throughout the United States, including within Sonoma County (U.S. EPA, 2018). Average concentrations of SO_2 have reduced from approximately 17.6 parts per billion in 2000 to approximately 6.2 parts per billion in 2017 at monitoring sites in California and Nevada (i.e. the West region, as defined by the U.S. EPA) (U.S. EPA, 2018).

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution have even health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by

themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter ($PM_{2.5}$) consists of fine particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also impacts soils and damages materials, and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lunch function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017b). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

PM concentrations tend to be highest in winter and spring and lowest in summer. In 2019, the highest daily average PM_{10} concentrations at the highest site in Sonoma County was 28.0 ug/m^3 (on October 28.0), respectively (California Air Resources Board, 2019a). The most recent forecast from the California Air Resources Board estimates that that $PM_{2.5}$ concentrations in the San Francisco Bay Area Air Basin have decreased from historical levels, reducing from a maximum annual average of 14.2 tons/day in 2001 to 10.1 tons per day in 2011 (California Air Resources Board, 2014).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board.

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants (i.e. the "criteria pollutants", which are the first set of pollutants recognized by the U.S. EPA as needing standards on a national level). These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant. Each pollutant is measured over several standardized timeframes (called the averaging times), which provide a standard to compare monitored levels of pollutants to the federal and state standards. Each criteria pollutant has more than one average time – for example, the state ambient air quality standard for ozone is monitored over both a 1-hour and 8-hour periods.

The federal and California state ambient air quality standards are summarized in Table 3.2-1 for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}.

TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

NOTES: PPM = PARTS PER MILLION, µG/M^3 = MICROGRAMS PER CUBIC METER
SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019E.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within the project area are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to TACs, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Sonoma County has a state designation of Nonattainment for ozone, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or Unclassified for the remaining national standards. Table 3.2-2 presents the state and national attainment statuses for Sonoma County.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS

POLLUTANT	*STATE DESIGNATION*	*NATIONAL DESIGNATION*
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	--
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	--
Visibility Reducing Particles	Unclassified	--

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019F.

Monitoring Data

The BAAQMD operates a regional air quality monitoring network that regularly measures the concentrations of the major air pollutants. Air pollutant monitoring data is available at http://www.arb.ca.gov/adam/welcome.html. Air quality conditions in the Air Basin have improved significantly since the BAAQMD was created in 1955. Ambient concentrations and the number of days on which the region exceeds standards have declined dramatically. Neither Federal nor State ambient air quality standards have been violated in recent decades for nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and vinyl chloride.

Table 3.2-3 provides the air quality monitoring data for Sonoma County. It is important to note that the Federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for Federal standards. Data obtained from the monitoring sites for Sonoma County between 2018 and 2020 is shown in Table 3.2-3.

TABLE 3.2-3: AMBIENT AIR QUALITY MONITORING DATA (SONOMA COUNTY)

POLLUTANT	*CAL.*	*FED.*	*YEAR*	*DAYS EXCEEDED STATE/FED STANDARD*
	PRIMARY STANDARD			
Ozone (O_3) (1-hour)	0.09 ppm for 1 hour	NA	2020 2019 2018	0 / 0 0 / 0 0 / 0
Ozone (O_3) (8-hour)	0.07 ppm for 8 hour	0.07 ppm for 8 hour	2020 2019 2018	0 / 0 0 / 0 0 / 0
Particulate Matter (PM_{10})[1]	50 ug/m^3 for 24 hours	150 ug/m^3 for 24 hours	2020 2019 2018	* / 0 */0 13.5/2.1
Fine Particulate Matter ($PM_{2.5}$)	No 24 hour State Standard	35 ug/^{3} for 24 hours	2020 2019 2018	* / 7.2 * / 0 * / 13.1

NOTES:

PPM = PARTS PER MILLION.

UG/M^3 = MICRONS PER CUBIC METER.

NA= NOT APPLICABLE

** = THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE*

[1]DATA FOR PM_{10} WAS NOT AVAILABLE FOR SONOMA CUNTY AS A WHOLE; THEREFORE, PM_{10} DATA SPECIFICALLY FROM THE HEALDSBURG-133 MATHESON STREET MONITORING STATION (LOCATED IN SONOMA COUNTY) WAS UTILIZED AS A PROXY.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2018-2020.

ODORS

Typically, odors are regarded as a nuisance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Sensitive receptors are areas where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.

NATURALLY OCCURRING ASBESTOS

The term asbestos is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, periodotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. The BAAQMD regulates naturally occurring asbestos under its Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. The BAAQMD has adopted Regulation 11, Rules 2 and 14, which address asbestos demolition, renovation, manufacturing, and standards for asbestos containing serpentine. Although naturally occurring asbestos is mapped in Sonoma County, there is no known naturally occurring asbestos mapped within the Specific Plan area.

3.2.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions

standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. Analysis of the criteria pollutants established by the NAAQS is required under the California Environmental Quality Act (CEQA).

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The committee's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.

- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.

- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.

- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.

- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.

- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing and implementing the California SIP.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code Section 39606(b), which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some

variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.2-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The CARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for the CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before the CARB can designate a substance as a TAC. To date, the CARB has identified more than 21 TACs and has adopted the U.S. EPA's list of hazardous air pollutants as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, the CARB then adopts an Asbestos Airborne Toxic Control Measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology to minimize emissions.

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. The CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

LOCAL

Bay Area Air Quality Management District

The BAAQMD attains and maintains air quality conditions in the Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BAAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA, FCAA Amendments, and the CCAA.

TOXIC AIR CONTAMINANTS REGULATION

The BAAQMD has regulated TACs since the 1980s. At the local level, air pollution control or management districts may adopt and enforce CARB's control measures. Under BAAQMD Regulation 2-1 (General Permit Requirements), Regulation 2-2 (New Source Review), and Regulation 2-5 (New Source Review), all nonexempt sources that possess the potential to emit TACs are required to obtain permits from BAAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. The BAAQMD limits emissions and public exposure to TACs through a number of programs. The BAAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. In addition, the BAAQMD has adopted Regulation 11, Rules 2 and 14, which address asbestos demolition renovation, manufacturing, and standards for asbestos containing serpentine.

BAAQMD AIR QUALITY PLANS

As stated above, the BAAQMD prepares plans to attain ambient air quality standards in the Air Basin. The BAAQMD prepares ozone attainment plans (OAP) for the national ozone standard and clean air plans (CAP) for the California standard both in coordination with the MTC and the Association of Bay Area Governments (ABAG).

With respect to applicable air quality plans, the BAAQMD prepared the 2017 Clean Air Plan (also known as the "Spare the Air: Cool the Climate" plan) to address nonattainment of the national 1-hour ozone standard in the Air Basin. The purpose of the 2017 Clean Air Plan is to protect public health and stabilize the climate. The 2017 Clean Air Plan includes a multi-pollutant strategy to reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as greenhouse gases.

BAAQMD CEQA GUIDELINES

The most recent version of the BAAQMD CEQA Guidelines were published May 2017 and are based on BAAQMD's CEQA Guidelines that were updated in 2012. The 2017 BAAQMD CEQA Guidelines include revisions made to address the California Supreme Court's ruling in *California Building Industry Association v. Bay Area Air Quality Management District*. The BAAQMD is currently working to update its Guidelines; a Draft Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans was released in February 2022 for public comment. The BAAQMD CEQA Guidelines is an informational document to provide lead government agencies, consultants, and project proponents

with uniform guidance for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA.

Metropolitan Transportation Commission/Association of Bay Area Governments

Plan Bay Area 2040 is the long-range Regional Transportation Plan (RTP) prepared by the Metropolitan Transportation Commission (MTC) for the nine-county San Francisco Bay Area. An RTP is a long-term blueprint for a region's transportation system, conducted every five years. The RTP identifies and analyzes the transportation needs of the metropolitan region and creates a framework for transportation project priorities. *Plan Bay Area 2040* discusses how the Bay Area will grow through 2040 and identifies transportation and land use strategies. The document provides the Plan's goals, a proposed growth pattern and supporting transportation investment strategy, and key actions needed to address on-going and long-term regional challenges.

Sonoma County General Plan

The Sonoma County General Plan identifies the following goals, objectives, and policies related to air quality:

OPEN SPACE AND RESOURCE CONSERVATION ELEMENT

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.

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 Bay Area Air Quality Management District 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 in order to protect neighboring sensitive receptors from these emissions.

CIRCULATION AND TRANSIT ELEMENT

GOAL CT-2: Increase the opportunities, where appropriate, for transit systems, pedestrians, bicycling and other alternative modes to reduce the demand for automobile travel.

Objective CT-2.6: In areas designated for through traffic, use existing circulation and transit facilities more efficiently, especially highways, to reduce the amount of investment required in new or expanded facilities, reduce greenhouse gas emissions, and increase the energy efficiency of the transportation system.

Objective CT-2.7: Use Traffic Demand Management measures to reduce peak period congestion.

Objective CT-2.8: Provide bicycle and pedestrian links from bus stops and other transit facilities to residential areas, employment centers, schools, institutions, parks, and the greater roadway system in general, especially focusing on short trips that could result in a mode shift away from automobile travel.

Objective CT-2.9: Develop alternative mode trip databases, to improve quantitative evaluation of public transit and improve integration with other alternative modes.

Objective CT-2.10: Utilize shoulders, paths, and bike lanes for other alternative transportation modes along existing streets, roads, and bicycle routes where consistent with public safety and the Vehicle Code.

Policy CT-2a: Provide convenient, accessible transit facilities for youth, seniors, and persons with disabilities, and paratransit services as required by the American Disabilities Act (ADA). Promote efficiency and cost effectiveness in paratransit service such as use of joint maintenance and other facilities.

Policy CT-2b: Establish transfer facilities and supportive park-and-ride lots that provide convenient connection to the transit routes on Figure CT-2. Locate transit centers to avoid rerouting by buses, provide adequate off street parking, and provide convenient pedestrian access from activity centers.

Policy CT-2c: On transit routes, design the physical layout and geometrics of arterial and collector highways to be compatible with bus operations.

Policy CT-2d: Require major traffic generating projects on existing or planned transit routes to provide fixed transit facilities, such as bus turnouts, passenger shelters, bike lockers, and seating needed to serve anticipated or potential transit demand from the project.

Policy CT-2d: Require major employment centers and employers to provide facilities and Traffic Demand Management (TDM) programs that support alternative transportation modes, such as bike and shower facilities, telecommuting, flexible schedules, etc. These programs may apply to existing employers as well as to new development. Establish measurable goals for these programs, and utilize a transportation coordinator that will provide information, select TDM measures, and monitor and report on program effectiveness. If voluntary TDM measures do not effectively reduce peak congestion, impose mandatory TDM measures by ordinance.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The potential impact of the first two bulleted items (above) is analyzed in Impact 3.2-1; impacts from the third bulleted item are analyzed in Impact 3.2-2; impacts from the fourth bullet item (odors and other emissions) are analyzed under Impact 3.2-3. Impacts related to greenhouse gases, climate change, and energy are addressed in Section 3.6. The approach to analyzing impacts related to project-generated pollutants of human health concern, which overlap with several of the above thresholds of significance, is described in detail below (and analyzed in detail under Impact 3.2-1).

THRESHOLDS

The May 2017 BAAQMD CEQA Guidelines[1] provides the following thresholds relevant to criteria air pollutants for Plan-level analyses:

1. Consistency with Current Air Quality Plan control measures, and
2. Projected VMT or vehicle trip increase is less than or equal to projected population increase.

Under the above threshold of significance in the BAAQMD CEQA Guidelines, if a Specific Plan is consistent with the current Air Quality Plan control measures, and projected VMT or vehicle trips are less than or equal to projected population increase, the project would be considered to have a less than significant impact with regard to criteria air pollutants and their precursors.

Sonoma County has considered the air quality thresholds updated by BAAQMD in its latest update to the CEQA Air Quality Guidelines (May 2017) and regards these thresholds to be based on substantial evidence and the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACS and $PM_{2.5}$.

Separately, the BAAQMD identifies in their BAAQMD CEQA Guidelines *Risk and Hazard Screening Analysis Process Flow Chart*[2] that roadways with at least 10,000 average daily traffic (ADT) should contact the BAAQMD for guidance or conduct a site-specific HRA, as no screening tool is currently available. The BAAQMD also maintains a *Planning Healthy Places* guidance document, which is designed to provide important air quality and public health information and tools for healthy infill development. The *Planning Healthy Places* guidance document include interactive maps that identifies areas within the BAAQMD jurisdiction that should conduct further study, as well as areas where "best practices to reduce exposure" (as identified within the *Planning Healthy Places* guidance document) are recommended by the BAAQMD to implemented.

Highway 12 in Sonoma County, which includes the segment of Highway 12 within the Plan Area, is identified in the Planning Healthy Places document as heaving relatively elevated levels of air pollution,[3] due to its traffic volume exceeding 10,000 vehicles per day. For such areas, the Air District recommends implementing all of their "best practices to reduce exposure" that are feasible and applicable to a project or plan in these locations.

Additionally, the BAAQMD has also identified a number of areas within the Bay Area where additional analysis (i.e. further study) is recommended to assess the local concentrations of TACs and fine PM, and therefore the health risks from air pollution. These areas are provided by the Air District's mapping tool.[4] The Air District recommends using caution when considering sensitive land uses in these areas. There are two such areas identified by the Air District within the Plan Area (i.e. two gasoline stations). Specifically, the gasoline stations are a Valero Station, located at 18605 Sonoma Highway, and a Sonoma Beacon station, located at 18618 Sonoma Highway.

[1] Bay Area Air Quality Management District, CEQA Guidelines, May 2017.

[2] Health Risk Screening Analysis Flow Chart, Revised 9/28/21: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/tools/2020_02_20-screening-approach-flow-chart-pdf.pdf?la=en

[3] See Figure 2, on page 10 of the Planning Healthy Places document.

[4] https://www.baaqmd.gov/plans-and-climate/planning-healthy-places

Impacts related to Project-generated Pollutants of Human Health Concern

The California Supreme Court provided guidance on analysis of air quality impacts on human health in *Sierra Club v. County of Fresno* (2108) 6 Cal. 5th 502. The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment for the ozone and $PM_{2.5}$ NAAQS and CAAQS. The Court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that the agencies authoring environmental documents must make reasonable efforts to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the project are associated with some form of health risk (e.g., asthma). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and lead (Pb) are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern generated by the project are ozone precursors (ROG and NO_x) and PM (including Diesel PM). However, the BAAQMD does not currently have a methodology that would correlate the expected air quality emissions of projects to the likely specific health consequences of the increased emissions. Moreover, there are also no tools currently available to correlate the expected air quality emissions of projects to the likely specific health consequences of the increased emissions.

REGIONAL PROJECT-GENERATED CRITERIA POLLUTANTS (OZONE PRECURSORS AND REGIONAL PM)

Adverse health effects induced by regional criteria pollutant emissions generated by the project (ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_2) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_2 generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long-distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project. Appendix C.3 provides a table that describes why there are no available technical models and tools for correlating project-generated emissions to health end points for project-level CEQA analysis.

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or non-attainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain

concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. As previously stated, there is no currently available technical modeling available to measure these specific health effects. As such, a project's incremental contribution cannot be traced to specific health outcomes on a regional scale. Therefore, a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Implementation of the proposed Specific Plan would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants (Less than Significant)

The following discussion is provided to analyze whether the proposed project would conflict with or obstruct implementation of any applicable air quality plans, or result in a cumulatively considerable net increase in criteria pollutants for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. Additionally, a qualitative analysis of the proposed project's impact related to project-generated pollutants of human health concern is also provided herein.

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. The BAAQMD's most current plan is the 2017 Clean Air Plan. The BAAQMD CEQA Guidelines recommend that lead agencies consider the following questions relative to this consistency determination:

1. Does the project support the primary goals of the of the 2017 Clean Air Plan?
2. Does the project include applicable control measures from the 2017 Clean Air Plan?
3. Does the project disrupt or hinder implementation of the 2017 Clean Air Plan control measures?

The primary goals of the 2017 Clean Air Plan are to protect public health and the climate. The 2017 Clean Air Plan contains 85 individual control measures that describe specific actions to reduce emissions of air and climate pollutants from the full range of emission sources. The control measures are categorized based upon the economic sector framework used by the Air Resources Board for the AB 32 Scoping Plan Update. These sectors include:

- Stationary (Industrial) Sources
- Transportation
- Energy
- Buildings
- Agriculture
- Natural and Working Lands
- Waste Management
- Water
- Super-GHG Pollutants

CONSISTENCY WITH THE 2017 CLEAN AIR PLAN

The 2017 Clean Air Plan defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors, and greenhouse gases. One of the key elements in the control strategy is to reduce motor vehicle travel by promoting transit, bicycling, walking, and ridesharing, and to direct new development to areas that are well-served by transit, and conducive to bicycling and walking. This is consistent with the Specific Plan, which aims to improve the pedestrian, bicycle, and transit network within the Springs area. Goal SC-1 of the proposed Specific Plan ensures that the street network would be designed to provide equally for the needs of pedestrians, bicyclists, motorists, and transit riders. The Specific Plan also contains a large number of policies to ensure that the proposed Specific Plan would make it easier to get around the Specific Plan area by foot, bicycle, and transit, which are presented at the end of this discussion, below (i.e. Policy SC-1a; Policy SC-1b; Policy SC-1c; Policy SC-1e; Policy SC-2a; Policy SC-2b; Policy SC-2c; Policy SC-2d; Policy SC-2e; Policy SC-2f; Policy SC-2h; Policy SC-2i; Policy SC-2j; Policy SC-2k; Policy SC-2l; Policy SC-2o; Policy SC-2p; Policy SC-3a; Policy SC-3b; Policy SC-3c; Policy SC-3e; Policy SC-3f; Policy SC-3g; Policy SC-3h; Policy SC-3i; Policy SC-3j). These policies would do so through circulation improvements, improvement of pedestrian and bicycle linkages and facilities, provision of new pedestrian and bicycle amenities, and the development of public spaces within the Specific Plan area. In addition, the Specific Plan area would create new infill opportunities and provide high-density and mixed-use housing, which would encourage travel by foot, bicycle, and transit. Furthermore, Policy SC-4L of the proposed Specific Plan calls for the installation of bicycle parking near the front entrance of commercial buildings, and Policy SC-4m calls for bicycle parking in all parking lots and structures.

Additionally, Goal SC-3 of the proposed Specific Plan is designed to increase transit ridership in the Springs Area. Several policies support this goal by encouraging coordination with Sonoma County Transit to improve local bus service and to promote a local shuttle service (Route 32), support for the creation of a public awareness campaign to promote transit use, improvement to local public transit infrastructure (such as bus shelters and benches), and by encouraging private shuttles. Furthermore, Policy SC-4i encourages the construction of new public parking and programs that reduce parking demand, consistent with the 2017 Clean Air Plan.

Another key element of the 2017 Clean Air Plan is to accelerate the widespread adoption of electric vehicles. Policy SC-4j of the proposed Specific Plan encourages the installation of electric charging stations on both public property and in private development. The proposed Specific Plan would be consistent with all of the key elements of the 2017 Clean Air Plan relating to transportation.

The proposed Specific Plan would develop new residential and non-residential buildings that would comply with or exceed the latest version of the California Title 24 building energy efficiency standards, and would thereby be consistent with the key elements of the 2017 Clean Air Plan relating to buildings and energy. The proposed Specific Plan would also comply with the latest state legislation relating to water and waste management, which ensures that the proposed Specific Plan would not conflict with the key elements of the 2017 Clean Air Plan relating to the water and waste management sectors. Separately, the Proposed Specific Plan does not include new stationary sources (i.e., industrial facilities, landfills, wastewater treatments plants, etc.), and therefore would not conflict with the key elements of the 2017 Clean Air Plan relating to stationary sources. Moreover, the proposed Specific Plan does not propose agricultural land uses, or land uses that would use “super-GHGs’, such as methane, black carbon, or fluorinated gases, which can have very large greenhouse gas effects.

If approval of the proposed Springs Specific Plan would cause the disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be inconsistent with the 2017 Clean

Air Plan. The proposed Springs Specific Plan does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 Clean Air Plan. For the above-specified reasons, the proposed Specific Plan would be consistent with the 2017 Clean Air Plan as promulgated by the BAAQMD, and implementation of the Springs Specific Plan would have a ***less than significant*** impact relative to this topic.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The proposed Specific Plan is consistent with the existing Sonoma County General Plan. The existing Sonoma County General Plan Open Space and Resource Conservation Element includes an extensive list of objectives and policies that are specifically aimed at improving air quality, which are presented in the Regulatory Setting (Section 3.2.2), above. The proposed Specific Plan promotes a compact urban form, emphasizes infill development, and ensures that land use patterns do not expose sensitive receptors to substantial pollutant concentrations.

Additionally, the Circulation and Transit Element of the Sonoma County General Plan includes a wide range of objectives and policies that would effectively reduce vehicle miles travelled throughout the Specific Plan area, through the use of improved circulation for pedestrians, bicyclists, and transit systems. These applicable objectives and policies are described in greater detail in Section 3.13 (Transportation and Circulation). The proposed Specific Plan is consistent with these objectives and policies. Goal SC-1 and associated policies of the proposed Specific Plan ensure that the street network would be designed to provide equally for the needs of pedestrians, bicyclists, motorists, and transit riders. The Specific Plan also contains a large number of policies and design measures to ensure that the proposed Specific Plan would make it easier to get around the Specific Plan area by foot, bicycle, and transit, as previously described, and which are also presented at the end of this discussion.

The General Plan Open Space and Resource Conservation Element contains objectives and policies that are specifically aimed at reducing greenhouse gas emissions/climate change, and are provided within the Regulatory Setting and discussed in more detail in Section 3.7 (Greenhouse Gases and Energy). Subsequent development projects proposed within the Springs Specific Plan area would be subject to all relevant General Plan objectives and policies that provide protections for air quality.

All future development and infrastructure projects within the Springs Specific Plan area would be subject to all relevant General Plan emissions and air quality goals, objectives, and policies, which were adopted in order to reduce emissions and air quality impacts. Further discretionary review of individual development and infrastructure projects would occur, as applicable, as required under CEQA. It is further noted that the Springs Specific Plan implements some of the primary General Plan objectives adopted to reduce air quality emissions. Sonoma County General Plan Objective OSRC-16.2 encourages reduced motor vehicle use as a means of reducing resultant air pollution. Separately, Sonoma County General Plan Objective CT-2.8 calls for the provision of bicycle and pedestrian links from bus stops and other transit facilities to residential areas, employment centers, schools, institutions, parks, and the greater roadway system in general, especially focusing on short trips that could result in a mode shift away from automobile travel. The Specific Plan would provide improved circulation for pedestrians, bicyclists, and transit, thereby satisfying these General Plan objectives. The Springs Specific Plan emphasizes a compact, mixed use pattern that emphasizes alternative transportation access and multi-modal connectivity throughout the Plan Area and into the surrounding areas.

The proposed Specific Plan is consistent with the objectives and policies contained in the Sonoma County General Plan, by promoting a compact urban development form, emphasizing infill development, and

ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations. The proposed Specific Plan is also consistent with the General Plan Open Space and Resource Conservation Element, as well as the Circulation and Transit Element of the Sonoma County General Plan. Implementation of the Springs Specific Plan, which is consistent with all applicable Sonoma County General Plan objectives and policies, would have a **less than significant** impact relative to this topic.

THRESHOLDS OF SIGNIFICANCE

The BAAQMD's May 2017 CEQA Guidelines also identify thresholds of significance for criteria air pollutants and precursors for planning-level documents. As described in Section 2.7.1 of the 2017 CEQA Guidelines, proposed plans (except regional plans) must show the following over the planning period of the plan to result in a less than significant impact:

- Consistency with current air quality plan control measures.
- A proposed plan's projected vehicle miles traveled (VMT) or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.

The analysis provided above demonstrates that the proposed project would be consistent with the current air quality plan control measures.

The following describes VMT and population increases associated with implementation of the Springs Specific Plan.

The proposed Springs Specific Plan is intended to foster a vibrant, attractive, multimodal community with increased opportunities for housing and improved circulation for pedestrians, bicyclists, and transit. The Springs Specific Plan will accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. In order to analyze the proposed Plan's consistency with the BAAQMD thresholds listed above, this analysis looks at population growth when analyzing relative increases in local VMT.

According to the Sonoma County Transportation Authority travel model, daily VMT in Sonoma County is 28,570,046 miles (W-Trans, 2021). The "Project-only" daily VMT under regional buildout would be 51,459 miles. Sonoma County has an existing population of 504,217 (U.S. Census, 2017). Full buildout of the Springs Specific Plan is expected to generate approximately 1,977 residents (consistent with the scenario modelled by W-Trans).

Table 3.2-4 shows the population growth generated by Springs Specific Plan, compared to existing levels within Sonoma County. Table 3.2-5 shows County-wide VMT and plus-project VMT following buildout of the Springs Specific Plan.

TABLE 3.2-4: POPULATION GROWTH

EXISTING POPULATION IN SONOMA COUNTY[1]	504,217
NEW POPULATION GENERATED BY THE PLAN[2]	1,977
PERCENT INCREASE IN POPULATION IN THE COUNTY GENERATED BY THE PLAN	0.39%

SOURCES: [1]U.S. CENSUS, 2017; [2]W-TRANS, 2021

TABLE 3.2-5: COUNTY AND COUNTY PLUS PROJECT VMT (DAILY)

COUNTY BASELINE VMT	28,570,046
COUNTY VMT + PROJECT VMT	28,621,505
PERCENT INCREASE IN VMT	0.18%

SOURCE: W-TRANS, 2021

As shown in the two tables above, implementation of the proposed project would result in an approximately 0.18% increase in County-wide VMT, compared to a 0.39% increase in County-wide population. Therefore, the VMT increase associated with the Springs Specific Plan is lower than the population growth associated with the Specific Plan. The proposed project would not result in a VMT increase that would exceed the projected population increase, and would also be consistent with all BAAQMD current air quality plan control measures. Therefore, the proposed project is consistent with the adopted BAAQMD thresholds.

The proposed project would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled, and would increase opportunities for transit ridership, and improved circulation for pedestrians and bicyclists in the Springs and the surrounding areas. For these reasons, this impact is considered **less than significant**.

CONSISTENCY WITH THE PLAN BAY AREA 2040

The *Plan Bay Area 2040* (MTC, 2017) is the most recently adopted Regional Transportation Plan prepared by the MTC for the San Francisco Bay Area region. The MTC calculated employment and household projections for *Plan Bay Area 2040*. The MTC forecasted that, between 2010 and 2040, the San Francisco Bay Area will see increases in the number of jobs, population, and households. Specifically, the forecast includes:

- Growth of 1.3 million jobs between 2010 and 2040, with nearly half of those jobs – over 600,000 – already added between 2010 and 2015.
- An increase in over 2 million people between 2010 and 2040. Almost one-fourth of the projected growth occurred between 2010 and 2015.
- An increase in approximately 820,000 households. Only 13 percent of this growth occurred between 2010 and 2015, as household formation was held back in part by post-recession financial conditions and a lack of housing production.

The adopted Plan Bay Area does not include population projections at the local level, but rather presents regional projections. *Plan Bay Area 2040* states that by 2040 the San Francisco Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year.

While no specific development projects are proposed as part of the Springs Specific Plan, the Springs Specific Plan will accommodate future growth in the Springs, including new businesses, expansion of existing businesses, and new residential uses. Proposed growth projections for the Specific Plan area are provided in Table 2.0-4 in Chapter 2.0.

As shown in Table 2.0-4 in Chapter 2.0, full buildout of the proposed Specific Plan area would result in a maximum of 706 residential units. According to the Market and Feasibility Analysis completed for the proposed project (New Economics & Advisory, 2016), the average household size in the Specific Plan area

is 2.8. Therefore, this would represent a maximum residential population of up to approximately 1,977 persons, which is well within the projections of Plan Bay Area 2040 for Sonoma County. In addition, the projected employment increase associated with the non-residential development within the Specific Plan area would be relatively modest and would be consistent with the Bay Area's overall employment and housing growth projections. Development within the Specific Plan area would also assist Sonoma County in providing additional housing opportunities and accommodating the County's Regional Housing Needs Allocation. The proposed Specific Plan, including its anticipated population growth, does not conflict with the latest adopted and conforming Regional Transportation Plan. This is a **less than significant** impact.

PROJECT EFFECTS ON PUBLIC HEALTH

The portion of Sonoma County that is within the BAAQMD, which includes the Plan Area, has a state designation of nonattainment for ozone, PM_{10}, and $PM_{2.5}$. As described above, the proposed project does not conflict with or obstruct implementation of the applicable air quality plan. The BAAQMD has developed the *2017 Clean Air Plan* and *Plan Bay Area 2040* to be consistent with the emissions levels that would not exceed a CAAQS or contribute substantially to an existing or projected violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades).

There are no tools available that could allow a precise estimate of health effects of a plan-level document on receptors, as described in detail in Appendix C.3. Therefore, the following analysis of health effects is presented qualitatively.

Ozone

O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) (also known as ROG) and oxides of nitrogen (NO_2) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

However, as previously stated, precursors of ozone (ROG and NO_2) are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the

attainment and maintenance of ozone AAQS. Moreover, there is currently available technical modeling available to measure these specific health effects. As such, a project's incremental contribution cannot be traced to specific health outcomes on a regional scale.

Particulate Matter

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

The project would generate emissions of PM during project construction and operational activities. However, there is currently no available technical modeling available to measure these specific health effects. As such, a project's incremental contribution cannot be traced to specific health outcomes on a regional scale.

Discussion

As previously discussed, the magnitude and locations of any potential changes in ambient air quality, and thus health consequences, from these additional emissions cannot be quantified with a high level of certainty due to the dynamic and complex nature of pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure). Air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or non-attainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. Since there is no currently available technical modeling available to measure these specific health effects, the proposed project's incremental contribution cannot be traced to specific health outcomes on a regional scale.

CONCLUSION

The proposed project would be consistent with the 2017 Clean Air Plan, the Sonoma County General Plan, the BAAQMD Thresholds of Significance, and the Plan Bay Area 2040. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality, or result in a cumulatively considerable net increase in criteria pollutants. There would be a **less than significant** impact.

SPECIFIC PLAN COMPONENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Goal SC-1: *Ensure that the Street Network is Designed to Provide Equally for the Needs of All Users, including Pedestrians, Bicyclists, Motorists, and Transit Riders.*

Policy SC-1a: Make it easier and safer to get around the Springs by foot, bicycle, transit, and automobile.

Policy SC-1b: Ensure that circulation improvements result in attractive, functional roadways, bicycle lanes, sidewalks, pathways, transit stops, and parking areas that enhance access and safety for all users.

Policy SC-1c: Continue to improve and enhance Highway 12 to create a vibrant, multi-modal corridor by requiring wider sidewalks, buffered bike lanes, shade trees, street furniture, and other amenities.

Policy SC-1e: Implement the roadway cross-sections included in this Specific Plan which are designed to accommodate all modes of transportation including walking, bicycling, transit, and driving.

Policy SC-1h: Development projects that exceed ten (10) residential units or 5,000 square feet of non-residential development shall reduce VMT through implementation of a Transportation Demand Management (TDM) plan. Development projects shall be subject to the TDM conditions below, which require applicable projects to provide a foundational set of strategies plus one additional measure. A project may propose construction or funding of offsite pedestrian, bicycle, and transit infrastructure and/or participation in future regional or countywide VMT reduction programs, in lieu of a TDM plan if demonstrated to the satisfaction of the PRMD Director that the associated reduction in vehicle travel would be comparable to the TDM requirements.

A. *Foundational Measures: Development projects must implement all of the following TDM measures at a minimum:*

   - *On-site or contracted TDM coordinator*
   - *TDM marketing*
   - *Rideshare matching*
   - *Onsite bicycle amenities*
   - *Emergency Ride Home Program (applies to nonresidential uses)*

B. *Additional Measures: Development projects must implement at least one additional TDM measure to achieve vehicle miles traveled (VMT) and trip reduction goals. The measure must be approved by the County and can be chosen from the strategies below. The enumerated list does not preclude a project from implementing other TDM measures if desired or required by County Code.*

Nonresidential development

- *Transit/vanpool subsidies*
- *Parking cash-out*
- *VMT Mitigation Bank (if available)*
- *Off-Site Physical Non-Auto Mode Improvement(s)*

Residential development

- *Transit subsidies*
- *School-pool matching*
- *Unbundled parking*
- *VMT Mitigation Bank (if available)*
- *Off-Site Physical Non-Auto Mode Improvement(s)*

Goal SC-2: *Create a Safe, Convenient, and Well-connected Pedestrian and Bicycle Circulation System with Generous Amenities that Encourage Walking and Cycling.*

Policy SC-2a: Ensure that circulation improvements create a walkable and bikeable community with convenient access to schools, parks, shops, services, restaurants, and other local destinations.

Policy SC-2b: Improve pedestrian and bicycle linkages and facilities throughout the Springs to improve mobility; provide safe routes to schools and transit stops; make the area more inviting to pedestrians and cyclists; and improve connectivity to nearby communities and regional destinations. See Figures 5 and 6 and Tables 3 and 4.

Policy SC-2c: Create a pedestrian- and bicyclist-friendly environment by ensuring that new development is human-scale and areas are provided for public seating. Other amenities that should be provided include street furniture, landscaping, shade, bicycle racks, trash receptacles, and pedestrian oriented lighting and signage. Amenities should be placed in locations that do not decrease the walkability of the sidewalk.

The ultimate configuration of any new pedestrian crossings shall be evaluated and determined by the Sonoma County Department of Transportation and Public Works, in collaboration with Caltrans, and in consideration of the physical characteristics and best design practices that exist at the time the design is initiated.

Policy SC-2d: Require that adjacent developments be connected by safe, direct walkways. Ensure that projects are designed to anticipate and accommodate future street and sidewalk connections to new development on adjacent lands.

Policy SC-2e: Prohibit cul-de-sacs and dead end streets, except where existing conditions require them. If cul-de-sacs are necessary, require walkways connecting to adjacent streets and future development.

Policy SC-2f: Require direct pedestrian access between housing and any adjacent transit facility.

Policy SC-2g: Provide new and improved crosswalks as shown in Figure 5. Prioritize safety features, such as pedestrian warning lights and bulb-outs, that improve visibility and create a more comfortable pedestrian environment, particularly in the vicinity of schools and parks.

Policy SC-2h: Provide new and improved bicycle lanes and enhance bicycle safety through the use of signs, bicycle lane buffers, and green colored pavement, as shown in Figure 6. Priority should be given to intersections when making safety improvements.

Policy SC-2i: Prioritize crosswalk, sidewalk, and bicycle lane improvements near schools, parks, transit stops, and the Springs plaza.

Policy SC-2j: When planning new crosswalks, locate crosswalks on the far side of the bus stop so that the bus passes through the crosswalk before stopping for riders.

Policy SC-2k: Require development projects along Highway 12 to provide increased sidewalk widths, consistent with the cross-sections identified in this chapter and the setback requirements set forth in the Design Guidelines chapter.

Policy SC-2l: Establish an improvement district or comparable mechanism to fund installation and maintenance of water stations, benches, street trees, landscaping, trash cans, and other community amenities along the Highway 12 corridor.

Policy SC-2o: Encourage the development of public spaces, such as outdoor seating areas, that are easily accessible from the public sidewalk or pathway. Ensure that public spaces are designed for pedestrian comfort and provide visual interest.

Policy SC-2p: Provide water filling stations at key locations along the Highway 12 corridor. Recommended locations are shown on Figure 6, Bicycle Circulation Map.

***Goal SC-3:** Increase Transit Ridership in the Springs Area*

Policy SC-3a: Coordinate with Sonoma County Transit to improve local bus service by increasing the frequency of bus service in the Springs and decreasing travel times.

Policy SC-3b: Support the creation of a public awareness campaign to promote transit use. Provide easy to understand schedule and bus pass information in English and Spanish.

Policy SC-3c: Coordinate with Sonoma County Transit to promote the local shuttle service (route 32) which runs between the Springs and the City of Sonoma, including continuing the branding of route 32 as a shuttle, creating a distinct look for shuttle vehicles, and updating transit signage for route 32. Sonoma County transit is also encouraged to allocate marketing resources to publicize the shuttle route to residents, employees, and visitors.

Policy SC-3d: Work with Sonoma Transit to improve bus stops by providing well-lit shelters, benches, bicycle racks, and trash cans. Provide schedule information at each bus shelter location.

Policy SC-3f: In conjunction with road or development projects, review whether a bus turnout is appropriate in locations where transit shelters exist or are planned.

Policy SC-3g: Maintain fare-free service on the Sonoma County Transit local route serving the Springs area (currently route 32 Sonoma Shuttle).

Policy SC-3h: Explore use of micro-transit and on-demand transit.

Policy SC-3i: Encourage private shuttles to serve the community.

Policy SC-3j: Work with local employers and retailers to identify opportunities for private shuttles to serve employment sites and other destinations that are not currently served by transit.

Goal SC-4: *Ensure Adequate Public and Private Parking to Accommodate Residents, Businesses, and Visitors to the Springs*

Policy SC-4d: Support car-sharing by encouraging larger development projects to reserve parking spaces for car-share vehicles. Reserve strategic on-street spaces for car-share vehicles as demand for such services increases.

Policy SC-4i: Consider the establishment of a parking district or in-lieu parking fees to fund the construction of new public parking and programs that reduce parking demand, such as bicycle path development and transit improvements.

Policy SC-4j: Encourage the installation of electric charging stations on both public property and in private development.

Policy SC-4l: Require bicycle parking near the front entrance of commercial buildings.

Policy SC-4m: Include bicycle parking in all parking lots and structures.

Impact 3.2-2: Implementation of the proposed Specific Plan has the potential to cause health risks associated with toxic air contaminants (Less than Significant with Mitigation)

Controlling TACs became a national priority with the passage of the Clean Air Act Amendments of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, the EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to a Federal Highway Administration analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority mobile source air toxics is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

Currently, the CARB monitors toxics throughout California; however, there are no toxic air monitoring sites located in Sonoma County. The closest toxic air monitoring site to the Specific Plan area is located in

San Pablo. As air toxics research continues, new tools and techniques will be developed for assessing health outcomes as a result of lifetime air toxics exposure.

Health risks associated with TACs are most pronounced in the areas adjacent to freeway segments. Under the Community Air Risk Evaluation program, the BAAQMD has designated certain areas as "Impacted Communities" if the following occur: the areas (1) are close to or within areas of high TAC emissions; (2) have sensitive populations, defined as youth and seniors, with significant TAC exposures; and (3) have significant poverty. No part of Sonoma County is mapped by the BAAQMD as an Impacted Community under the Community Air Risk Evaluation program.

The BAAQMD has also promulgated a *Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* document in May 2016 (BAAQMD, 2016), to address the issue of healthy infill development. This document includes important information for local governments, developers, and the general public, including the location of communities and places throughout the region that are estimated to have elevated levels of fine particulates and/or toxic air contaminants, as well as best practices that may be implemented by local governments and developers to reduce health risks from air pollution in these locations that experience elevated air pollution levels. The purpose of this guidance document is to encourage local governments to address and minimize potential local air pollution issues early in the land-use planning process, and to provide technical tools to assist them in doing so.

Highway 12 in Sonoma County, which includes the segment of Highway 12 within the Plan Area, is identified in the Planning Healthy Places document as heaving relatively elevated levels of air pollution,[5] due to its traffic volume exceeding 10,000 vehicles per day. For such areas, the Air District recommends implementing all of their "best practices to reduce exposure" that are feasible and applicable to a project or plan in these locations. A summary of these best practices to reduce exposure is provided in the bulleted list below:

- Health Protective Distances: Plan sensitive land uses as far from local sources of air pollution such as freeways as is feasible.
- Install Air Filters: Install air filters rated at a minimum efficiency reporting value (MERV) 13 or higher in buildings associated with sensitive land uses (e.g. schools, residences, hospitals).
- Project Phasing: When applicable, and when development is being phased over time (i.e. being built over several years), build residential units and/or sensitive land uses that are closest to the emissions source at the latest date in the future (e.g. in year 5 vs. year 1).
- Building Site Design and Operations: When designing a project site or developing a plan area, place sensitive land uses as far away from emission sources (including loading docks, busy roads, etc.) as is feasible. Place open space, commercial buildings, or parking garages between sensitive land uses and air pollution sources. This will help to create a "buffer" separating housing and other sensitive land uses away from air pollutants. Locate operable windows, balconies, and building air intakes as far away from any emission source as is feasible. Incorporating open space (i.e. parks) between buildings can improve air flow and air pollution movement.
- Barriers (sound walls): Consider incorporating solid barriers into site design, similar to a sound wall, between buildings and sources of air pollution (for example, a freeway).

[5] See Figure 2, on page 10 of the Planning Healthy Places document.

- Vegetation: Plant dense rows of trees and other vegetation between sensitive land uses and emission source(s). Large, evergreen trees with long life spans work best in trapping air pollution, including: Pine, Cypress, Hybrid Poplar, and Redwoods.
- Consider Limiting Ground Floor Uses: Consider limiting sensitive land uses on the ground floor units of buildings near non-elevated sources, e.g. ground level heavily traveled roadways and freeways.
- Alternative Truck Routes: Truck routes can be planned or re-rerouted through non-residential neighborhoods, and to avoid other sensitive land uses such as daycare centers, schools, and elderly facilities.

The proposed project would implement these best practices to reduce exposure, as feasible, as provided by the policies and zoning within the Specific Plan. For example, the standard set of health risk reduction measures contained in Specific Plan Measure Air-B requires individual projects with sensitive receptors to install air filters of MERV 13 or higher in buildings with sensitive land uses; locate sensitive receptors as far away as feasible from the source(s) of air pollution as possible, including locating sensitive receptors away from ground floors, where feasible; plant trees and/or vegetation between sensitive receptors and pollution sources, and utilize CARB's Tier 4 emission standards for diesel generators, as feasible. Separately, Specific Plan Measure Noise-A identifies sound barriers and increased setbacks as potential measures to ensure noise levels meet the County noise standards, which would also reduce the potential impact of air pollution on sensitive receptors. Further, Specific Plan Policy SC-1c, which would require the improvement and enhancement of the Highway 12 segment with the Plan Area by requiring wider sidewalks, buffered bike lanes, shade trees, street furniture, and other amenities, would increase vegetation as well as passively reduce the likelihood of heavy-duty trucks selecting the Highway 12 corridor when other routes are available, all else being equal. Additionally, Specific Plan Policy SC-2n requires new development and redevelopment projects to include street trees and other vegetation. Lasty, the overall zoning established by the Specific Plan rezones much of the existing residential zoning located adjacent to Highway 12 as Mixed Use (MX) under the proposed Specific Plan, which would tend to replace much of the existing residential zoning adjacent to Highway 12 with other land uses (such as commercial) that are less likely to develop land uses with sensitive receptors.

It should also be noted that the BAAQMD has also identified a number of areas within the Bay Area where additional analysis (i.e. further study) is recommended to assess the local concentrations of TACs and fine PM, and therefore the health risks from air pollution. These areas are provided by the Air District's mapping tool.[6] The Air District recommends using caution when considering sensitive land uses in these areas. There are two such areas identified by the Air District within the Plan Area (i.e. two gasoline stations). Specifically, the gasoline stations are a Valero Station, located at 18605 Sonoma Highway, and a Sonoma Beacon station, located at 18618 Sonoma Highway. To help clarify and standardize analysis and decision-making in the environmental review process for development that would occur in the vicinity of these gas stations, future projects would be required to implement Measure Air-B, which would minimize risks associated with any new sensitive receptors located within 1,000 feet of Highway 12 or within 300 feet of the gas stations. Measure Air-B requires that individual projects with sensitive receptors that are within 1,000 feet of Highway 12 or within 300 feet of the gas stations to incorporate measures into the individual project design in order to reduce the potential health risk due to exposure to toxic air contaminants. Specifically, Measure Air-B requires that either the project applicant conduct an HRA and incorporate project-specific risk reduction measures if the HRA concludes that the health risk exceeds

[6] https://www.baaqmd.gov/plans-and-climate/planning-healthy-places

acceptable levels, or incorporate a standard set of health risk reduction measures, such as installation of air filtration systems, location of sensitive receptors as far away as feasible from the source(s) of air pollution as possible, planting trees and/or vegetation between sensitive receptors and pollution sources, and utilizing CARB's Tier 4 emission standards for diesel generators, as feasible.

Separately, the BAAQMD CEQA Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The existing Sonoma County General Plan includes policies that are intended to minimize exposure of TACs to sensitive receptors (listed in the Regulatory Setting). These policies help to protect sensitive receptors, and otherwise limit air pollution during construction and operation activities. These objectives and policies are consistent with the BAAQMD recommendations that are intended to reduce health risks associated with TACs. Specifically, General Plan Policy OSRC-16i requires that any proposed new sources of toxic air contaminants provide adequate buffers to protect sensitive receptors and comply with applicable health standards. In addition, there are several policies that relate to reducing diesel particulate matter (DPM), which is a common TAC emitted from heavy-duty long-haul vehicles, as well as wood-burning fireplaces (see Policy OSRC-16l and Policy OSRC-16g).

The Specific Plan area is bisected by the Highway 12 commercial corridor (a California state highway). Existing daily traffic on the highway in the central part of the Specific Plan area averages 12,600 vehicles per day. The proposed project includes residences, which are considered sensitive receptors. The proposed project also has the potential to allow for other sensitive receptors, such as day cares. The proposed project would implement the Air District's best practices to reduce exposure, as provided above, where appropriate. Additionally, individual projects within the Plan Area would be required to implement Air-B, as applicable.

Stationary source TACs are not known to be a major concern within the Springs area, based on the limited number of TAC sources within the surrounding area. No major sources of TACs (such as wastewater treatment plants, regional trucking facilities, or industrial plants) are located nearby. No known significant stationary sources of TACs are generated within 1,000 feet of the Specific Plan area.[7] Additionally, the future residential land uses within Specific Plan area would be developed many miles east of the Highway 101 corridor (a major freeway). No industrial uses are proposed as part of the Specific Plan. Furthermore, the vast majority of land uses that are known to generate TACs (such as industrial, and most vehicle-oriented uses) would be prohibited through zoning (see Chapter 2, Project Description, for a list of uses allowed in each zone associated with the Specific Plan). In the event that future projects within any of the non-residential areas within the Specific Plan propose development that would use TACs in substantial quantities, as determined by the BAAQMD (such as some kinds of large-scale auto repair service centers, gas stations, and/or dry cleaning operations), then the project proponent would be required to prepare a toxic air contaminant health risk analysis as recommended by the BAAQMD CEQA Guidelines at the individual development level, and incorporate feasible mitigation measures to reduce health risks to acceptable levels, as provided within the Sonoma County General Plan (as provided by General Plan Policy OSRC-16i), and as provided by Specific Plan Measure Air-B. Adequate buffers would be required between sensitive land uses and the source of TACs. Subsequent development projects proposed within the Specific Plan area would be subject to all relevant General Plan goals, objectives, and policies that provide protections for risks associated with TACs. The implementation of these Sonoma County General Plan objectives and policies that are intended to address air quality TACs impacts, as described above, and

[7] The BAAQMD recommends that all receptors located within 1,000 feet of a major source of TACs be evaluated for potential increases in risks or hazards.

implementation of Specific Plan Measures Air-B and Air-C, identified below, would ensure that impacts associated with the Specific Plan are reduced to a **less than significant** level.

SPECIFIC PLAN COMPONENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

***Measure Air-B**: Prior to the approval of entitlements or permitting operation of project with sensitive receptors (e.g. residential uses, new or expanded daycares, schools, parks, nursing homes, or medical facilities) that are located within a TAC source, including 1,000 feet of Highway 12 or 300 feet of a gas station, the project applicant(s) shall incorporate appropriate measures into the individual project design in order to reduce the potential health risk due to exposure to toxic air contaminants. The project applicant shall choose one of the following methods:*

1. *The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk of exposure of project residents/occupants/users to air pollutants. The HRA shall be submitted to the County for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes that the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the County for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the County;*

OR

2. *The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the County for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the County:*
    - *Installation of air filtration to reduce cancer risks and Particulate Matter (PM) exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-13 or higher. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.*
    - *The project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from the TAC sources as feasible. If near a distribution center, residents shall be located as far away as feasible from a loading dock or where trucks concentrate to deliver goods.*
    - *Sensitive receptors shall be located on the upper floors of buildings or, if located on the ground floor, shall be located toward the edge of the property boundary that is farthest from the TAC source.*
    - *Planting trees and/or vegetation between sensitive receptors and pollution source, if feasible. Trees that are best suited to trapping PM shall be planted, including one or more of the*

following: Pine (Pinus nigra var. maritima), Cypress (X Cupressocyparis leylandii), Hybrid popular (Populus deltoids X trichocarpa), and Redwood (Sequoia sempervirens).

- *Existing and new diesel generators shall meet CARB's Tier 4 emission standards, if feasible.*

The project applicant(s) shall maintain, repair, and/or replace installed health risk reduction measures, including but not limited to the HVAC system (if applicable), on an ongoing and as-needed basis. Prior to occupancy, the project applicant(s) shall prepare and then distribute to the building manager/operator an operation and maintenance manual for the HVAC system and filter including the maintenance and replacement schedule for the filter.

***Measure Air-C**: Prior to approval of entitlements or permitting operation of any new or modified commercial building/use that would emit toxic air contaminants (such large-scale auto repairs service centers, gas stations or dry cleaning operations), prioritization screening shall be performed in accordance with the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990) and the Air Toxics "Hot Spots" Information and Assessment Act. The prioritization screening shall be performed in accordance with the California Air Pollution Control Officers Association Air Toxic "Hot Spots" Program guidance. The prioritization screening shall also be conducted consistent with the guidance provided by the Bay Area Air Quality Management District's (Air District) latest guidance, which will be responsible for determining which facilities must perform a health risk assessment.*

If a health risk assessment is warranted for a facility based on its prioritization score, the project applicant shall retain a qualified air quality consultant to prepare an assessment the facilities for the potential to expose the public to toxic air contaminants in excess of the applicable thresholds (utilizing an air dispersion modelling program such as AERMOD). Facilities that exceed the applicable threshold(s) have the potential to expose the public to toxic air contaminants levels that would be considered significant. Facilities that exceed the applicable threshold(s) shall incorporate mitigation to reduce the risks from emission of toxic air contaminants to an acceptable level (i.e., to a level that does not exceed the applicable threshold[s]). Potential mitigation includes: reducing the size of the facility area; rearranging the site to reduce the potential for impacts on the nearest sensitive receptors; and utilizing products that reduce the level of toxic air contaminants, or removal of such products from the operational phase of the project.

Impact 3.2-3: Implementation of the proposed Specific Plan would not create objectionable odors or other emissions that would adversely impact a substantial number of people (Less than Significant)

Objectionable odors can be generated from certain types of commercial and/or industrial land uses. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. In general, residential land uses are not associated with odor generation, but they do serve as sensitive receptors. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to anger and concern over possible health effects among the public. Each year the BAAQMD receives thousands of citizen complaints about objectionable odors. The BAAQMD CEQA Guidelines recommendation for assessing plan level odor impacts is to "identify the location of existing and planned odor sources in the plan area and policies to reduce potential odor impacts in the plan area." No significant odor sources are known to exist in the Springs Specific Plan area.

Examples of facilities that are known producers of operational odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant. If a project would locate receptors and known odor sources in proximity to each other further analysis may be warranted.

Commercial uses, particularly retail, are not typically associated with the creation of objectionable odors. However, restaurants, especially fast food restaurants, have the potential to generate substantial sources of odors as a result of cooking processes and food waste disposal. Char broilers, deep-fryers, and ovens tend to produce food odors that could be considered offensive to some people. The food waste produced by any restaurants allowed under the proposed zoning could putrefy if not properly managed, which could produce objectionable odors. Any restaurants developed within the Plan area would involve food preparation that could result in cooking exhaust and smoke, and would produce food waste. As odors are highly subjective, one receptor may consider cooking exhaust and related smoke an acceptable odor, while another receptor may find such odors objectionable. Nonetheless, any future restaurants developed within the Plan area would be required to comply with all State and local regulations associated with cooking equipment and controls. This would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered, allowing only filtered air to be released into the atmosphere.

Decomposition of biological materials, such as food waste and other trash, could create objectionable odors if not properly contained and handled. Future development projects which would result in biological materials or other odorous waste would provide waste receptacles and would utilize outdoor trash dumpsters with lids, which would be picked up regularly during normal solid waste collection operating hours within the area. The dumpster lids are intended to contain odors emanating from the dumpsters. The dumpsters would be stored in screened areas for further protection from potential objectionable odors. The garbage collected on-site and stored in the outdoor dumpsters would not be on-site long enough to cause substantial odors. Thus, the outdoor, enclosed, and covered trash dumpsters that would be picked up regularly would provide proper containment and handling of the trash generated on-site.

The Specific Plan area does not propose any land uses within the vicinity of any potential source of objectionable odors and does not include uses that are anticipated to result in significant levels of objectionable odors or other emissions not previously analyzed herein. Individual developments with the Plan Area that have the potential to generate objectionable odors, such as restaurants, would be required to comply with all State and local regulations associated with cooking equipment and controls. Implementation of the proposed Springs Specific Plan would have a **less than significant** impact relative to this topic.

This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from project implementation. The following analysis is based on literature review and records searches performed by De Novo Planning Group (2018), as well as the County's General Plan EIR (2008).

One comment was received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the California Department of Transportation (July 2018). The portion of the comment related to this topic is addressed within this section.

3.3.1 ENVIRONMENTAL SETTING

ACRONYMS

CDFW	California Department of Fish and Wildlife (formerly the California Department of Fish and Game, or CDFG)
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Natural Diversity Database
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
CNPS	California Native Plant Society
FESA	Federal Endangered Species Act
NMFS	National Marine Fisheries Service
OHWM	ordinary high-water mark
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

REGIONAL SETTING

Sonoma County encompasses over one million acres of diverse landscape, ranging from the marine environments of the coastal zone, to the forests, woodlands, and grasslands of the coast range foothills and mountains, the vernal pools, seasonal wetlands, and freshwater marshes of the Santa Rosa Plain and Laguna de Santa Rosa, and the extensive marshlands along San Pablo Bay. Urban development occupies much of the valley floors through the central portion of the county along U.S. 101 and Highways 116 and 12, with cities separated and generally surrounded by grazing lands and agricultural uses, primarily vineyards, dryland crops, and irrigated pasture.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

Figure 3.3-1 illustrates the location of each cover type (wildlife habitat classification) within the Plan area. Table 3.3-1 shows the acreage for each on-site cover type. A brief description of each cover type follows.

TABLE 3.3-1: COVER TYPES WITHIN THE PLAN AREA

COVER TYPE	*ACRES WITHIN THE PLAN AREA*
AGS - Annual Grassland	15.17
BAR - Barren	6.31
MHC – Montane Hardwood	8.16
MRI – Montane Riparian	3.31
URB - Urban	145.87
Total	**178.82**

SOURCE: CASIL GIS DATA, 2016, CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM, 2018.

Developed Cover Types

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the Plan area, there are 145.87 acres of urban habitat. This habitat type is found along Highway 12 within the Plan area.

Herbaceous Cover Types

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. This habitat type may include native or non-native grasses. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Annual precipitation is highest in northern California. Within the Plan area, there are 15.17 acres of annual grassland habitat. This habitat type is found in the southeastern corner of the Plan area, north of Verano Avenue and east of Robinson Road.

Hardwood Woodland Cover Types

Montane Hardwood habitats are found throughout California mostly west of the Cascade-Sierra Nevada crest. East of the crest, it is found in localized areas of Placer, El Dorado, Alpine and San Bernardino Counties. Elevations range from 100 meters (300 feet) near the Pacific Ocean to 2745 meters (9000 feet) in southern California. Frost and short periods of freezing occur in winter (160 to 230 frost-free days). Mean summer temperatures in the Montane Hardwood habitat vary between 20 and 25 degrees C (68 and 77 degrees F) and mean winter temperatures between 3 and 7 degrees C (37 and 45 degrees F). Annual precipitation varies from 2,794 millimeters (110 inches) in the northern Coast Range to 914 millimeters (36 inches) in the mountains of southern California. Within the Plan area, there are 8.16 acres of montane hardwood habitat. This habitat type is found in the Plan area in four general locations: in the northeastern corner (east of Highway 12 and north of Richards Boulevard), in the northern portion of the Plan area (north of Fetters Avenue and south of Depot Road), in the southern portion of the Plan area (south of Siesta Way and north of Agua

Caliente Creek), and in the southeastern corner (north of Verano Avenue and east of Robinson Road).

Montane Riparian habitats are found in the Klamath, Coast and Cascade ranges and in the Sierra Nevada south to about Kern and northern Santa Barbara Counties, usually below 2,440 meters (8,000 feet). This habitat intergrades with montane chaparral, montane hardwood, montane hardwood/conifer, lodgepole pine, red fir and wet meadow habitats. Riparian areas are found associated with montane lakes, ponds, seeps, bogs and meadows as well as rivers, streams and springs. Water may be permanent or ephemeral. The range of wildlife that uses this habitat for food, cover and reproduction include amphibians, reptiles, birds and mammals. The growing season extends from spring until late fall, becoming shorter at higher elevations. Most tree species flower in early spring before leafing out. Within the Plan area, there are 3.31 acres of montane riparian habitat. This habitat type is found in the Plan area in three general locations: adjacent east of Larson Park, north of Thomson Avenue and west of Sierra Drive, and adjacent north of Maxwell Farms Regional Park.

Other Habitats

Barren habitat is defined by the absence of vegetation. Any habitat with less than 2% total vegetation cover by herbaceous, desert, or non-wildland species and less than 10% cover by tree or shrub species is defined this way. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the Plan area, there are 6.31 acres of barren habitat. This habitat type is found in the northern and southern portions of the Plan area generally along Highway 12.

LOCAL SETTING

The Springs Specific Plan area (Plan area) is an approximately 180-acre area located in the central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. The Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor. The Plan area is urban and largely built out.

The 'L'-shaped Plan area has several distinct settings: the 1.6-mile stretch of mixed use along Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald and Harley Streets.

Pequeno Creek crosses the Plan area south of Fetters Avenue and is a tributary of Sonoma Creek, joining with Sonoma Creek northwest of Larson Park. Agua Caliente Creek, also a tributary of Sonoma Creek, crosses the Plan area south of Encinas Lane, joining Sonoma Creek northwest of Maxwell Farms Regional Park.

The Plan area currently includes the following uses, as identified by the Sonoma County Assessor's office: 78.5 acres of single-family residential, 21.6 acres of multi-family residential (including duplexes through fourplexes), 15.74 acres of commercial, 2.77 acres of office, 1.47 acres of

industrial, 3.35 acres of mixed use, and 3.59 acres of public uses and 15.6 acres of vacant land. Figure 2.0-3 shows an aerial view of the Plan area.

The Plan area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west. Figure 2.0-5 in Chapter 2.0 shows the U.S. Geological Survey (USGS) Topographic Map of the Plan area.

The Plan area is located in the unincorporated area of Sonoma County, north of the City of Sonoma city limits. Adjoining lands to the north of the Plan area are designated for Urban Residential (UR), Rural Residential (RR), and Diverse Agriculture (DA) uses. Adjoining lands to the east of the Plan area are designated for UR, RR, Resources and Rural Development (RRD), and Land Intensive Agriculture (LIA). Adjoining lands to the west of the Plan area are designated for UR, RR, DA, General Commercial (GC), and Recreation and Visitor Serving Commercial (RVSC) uses.

The City of Sonoma city limits are adjacent to the southern portion of the Plan area. Surrounding land uses within the City of Sonoma include low density residential, rural residential, commercial, and park. Maxwell Farms Regional Park is located south of W. Verano Avenue, south of the Plan area.

SPECIAL-STATUS SPECIES

Special-status species are generally defined as: 1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; 2) species considered rare or endangered under the California Environmental Quality Act; 3) plants considered "rare, threatened, or endangered in California" by the California Native Plant Society (Lists 1B); 4) animal listed as "species of special concern" by the state; and 5) animals fully protected in California by the Fish and Game Code.

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, the U.S. Fish and Wildlife Service's (USFWS) endangered and threatened species lists, and observations from local experts. The background search was regional in scope and focused on the documented occurrences within the 9-quadrangle radius of the Plan area, which includes the following USGS quadrangles: Kenwood, Rutherford, Yountville, Glen Ellen, Sonoma, Napa, Petaluma River, Sears Point, Cuttings Wharf.

The 9-quadrangle search revealed 92 special-status species within the region: 53 plants and 39 animals. Tables 1 and 2 in Appendix B provide a complete list of special-status plant and animal species that are documented in the region, their habitat, potential for Plan area occurrence, and current protective status. Tables 3.3-2 and 3.3-3 show the special-status plant and wildlife species which have a moderate to high potential to occur within the Plan area only. Figure 3.3-2 illustrates the general location of these records maintained by the CNDDB.

TABLE 3.3-2: SPECIAL-STATUS PLANTS WITHIN 9-QUADRANGLE REGION FOR THE PLAN AREA WITH MODERATE TO HIGH POTENTIAL FOR OCCURRENCE

PLANT	*STATUS (FED/CA/ CNPS)*	*HABITAT ASSOCIATION*	*BLOOMING PERIOD*	*POTENTIAL FOR OCCURRENCE*
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	--/--/1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 3-1680 m.	Apr-Jul	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
bent-flowered fiddleneck *Amsinckia lunaris*	--/--/1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 m.	Mar-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
big-scale balsamroot *Balsamorhiza macrolepis*	--/--/1B.2	Chaparral, valley and foothill grassland, cismontane woodland. Sometimes on serpentine. 35-1465 m.	Mar-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Clara Hunt's milk-vetch *Astragalus claranus*	FE/CT/1B.1	Cismontane woodland, valley and foothill grassland, chaparral. Open grassy hillsides, especially on exposed shoulders in thin, volcanic clay soil moist in spring. 95-235 m.	Mar-May	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Cobb Mountain lupine *Lupinus sericatus*	--/--/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest. In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 120-1390 m.	Mar-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Colusa layia *Layia septentrionalis*	--/--/1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1100 m.	Apr-May	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
fragrant fritillary *Fritillaria liliacea*	--/--/1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-400 m.	Feb-Apr	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Franciscan onion *Allium peninsulare var. franciscanum*	--/--/1B.2	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine; sometimes on volcanics. Dry hillsides. 5-320 m.	(Apr) May-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.

PLANT	*STATUS (FED/CA/ CNPS)*	*HABITAT ASSOCIATION*	*BLOOMING PERIOD*	*POTENTIAL FOR OCCURRENCE*
green jewelflower *Streptanthus hesperidis*	--/--/1B.2	Chaparral, cismontane woodland. Openings in chaparral or woodland; serpentine, rocky sites. 240-765 m.	May-Jul	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
holly-leaved ceanothus *Ceanothus purpureus*	--/--/1B.2	Chaparral, cismontane woodland. Rocky, volcanic slopes. 145-780 m.	Feb-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Jepson's coyote-thistle *Eryngium jepsonii*	--/--/1B.2	Vernal pools, valley and foothill grassland. Clay. 3-305 m.	Apr-Aug	**Moderate Potential:** Limited mesic habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Jepson's leptosiphon *Leptosiphon jepsonii*	--/--/1B.2	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 55-855 m.	Mar-May	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Napa bluecurls *Trichostema ruygtii*	--/--/1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest. Often in open, sunny areas. Also has been found in vernal pools. 30-680 m.	Jun-Oct	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Napa false indigo *Amorpha californica var. napensis*	--/--/1B.2	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 30-735 m	Apr-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
narrow-anthered brodiaea *Brodiaea leptandra*	--/--/1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Volcanic substrates. 30-590 m.	May-Jul	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Northern California black walnut *Juglans hindsii*	--/--/1B.1	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil, associated with a creek or stream. 0-640 m.	Apr-May	**Moderate Potential:** Limited riparian habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
oval-leaved viburnum *Viburnum ellipticum*	--/--/2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400 m.	May-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.

PLANT	STATUS (FED/CA/ CNPS)	HABITAT ASSOCIATION	BLOOMING PERIOD	POTENTIAL FOR OCCURRENCE
Sebastopol meadowfoam *Limnanthes vinculans*	FE/CE/1B.1	Meadows and seeps, vernal pools, valley and foothill grassland. Swales, wet meadows and marshy areas in valley oak savanna; on poorly drained soils of clays and sandy loam. 15-115 m.	Apr-May	**Moderate Potential:** Limited mesic habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Sonoma Alopecurus *Alopecurus aequalis var. sonomensis*	FE/--/1B.1	Freshwater marshes and swamps, riparian scrub. Wet areas, marshes, and riparian banks, with other wetland species. 5-360 m.	May-Jul	**Moderate Potential:** Limited riparian habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
thin-lobed horkelia *Horkelia tenuiloba*	--/--/1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Sandy soils; mesic openings. 45-640 m.	May-Jul (Aug)	**Moderate Potential:** Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.
Tiburon buckwheat *Eriogonum luteolum var. caninum*	--/--/1B.2	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie. Serpentine soils; sandy to gravelly sites. 60-640 m.	May-Sep	**Moderate Potential:** Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Plan area.

SOURCE: CDFW CNDDB 2018.

ABBREVIATIONS:

FEDERAL

FE FEDERAL ENDANGERED

STATE

CE CALIFORNIA ENDANGERED SPECIES

CR CALIFORNIA RARE

CALIFORNIA RARE PLANT RANKS (FORMERLY CNPS LISTS)

1A CNPS - PRESUMED EXTIRPATED IN CALIFORNIA AND EITHER RARE OR EXTINCT ELSEWHERE

1B CNPS - RARE, THREATENED, OR ENDANGERED

2B CNPS - PLANTS RARE, THREATENED, OR ENDANGERED IN CALIFORNIA BUT MORE COMMON ELSEWHERE

3 REVIEW LIST: PLANTS WHICH MORE INFORMATION IS NEEDED

CALIFORNIA THREAT RANKS

0.1 SERIOUSLY THREATENED IN CALIFORNIA

0.2 MODERATELY THREATENED IN CALIFORNIA

0.3 NOT VERY THREATENED IN CALIFORNIA

TABLE 3.3-3: SPECIAL-STATUS ANIMALS WITHIN 9-QUADRANGLE REGION FOR THE PLAN AREA WITH MODERATE TO HIGH POTENTIAL FOR OCCURRENCE

ANIMAL	STATUS (FED/CA)	HABITAT ASSOCIATION	POTENTIAL FOR OCCURRENCE
MAMMALS			
pallid bat *Antrozous pallidus*	--/SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**High Potential:** The nearest previously documented occurrence is located approximately 0.65 miles to the south. Potential roosting habitat in existing structures and trees. Site could provide foraging opportunities.
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Moderate Potential:** The nearest previously documented occurrence is located approximately 9.7 miles to the southwest. Potential roosting habitat in existing structures and trees. Site could provide foraging opportunities.

ANIMAL	*STATUS (FED/CA)*	*HABITAT ASSOCIATION*	*POTENTIAL FOR OCCURRENCE*
BIRDS			
bank swallow *Riparia*	--/CT	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**High Potential**: This species is documented regionally, including in the Plan area. Habitat associated with Agua Caliente Creek and Pequeno Creek is available in the Plan area.
AMPHIBIANS & REPTILES			
California giant salamander *Dicamptodon ensatus*	--/SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**High Potential:** There is one previously documented occurrence within the Plan area. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for adult breeding form and larval development of this species within the Plan area. There is very limited habitat for the terrestrial adult form of this species.
California red-legged frog *Rana draytonii*	FT/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Moderate Potential**: The nearest previously documented occurrence is located approximately 3.6 miles to the west. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat, however, there is very limited upland habitat within the Plan area.
foothill yellow-legged frog *Rana boylii*	--/CC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**Moderate Potential**: The nearest previously documented occurrence is located approximately 1.8 miles to the southwest. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat, however, there is very limited upland habitat within the Plan area.
red-bellied newt *Taricha rivularis*	--/SSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	**Moderate Potential:** The nearest previously documented occurrence is located approximately 3.9 miles to the north. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for adult breeding form and larval development of this species within the Plan area. There is very limited habitat for the terrestrial adult form of this species.
western pond turtle *Emys marmorata*	--/SSC	Needs mammal burrows for refuge and oviposition sites. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Moderate Potential:** The nearest previously documented occurrence is located approximately 1.3 miles to the southeast. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for this species within the Plan area. Upland habitat for egg-laying is limited, to not existent, in the Plan area.

ANIMAL	STATUS (FED/CA)	HABITAT ASSOCIATION	POTENTIAL FOR OCCURRENCE
FISH			
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	FT/--	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	**High Potential:** The nearest previously documented occurrence is located approximately 1.9 miles to the southwest in Sonoma Creek. The Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek and provide habitat for this species within the Plan area.

SOURCE: CDFW CNDDB 2018.

ABBREVIATIONS:

FEDERAL

FE FEDERAL ENDANGERED
FT FEDERAL THREATENED
FC FEDERAL CANDIDATE
FD FEDERAL DELISTED
MBTA MIGRATORY BIRD TREATY ACT

STATE

CE CALIFORNIA ENDANGERED SPECIES
CT CALIFORNIA THREATENED
SSC CDFW SPECIES OF SPECIAL CONCERN
FP FULLY PROTECTED

3.3.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the California Department of Fish and Wildlife (CDFW), USFWS, U.S. Army Corps of Engineers (USACE), and the National Marine Fisheries Service. These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to the Project.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), administered by the USFWS and National Marine Fisheries Service (NMFS), provides protection to plant and wildlife species listed as endangered or threatened. In general, USFWS has jurisdiction over terrestrial and fresh-water species, while NMFS has jurisdiction over ocean-going species.

Section 9 of FESA generally prohibits all persons from causing the "take" of any member of a listed species. (16 U.S.C. Section 1538.) This prohibition applies mainly to animals; it only extends to plants in areas “under federal jurisdiction” and plants already protected under state law. (Id., subd. (a)(2)(B); see also Northern Cal. River Watch v. Wilcox (9th Cir. 2010) 620 F.3d 1075.)

“Take” is defined in statute as, "... to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." (16 U.S.C. Section 1532(19).) Harass is defined in regulation as "...an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering." (See 50 CFR Section 17.3.) Harm is defined in regulation as "...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.” (Id.) Despite the general prohibition against take, FESA in some

circumstances permits "incidental take," which means take that is incidental to, but not the purpose of, the carrying out of an otherwise lawful activity. (16 U.S.C. Section 1539(a).) Under section 10 of FESA, persons seeking permission to engage in actions that could result in such incidental take can obtain such permission through the approval of a habitat conservation plan (HCP) by either USFWS or NMFS. (16 U.S.C., Section 1539(a).)

Proposed federal actions that would result in take of a federal-listed or proposed species require consultation with USFWS or NMFS under section 7 of FESA. (Id., Section 1536.) The objective of consultation is to determine whether the proposed federal action would jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Where such an outcome would not occur, USFWS or NMFS must still impose reasonable and prudent measures to minimize the effects of the incidental taking. Where such an outcome could occur, USFWS or NMFS must propose reasonable and prudent alternatives that, if implemented, would avoid such an outcome. (Id.)

Compliance with ESA can be achieved under Section 7 or 10 of FESA depending on the involvement of the federal government. Section 7 requires federal agencies to make a finding on all federal actions, including the approval by an agency of a public or private action, such as the issuance of a "404 permit" for filling wetlands by the USACE, on the potential of the action to jeopardize the continued existence of any listed species impacted by the action or to result in the destruction or adverse modification of such species' critical habitat. Provisions of Section 10 are implemented when there is no federal involvement in a project except compliance with FESA. A take not specifically allowed by federal permit under Section 7 or Section 10(a)(1)(B) of the FESA is subject to enforcement through civil or criminal proceedings under Section II of the FESA.

Migratory Bird Treaty Act

To kill, possess, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., Section 703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provide regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. Section 328.2(f)]. Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. Section 328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil,

destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. Section 328.3(e)].

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To obtain the water quality certification, the RWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code Section 2050-2097 - California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers a number of laws and programs designed to protect fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA Fish and Game Code Section 2050 et seq.), which regulates the listing and take of state endangered and threatened species, as well as candidate species. Under Section 2081 of CESA, CDFW may authorize take of an endangered and/or threatened species, or candidate species, by an incidental take permit or Memorandum of Understanding (MOU) for scientific, educational, or management purposes. In approving an incidental permit, CDFW must ensure, among other things, that "[t]he impacts of the authorized take shall be minimized and fully mitigated." Further, "[t]he measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation." To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants, as previously designated under the California Native Plant Protection Act (discussed below). Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code Section 2800-2835 – Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act is set forth in Fish and Game Code Sections 2800–2835. The intent of the legislation is to provide for conservation planning as an officially recognized policy that can be used as a tool to eliminate conflicts between the protection of natural resources and the need for growth and development. In addition, the legislation promotes conservation planning as a means of coordination and cooperation among private interests, agencies, and landowners, and as a mechanism for multispecies and multi-habitat management and

conservation. The development of Natural Community Conservation Plans (NCCPs) is an alternative to obtaining take authorization under Section 2081 of the Fish and Game Code.

Fish and Game Code Section 1900-1913 California Native Plant Protection Act

In 1977, the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Wildlife Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code Section 3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird, unless it is in accordance with the Code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code Section 1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Fish and Game Code Section 3511, 3513, 4700, and 5050 – Fully Protected Species

Fish and Game Code Sections 3511, 3513, 4700, and 5050 pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit the take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if an NCCP has been adopted.

California Environmental Quality Act Guidelines Section 15380 – Unlisted Species Worth of Protection

The CEQA Guidelines provide that a species that is not listed on the federal or state endangered species list may nevertheless be considered rare or endangered if the species meets certain criteria. (CEQA Guidelines Section 15380) Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the California Native Plant Society (CNPS), a nongovernmental organization, maintains a list of plant species native to California that have low populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Wat. Code, Section 13000 et seq.) is California's primary water quality control statute. But its protections extend to wetlands, and in some instances wetlands that are not subject to federal jurisdiction under the Clean Water Act. Under the Porter-Cologne Act definition, waters of the state are "any surface water or groundwater, including saline waters, within the boundaries of the state." (Wat. Code, Section 13050[e].) Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not necessarily true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, discharges to receiving waters more broadly than the CWA does.

Waters of the state fall under the jurisdiction of the nine RWQCBs. Under Porter-Cologne, each RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. California Water Code Section 13260 requires any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements [WDRs]) with the applicable RWQCB. Construction activities that may discharge wastes into the waters of the state must meet the discharge control requirements of the Porter-Cologne Act.

LOCAL

Sonoma County General Plan

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to biological resources:

LAND USE ELEMENT

GOAL LU-10: The uses and intensities of any land development shall be consistent with preservation of important biotic resource areas and scenic features.

Objective LU-10.1: Accomplish development on lands with important biotic resources and scenic features in a manner which preserves or enhances these features.

CONSERVATION AND OPEN SPACE ELEMENT

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-7.2: Designate important Biotic Habitat Areas and update designations periodically using credible data sources.

Objective OSRC-7.3: Establish development guidelines to protect designated Biotic Habitat Areas and assure that the quality of these natural resources is maintained.

Objective OSRC-7.4: Where appropriate, support regulatory efforts by other agencies to protect biotic habitat.

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-7.8: Encourage voluntary efforts to restore and enhance biotic habitat.

Objective OSRC-7.9: Preserve and restore the Laguna de Santa Rosa, San Pablo Bay and Petaluma marshes and other major marshes and wetlands.

Objective OSRC-7.10: Promote production of native marine and shoreline plant and animal habitats along the Pacific Coast and San Pablo Bay shorelines.

Policy OSRC-7c: Notify discretionary and ministerial permit applicants of possible requirements of Federal and State regulatory agencies related to jurisdictional wetlands or special status species.

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-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-8.1: Designate all streams shown on USGS 7.5 minute quadrangle topographic maps as of March 18, 2003, as Riparian Corridors and establish streamside conservation areas along these designated corridors.

Objective OSRC-8.2: Provide standards for land use and development in streamside conservation areas that protect riparian vegetation, water resources and habitat values while considering the needs of residents, agriculture, businesses and other land users.

Objective OSRC-8.3: Recognize and protect riparian functions and values of undesignated streams during review of discretionary projects.

Policy OSRC-8f: Develop and/or adopt, where appropriate, revised streamside specific standards, guidelines, and/or best management practices that provide for protection of Riparian Corridors by watershed, stream, or other geographic areas. Once adopted, the revised standards would replace the standards that are in effect at the time.

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

RIPARIAN AND CREEK STANDARDS

Section 7-14.5 of the Sonoma County Code establishes stream setbacks for structures requiring a building permit, with minimum setbacks equal to the greatest of 1) two and one-half times the height of the stream bank plus thirty feet, 2) thirty feet outward from the top of the stream bank, or 3) any distance established in the general plan and/or zoning code.

The Riparian Corridor Combining Zone is established by Article 65 of the Sonoma County Code to protect biotic resource communities, including critical habitat areas within and along riparian corridors, for their habitat and environmental value, and to implement the provisions of the General Plan Open Space and Resource Conservation and Water Resources Elements. These provisions are intended to protect and enhance riparian corridors and functions along designated 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, floodplain management, wildlife habitat and movement, stream shade, fisheries, water quality, channel stability, groundwater recharge, opportunities for recreation, education and aesthetic appreciation and other riparian functions and values. The Riparian Corridor Combining Zone generally prohibits ground-disturbing activities such as grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots, with certain exceptions.

TREE PROTECTION ORDINANCE

Section 26-88-010(m) of the Sonoma County Code outlines the County's Tree Protection Ordinance. Discretionary projects must be designed to minimize the destruction of certain tree species as defined in the code. Discretionary projects are subject to construction standards established to prevent harm or removal of protected trees, including prohibitions on dumping harmful substances in proximity of protected trees, marking the location of roots prior to construction and other measures.

HERITAGE OR LANDMARK TREE ORDINANCE

Chapter 26D of the Sonoma County Code outlines the County's Heritage or Landmark Tree Ordinance. According to the Code, no person shall remove a heritage or landmark tree without obtaining a tree permit as outlined in Section 26D-5 and as exempted under Section 26D-6. A "Landmark tree" means a tree or grove of trees so designated by the Sonoma County board of supervisors because of its outstanding characteristics in terms of size, age, rarity, shape or location. A "Heritage tree" means a tree or grove of trees so designated by the Sonoma County board of supervisors because of historical interest or significance.

VALLEY OAK HABITAT COMBINING DISTRICT

Article 67 of the Sonoma County Code establishes the Valley Oak Habitat (VOH) Combining District. The purpose of this Article is to protect and enhance valley oaks and valley oak woodlands. The Article outlines mitigation requirements for cutting down or removing valley oaks within the VOH district. Additionally, where any development project within the VOH district is subject to design review pursuant to another provision of the Article, the design review approval shall include measures to protect and enhance valley oaks on the project site in accordance with guidelines adopted by resolution or ordinance of the board of supervisors. Such measures shall include, but not be limited to, a requirement that valley oaks shall comprise a minimum of fifty percent of the required landscape trees for the development project.

Limited portions of the Plan area are located in the VOH district. The portions of the Plan area within the district generally include the area west of Highway 12 and north of Maxwell Farms Regional Park and some area near Sonoma Charter School.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

A significant impact would occur if implementation of the Project would:

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

IMPACTS AND MITIGATION

Impact 3.3-1: Implementation of the Project could have a substantial adverse effect, either directly or through habitat modifications, on a 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 (Less than Significant)

Approval of the Project would not directly approve or entitle any development or infrastructure projects. However, implementation of the Project, including adoption of the Specific Plan and the Specific Plan Zoning Map, would allow and facilitate future development in the Plan area, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors.

PLANTS

The CNDDB search identified 53 documented special-status plant species within the 9-quad region for the Plan area. The developed areas within the Plan area provide very limited to no potential for special status species plants. The portion of the Plan area with the highest potential for presence of any special status plant species is along the Agua Caliente Creek and the Pequeno Creek. This area provides limited woodland and riparian habitat within the Plan area. While it is anticipated that the Agua Caliente Creek and the Pequeno Creek will be preserved and undeveloped, there exists the

potential for future development or infrastructure improvements to encroach upon sensitive plant habitat adjacent to the creeks.

INVERTEBRATES

Special-status invertebrates that occur within the 9-quad region (which includes the following USGS quadrangles: Kenwood, Rutherford, Yountville, Glen Ellen, Sonoma, Napa, Petaluma River, Sears Point, Cuttings Wharf) for the Plan area include: California freshwater shrimp and vernal pool fairy shrimp. The Plan area does not contain suitable habitat for these special-status invertebrate species. As a result, subsequent development under the Project would not result in any substantial adverse effects to these species.

AMPHIBIANS & REPTILES

Special-status reptiles and amphibians that occur within the 9-quad region for the Plan area include: California giant salamander, California red-legged frog, foothill yellow-legged frog, red-bellied newt, and western pond turtle. The Plan area contains moderately suitable habitat for California red-legged frog, foothill yellow-legged frog, red-bellied newt, and western pond turtle. California giant salamander has a high potential to exist within the creek areas. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for California giant salamander adult breeding form and larval development of this species within the Plan area. However, there is very limited upland habitat within the Plan area for the terrestrial adult form of this species. While it is anticipated that the Agua Caliente Creek and the Pequeno Creek will be preserved, there exists the potential for future development or infrastructure improvements to encroach upon sensitive plant habitat adjacent to the creeks.

FISH

Special-status fish that occur within the 9-quad region for the Plan area include: Delta smelt, longfin smelt, Sacramento splittail, and steelhead - Central Valley DPS. The Plan area does not contain suitable habitat for Delta smelt, longfin smelt, and Sacramento splittail. Subsequent development under the Project would not result in any substantial adverse effects to these species. However, the Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek and provide potential habitat for steelhead - Central Valley DPS.

BIRDS

Special-status birds that occur within the 9-quad region for the Plan area include: bald eagle, bank swallow, black swift, black-crowned night heron, burrowing owl, California black rail, California horned lark, California Ridgway's rail, double-crested cormorant, ferruginous hawk, golden eagle, grasshopper sparrow, great blue heron, great egret, northern harrier, San Pablo song sparrow, saltmarsh common yellowthroat, Swainson's hawk, tricolored blackbird, western snowy plover, western yellow-billed cuckoo, white-tailed kite, and yellow rail. Because of the high mobility of these species, most of them have the potential to pass through the site from time to time. Bank swallow and yellow rail have been documented on or immediately adjacent to the Plan area. The remaining species have been documented within 3.0 to 13.3 miles from the Plan area.

As shown in Table 3.3-3, habitat is not present for the following species: bald eagle, black-crowned night heron, California black rail, California Ridgway's rail, double-crested cormorant, golden eagle, San Pablo song sparrow, saltmarsh common yellowthroat, tricolored blackbird, western snowy

plover, and yellow rail. The following species have a low potential to occur in the Plan area: black swift, burrowing owl, California horned lark, ferruginous hawk, grasshopper sparrow, great blue heron, great egret, northern harrier, Swainson's hawk, western yellow-billed cuckoo, and white-tailed kite. The Plan area lacks grasslands used for nesting and foraging for many of these species. Additionally, limited habitat is located along Agua Caliente Creek and Pequeno Creek. Nesting is also possible in other larger trees throughout the Plan area. Foraging habitat is limited, to not existent in the Plan area.

Bank swallow has a high potential to occur in the Plan area. This species is documented regionally, including in the Plan area. Agua Caliente Creek and Pequeno Creek provide available habitat in Plan area.

Subsequent development under the Project could result in the direct loss of habitat areas associated with these special-status bird species, since suitable habitat for these species does occur in the region and along Agua Caliente Creek and Pequeno Creek. Additionally, indirect impacts to special-status bird species could occur with implementation of the Project. Indirect impacts could include habitat degradation and increased human presence.

MAMMALS

Special-status mammals that occur within the 9-quad region for the Plan area include: American badger, pallid bat, salt-marsh harvest mouse, Suisun shrew, and Townsend's big-eared bat. Of these species, the following have the potential to occur on-site: American badger (low potential), pallid bat (high potential), and Townsend's big-eared bat (moderate potential). Agua Caliente Creek and Pequeno Creek provide some habitat for movement, foraging, and denning of American badger. Potential roosting habitat for pallid bat and Townsend's big-eared bat is located in existing structures and trees in the Plan area. The Plan area could also provide foraging opportunities.

Subsequent development under the Project could result in the direct loss of habitat areas associated with these special-status mammal species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special-status mammal species could occur with implementation of the Project. Indirect impacts could include habitat degradation, increased human presence, and the loss of foraging habitat.

CONCLUSION

Construction and maintenance activities associated with future development projects under the Project could result in the direct and indirect loss or indirect disturbance of special-status plant or wildlife (i.e. amphibian, reptile, fish, bird, or mammal) species or their habitats that are known to occur, or have potential to occur, in the region. Impacts to special-status species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special-status species associated with individual subsequent projects could include:

- increased mortality caused by higher numbers of automobiles in new areas of development;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through construction areas;
- direct mortality resulting from removal of trees with active nests;

- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, and other non-special-status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special-status raptor species; and
- loss of migration corridors resulting from the construction of permanent structures or features.

Subsequent development projects will be required to comply with the County's General Plan and adopted Federal, State, and local regulations for the protection of special-status plants and animals, including habitat. The Sonoma County General Plan includes numerous policies and actions intended to protect special-status plants and animals, including habitat, from adverse effects associated with future development and improvement projects. The Specific Plan includes Measures Bio-A, which requires plant surveys prior to grading in areas along the Agua Caliente Creek corridor and the Pequeno Creek corridor. Measure Bio-B requires avoidance and minimization measures (such as preconstruction surveys, corrective measures, and construction personnel training) for amphibian and reptile species. Measure Bio-C requires compliance with Riparian Corridor Combining Zone provisions to avoid instream impacts to protected fish. Measure Bio-D requires preconstruction surveys and appropriate buffers for bird species. Measure Bio-E requires surveys and buffers for bat maternity roosts if removal of roosting areas would occur during the bat pupping season. While future development of the Plan area has the potential to result in significant impacts to protected special-status plants and animals, including habitat, the implementation of Specific Plan Measures Bio-A through Bio-E as well as Federal and State regulations, would reduce impacts to these resources to a **less than significant** level.

SPECIFIC PLAN COMPONENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Measure Bio-A: *On parcels adjacent to Agua Caliente Creek and Pequeno Creek, future projects subject to a grading permit shall retain a biologist to perform special-status plant surveys. The surveys shall be performed during the floristic season. If any special-status plants are found during the surveys, the project proponent(s) shall contact Permit Sonoma to obtain the appropriate avoidance and minimization measures and shall implement the measures, including throughout project design, construction, and operation, as required. Projects where avoidance or minimization is not feasible are subject to a use permit.*

Measure Bio-B: *Future projects that require a grading permit within the Plan area shall implement the following measures to avoid or minimize impacts on special-status amphibian and reptile species:*

- *Preconstruction surveys for California giant salamander, California red-legged frog, foothill yellow-legged frog, red-bellied newt, and western pond turtle shall be conducted by a qualified biologist in all areas of suitable habitat (e.g., the Agua Caliente Creek Corridor, the Pequeno Creek Corridor, and the upland areas associated with either creek) within 500 feet of project disturbance. Surveys shall be conducted within 24 hours before project disturbance.*

- *If any of these species are found during preconstruction surveys, activities within 200 feet of the find shall cease until appropriate corrective measures have been completed or it is determined by the qualified biologist and County staff, in coordination with USFWS and CDFW, that the species will not be harmed by the continuation of activities. Any sightings or incidental take shall be reported to USFWS and CDFW immediately.*

- *Construction personnel performing activities within aquatic habitats and adjacent uplands to be disturbed by project activities shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize the species, their habitats, and measures being implemented for its protection. Verification shall be provided to County confirming that workers have received environmental awareness training.*

Measure Bio-C: *Future development projects within 100-feet of Agua Caliente Creek or Pequeno Creek shall be subject to the provisions of the Riparian Corridor Combining Zone.*

Measure Bio-D: *Future development projects within the Plan area shall implement the following measures to avoid or minimize impacts to special-status birds that may occur on the site:*

- *Preconstruction surveys for active nests of bank swallow, black swift, burrowing owl, California horned lark, ferruginous hawk, grasshopper sparrow, great blue heron, great egret, northern harrier, Swainson's hawk, western yellow-billed cuckoo, and white-tailed kite shall be conducted by a qualified biologist in all areas of suitable habitat (e.g., open grassland or field areas, larger trees throughout the Plan area, Agua Caliente Creek Corridor, Pequeno Creek Corridor, and the upland areas associated with either creek) within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur during the respective nesting seasons in a given area.*

- *If any active nests, or behaviors indicating that active nests are present, are observed, appropriate buffers around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from project activities. The size of the buffer shall depend on the species, nest location, nest stage, and specific construction activities to be performed while the nest is active. The buffers may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. If buffers are adjusted, monitoring will be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.*

Measure Bio-E: *Future development projects within the Plan area shall implement the following measures to avoid or minimize impacts on special-status bats:*

- *If a project will disturb roosting areas (i.e. buildings, trees, shrubs, bridges, etc.) during the bat pupping season (April 1 through July 31), surveys for active maternity roosts shall be conducted by a qualified biologist. The surveys shall be conducted from dusk until dark.*

- *If a special-status bat maternity roost is located, appropriate buffers around the roost sites shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from habitat removal or other project activities. The size of the buffer shall depend on the species, roost location, and specific construction activities*

to be performed in the vicinity. No project activity shall commence within the buffer areas until the end of the pupping season (August 1) or until a qualified biologist confirms the maternity roost is no longer active.

Impact 3.3-2: Implementation of the Project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant)

Streams, rivers, wet meadows, and vernal pools (wetlands and jurisdictional waters) are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special-status plants, birds, invertebrates, and amphibians. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the CWA.

The Plan area is located in an urban area and the majority of the project site is built out. The only aquatic resources in the Plan area are Agua Caliente Creek and Pequeno Creek. Other known wetlands or other known waters are not present. The Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Agua Caliente Creek crosses the southern portion of the Plan area north of Maxwell Farms. Pequeno Creek crosses the northern portion of the Plan area near Larson Park. Scattered riparian habitat exists along both creeks. Medium Density Residential uses are proposed within the Plan area adjacent to Aqua Caliente Creek, and Mixed Use and Recreation uses are proposed within the Plan area adjacent to Pequeno Creek. The future construction and operation of these uses will be required to comply with all applicable laws and regulations, so as not to disturb existing creek habitat.

Section 404 of the CWA requires any project that involves disturbance to a wetland or water of the U.S. to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the USACE to authorize a disturbance to the wetland. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the CWA ensures that there is "no net loss" of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

There is a chance that water features could be impacted throughout the buildout of the individual projects. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Subsequent development projects will be required to comply with the County General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The Sonoma County General Plan includes numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to

result in significant impacts to protected water features, compliance with existing Federal and State regulations would reduce impacts to these resources. Therefore, this impact is **less than significant**.

Impact 3.3-3: Implementation of the Project may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)

The CNDDB record search revealed three documented occurrences of sensitive habitat within the 9-quad region for the Plan area: Coastal Brackish Marsh, Northern Coastal Salt Marsh, Northern Vernal Pool, and Valley Needlegrass Grassland. However, none of these habitats are documented within the Plan area. While not always documented as a sensitive natural community in the CNDDB, streams, rivers, wet meadows, and vernal pools are of high concern because they provide unique aquatic habitat for many endemic species, including special-status plants, birds, invertebrates, and amphibians.

As noted previously, the Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Agua Caliente Creek crosses the southern portion of the Plan area north of Maxwell Farms. Pequeno Creek crosses the northern portion of the Plan area near Larson Park. Scattered riparian habitat exists along both creeks. Medium Density Residential uses are proposed within the Plan area adjacent to Aqua Caliente Creek, and Mixed Use and Recreation uses are proposed within the Plan area adjacent to Pequeno Creek.

The segments of Agua Caliente and Pequeno Creek that traverse the Plan area are designated with the Riparian Corridor Combining Zone. The Specific Plan will maintain this Combining Zone designation, which generally prohibits ground-disturbing activities within fifty feet of the designated corridors, with certain exceptions where vegetation removal is minimized, minor activities associated with an existing structure are involved, where it is determined that the area has no substantial value for riparian functions, or if a conservation plan is adopted that provides for protection of the riparian functions.

In addition, Section 7-14.5 of the Sonoma County Code establishes stream setbacks for structures requiring a building permit, with minimum setbacks equal to the greatest of 1) two and one-half times the height of the stream bank plus thirty feet, 2) thirty feet outward from the top of the stream bank, or 3) any distance established in the general plan and/or zoning code. Future development project would be subject to these setback requirements, or those of the riparian corridor combining zone, whichever is greater.

The Sonoma County General Plan includes numerous policies intended to protect sensitive natural communities, including riparian habitat, from adverse effects associated with future development and improvement projects. For example, Goal OSRC-8 aims to 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. This goal also includes three objectives and two policies which help implement and meet this goal.

While future development has the potential to result in significant impacts to protected habitats, implementation of the existing county code as discussed above would ensure that this impact is **less than significant**.

Impact 3.3-4: Implementation of the Project may result in interference 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 (Less than Significant)

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species everyday survival. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and use corridors for a greater length of time.

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Plan area. The only recognized movement corridors for wildlife through the Plan area are for aquatic species along creeks and drainages. As noted previously, the Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Development along these riparian corridors are subject to setbacks and construction limitations of the Riparian Corridor Combining Zone as described above, to preserve riparian habitat.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. The Sonoma County General Plan includes numerous policies intended to protect movement corridors from adverse effects associated with future development and improvement projects. For example, General Plan Policy OSRC-7b(1)(d) provides limited direction for ministerial permit applications within the designated corridors, attempting to minimize new fencing designed to exclude wildlife and use of roadway undercrossings and oversized culverts to allow for movement of terrestrial wildlife. Policy OSRC-7e encourages property owners to consult with CDFW and install wildlife friendly fencing in all areas outside urban land use designations. Policy OSRC-7i calls for a comprehensive study of habitat fragmentation, connectivity loss, and the effects of exclusionary fencing on wildlife movement.

While future development projects have the potential to result in significant impacts to protected movement corridors, the implementation of existing riparian corridor protections would limit impacts to these resources to a **less than significant** level.

Impact 3.3-5: Implementation of the Project may result in conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

The Sonoma County General Plan and Municipal Code contain local policies and ordinances which aim to protect biological resources within the County, including the Plan area. Specifically, the Conservation and Open Space Element of the General Plan establishes numerous policies related to biological resources, which are listed below. Additionally, the Sonoma County VOH Combining District establishes mitigation requirements for removal of large valley oak trees. Further, the Tree Protection Ordinance and Heritage or Landmark Tree Ordinance regulate the removal of protected, heritage or landmark trees. Consistency with the Conservation and Open Space Element and the Tree Ordinances is discussed below.

GENERAL PLAN OPEN SPACE AND RESOURCE CONSERVATION ELEMENT POLICIES

Policy OSRC-7c: Notify discretionary and ministerial permit applicants of possible requirements of Federal and State regulatory agencies related to jurisdictional wetlands or special status species.

- ***Consistent****: Future applicants within the Plan area would be subject to all Federal, State, and local requirements related to jurisdictional wetlands or special status species.*

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.

- ***Consistent****: The majority of the Plan area is built out and contains urban habitat. Future development projects within the Plan area would be subject to existing local policies, such as the County's Tree Ordinance, which contain specific tree replacement requirements. Additionally, the Project includes Design Guidelines and policies which encourage the use of native vegetation and trees.*

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.

- ***Consistent****: The Specific Plan Design Guidelines encourage the use of native plants and discourage the use of non-native plants. The Design Guidelines also require the use of native riparian vegetation in or adjacent to a riparian corridor.*

Policy OSRC-8f: Develop and/or adopt, where appropriate, revised streamside specific standards, guidelines, and/or best management practices that provide for protection of Riparian Corridors by watershed, stream, or other geographic areas. Once adopted, the revised standards would replace the standards that are in effect at the time.

- ***Consistent**: The Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Agua Caliente Creek crosses the southern portion of the Plan area north of Maxwell Farms. Pequeno Creek crosses the northern portion of the Plan area near Larson Park. These creeks are designated "Riparian Corridors". Future development within the Plan area would be subject to the Riparian Corridor ordinance and all Federal, State, and other local requirements related to streams and waterways.*

Policy OSRC-8i: As part of the environmental review process, refer discretionary permit applications near streams to CDFG [CDFW] and other agencies responsible for natural resource protection.

- ***Consistent**: As noted above, Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek which are located in the Plan area. The County would refer future permit applications near streams to the CDFW and any other agency or agencies which is responsible for natural resources protection. Future development within the Plan area would be subject to all Federal, State, and local requirements related to streams and waterways.*

TREE PROTECTION ORDINANCE

The Tree Protection Ordinance, Section 26-88-010(m) of County Code, requires construction standards to be put in place to ensure the protection of certain defined "protected species" of trees on project sites.

- ***Consistent**: The standards outlined in the code would continue to apply to discretionary projects within the plan area. The adoption of the plan would not remove or modify these existing protections and all discretionary projects would continue to be subject to the protections afforded by this Tree Protection Ordinance*

HERITAGE OR LANDMARK TREE ORDINANCE

Chapter 26D of the Sonoma County Code outlines the County's Heritage or Landmark Tree Ordinance. According to the Code, no person shall remove a heritage or landmark tree without obtaining a tree permit as outlined in Section 26D-5 and as exempted under Section 26D-6. A "Landmark tree" means a tree or grove of trees so designated by the Sonoma County Board of Supervisors because of its outstanding characteristics in terms of size, age, rarity, shape or location. A "Heritage tree" means a tree or grove of trees so designated by the Sonoma County Board of Supervisors because of historical interest or significance.

- ***Consistent**: Trees protected by this ordinance must be designated as protected trees by the Board of Supervisors. No such trees have been designated within the plan area at this time. Should a tree or grove of trees be designated in the future, such trees will be protected by the ordinance and any potential work or request to remove such trees must adhere to the requirements of the ordinance.*

VOH COMBINING DISTRICT

As noted previously, Article 67 of the Sonoma County Code establishes the VOH Combining District. The Article outlines mitigation requirements for cutting down or removing valley oaks within the VOH district. Additionally, where any development project within the VOH district is subject to design review pursuant to another provision of the Article, the design review approval shall include

measures to protect and enhance valley oaks on the project site in accordance with guidelines adopted by resolution or ordinance of the board of supervisors.

- ***Consistent****: Limited portions of the Plan area are located in the VOH district. The portions of the Plan area within the district generally include the area west of Highway 12 and north of Maxwell Farms Regional Park and some area near Sonoma Charter School. Existing trees are located in the Plan area, including these VOH district areas. Some of these existing trees may qualify as "large valley oaks". Based upon the wide scope of the Project, development of detailed, site-specific information regarding potential large valley oaks and their possibility for removal is not feasible. Subsequent development projects will be required to comply with the County's Municipal Code regulations, including the mitigation requirements set forth in Article 67of the County Code, or the VOH Combining District. For example, a future project applicant for development within the VOH district areas of the Specific Plan would be required to replace any large valley oak, or small valley oaks having a cumulative diameter at breast height greater than sixty inches, which require removal in accordance with mitigation requirements outlined in the Code.*

CONCLUSION

Adoption of the Project would not conflict with local policies or ordinances protecting biological resources. The Specific Plan itself does not conflict with the policies contained in the County's General Plan. Subsequent development projects will be required to comply with the General Plan policies, as well as the County Code. Implementation of the County's General Plan policies and the Project's proposed Specific Plan Design Guidelines would ensure consistency with already established ordinances. This is a **less than significant** impact.

Impact 3.3-6: Implementation of the Project may result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

The Plan area is not subject to an adopted habitat conservation plan or natural community conservation plan. Therefore, implementation of the Project would have **no impact** relative to this topic.

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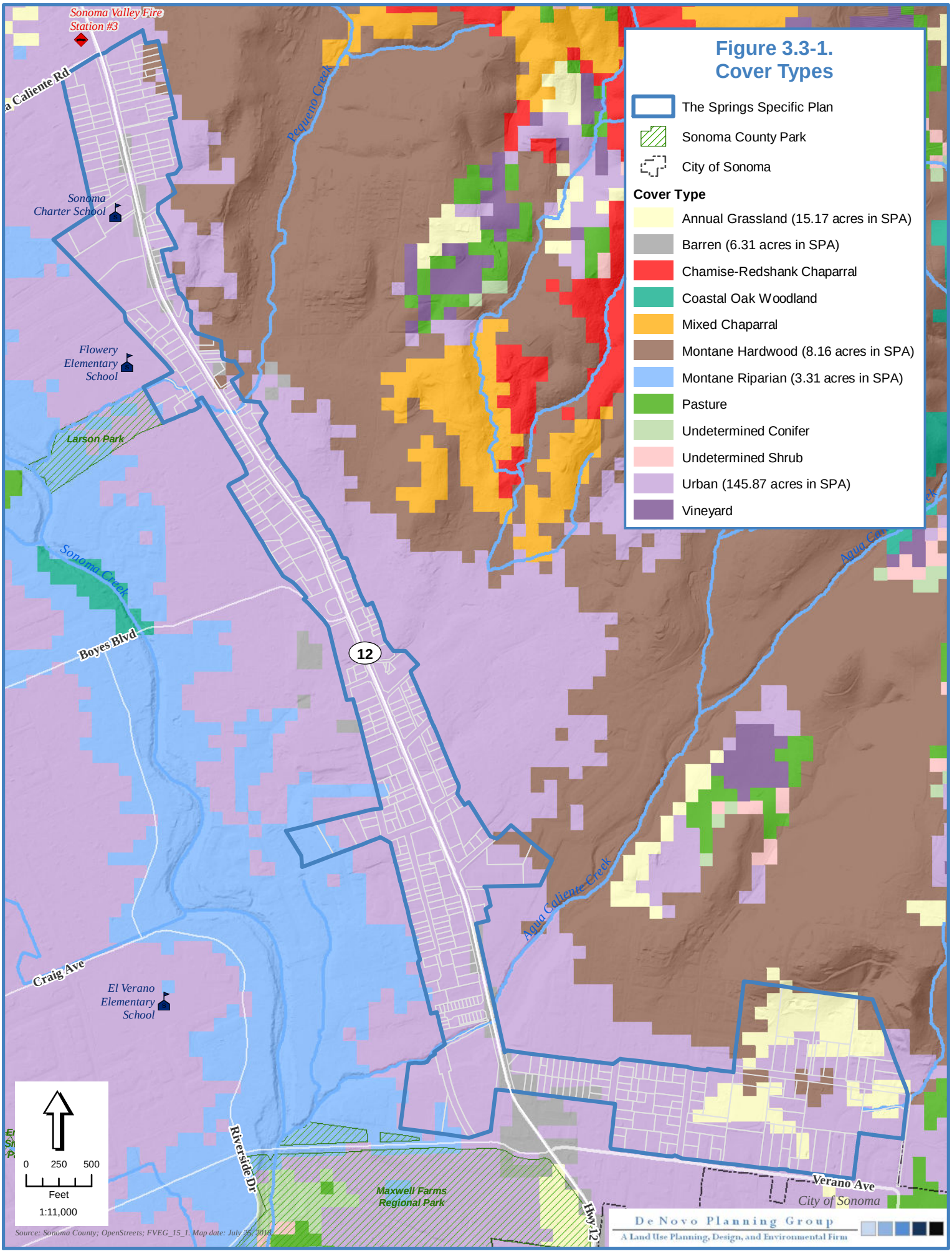
Figure 3.3-1.
Cover Types
The Springs Specific Plan
Sonoma County Park
City of Sonoma
Cover Type
Annual Grassland (15.17 acres in SPA)
Barren (6.31 acres in SPA)
Chamise-Redshank Chaparral
Coastal Oak Woodland
Mixed Chaparral
Montane Hardwood (8.16 acres in SPA)
Montane Riparian (3.31 acres in SPA)
Pasture
Undetermined Conifer
Undetermined Shrub
Urban (145.87 acres in SPA)
Vineyard
Sonoma Valley Fire Station #3
a Caliente Rd
Pequeno Creek
Sonoma Charter School
Flowery Elementary School
Larson Park
Sonoma Creek
Boyes Blvd
12
Agua Caliente Creek
Craig Ave
El Verano Elementary School
Riverside Dr
Maxwell Farms Regional Park
Verano Ave
City of Sonoma
Hwy 12
0 250 500
Feet
1:11,000
Source: Sonoma County; OpenStreets; FVEG_15_1. Map date: July 25, 2018
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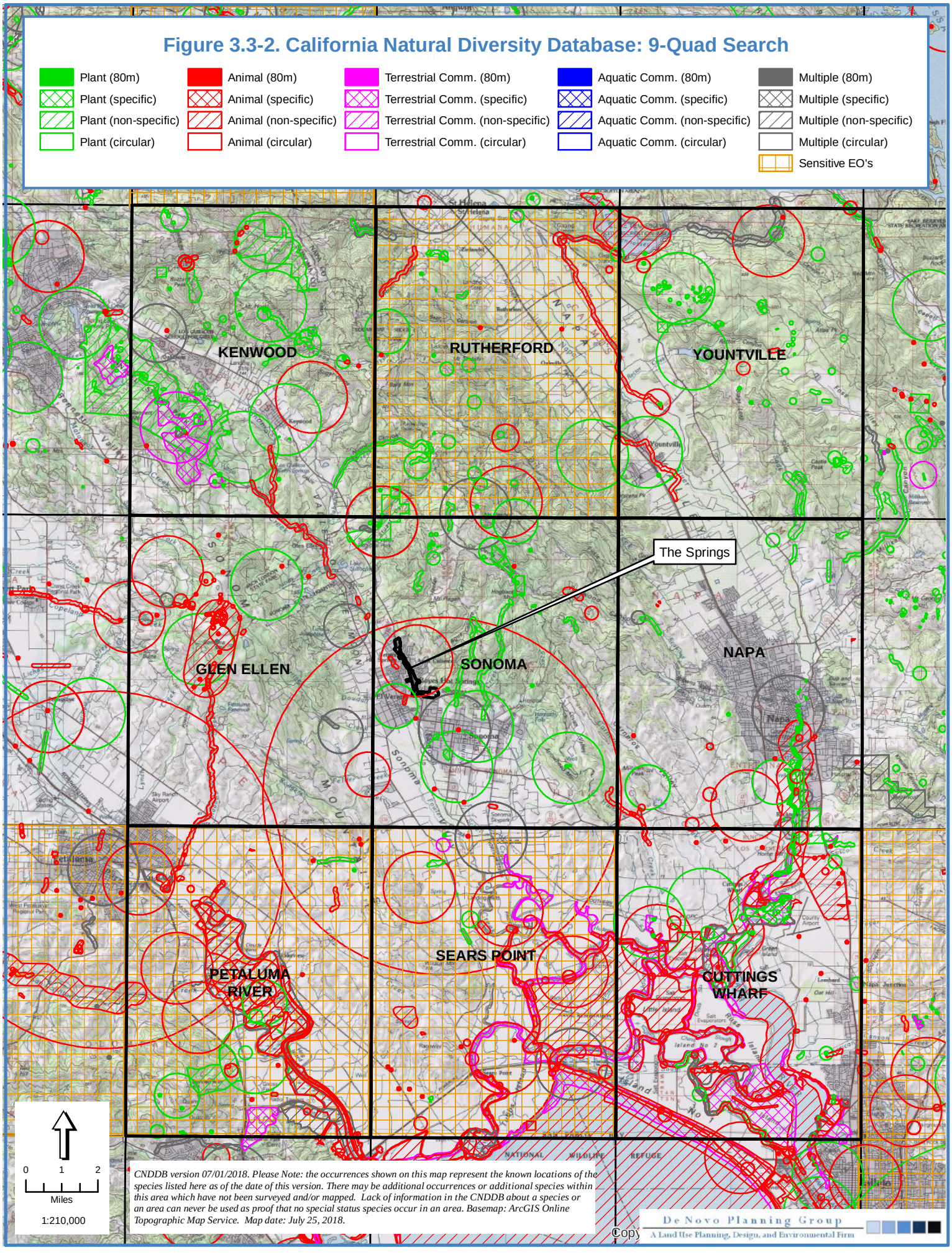
Figure 3.3-2. California Natural Diversity Database: 9-Quad Search



CNDDB version 07/01/2018. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap: ArcGIS Online Topographic Map Service. Map date: July 25, 2018.

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This section has been prepared in accordance with CEQA Guidelines Section 15064.5 and provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. Information in this section is derived primarily from the Cultural Resource Assessment for the Springs Specific Plan, Sonoma County, California (Peak & Associates, Inc., 2016). Potential impacts to tribal resources are addressed in Section 3.15, Tribal Cultural Resources.

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.4.1 ENVIRONMENTAL SETTING

ACRONYMS

AB	Assembly Bill
CHRIS	California Historical Resources Information System
CRHR	California Register of Historic Resources
HABS	Historic American Building Survey
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
PRC	Public Resources Code
PQS	Professional Qualifications Standards
SB	Senate Bill
SOI	Secretary of the Interior
USGS	U.S. Geological Survey
XPI	Extended Phase I

PREHISTORY

Four primary prehistorical patterns are generally recognized in the North Coast Ranges. The earliest pattern is the Borax Lake Pattern; the millingstone (i.e. metate) and mano are common in this period and sites from this period are often located above 5000 feet. The Mendocino Aspect began no earlier than 3000 B.C. and was characterized by Concave Base and Willits Side Notch projectile points, manos and metates, and also the mortar and pestle. Sites generally occur in low elevation. The late Borax Lake Aspect, which continued to occupy the northern end of the lake, was characterized by Wide Stem and Concave Base points and manos and metates, with no mortar and pestle. Around 1 B.C., on the east side of the lake basin, the Mendocino Aspect is replaced or assimilated by the Houx Aspect of the Berkeley Pattern, which emanated from the shores of San Francisco Bay to the south. The Houx Aspect completely replaced the Mendocino Aspect, identified by Meighan in 1955, in southern Sonoma County. However, within northern Sonoma County there is a mixture of Houx Aspect and Mendocino Aspect traits. The characteristic artifacts of the Houx Aspect of the Berkeley Pattern are the Excelsior point series, Houx Wide Stems, "burinated flakes," and the heavy use of the bowl mortar and pestle. The Houx Aspect endured until the beginning of the Emergent Period -- circa A.D. 500. The Emergent Period was characterized by changes consisting of relative, if not absolute, population increase due to influxes of new peoples and a reduced resource base. The adaptive strategy changed from "foraging" to "collecting." The Emergent Period is characterized by the appearance of small comer-notched, side-notched, and triangular

projectile points; the hopper mortar and pestles; clam shell disc beads; and smoking pipes -- all traits of the Augustine Pattern.

ETHNOLOGY

The Coast Miwok at time of contact by Europeans had a territory that extended from modern day Marin County north into southern Sonoma County, including the Springs Specific Plan area (Plan area). Ethnographic studies conducted in the early part of the 20th century identified a number of named village sites including one within The Springs Study Area, *huchi*, and two others, *wuki liwa* and *temblek,* in the immediate vicinity.

There is extensive coastline in this territory and resources from the sea and salt marshes were important in Coast Miwok subsistence, however, the resources available in the interior of their territory were by no means ignored. Sea mammals were not part of the diet but various species of fish were taken with nets, seines, weirs, spears and line-with-gorge technologies, as appropriate. Even more important in the diet were clams and some species of mussel, resulting in the characteristic coastal shell middens familiar through archeology.

Villages were located to facilitate access to food resources at various times of year. The Coast Miwok moved among residences on the coast, around salt or freshwater marshes and on interior streams so that they would be close to the most abundant food supply available at a particular season. Dwellings were conical brush-on-frame structures capable of sheltering up to ten individuals. Other structures included semi-subterranean sweathouses which served as something of a men's club, and--at major villages--a dance house for religious ceremonies. The dance house was basically the same construction as the sweathouse only larger. An excavation about two feet deep and fifteen in diameter formed the floor and a timber framework supported a brush dome capped with earth.

Archeology has provided an extensive collection of the stone tools that were used, but it is clear from ethnology that basketry and cordage were used for the majority of utilitarian objects. These materials do not preserve well, so they are uncommon in archeological sites. Basket making was a highly developed skill and baskets were woven tightly enough to hold water and cooking of acorn mush was accomplished by dropping hot rocks into baskets containing the mush. Cordage was used for the variety of nets used in taking fish, birds and small mammals.

In terms of socio-political organization, the term Coast Miwok is primarily a convenience for anthropologists, denoting a group speaking the same language and occupying a contiguous territory. In fact, there was no overall political control of this group and the real basis of social organization was the main village. Within the village group, close ties were maintained through the extensive religious/ceremonial life and through kinship ties.

Through much of aboriginal California, shell beads served as a form of currency. As a coastal people, the Coast Miwok had access to the raw material and bead manufacture was an important industry because it provided currency to trade for goods from neighboring groups. The Coast Miwok used imported obsidian in making arrowheads and other edged tools and chert to form more utilitarian edged implements.

HISTORIC PERIOD BACKGROUND

The Springs Study Area in Sonoma County lies within a region of early settlement, important events and famed early citizenry. The history has been told in a number of sources; this summary is a brief synopsis of the history of this area.

Historical Settlement

In 1823, Father Altamira travelled to Sonoma to select a mission site. The new mission in Sonoma was named for St. Francis Solano, a Franciscan missionary to the New World who died in Peru in 1610. This was the last of the 21 California missions to be built, and the most northerly.

In 1833, Governor Figueroa initiated a plan to settle Marin and Sonoma counties. In 1835, the Plaza de Sonoma was founded by Vallejo at Mission San Francisco Solano. Vallejo laid out the new pueblo around a plaza. The plaza was used by the soldiers assigned to defend the settlement for a drilling ground from 1835-1846. Vallejo's home, barracks and a number of adobes were built around the plaza in the 1840s. The lands of the Pueblo of Sonoma totaled 5,872 acres, with ownership confirmed in 1851.

A portion of Plan area lies on lands of Rancho Petaluma. This was the land grant made to General Vallejo in 1843 by Governor Micheltorrena. The grant originally consisted of ten leagues of land, with an additional five leagues given to him in 1844. The patent to the lands was finally confirmed in 1873. On the rancho lands, Vallejo built a large adobe.

Extending northward from the lands of the Pueblo de Sonoma is the land grant of Rancho Agua Caliente. Governor Alvarado had awarded this land grant along Sonoma Creek to Lazaro Piña in 1840. General Vallejo purchased part of this land grant, with Thaddeus Leavenworth acquiring the portion of the grant closet to Sonoma. Leavenworth had come to California as chaplain with Stevenson's Regiment of New York Volunteers.

Many American settlers in the Sacramento Valley and adjacent areas had become aware of the danger of being driven from their holdings by the Mexican Army. Encouraged by General John Fremont, 33 men surprised General Vallejo at Sonoma and took possession of the outpost on June 14, 1846. Vallejo and his brother, Salvador, were taken prisoner and held at Sutter's Fort for two months. The Bear Flag of the California Republic was created and flown over the community since the American flag could not be raised in Sonoma, as the actions of the Bear Flaggers was not authorized by the U.S. government. On July 9, 1846, the United States flag was raised to replace the Bear Flag.

Sonoma County

Sonoma County was one of the original 27 counties in California. Development began in the region, with the small community of Agua Caliente established by 1877. Much of the remainder of the Plan area was held as portions of larger tracts of land, apparently in agricultural use for orchards and vineyards (Thompson 1877).

Boyes Hot Springs/Fetters Hot Springs

The commercial appeal of the hot springs in the area was recognized early in time. In 1895, H.E. Boyes recognized the commercial appeal of the 112-degree water he tapped while drilling a well. Five years later, he had built the Boyes Hot Springs Hotel where the Sonoma Mission Inn stands today. The

destination was quickly dubbed the finest hot mineral resort in California, and bestowed with rumors of curative powers (Kyle 2002).

Soon thereafter, George and Emma Fetters opened the Fetters Hot Springs resort near the community of Agua Caliente. Eventually, a number of hotels grew up in the region, with the heyday of the resorts in the 1920s. The area became known as "The Springs."

The Railroads

The construction of a rail line through the area brought economic benefits to the region. By 1877, there were two railroads in the area: the San Francisco and North Pacific Railroad, extending through the study area from Glen Ellen southward, through Sonoma and the Southern Pacific Railroad line, which paralleled the San Francisco and North Pacific Railroad, crossing the line north of The Springs and crossing Sonoma Creek, running on the west side of the creek. Both lines were still in operation in 1916, with the line through The Springs identified as the Northwestern Pacific (Santa Rosa U.S. Geological Survey [USGS] 1:62,500 map).

At some point after 1916, the Southern Pacific acquired the NWP line, and by the time the 1941 Sonoma topographic map was issued by the U.S. Army, the Southern Pacific line utilized the route of the San Francisco and North Pacific Railroad through the Plan area, with the line on the west side of the Sonoma Valley no longer in existence. The railroad provided quick shipping for the agricultural products of the region.

Canneries, wineries and fruit drying companies grew up in the area as major industries. The railroad also provided transportation for the lumber industry to the west, and a number of basalt quarries in the region.

Development of the Region

The 1941 U.S. Army topographic map that includes the Plan area shows scattered buildings, with a concentration of development in the area of the town of Agua Caliente. In the post-World War II era of the late 1940s, there was a major surge in development with large identified communities at Fetters Hot Springs and Boyes Hot Springs (Sonoma USGS topographic map 1951). By 1980, most of the northern and central portions of the study area had been developed, with the addition of commercial buildings and residential properties (Sonoma USGS topographic map 1980).

CULTURAL RESOURCES IN THE PLAN AREA

"Cultural resources" encompass archaeological, Native American, traditional, and built environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites.

As defined in Section 15064.5 of the CEQA Guidelines, "historical resources" includes the following:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historic Resources (CRHR) (Pub. Res. Code §5024.1, Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or

culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. 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 (Pub. Res. Code, § 5024.1, Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) 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; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

(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 Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

CEQA requires that the lead agency determine if there are historical resources within a project area that are listed in the California Register of Historical Resources, or if additional properties not yet listed may be historical resources or legally defined unique archaeological sites for purposes of CEQA. If so, the lead agency must then determine if the proposed project has the potential to impact those resources.

Seventeen cultural resources have been identified within the Plan area, according to files maintained by the Northwest Information Center (Information Center) of the California Historical Resources Information System (CHRIS). The CHRIS records search identifies buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to the Information Center. Out of the 17 resources, 15 are buildings, and two are archaeological sites. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of Eligibility list. In addition, none are listed on the California Register of Historical Resources or the National Register of Historic Places (NRHP). Cultural resource information is generally considered confidential (California State Government Code Section 6254.10); the Peak & Associates, Inc., 2016 report is on file at the Information Center. For specific information regarding cultural resources, see The Springs Specific Plan Existing Conditions Report (December 2016).

Nineteen additional buildings within Plan area are identified on the Sonoma County Historic Property Data File Directory (see Table 3.4-1). All of the buildings listed in Table 3.4-1 were previously determined to be ineligible for the National Register. Additionally, two properties within the Plan area are designated

landmarks and are zoned Historic Combining District: 17348 Highway 12/213 Depot Road (Assessor's Parcel Number 056-201-052) and 17341 Highway 12 (Assessor's Parcel Number 056-251-038).

TABLE 3.4-1: BUILDINGS LISTED ON THE SONOMA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

PROPERTY #	*ADDRESS*	*YEAR BUILT*
113353	590 Verano Avenue, Sonoma	1950
113356	600 Verano Avenue, Sonoma	1955
113357	610 Verano Avenue, Sonoma	1955
113359	620 Verano Avenue, Sonoma	1955
113362	630 Verano Avenue, Sonoma	1955
113363	634 Verano Avenue, Sonoma	1975
113365	640 Verano Avenue, Sonoma	1965
113367	676 Verano Avenue, Sonoma	1955
113368	680 Verano Avenue, Sonoma	1955
113369	700 Verano Avenue, Sonoma	1966
113373	766 Verano Avenue, Sonoma	1955
113374	770 Verano Avenue, Sonoma	1955
113375	782 Verano Avenue, Sonoma	1955
113376	790 Verano Avenue, Sonoma	1955
089320	870 Verano Avenue, Sonoma	1925
113384	876 Verano Avenue, Sonoma	1980
113386	880 Verano Avenue, Sonoma	1970
113387	890 Verano Avenue, Sonoma	1980
113388	896 Verano Avenue, Sonoma	1980

SOURCE: SONOMA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

3.4.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the NRHP. The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American history.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

"Historic properties" is a term defined by the National Historic Preservation Act as any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the NRHP, including artifacts, records, and material remains related to such property

National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
>
> *(B) that are associated with the lives of persons significant in our past; or*
>
> *(C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
>
> *(D) that have yielded, or may be likely to yield, information important in prehistory or history.*

STATE

California Register of Historic Resources

The CRHR was established in 1992 and codified in the Public Resource Code Section 5024.1. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CEQA Guidelines Section 15064.5(a) and Public Resources Code Sections 21083.2 and 21084.1.

Cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Per Public Resources Code Section 5024.1, a cultural resource may be eligible for listing on the CRHR if it meets any of the following NRHP criteria:

- *is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
- *is associated with the lives of persons important in our past;*
- *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; or*
- *has yielded, or may be likely to yield, information important in prehistory or history*.

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.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines Section 15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration in an adverse manner of a historical resource, including archaeological sites, is generally considered a significant impact.

CEQA also provides for the protection of Native American human remains (CEQA Guidelines Section 15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001, et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, it may nonetheless be classified a "unique archaeological resource" as outlined in Public Resources Code Section 21083.2(g), if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- it has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- it is directly associated with a scientifically recognized important prehistoric or historic event or person.

If the lead agency determines that a project may have a significant effect on a unique archaeological resource, the environmental impact report prepared for the project must address the issue of that resource, per Public Resources Code Section 21083.2(a).

LOCAL

Sonoma County General Plan

The existing Sonoma County General Plan identifies the following goals, objectives, and policies related to cultural resources:

OPEN SPACE & RESOURCE CONSERVATION ELEMENT

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.

Objective OSRC-19-6: Develop and employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archaeological resources and Native American cultural resources, sacred sites, places, features, or objects.

Policy OSRC-19a: Designate the County Landmarks Commission to review projects within designated historic districts.

Policy OSRC-19b: Refer proposals for County Landmark status and rezonings to the Historic Combining District to the County Landmarks Commission.

Policy OSRC-19c: The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.

Policy OSRC-19d: Include a list of historic structures proposed for designation as County landmarks in Specific or Area Plans or Local Area Development Guidelines and refer the list to the Landmarks Commission for their recommendations.

Policy OSRC-19e: Refer applications that involve the removal, destruction or alteration of a structure or cemetery identified in a historic building survey to the Landmarks Commission for mitigation. Measures may include reuse, relocation, or photo documentation.

Policy OSRC-19f: Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.

Policy OSRC-19g: Pursue grant funding for the preparation and updating of historic resource inventories.

Policy OSRC-19h: Designate the County Landmarks Commission to administer a preservation program for stabilization, rehabilitation, and restoration of historic structures.

Policy OSRC-19i: Develop a historic resources protection program that provides for an ongoing process of updating the inventory of historic resources. Such a program should include:

(1) Periodic historic building surveys,

(2) Formalized recognition of the inventory of historic resources as recommended by the State Office of Historic Preservation, including rezoning to the Historic Combining District (HD), and
(3) Procedures for the protection of recognized historic resources for both ministerial and discretionary projects.

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, and
(3) Educational materials for the building industry and the general public on the identification and protection of such resources.

Policy OSRC-19k: Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.

Policy OSRC-19l: If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area**.**

Policy OSRC-19m: Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.

Policy OSRC-19n: Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

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:

- that are associated with events that have made a significant contribution to the broad patterns of our history
- that are associated with the lives of persons significant in our past
- 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
- 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 religious property deriving primary significance from architectural or artistic distinction or historical importance
- 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
- 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
- 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
- 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
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance
- A property achieving significance within the past 50 years, if it is an important element to the environment of a particular community.

Sonoma County Code Section 11.14.050

Section 11.14.050, Protection of human remains and archaeological resources, outlines steps to follow should human remains of archaeological resources be discovered during construction, grading, or drainage activities. Specifically, the codes states:

"Where human remains or archaeological resources are discovered during construction grading and drainage, all work shall be halted in the vicinity of the find, the director shall be notified, and the following shall occur before work may be resumed:

A. Human remains. If human remains or suspected human remains are discovered, the permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code section 7050.5 and Public Resources Code section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains.

B. Archaeological resources. If archaeological resources or suspected archaeological resources are discovered, the director shall notify the State Historic Preservation Officer and the Northwest Information Center at Sonoma State University, and the permittee shall retain a qualified archeologist to evaluate the find to ensure proper disposition of the archaeological resources or suspected archaeological resources. All costs associated with the evaluation and mitigation of the find shall be the responsibility of the permittee. The director shall provide notice of the find to any tribes that have been identified as having cultural ties and affiliation with the geographic area in which the archaeological resources or suspected archaeological resources were discovered, if the tribe or tribes have requested notice and provided a contact person and current address to which the notice is to be sent. The director may consult with and solicit comments from notified tribes to aid in the evaluation, protection, and proper disposition of the archaeological resources or suspected archaeological resources. The need for confidentiality of information concerning the archaeological resources or suspected archaeological resources shall be recognized by all parties. For the purposes of this section, archaeological resources include historic or prehistoric ruins, burial grounds, pottery, arrowheads, midden, or culturally modified soil deposits. Artifacts associated with prehistoric ruins include humanly modified stone, shell, bone, or other cultural materials such as charcoal, ash, and burned rock indicative of food procurement or processing activities. Prehistoric domestic features include hearths, fire pits, or floor depressions; mortuary features are typically represented by human skeletal remains."

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5

- Disturb any human remains, including those interred outside of formal cemeteries

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Implementation of the Project has the potential to cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5. (Less than Significant)

The Plan area is located in an area known to have historical cultural resources. Seventeen cultural resources have been identified within the Plan area, according to files maintained by the Northwest Information Center (Information Center) of the CHRIS. The CHRIS records search identifies buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to the Information Center. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of Eligibility list. In addition, none are listed on the CRHR or the NRHP.

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance of an archaeological, historic, or tribal cultural resource or the discovery of a previously unknown archaeological, historical, or tribal cultural resource.

The Sonoma County General Plan includes policies that would reduce impacts to cultural, historic, and archaeological resources, as well as policies for the conservation of cultural, historic, and archaeological resources. These relevant policies are listed above under Section 3.4.2, Regulatory Setting provide a robust framework for ensuring that effects on significant historic, archaeological and tribal cultural resources are reduced. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 (see above) of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

Development facilitated by the project could impact presently unknown historical resources at these sites through demolition, construction, and reconstruction activities associated with the project. The Specific Plan includes Measure Cult-A and Cult-B, which require an architectural history evaluation and mitigations respectively for discretionary projects, and calls for a cultural resources survey for project areas that contain or are sensitive for cultural resources. With implementation of Specific Plan Measures Cult-A and Cult-B, this impact would be **less than significant**.

SPECIFIC PLAN COMPONENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Measure Cult-A: 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 Measure Cult-B.

***Measure Cult-B: Architectural History Mitigation**: If historical resources are identified in an area proposed for redevelopment as the result of the process described in Measure Cult-A, 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.

Impact 3.4-2: Implementation of 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 resources, including those that qualify as historical resources. (Less than Significant)

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, though this potential is expected to be low based on evaluation the Cultural Resource Assessment for the Springs Specific Plan, Sonoma County, California (Peak & Associates, Inc., 2016). Implementation of Specific Plan Measures Cult-C through Cult-I would reduce impacts to archaeological resources to less than significant levels by ensuring the avoidance of archeological 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. With these Specific Plan measures, the impacts would be reduced to a **less than significant** level.

SPECIFIC PLAN COMPONENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

***Measure CULT-C 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.

Measure Cult-D 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 (Measure Cult-C), 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 Measure TCR-C. If applicable, a Native American monitor shall be present in accordance with Measure TCR-D.*

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.

Measure Cult E Archaeological Site Avoidance: *Any identified archaeological sites (determined after implementing Measures Cult-C and/or Cult-D) 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.*

Measure Cult F Phase II Site Evaluation: *If the results of any Phase I and/or XPI (Measures Cult-C and/or Cult-D) indicate the presence of archaeological resources that cannot be avoided by the project (Measure Cult-E) 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 Measure TCR-C. If applicable, a Native American monitor shall be present in accordance with Measure TCR-D.*

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 Measure TCR-D) 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.

***Measure Cult-G Phase III Data Recovery:** Should the results of the Phase II site evaluation (Measure Cult-F) yield resources that meet CRHR significance standards and if the resource cannot be avoided by project construction in accordance with Measure Cult-E, 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 Measure TCR-C. If applicable, a Native American monitor shall be present in accordance with Measure TCR-D.*

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.

***Measure Cult-H Cultural Resources Monitoring:** If recommended by Phase I, XPI, Phase II, or Phase III studies (Measures Cult-C, Cult-D, Cult-F, and/or Cult-G), the project applicant shall retain a qualified archaeologist to monitor project- related, ground-disturbing activities. If archaeological resources are encountered during ground- disturbing activities, Measures Cult-E through Cult-G shall be implemented, as appropriate. The archaeological monitor shall coordinate with any Native American monitor as required by Measure TCR-D.*

***Measure Cult-I 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 Measures TCR-A through TCR-D 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.

Impact 3.4-3: Implementation of the Project has the potential to disturb human remains, including those interred outside of dedicated formal cemeteries. (Less than Significant)

Indications are that humans have occupied Sonoma County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, dedicated burials. Regulations at the state and local levels 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 measures identified above, program and project impacts would be less than significant.

Compliance with existing regulations described above 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 in the Plan Area.

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This section provides a background discussion of the seismic and other geologic and soil hazards found in the Springs Specific Plan area (Plan area) and the regional vicinity. This section is organized with an existing setting, regulatory setting, and impact analysis.

There were no comments received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic. As discussed in the NOP for the proposed Springs Specific Plan, there are no known mineral resource lands, including locally-important mineral recovery sites, within the Plan area. The Project would have no impact on mineral resources.

3.5.1 ENVIRONMENTAL SETTING

ACRONYMS

ABAG	Association of Bay Area Governments
CBSC	California Building Standards Code
Kw	Erosion Factor
ML	Local Magnitude
MM	Modified Mercalli Scale
Mw	Moment Magnitude
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Natural Resource Conservation Service
USGS	United States Geological Service

REGIONAL GEOLOGY

Sonoma County's complex geology can be explained, in part, by the historical geological processes in the Coast Range. These geologic processes include volcanic, erosion, sedimentation, and tectonic processes. The formation of mountains with parallel valleys in Sonoma County is a result of the collision of the North American Plate with the Pacific Plate. The San Andreas Fault system forms the border of these two tectonic plates. This fault system is more than 600 miles long, extending from Pt. Arena to the Gulf of California, and is located along the western boundary of the County, just 25 miles west of the Springs Specific Plan area. The San Andreas Fault system is responsible for the structural alignment and orientation of the mountains and valleys in the Coast Range.

The topography in Sonoma County is varied, including several mountain ranges, distinctive valleys, and coastal terraces. The geology is quite complex and is continually evolving because of its location at an active plate margin. 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.

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 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.

FAULTS

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement (California Geological Survey, 2002). These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years; and
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive. (California Geological Survey, 2002).

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

There are no known active or potentially active faults located within the Plan area. However, there are numerous faults located in the region. Figure 3.5-1 illustrates the location of nearby faults. Below is a brief summary of the most notable faults in the regional vicinity:

- **San Andreas Fault System**: The San Andreas Fault system is an active fault located approximately 25 miles west of the Plan area. The fault generally follows a northwest to southeast line and is capable of an 8.0 magnitude earthquake. Major seismic events along this fault were recorded on April 18, 1906 (in the Northern segment) and on January 9, 1857 (in the Mojave segment). The most recent seismic event along this fault was the 1989 Loma Prieta earthquake, which occurred on October 18, 1989. The Loma Prieta earthquake registered at a magnitude 6.9, and was felt as far away as San Diego and western Nevada (California Geological Survey, 2002).

- **Rodgers Creek Fault:** The Rodgers Creek Fault is an active fault located approximately 3.5 miles to the west of the Plan area. The fault generally follows a path that is parallel to the San Andreas Fault and is capable of a 7.0 magnitude earthquake.
- **Healdsburg Fault:** The Healdsburg Fault is an active fault located to the northwest of the Plan area. The fault generally follows a path that is parallel to the San Andreas Fault and is capable of a 7.5 magnitude earthquake. The last reported event was recorded on 1969.
- **Mayacama Fault**: The Mayacama Fault is an active fault located to the northwest of the Plan area. The fault generally follows a path that is parallel to the San Andreas Fault and is capable of a 7.5 magnitude earthquake.
- **Bennet Valley Fault**: The Bennett Valley Fault is a well-constrained fault northwest of the Plan area. This fault is associated with northeastward partitioning of slip between the Rodgers Creek and the Mayacama Fault Zones. Surface expression of this fault zone is obscured by landslides in many places.
- **West Napa Fault:** The West Napa fault, located approximately 5 miles east of the Plan area, is associated with an approximately 57-km-long zone of late Quaternary deformation that trends along the western margin of the Napa Valley near the City of St. Helena to the Carquinez Strait. Geologists from UC Davis now warn that the West Napa Fault, which in 2014 triggered the Bay Area's strongest earthquake in the past 25 years (6.0 magnitude), is longer and quicker-moving than previously thought.

SEISMIC HAZARDS

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. The following table (Table 3.5-1) represents effects that would be commonly associated with Richter Magnitudes:

TABLE 3.5-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	*EFFECTS*
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles

SOURCE: ASSOCIATION OF BAY AREA GOVERNMENTS, 2011.

Moment Magnitude (Mw) is used by the United States Geological Service (USGS) to describe the magnitude of large earthquakes in the U.S. The value of moment is proportional to fault slip multiplied by the fault surface area. Thus, moment is a measurement that is related to the amount of energy released at the point of movement. The Mw scale is often preferred over other scales, such as the Richter, because

it is valid over the entire range of magnitudes. Moment is normally converted to Mw, a scale that approximates the values of the Richter scale.

Seismic ground shaking hazards are calculated as a probability of exceeding certain ground motion over a period of time, usually expressed in terms of "acceleration." The acceleration of the Earth during an earthquake can be described in terms of its percentage of gravity. For example, the 10% probability of exceedance in 50 years is an annual probability of 1 in 475 of being exceeded each year. This level of ground shaking has been used for designing buildings in high seismic areas. This probability level allows engineers to design buildings for larger ground motions than what is expected to occur during a 50-year interval, which will make buildings safer than if they were only designed for the ground motions that are expected to occur in the next 50 years.

In contrast, other scales describe earthquake intensity, which can vary depending on local characteristics. The Modified Mercalli Scale (MM) expresses earthquake intensity at the surface on a scale of I through XII. The following table (Table 3.5-2) represents the potential effects of an earthquake based on the Modified Mercalli Intensities.

TABLE 3.5-2: MODIFIED MERCALLI INTENSITIES AND EFFECTS

MM	*EFFECTS*
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; Windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; Many items fall from shelves, pictures fall from walls
VII	Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks
VIII	Difficulty steering vehicles; Houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; Some bridges destroyed; Large cracks in ground
XII	Large scale destruction; Objects can be thrown into the air

SOURCE: ASSOCIATION OF BAY AREA GOVERNMENTS, 2011.

Earthquakes pose a serious potential threat in the Specific Plan area. Although no known faults cross the Plan area, Sonoma County is traversed by many active or potentially active faults, including the San Andreas fault and the Healdsburg/Rodgers Creek fault. The Rodgers Creek fault, which has been identified as an extension of the Hayward fault, lies closest to the Planning Area and represents a significant earthquake risk. Table 3.5-3 below lists 30-year earthquake probabilities of a magnitude of 6.7 or higher, using the Richter scale, for prominent faults within the vicinity of the Plan area. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking.

TABLE 3.5-3: 30-YEAR EARTHQUAKE PROBABILITIES

FAULT SEGMENT	*30-YEAR PROBABILITY OF MAGNITUDE 6.7 OR HIGHER*
Rodgers Creek Fault	14.5%
Hayward Fault	14.3%
Green Valley Fault	6.8%
San Andreas Fault North Segment	6.4%
West Napa Fault	2.3%

SOURCE: USGS EARTHQUAKE HAZARDS PROGRAM EARTHQUAKE PROBABILITIES 2014-2044.

As noted above, while there are no known active faults located within the Plan area, the area could experience considerable ground shaking generated by nearby faults. For example, the Plan area and its surroundings could experience intensities ranging from MM VIII (houses may shift on their foundations and drivers may have difficulty steering vehicles) with higher intensities of MM IX (well-constructed buildings will sustain moderate damage while poorly constructed buildings will be heavily damaged) projected to the region located south and west of the Plan area, generated by seismic events occurring in the region (ABAG, 2016).

SEISMIC HAZARD ZONES

Alquist-Priolo Fault Zones

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (≈11,000 years). Based on this criterion, the California Geological Survey identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication 42 (SP42), which is updated as new fault data become available. The SP42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP42 (Earthquake Fault Zone Maps).

There are no Alquist-Priolo Earthquake Fault Zones located within the Plan area; however, approximately five miles to the west lies the Rodgers Creek fault. Figure 3.5-1 illustrates the location of the closest Alquist-Priolo Earthquake Fault Zones.

Seismic Hazard Zones

The State Seismic Hazards Mapping Act (1990) addresses hazards along active faults. The Northern California counties affected by the Seismic Hazard Zonation Program include Alameda, San Francisco, San Mateo and Santa Clara. The Southern California counties affected by the Program include San Bernardino, Los Angeles, Orange, and Ventura. There are/are no seismic hazard zones currently mapped in Sonoma County.

LIQUEFACTION

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, liquefaction requires specific soil characteristics and seismic shaking.

In collaboration with the USGS Earthquake Hazard Program, the California Geological Survey produces Liquefaction Susceptibility Maps and identifies “Zones of Required Investigation” per the State’s Seismic Hazard Zonation Program.

Within the Plan area and surrounding areas, liquefaction susceptibility is mapped by the Association of Bay Area Governments (ABAG) Resiliency Program. Liquefaction potential in the Plan area is categorized as "Very Low" to "Very High.” The area designated as having a "Very High" potential for liquefaction is located along the southern portion of the Plan area, and is generally associated with the channelized Agua Caliente Creek running along Meadowbrook Avenue. The area between Depot and Northside Avenue is designated as having a "Moderate" potential for liquefaction, as is the area surrounding Agua Caliente Creek. However, the remainder of the Plan area is designated as having a “Very Low" susceptibility for liquefaction. See Figure 3.5-2 for the liquefaction susceptibility of the Plan area.

OTHER GEOLOGIC HAZARDS

Soils

According to the Natural Resource Conservation Service, there are nine different soil types located in the Plan area. As shown in Table 3.5-4, there are seven different soil types in the Plan area, and six soil series in the area. Figure 3.5-3 presents a map of the soils located in the Plan area and immediate vicinity. Information from the NRCS official soil description for these series is provided further below.

TABLE 3.5-4: PLAN AREA SOILS

NRCS SOIL DESCRIPTION	*ACRES IN PLAN AREA*
Clough gravelly loam, 2-9% slopes	47.9
Goulding cobbly clay loam, 5-15% slopes	0.03
Goulding-Toomes complex, 9-50% slopes	0.19
Huichica loam, 2-9% slopes	5.57
Red Hill clay loam, 2-15% slopes	22.71
Red Hill clay loam, 30-50% slopes	3.38
Riverwash	0.18
Tuscan cobbly clay loam, 0- 9% slopes	90.73
Zamora silty clay loam, 0-2% slopes	8.14

SOURCE: NATURAL RESOURCE CONSERVATION SERVICE, 2018.

- The **Clough series** are moderately well to somewhat poorly drained, very slowly permeable soils that occur on old terraces formed in gravelly alluvium that is high in quartz and cherts derived mostly from conglomerates and other sedimentary rocks. These soils are located in the central portion of the Plan area and in the southeastern corner of the Plan area on 2 to 9% slopes, and total 47.9 acres.
- The **Goulding series** are shallow, somewhat excessively drained soils formed in material weathered from metavolcanic or metasedimentary rocks. These soils occur in one small area in the southeastern portion of the Plan area on 5 to 15% slopes, and total 0.03 acres.
- The **Huichica series** are imperfectly drained, moderately slowly to very slowly permeable soils that occur in gently sloping smooth to hummocky floodplains under grass and scattered oaks. These soils occur in one small area in the northwestern portion of the Plan area on 2 to 9% slopes, and total 5.57 acres.

- The **Red Hill series** consists of well or moderately well drained, moderately permeable soils that occur on strongly sloping to steep uplands under hardwoods and conifers. These soils are located in the south-central portion of the Plan area and in the southeastern corner of the Plan area on 2 to 15% slopes, and total 22.71 acres.
- The **Tuscan series** consists of well drained, moderately to very slowly permeable soils that occur on broad gently sloping old alluvial terraces that are hummocky or gently undulating. These soils are located in the southern and northern-most portions of the Plan area on 0 to 9% slopes, and total 90.73 acres.
- The **Zamora series** consists of very deep, moderately well drained soils with moderately slow permeability that formed in alluvium from mixed rocks. These soils are located in the northern-central portion of the Plan area on 0 to 2% slopes, and total 8.14 acres.

Erosion

The U.S. Natural Resource Conservation Service (NRCS) delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of erosion factors is provided by the NRCS Physical Properties Descriptions:

- Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Erosion factor Kw indicates the erodibility of the whole soil, whereas Kf indicates the erodibility of the fine soils. The estimates are modified by the presence of rock fragments.

Soil erosion data for the Specific Plan area were obtained from the NRCS. Table 3.5-5 depicts the soil erosion susceptibility in the Specific Plan area. As identified in Table 3.5-5 below, the erosion factor (Kw) varies from 0.02 to 0.37, which is considered low to moderate potential for erosion. The majority of the Specific Plan area (approximately 68 percent) is dominated by Tuscan cobbly clay loam and Clough gravelly loam, which both have a low susceptibility of erosion with a K-Factor of 0.17. Individual values for soils are shown below in Table 3.5-5.

TABLE 3.5-5: EROSION SUSCEPTIBILITY AND SHRINK-SWELL POTENTIAL OF SOILS WITHIN PLAN AREA

MAP SYMBOL AND SOIL NAME	*EROSION FACTOR (KW)*	*SHRINK-SWELL POTENTIAL (PERCENTAGE OF LINEAR EXTENSIBILITY)*
CgC—Clough gravelly loam, 2 to 9 percent slopes	0.17	2.4
GlD—Goulding cobbly clay loam, 5 to 15 percent slopes	0.10	1.5
GlE—Goulding cobbly clay loam, 15 to 30 percent slopes	0.10	1.5
GoF—Goulding-Toomes complex, 9 to 50 percent slopes	0.24	3.1
HtC—Huichica loam, 2 to 9 percent slopes	0.37	2.9
RhD—Red Hill clay loam, 2 to 15 percent slopes	0.24	5.7
RhF—Red Hill clay loam, 30 to 50 percent slopes	0.24	5.7
RnA—Riverwash	0.02	1.5
TuC—Tuscan cobbly clay loam, 0 to 9 percent slopes	0.17	5.9
ZaA—Zamora silty clay loam, 0 to 2 percent slopes	0.37	4.0

SOURCE: NATURAL RESOURCE CONSERVATION SERVICE, 2018.

Shrink-Swell Potential

Some soils swell when wet and shrink as they dry, cracking walls, destroying foundations and breaking buried pipes. Table 3.5-5 above list soils within the Plan area, and their associated shrink-swell potential. Figure 3.5-4 shows the approximate location of soils with low and moderate shrink-swell potential within the Specific Plan area. Approximately 40 percent of the Specific Plan area has Tuscan cobbly clay loam which is considered a moderately expansive soil. The areas with a shrink-swell potential of three percent or more may require special design considerations due to shrink-swell potential.

According to the NRCS Physical Properties Descriptions, *"Linear extensibility" refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. The volume change is reported as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed."*

Expansive Soils

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of linear extensibility (also known as shrink-swell potential or expansive potential) is provided by the NRCS Physical Properties Descriptions:

> *"Linear extensibility" refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.*
>
> *The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.*

The linear extensibility of the soils within the Plan area ranges from Low to Moderate. Figure 3.5-4 illustrates the shrink-swell potential of soils in the Specific Plan area. Moderate expansive soils would require special design considerations due to shrink-swell potentials.

Lateral Spreading

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil moves down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The Plan area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west. Therefore, the potential for lateral spreading is generally low. The greatest potential for lateral spreading in the Plan area is in sloped areas.

Subsidence

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. In Sonoma County, subsidence occurs in the southern portions of the County near Petaluma and San Pablo Bay. The Plan area is not within an area where subsidence would likely occur.

Naturally Occurring Asbestos

The term "asbestos" is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is mapped in Sonoma County, although it is all located to the north of the Plan area in mountainous areas. There is no naturally occurring asbestos mapped within the Plan area.

Tsunami/Seiches

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water (i.e., Lake Tahoe) that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast). The Plan area is not within a tsunami or seiche hazard area.

STRUCTURAL DAMAGE

Fault Rupture Damage. There are no known active faults that have been mapped within the Specific Plan area, and the potential for structures to be adversely affected by fault rupture is considered to be relatively low based on the absence of known faults. As noted previously, the California Geological Survey has not established any Alquist-Priolo Earthquake Fault Zones in the Specific Plan area.

Ground Shaking Damage. As is the case for most areas within California, the potential for seismic ground shaking in the Specific Plan area is expected. As a result, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. California's seismic design provisions require enhanced structural integrity based on several risk parameters with the ultimate objective of protecting the life and safety of building occupants and the public. For large earthquakes, the seismic design standards primarily ensure that the building will not collapse, but some structural and non-structural damage may be expected. Older buildings constructed of unreinforced masonry, including materials such as brick, concrete, and stone, pre-1940 wood frame houses, and pre-1973 tilt-up concrete buildings are particularly susceptible to structural damage from ground shaking. In most cases, these older buildings require retrofit, or they risk significant structural damage during an earthquake.

Liquefaction Damage. The liquefaction potential within the majority of the Plan area is designated "moderate" to "high". Liquefaction poses a hazard to structures and infrastructure. There are a variety of geotechnical strategies that can be implemented to mitigate the potential for structural damage. These include appropriate foundation design, engineering soils, groundwater management, and the use of special flexible materials for construction.

Landslide and Lateral Spreading Damage. Within Sonoma County, the hillsides have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the planning area's relatively level slopes, landslide potential is very low for all but a small portion of land located between Fetters and Central Avenue. Landslide potential increases in the foothills and mountains to the east of the Planning Area but are not a significant constraint to development within the Planning Area.

The lateral spreading potential increases some in the same areas as the landslide potential. There are a variety of geotechnical strategies that can be implemented to mitigate the potential for landslide and lateral spreading in this area. These include engineering soils, groundwater management, surface water control, slope reconfiguration, and structural reinforcement if necessary.

PALEONTOLOGICAL RESOURCES

Paleontology is the study of the forms of life existing in prehistoric or geologic times, as represented by the fossils of plants, animals, and other organisms. Paleontological remains are fairly common in Sonoma County. They include plants, invertebrates, and vertebrates ranging in age from approximately 140 million years to less than 8,000 years before the present. Within Sonoma County, paleontological remains have been primarily recovered from the following geologic formations:

- *Franciscan complex (Jurassic)* – This formation largely covers the northern part of the County, with the exception of the Alexander Valley and northern Santa Rosa plain;
- *Wilson Grove Formation (Miocene-Pliocene)* – This is a common location for Paleontological remains, and is largely located in the western part of the county, along with the Ohlson Ranch Formation (Miocene-Pliocene), and the Petaluma Formation. The boundaries of this area are Occidental, Sebastopol, Petaluma, and the Coast. These formations are also present around the base of the Sonoma Mountains; and
- *Sonoma Volcanics (Miocene-Pliocene)* – This is the formation of the Sonoma Mountains and the Sonoma/ Napa Mountains which form the eastern border of the County.

3.5.2 REGULATORY SETTING

FEDERAL

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC 7701, et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for "federal, federally assisted or federally regulated new building construction" and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code

The purpose of the International Building Code is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. The International Building Code standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code, and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

California Health and Safety Code

Section 19100, et seq., of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the Code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The Regional Water Quality Control Board issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the Regional Water Quality Control Board are also Waste Discharge Requirements issued under the authority of the California Water Code.

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.

LOCAL

Sonoma County General Plan

The Sonoma County General Plan includes goals, objectives, and policies to protect residents, businesses, visitors, and land uses from seismic and geologic hazards.

PUBLIC SAFETY ELEMENT

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-1c: Consider amendments of this Element to incorporate new data which significantly change the hazard assessments contained herein.

Policy PS-1d: Support and integrate research on geologic hazards, their probabilities, and their effects within Sonoma County.

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.

Policy PS-1h: Adopt, upon approval by the International Code Council (ICC) and the State of California, revisions to the Uniform Building Code which increase resistance of structures to groundshaking and other geologic hazards.

Policy PS-1i: Require dynamic analysis of structural response to earthquake forces prior to County approval of building permits for structures whose irregularity or other factors prevent reasonable load determination and distribution by static analysis.

Policy PS-1j: Encourage strong enforcement of State seismic safety requirements for design and construction of buildings and facilities subject to State and Federal standards such as bridges, dams, power plants, hospitals and schools.

Policy PS-1k: Incorporate measures to mitigate identified geologic hazards for all County roads, public facilities, and other County projects to an acceptable level.

Policy PS-1l: Use the following criteria in siting and design of essential service buildings and facilities, particularly those of high public occupancy:

(1) To the extent feasible, avoid siting such buildings and facilities in areas subject to a Modified Mercalli Index (MMI) Groundshaking Intensity Level of Very Violent (X), Violent (IX), or Very Strong (IIX) as shown on Figures PS-1a.
(2) Where such buildings and facilities must be located in the above areas, design and construct them to the highest feasible safety standard.

Policy PS-1m: Make readily available to property owners and the public all maps identifying geologic hazards in Sonoma County, particularly the MMI Groundshaking Intensity Level maps noted above.

Policy PS-1n: Develop a Strategic Plan for damage assessment and recovery of essential service buildings and facilities, particularly those of high public occupancy, as part of the County's emergency response planning, focused in areas subject to an MMI Groundshaking Intensity level of Very Violent (X), Violent (IX), or Very Strong (IIX).

Policy PS-1o: Adopt an ordinance requiring strengthening and/or reinforcement of Unreinforced Masonry Buildings, except residential structures, considering the cost of the work and the value, frequency of use, and level of occupancy of the buildings.

OPEN SPACE & RESOURCES CONSERVATION ELEMENT

GOAL OSRC-10: Encourage the conservation of soil resources to protect their long term productivity and economic value.

Objective OSRC-10.1: Preserve lands containing prime agricultural and productive woodland soils and avoid their conversion to incompatible residential, commercial or industrial uses.

GOAL OSRC-11: Promote and encourage soil conservation and management practices that maintain the productivity of soil resources.

Objective OSRC-11.1: Ensure that permitted uses are compatible with reducing potential damage due to soil erosion.

Objective OSRC-11.1: Establish ways to prevent soil erosion and restore areas damaged by erosion.

Policy OSRC-11a: Design discretionary projects so that structures and roads are not located on slopes of 30 percent or greater. This requirement is not intended to make any existing parcel unbuildable if Health and Building requirements can be met.

Policy OSRC-11b: Include erosion control measures for any discretionary project involving construction or grading near waterways or on lands with slopes over 10 percent.

Policy OSRC-11c: Encourage agricultural land owners to work closely with the N.R.C.S. and local Resource Conservation Districts to reduce soil erosion and to encourage soil restoration.

Policy OSRC-11d: Require a soil conservation program to reduce soil erosion impacts for discretionary projects that could increase waterway or hillside erosion. Design improvements such as roads and driveways to retain natural vegetation and topography to the extent feasible.

Policy OSRC-11e: Retain natural vegetation and topography to the extent economically feasible for any discretionary project improvements near waterways or in areas with a high risk of erosion as noted in the Sonoma County Soil Survey.

Policy OSRC-11f: Prepare and submit to the Board of Supervisors an erosion and sediment control report.

Policy OSRC-11g: Continue to enforce the Uniform Building Code to reduce erosion and slope instability problems.

Sonoma County Code

Chapter 11, Construction Grading and Drainage, of the County's Code outlines the Sonoma County Construction Grading and Drainage Ordinance. This chapter is enacted for the purpose of regulating construction grading and drainage through standards to protect the public health, safety, and welfare, minimize hazards to life and property, protect against soil loss and pollution of waterway, protect from

flooding, protect aquatic resources and wildlife habitat, and promote groundwater conservation and recharge.

The provisions in Chapter 11 apply to all construction grading and drainage occurring within the unincorporated area of the county, except for construction grading and drainage for timber operations conducted under an approved timber harvesting plan or nonindustrial timber management plan.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on geology, and soils, if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Project implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

The Alquist-Priolo Earthquake Fault Zoning Act (1972) and the Seismic Hazards Mapping Act (1990) direct the State Geologist to delineate regulatory "Zones of Required Investigation" to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake-triggered ground failures. There are no Zones of Required Investigation located within the Plan area.

However, there are numerous faults located in the greater region. Figure 3.5-1 illustrates the location of these faults. These include the Bennett Valley Fault, Tolay Fault, Lakeview Fault, West Napa Fault Zone, Rodgers Creek Fault, and San Andreas Fault. Rupture of any of these faults, or of an unknown fault in the region, could cause seismic ground shaking. As a result, future development in the Plan area may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

While there are no known active faults located within the Plan area, the area could experience considerable ground shaking generated by nearby faults. For example, the Plan area and its surroundings could experience intensities of MM VIII by seismic events occurring in the region (ABAG, 2016).

Within Sonoma County, the hillsides have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the Plan area's relatively level slopes, landslide potential is very low for all but a small portion of land located between Fetters and Central Avenue. As shown in Figure 3.5-5, landslide potential increases in the foothills and mountains to the east of the Plan area but are not a significant constraint to development within the area.

Additionally, some of the buildings within the Plan area are unreinforced masonry buildings. Unreinforced masonry buildings often cannot support the horizontal forces exerted by earthquakes. These buildings are regulated by State law. As part of the Sonoma County Hazard Mitigation Plan (2017), the County inventoried all of the unreinforced masonry buildings in the unincorporated areas as required by State law. Within the unincorporated areas, there are 316 unreinforced masonry buildings, 131 of which are classified as "active" because they have not been strengthened or otherwise brought into conformance. The remaining 185 structures are exempt from State law. The County is currently reviewing a seismic retrofit ordinance, based on a model ordinance provide by the California Seismic Safety Commission, to reduce earthquake hazards and create incentives to encourage building owners to improve their structures.

All future projects within the Plan area will be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations.

The Sonoma County General Plan goals, objectives, and policies identified in subsection 3.5.2, Regulatory Setting, require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction, and expansive soils. All development and construction proposals must be reviewed by the County to ensure conformance with applicable General Plan requirements (listed above) and CBSC building standards. Development on soils sensitive to seismic activity is only allowed after adequate site analysis, including appropriate siting, design of structure, and foundation integrity, as required by General Plan Policies PS-1f, PS-1i, PS1j, PS-1k, and PS-1l. The General Plan policies require geotechnical investigations to be completed prior to approval of any buildings as a means to ensure that these facilities are constructed in a way that mitigates site-specific seismic and/or geological hazards. All future projects within the Plan area would be required to prepare geotechnical soils investigations to address seismic safety issues and provide adequate mitigation for potential hazards identified, as required by Policy PS-1f and the CBSC. With the implementation of the policies and actions required by the Sonoma County General Plan, as well as applicable State and County codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be **less than significant**.

Impact 3.5-2: Project implementation has the potential to result in substantial soil erosion or the loss of topsoil (Less than Significant)

The Project would allow development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

Soil erosion data for the Plan area and vicinity were obtained from the NRCS. The erosion factor Kw varies from 0.02 to 0.37, which is considered low to moderate potential for erosion.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the state and local requirements. For example, future projects would be subject to the County's Construction Grading and Drainage Ordinance, which outlines the construction grading permit requirements, as well as the County's erosion prevention and sediment control best management practices guide. A construction drainage permit will be required prior to commencing any construction drainage work involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance (except where exempted from permit requirements by Subsection C of Chapter 11 of the Code). A construction grading permit shall be required prior to commencing any construction grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance (except where exempted from permit requirements by Subsection C of Chapter 11 of the Code). Future new projects would be required to implement Low Impact Development strategies, as well as best management practices. In addition to compliance with County standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan to be prepared for each project that disturbs an area of one acre or larger. The Storm Water Pollution Prevention Plans will include project specific best management practices that are designed to control drainage and erosion.

With the implementation of the applicable State and County requirements, potential impacts associated with erosion and loss of topsoil would be **less than significant**.

Impact 3.5-3: Project implementation has the potential to result in development 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, lateral spreading, subsidence, liquefaction or collapse (Less than Significant)

Development allowed under the Project could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. Soils and geologic conditions in the Plan area may have the potential for, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

Lateral Spreading: Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil moves down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The Plan area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west. Therefore, the potential for lateral spreading is generally low. The greatest potential for lateral spreading in the Plan area is in sloped areas.

Any future development in sloped areas would be required to adhere to General Plan Policy OSRC-11a which requires projects to be designed so that structures and roads are not located on slopes of 30 percent or greater, such as in the northeast portion of the Plan area, the area near the Aqua Caliente Creek bed, and the southeastern portion of the Plan area north of Donald Street. The vast majority of land in the Plan area is not located on slopes of 30 percent or greater. The CBSC requires geotechnical studies prior to new development. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. All future projects in the Plan area would be subject to the CBSC requirements.

Subsidence: Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. In Sonoma County, subsidence has been documented in the southern portions of the County near Petaluma and San Pablo Bay. The Plan area is not within an area where subsidence is likely occur.

Liquefaction: Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, liquefaction requires specific soil characteristics and seismic shaking.

Liquefaction potential in the Plan area is categorized as "Very Low" to "Very High." The area designated as having a "Very High" potential for liquefaction is located along the southern portion of the Plan area, and is generally associated with the channelized Agua Caliente Creek running along Meadowbrook Avenue. The area between Depot and Northside Avenue is designated as having a "Moderate" potential for liquefaction, as is the area surrounding Agua Caliente Creek. However, the remainder of the Planning Area is designated as having a "Very Low" susceptibility for liquefaction. Liquefaction poses a hazard to structures and infrastructure. All development is subject to California building code, which may require applicant's to employ a qualified geologist or structural engineer to mitigate the potential for structural damage. In high risk areas, the County requires a soils investigation to identify soils-related hazards as part of a building permit application and requires development to implement the recommendations of

the report. Typical approaches may include appropriate foundation design, engineering soils, groundwater management, and the use of special flexible materials for construction.

Collapse: Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. According to the Sonoma County General Plan Draft EIR, weak or collapsing soils that compress under a load or when wet can be found in the County. All development is subject to California building code, which may require applicant's to employ a qualified geologist or structural engineer to mitigate the potential for structural damage. In high risk areas, the County requires a soils investigation to identify soils-related hazards as part of a building permit application and requires development to implement the recommendations of the report. Typical approaches may include appropriate foundation design, engineering soils, groundwater management, and the use of special flexible materials for construction.

Conclusion: As future development and infrastructure projects are considered within the Plan area, each project will be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, Construction Grading and Drainage Ordinance, and other regulations. Future development and improvement projects would be required to have a geotechnical study prepared and incorporated into the improvement design, consistent with State and County requirements.

In addition to the requirements associated with the CBSC and the County Code, the General Plan includes policies and actions to ensure that development, infrastructure, and other projects address potential ground failure and instability issues through compliance with applicable building standards, identification of potential geologic hazards, preparation of geotechnical studies, and appropriate site analysis and engineering measures to mitigate any identified hazards, including landslides, lateral spreading, liquefaction, and other potential ground failures, to an acceptable level. Specifically, Policy PS-1f requires geologic reports be completed and reviewed for 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. These geologic reports describe the hazards and include mitigation measures to reduce risks to acceptable levels. Policy PS-1i requires dynamic analysis of structural response to earthquake forces prior to County approval of building permits for structures whose irregularity or other factors prevent reasonable load determination and distribution by static analysis. See Section 3.5.2, Regulatory Setting, for a complete list of goals, objectives, and policies related to this topic.

With the implementation of applicable County requirements, including the policies and actions in the General Plan and County Code provisions, as well as applicable State requirements, potential impacts associated with ground instability or failure would be **less than significant**.

Impact 3.5-4: Project implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property (Less than Significant)

"Linear extensibility" (also known as shrink-swell potential or expansive potential) refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an

expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Expansive soil properties can cause substantial damage to building foundations, piles, pavement, underground utilities, and other improvements. Structural damage, such as warping and cracking of improvements, and rupture of underground utility lines, may occur if the expansive potential of soils is not considered during the design and construction of all improvements.

Linear extensibility is a method for measuring expansion potential. The expansion potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

The linear extensibility of the soils within the Plan area ranges from Low to Moderate. Figure 3.5-4 illustrates the shrink-swell potential of soils in the Plan area. Moderate expansive soils will require special design considerations due to shrink-swell potential.

The Public Safety Element of the County's General Plan establishes goals, objectives, and policies that are designed to protect from geologic hazards, including expansive soils. Policy PS-1f requires geologic reports be completed and reviewed for 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. Consistency with the General Plan goals, objectives, and policies will require a site-specific, design-level geotechnical investigation, prepared by an engineer, and submitted to the County for review and confirmation. A site-specific geotechnical investigation will identify the potential for damage related to expansive soils and non-uniformly compacted fill and engineered fill. If a risk is identified, design criteria and specification options may include removal of the problematic soils, and replacement, as needed, with properly conditioned and compacted fill material that is designed to withstand the forces exerted during the expected shrink-swell cycles and settlements. See Section 3.5.2, Regulatory Setting, for a complete list of goals, objectives, and policies related to this topic.

Design criteria and specifications set forth in the design-level geotechnical investigation will ensure impacts from problematic soils are minimized. There are no additional significant adverse environmental impacts, apart from those disclosed in the relevant chapters of this Draft EIR, that are anticipated to occur due to expansive soils. Therefore, this impact is considered **less than significant**.

Impact 3.5-5: Project implementation has the potential to result in development on soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems (No Impact)

The Plan area is located in an Urban Service Area and is served by municipal sewer and water. The Project would not require the use of septic tanks or alternative waste water disposal systems for the disposal of waste water. Implementation of the Project would result in ***no impact*** relative to this topic.

Impact 3.5-6: Implementation of the Project has the potential to directly or indirectly destroy a unique paleontological resource (Less than Significant)

The Plan area is not expected to contain subsurface paleontological resources, although it is possible. The inadvertent discovery of a paleontologic resource could result in damage to or destruction of the resource.

Implementation of Specific Plan Measure Paleo-A would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. With this Specific Plan component, this impact would be **less than significant**.

SPECIFIC PLAN COMPONENT THAT MINIMIZES THE POTENTIAL FOR IMPACTS

Measure Paleo-A*: If any paleontological resources are found during grading and construction activities, all work within 100 feet of the find shall cease, the County of Sonoma shall be notified, and the applicant shall retain an appropriately qualified paleontologist to determine the significance of the discovery. The paleontologist shall evaluate the discovery, including defining the physical extent and nature of the deposit. If necessary, the evaluation shall include preparation of a treatment plan, such as avoidance of the discovery, documentation of the paleontologic resources, or salvage of paleontologic resources, to mitigate any significant impacts to paleontologic resources.*

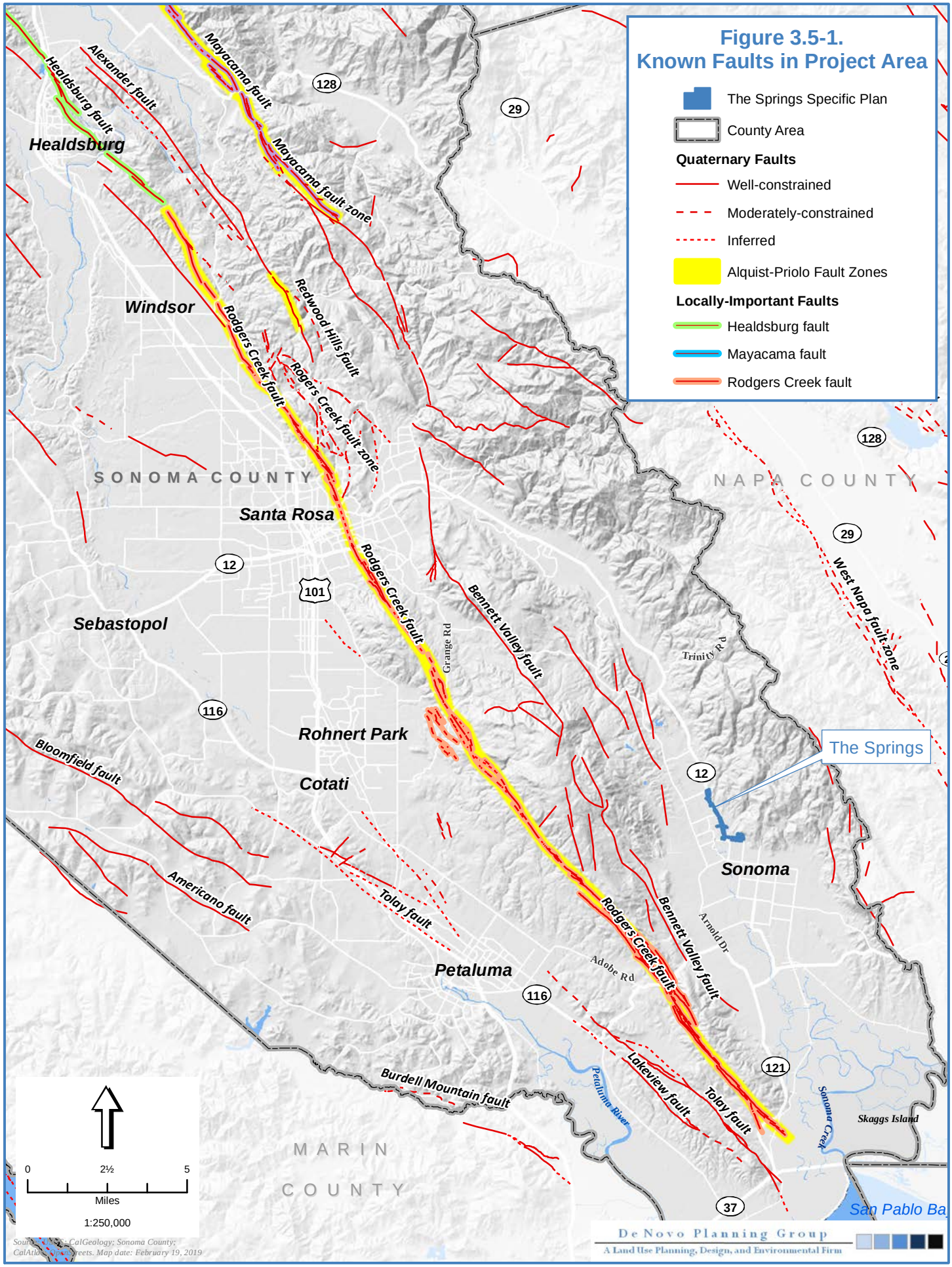
Figure 3.5-1.
Known Faults in Project Area
The Springs Specific Plan
County Area
Quaternary Faults
Well-constrained
Moderately-constrained
Inferred
Alquist-Priolo Fault Zones
Locally-Important Faults
Healdsburg fault
Mayacama fault
Rodgers Creek fault
Healdsburg
Windsor
Santa Rosa
Sebastopol
Rohnert Park
Cotati
Petaluma
Sonoma
The Springs
Skaggs Island
SONOMA COUNTY
NAPA COUNTY
MARIN COUNTY
Alexander fault
Mayacama fault
Mayacama fault zone
Redwood Hills fault
Rodgers Creek fault
Rodgers Creek fault zone
Bennett Valley fault
West Napa fault zone
Bloomfield fault
Americano fault
Tolay fault
Burdell Mountain fault
Lakeview fault
Grange Rd
Trinity Rd
Arnold Dr
Adobe Rd
Petaluma River
Sonoma Creek
San Pablo Ba
128
29
12
101
116
121
37
0
2½
5
Miles
1:250,000
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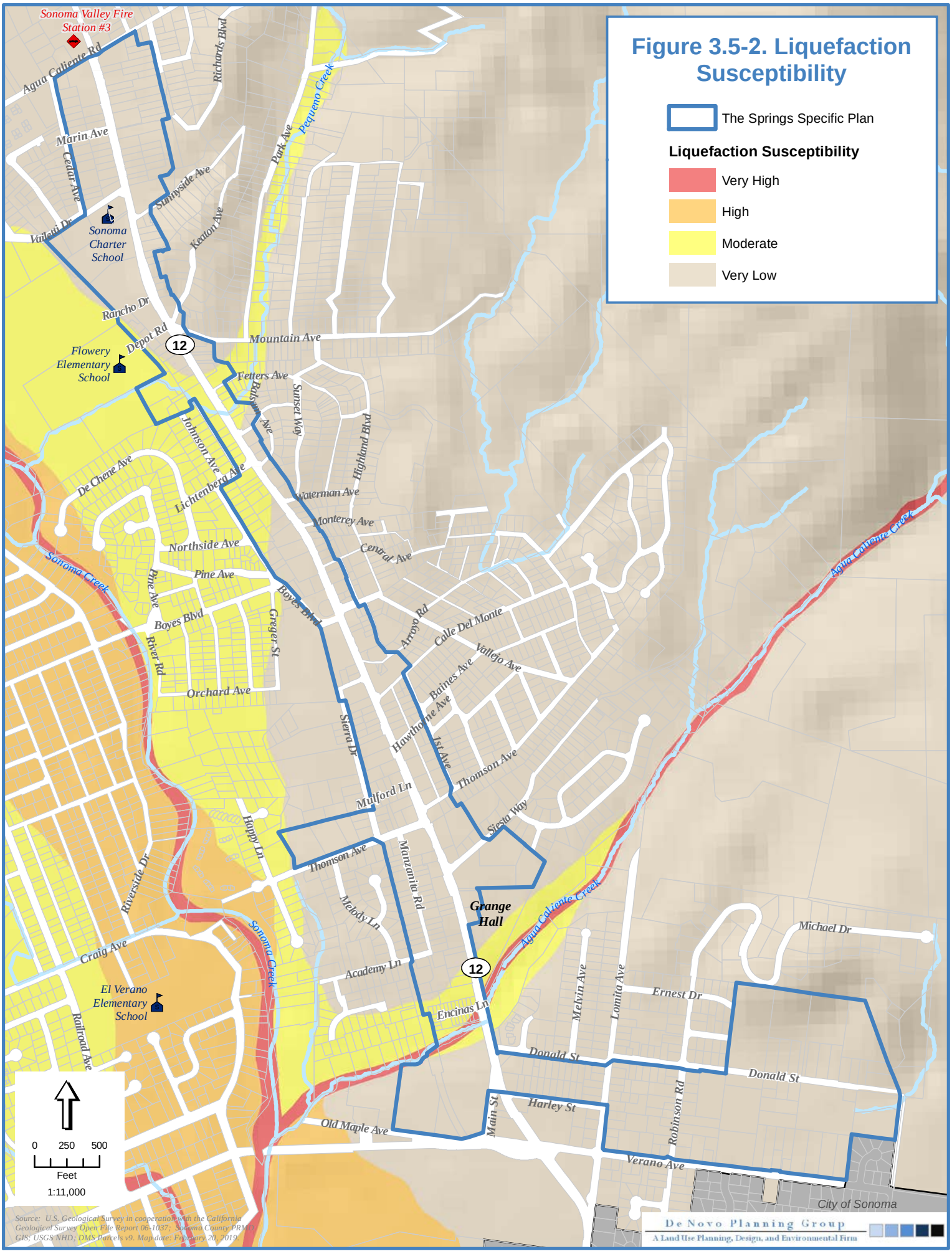
Figure 3.5-2. Liquefaction Susceptibility
The Springs Specific Plan
Liquefaction Susceptibility
Very High
High
Moderate
Very Low
Sonoma Valley Fire Station #3
Agua Caliente Rd
Marin Ave
Cedar Ave
Vallejo Dr
Sonoma Charter School
Sunnyside Ave
Keaton Ave
Richards Blvd
Pequeno Creek
Park Ave
Rancho Dr
Depot Rd
12
Flowery Elementary School
Mountain Ave
Fetters Ave
Broadway Ave
Sunset Way
Highland Blvd
Johnson Ave
Lichtenberg Ave
De Chene Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
River Rd
Gregory St
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Thomson Ave
Siesta Way
Sierra Dr
Millford Ln
Happy Ln
Riverside Dr
Craig Ave
El Verano Elementary School
Railroad Ave
Manzanita Rd
Melody Ln
Academy Ln
Grange Hall
Agua Caliente Creek
Encinas Ln
Melvin Ave
Lomita Ave
Michael Dr
Ernest Dr
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
City of Sonoma
0 250 500
Feet
1:11,000
Source: U.S. Geological Survey in cooperation with the California Geological Survey Open File Report 06-1037; Sonoma County PRMD GIS; USGS NHD; DMS Parcels v9. Map date: February 20, 2019
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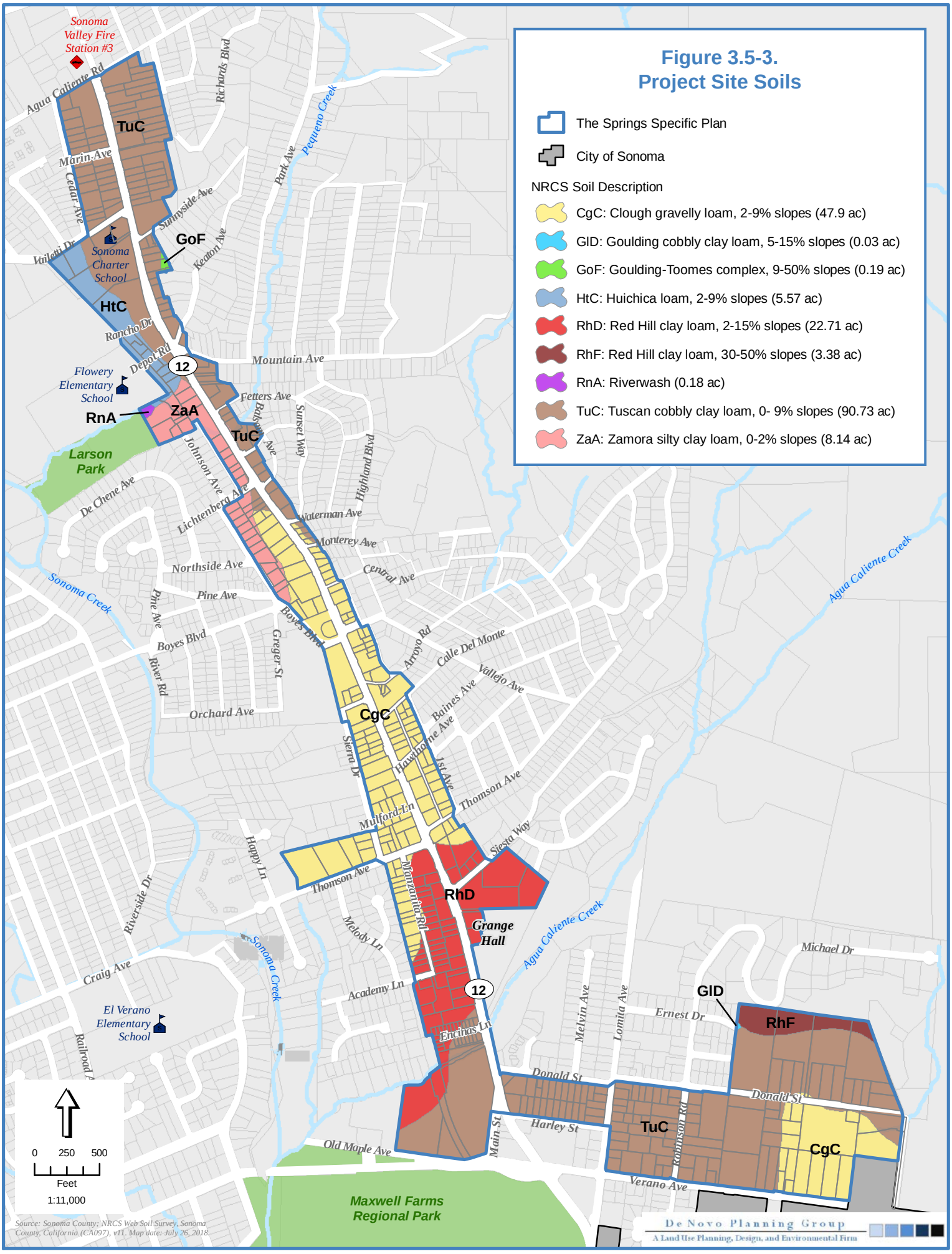
Figure 3.5-3.
Project Site Soils
The Springs Specific Plan
City of Sonoma
NRCS Soil Description
CgC: Clough gravelly loam, 2-9% slopes (47.9 ac)
GlD: Goulding cobbly clay loam, 5-15% slopes (0.03 ac)
GoF: Goulding-Toomes complex, 9-50% slopes (0.19 ac)
HtC: Huichica loam, 2-9% slopes (5.57 ac)
RhD: Red Hill clay loam, 2-15% slopes (22.71 ac)
RhF: Red Hill clay loam, 30-50% slopes (3.38 ac)
RnA: Riverwash (0.18 ac)
TuC: Tuscan cobbly clay loam, 0- 9% slopes (90.73 ac)
ZaA: Zamora silty clay loam, 0-2% slopes (8.14 ac)
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Keaton Ave
Vallejo Dr
Sonoma Charter School
Rancho Dr
Depot Rd
Mountain Ave
Flowery Elementary School
Fetters Ave
Balsam Ave
Sunset Way
Highland Blvd
Larson Park
De Chene Ave
Johnson Ave
Lichtenberg Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
River Rd
Greger St
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Thomson Ave
Orchard Ave
Sierra Dr
Mulford Ln
Siesta Way
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
El Verano Elementary School
Railroad Ave
Maxwell Farms Regional Park
TuC
GoF
HtC
RnA
ZaA
CgC
RhD
GlD
RhF
12
0 250 500
Feet
1:11,000
Source: Sonoma County; NRCS Web Soil Survey, Sonoma County, California (CA097), v11. Map date: July 26, 2018.
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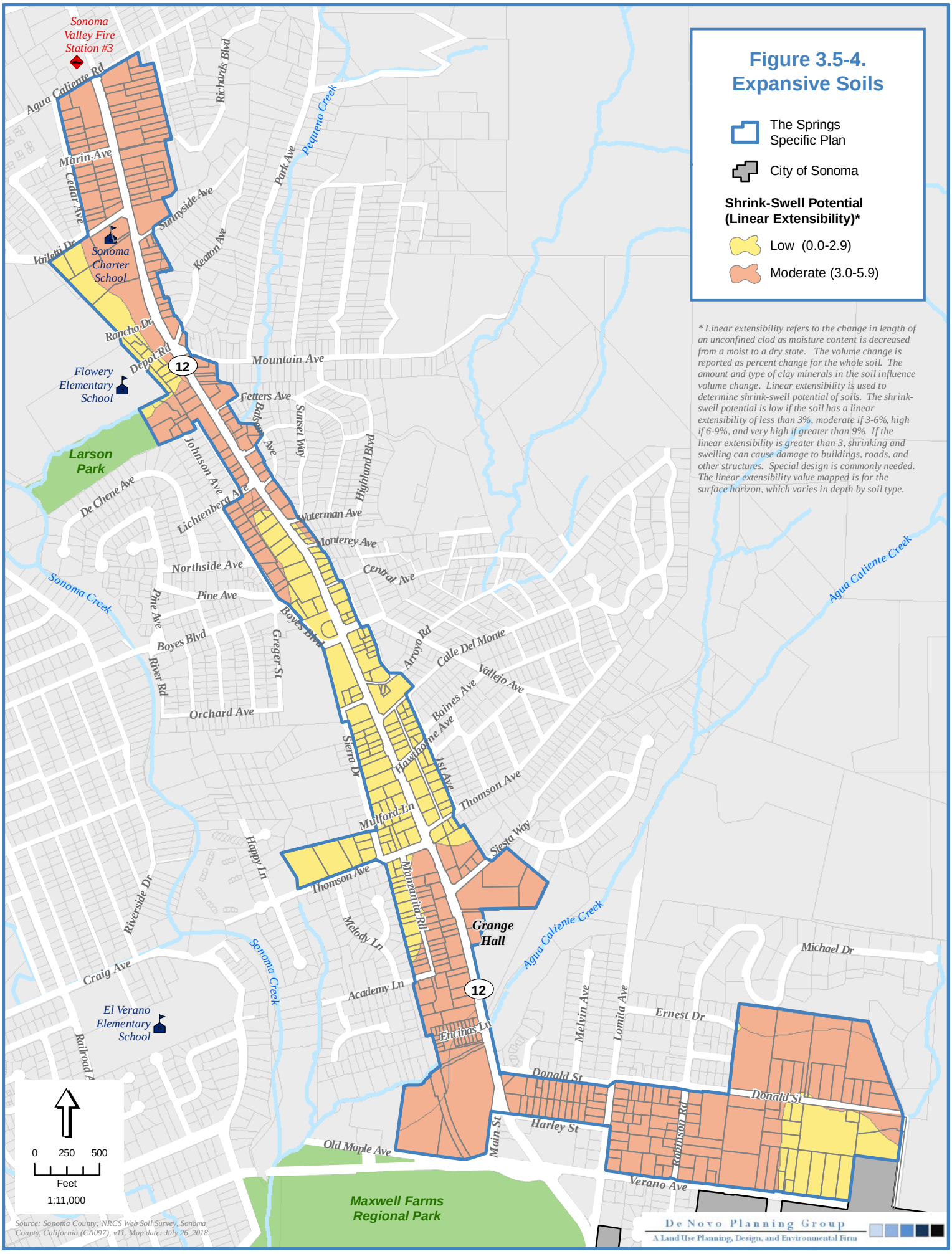
Figure 3.5-4.
Expansive Soils
The Springs Specific Plan
City of Sonoma
Shrink-Swell Potential (Linear Extensibility)*
Low (0.0-2.9)
Moderate (3.0-5.9)
* Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. The volume change is reported as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change. Linear extensibility is used to determine shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3%, moderate if 3-6%, high if 6-9%, and very high if greater than 9%. If the linear extensibility is greater than 3, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is commonly needed. The linear extensibility value mapped is for the surface horizon, which varies in depth by soil type.
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Keaton Ave
Vallejo Dr
Sonoma Charter School
Rancho Dr
Depot Rd
12
Mountain Ave
Flowery Elementary School
Fetters Ave
Balsam Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
Lichtenberg Ave
De Chene Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
Greger St
River Rd
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Thomson Ave
Sierra Dr
Mulford Ln
Siesta Way
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
El Verano Elementary School
Railroad
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
0 250 500
Feet
1:11,000
Source: Sonoma County; NRCS Web Soil Survey, Sonoma County, California (CA097), v11. Map date: July 26, 2018.
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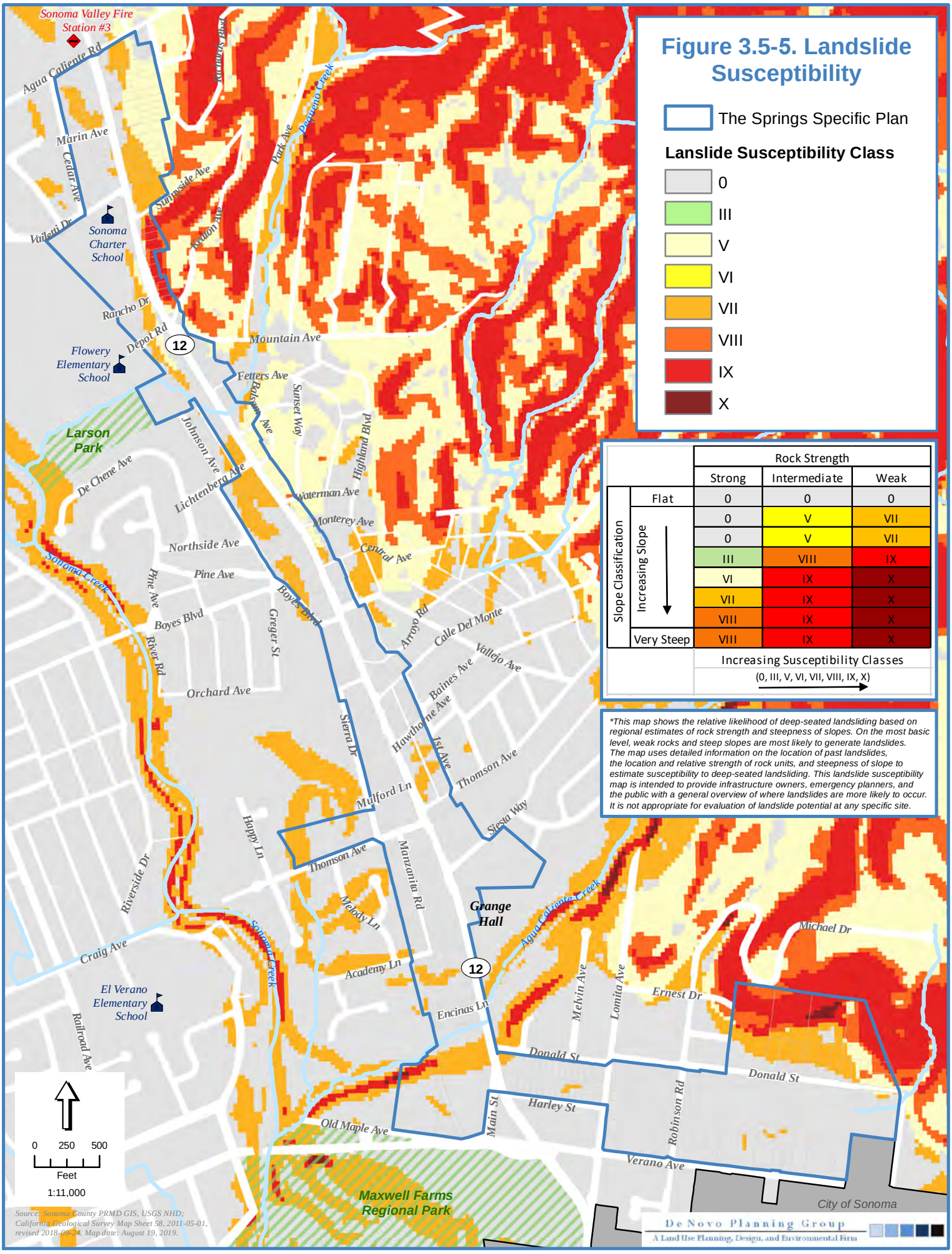
Figure 3.5-5. Landslide Susceptibility
The Springs Specific Plan
Lanslide Susceptibility Class
0
III
V
VI
VII
VIII
IX
X
Rock Strength
Strong
Intermediate
Weak
Slope Classification
Increasing Slope
Flat
Very Steep
Increasing Susceptibility Classes
(0, III, V, VI, VII, VIII, IX, X)
*This map shows the relative likelihood of deep-seated landsliding based on regional estimates of rock strength and steepness of slopes. On the most basic level, weak rocks and steep slopes are most likely to generate landslides. The map uses detailed information on the location of past landslides, the location and relative strength of rock units, and steepness of slope to estimate susceptibility to deep-seated landsliding. This landslide susceptibility map is intended to provide infrastructure owners, emergency planners, and the public with a general overview of where landslides are more likely to occur. It is not appropriate for evaluation of landslide potential at any specific site.
Sonoma Valley Fire Station #3
Agua Caliente Rd
Marin Ave
Cedar Ave
Vailetti Dr
Sonoma Charter School
Sunnyside Ave
Keyton Ave
Arcadia Blvd
Park Ave
Pequeno Creek
Rancho Dr
Depot Rd
12
Mountain Ave
Flowery Elementary School
Fetters Ave
Robinson Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
De Chene Ave
Lichtenberg Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
Gregor St
River Rd
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Thomson Ave
Siesta Way
Sierra Dr
Mulford Ln
Happy Ln
Riverside Dr
Manzanita Rd
Melody Ln
Grange Hall
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
El Verano Elementary School
Railroad Ave
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
0 250 500
Feet
1:11,000
Maxwell Farms Regional Park
City of Sonoma
Source: Sonoma County PRMD GIS, USGS NHD; California Geological Survey Map Sheet 58, 2011-05-01, revised 2018-09-24. Map date: August 19, 2019.
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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from buildout of the Project. It begins with background on GHGs and their links to climate change, and continues with the effects of global climate change. This section is organized under the following headings: existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis of GHGs, climate change, and energy conservation impacts focuses on the Project's consistency with local, regional, and statewide climate change planning efforts, including the CARB's 2017 Climate Change Scoping Plan. Discussion of estimated energy use and GHG emissions resulting from the Project's buildout are provided. Information in this section is derived primarily from the California Air Resources Board (CARB), the Bay Area Air Quality Management District (BAAQMD), and the California Emission Estimator Model (CalEEMod)™ (v.2020.4.0).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.6.1 ENVIRONMENTAL SETTING

ACRONYMS

ABAG	Association of Bay Area Governments
AB 32	Assembly Bill 32
BAAQMD	Bay Area Air Quality Management District
CAFE	Corporate Average Fuel Economy
CARB	California Air Resources Board
CEC	California Energy Commission
CH_4	Methane
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
EPAct	Energy Policy Act of 1992
GHG	Greenhouse Gas
GWh	Gigawatt-hours
GWP	Global Warming Potential
H_2O	Water Vapor
kBtu	One Thousand British Thermal Units
kWh	Kilowatt-hour
MT CO2e	Metric tons of Carbon Dioxide Equivalents
$MMCO_2e$	Million Metric Tons of Carbon Dioxide Equivalents
MPO	Metropolitan Planning Organization
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
O_3	Ozone
PG&E	Pacific Gas & Electric
RCPA	Sonoma County Regional Climate Protection Authority
RPS	Renewable Portfolio Standard
SB 32	Senate Bill 32

SB 375	Senate Bill 375
SCP	Sonoma Clean Power
SP	Service Population
U.S. DOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency

SONOMA VALLEY AND GREENHOUSE GASES

The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Sonoma Valley is a visitor-serving (tourist) area, which generates GHGs from both local activity as well as from visitors to the area. GHGs in Sonoma Valley are generated by a variety of GHG sectors, including the mobile (vehicle), area (i.e. landscaping equipment), energy (e.g. electricity and natural gas), water & wastewater (supply and treatment), solid waste (off-gassing from landfills), and agriculture sectors.

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Atmospheric GHGs play a critical role in influencing the Earth's surface temperature. Solar radiation enters Earth's atmosphere, and a portion of the radiation is absorbed by the Earth's surface. However, the Earth reflects approximately 35% of this radiation back towards space, with the radiation changing from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs, which include CO_2, CH_4, and N_2O, occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to the current period, concentrations of these three GHGs have increased globally by 40%, 150%, and 20%, respectively (IPCC, 2013). The mobile (vehicle) sector represents the largest single source of GHGs, followed by the generation of GHGs by the industrial sector (California Energy Commission, 2018a). Every GHG has a Global Warming Potential (GWP), a measurement of the impact that particular gas has on 'radiative forcing'; that is, the additional heat/energy which is retained in the Earth's ecosystem through the addition of this gas to the atmosphere. Therefore, GHG emissions are typically expressed in terms of carbon dioxide equivalents (i.e. CO_2e), in order to represent a project's total contribution to the greenhouse effect with a single value. CO_2e is quantified by taking the contribution of all GHG emissions to the greenhouse effect and converting them to a single unit equivalent (i.e. equivalent to the global warming potential of CO_2, which is the most common GHG), using specific global warming potential (GWP) values for each GHG that is not CO_2. When added together, the resultant value provides GHG emissions in terms of carbon dioxide equivalents (i.e. CO_2e), thereby providing a common basis for comparing a project's emissions to applicable thresholds and targets.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced approximately 440 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2016 (California Energy Commission, 2018a). By 2020, California is projected to produce 509 $MMTCO_2e$ per year (California Air Resources Board, 2015a).

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2016, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Energy Commission, 2018a).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated erosion, including wetlands and other types of habitat, and impact levees and inland water systems.

It is anticipated that the winter snow season would be shortened if the temperature of the ocean warms, leading to a reduction in snowpack. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This decline could lead to significant challenges securing an adequate water supply for the population. Further, a higher ocean temperature could result in increased wind-borne transport of water vapor from the ocean into the state; however, since this transport of water would likely increasingly come in the form of rain rather than snow in the high elevations, more precipitation could lead to a higher potential for and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately 5.9 inches along the central and southern California coast during the last century and it is predicted to rise an additional 29 to 54 inches by 2100, depending on future GHG emission levels (State of California, 2019a; State of California 2019b). Effects from sea level rise could include increased coastal flooding, saltwater intrusion and disruption of wetlands. Climate change in California could also critically effect migratory species. Under the emissions scenarios of the Climate Scenarios report (California Environmental Protection Agency, 2010), California's Fourth Climate Change Assessment Statewide Summary Report (State of California, 2019a), and California's Fourth Climate Change Assessment San Francisco Bay Area Region Report (State of California, 2019b), impacts of global warming in California and the Bay Area region are anticipated to include, but are not limited to, the following.

Wildfires

Warming temperatures combined with expansion of the wildland-urban interface are projected to increase fire risk in most of the Bay Area, though risks may decline in some areas as they become more heavily urbanized (State of California, 2019b). Wildfires have also been occurring more frequently in recent years in Sonoma County, a trend which is expected to continue under future climate change. Cal-Adapt, which is a web-based climate adaptation planning tool by the California Energy Commission, estimates that the annual area burned by wildfires in Sonoma County will increase from an average of 1,584.3 annual mean hectares in the 1961-1990 period to an average of 2,345.3 annual mean hectares in the 2070-2099 period (Cal-Adapt, 2019). Climate change will likely modify the vegetation in California, affecting the characteristics of fires on the land. Land use and development patterns also play an important role in future fire activity. Because of these complexities, projecting future wildfires is complicated, and results depend on the time period for the projection and what interacting factors are

included in the analysis. Because wildfires are affected by multiple and sometimes complex drivers, projections of wildfire in future decades in California range from modest changes from historical conditions to relatively large increases in wildfire regimes.

Public Health

The Fourth Climate Change Assessment San Francisco Bay Area Region Report identified a number of climate-related changes threatening Bay Area health, including more extreme heat events, increased air pollution from ozone formation and wildfires, longer and more frequent droughts, and flooding from sea level rise and high-intensity rain events. Nineteen heat-related events occurred in the United States from 1999 to 2009 that had significant impacts on human health, resulting in about 11,000 excess hospitalizations. However, the National Weather Service issued Heat Advisories for only six of the events. Heat-Health Events (HHEs), which better predict risk to populations vulnerable to heat, will worsen drastically throughout the state. In Sonoma County, the average number of extreme heat days is expected to increase from the approximately 4 days per year in the 1961-1990 period to approximately 24 days per year in the 2070-2099 period (Cal-Adapt, 2019).

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. Climate change poses direct and indirect risks to public health, as people will experience earlier death and worsening illnesses. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions.

Energy Resources

Higher temperatures will increase annual electricity demand for homes, driven mainly by the increased use of air conditioning units. High demand is projected in inland and Southern California, and more moderate increases are projected in cooler coastal areas, including Sonoma County. However, the increased annual residential energy demand for electricity is expected to be offset by reduced use of natural gas for space heating. Increases in peak hourly demand during the hot months of the year could be more pronounced than changes in annual demand. This is a critical finding for California's electric system, because generating capacity must match peak electricity demand.

Water Resources

A vast network of artificial reservoirs and aqueducts, fed by northern California rivers and the Colorado River, capture and transport water throughout the state. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow. The snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers and hamper hydropower generation. More importantly, the loss of snow pack has the potential to severely disrupt water resource availability over the long-term, especially in agricultural areas.

Like the rest of the State, the San Francisco Bay Area is expected to face a challenging combination of decreased water supply, a less reliable supply, and potential reduction in the quality of water supplies due to climate impacts, including melting snowpack, increasing seawater intrusion into groundwater, increasing rates of evapotranspiration, and levee failures or subsidence that contaminate Delta supplies (State of California, 2019b).

In Sonoma County, most of the water supply comes from Lake Mendocino and Lake Sonoma extracted via the Russian River. Although loss of snow pack in the watersheds surrounding these water bodies is not a major concern (as it is in the Sierra Nevada range), droughts enhanced by climate change are already impacting these watersheds. For example, in April 2021, the lowest ever water levels were recorded in Lake Sonoma.[1] These water sources are likely to come under increasing strain in the long-term due to increased summer water shortages throughout the state. The shorter, more intense storms generated by climate change could also require the need for long-term water storage solutions beyond what the current water storage and distribution system is designed to handle.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry, reducing the quantity and quality of agricultural products statewide. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers will require more water for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a point. However, faster growth can result in less-than-optimal development for many agricultural products, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products, including wine grapes, fruits, nuts, and milk.

Crop growth and development will be affected by global warming. Continued global warming will likely shift the habitat ranges of existing invasive plants, and alter competition patterns with native plants. Range expansion is expected in many species, while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps, thereby displacing crops and slowing down agricultural production.

Continued global warming is also likely to alter the abundance and types of many insect pests, lengthen insect pests' breeding season, and increase pathogen growth rates. The intensity and frequency of pest and disease outbreaks will increase, since rising temperatures increase transmission of vector-borne disease from pests like insects up to an optimum temperature or "turn-over point," above which transmission slows. Sonoma County, as well as California as a whole, is located in an area that is susceptible to an increase in transmission of vector-borne diseases due to rising temperatures. Separately, rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests, and also interferes with plant growth.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the business-as-usual conditions, sea level is anticipated to rise 22 to 35

[1] See: https://sanfrancisco.cbslocal.com/2021/04/25/california-drought-historically-low-water-lake-sonoma/

inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. A large area of southern Sonoma County, including the area encompassing and surrounding the San Pablo National Wildlife Refuge, is anticipated to be flooded due to rising sea levels by the middle of this century.

Statewide damages due to rising sea levels could reach nearly $17.9 billion from inundation of residential and commercial buildings under 50 centimeters (~20 inches) of sea-level rise. This level of sea level rise is close to the 95th percentile of potential sea-level rise by the middle of this century. A 100-year coastal flood, on top of this level of sea-level rise, would almost double the costs.

ENERGY CONSUMPTION

Energy in California is derived from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and other fossil fuels used to generate electricity) are the most widely used forms of energy in the state. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy portfolio. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity from renewable resources by 2020, and 60% by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under SB 100).

According to the U.S. Energy Information Administration, in 2018, California's energy consumption was second-highest among the states, but its per capita energy consumption was the fourth-lowest due in part to its mild climate and its energy efficiency programs.[2] Additionally, California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards and vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the state constant.

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that propel global climate change. The use of other fuels such as natural gas and ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

California's Fourth Climate Change Assessment San Francisco Bay Area Region Report indicates that warmer summers will increase energy demand across the region, while warmer winters will lead to a decline in winter heating demand. Climate change effects on the Bay Area's energy distribution system include vulnerabilities to outages during wind and wildfire events, flooding of natural gas transmission facilities located along waterways due to sea level rise and extreme storm events, and exposure of the transportation fuel sector, which distributes oil from refineries to end users, to extreme weather events, including flooding and wildfire (State of California, 2019b).

Electricity

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2019, more than one-fourth of the electricity supply came from facilities outside of the state. Much of the power delivered to California from states in the Pacific Northwest was generated by renewable energy sources. States in the Southwest delivered power

[2]U.S. Energy Information Administration, 2021. Accessed at: https://www.eia.gov/state/analysis.php?sid=CA

generated from renewables, coal-fired power plants, natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2021). In 2020, approximately 37% of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 33% of the state's utility-scale (i.e. grid-connected) net electricity generation came from renewable technologies, such as solar, wind, geothermal, small-scale hydroelectric, and biomass[3]. Another 12% of the state's utility-scale net electricity generation came from large-scale hydroelectric generation, and nuclear energy powered an additional 9%. The amount of electricity generated from coal was approximately 3% (California Energy Commission (CEC), 2020). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed by the State's RPS. The following table (Table 3.6-1) summarizes the sources of electricity generation for California in 2020.

TABLE 3.6-1: CALIFORNIA UTILITY-SCALE NET ELECTRICITY GENERATION MIX (YEAR 2020)

SOURCE	*PERCENTAGE*
Natural gas	37%
Renewables (Biomass, Geothermal, Small Hydroelectric, Solar, Wind)	33%
Large Hydroelectric	12%
Nuclear	9%
Coal	3%
Other and Unspecified Nonrenewables	6%

SOURCE: CALIFORNIA ENERGY COMMISSION, 2020. ACCESSED AT: HTTPS://WWW.ENERGY.CA.GOV/DATA-REPORTS/ENERGY-ALMANAC/CALIFORNIA-ELECTRICITY-DATA/2020-TOTAL-SYSTEM-ELECTRIC-GENERATION
NOTE: NUMBERS MAY NOT ADD UP DUE TO ROUNDING.

According to the CEC, total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66%. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14% between 1990 and 1997 (U.S. EIA, 2017b). Statewide consumption was 290,567 GWh in 2016, an annual growth rate of 0.8% between 1997 and 2016 (U.S. EIA, 2017b).

Sonoma Clean Power is Sonoma County's primary electricity provider, replacing Pacific Gas & Electric (PG&E) in 2014 with its own electric generation service. In 2018, Sonoma Clean Power utilized eligible renewables for 49% of its energy mix (Sonoma Clean Power, 2018). Eligible renewables are those energy resources (such as solar, wind, biomass, geothermal, and eligible hydroelectric) that meet the state's RPS standard for renewable resources. Sonoma Clean Power also utilized an additional 42% of its energy mix from non-eligible hydroelectric resources.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately 5% of the world's population, accounts for approximately 19% of world oil consumption, or approximately 18.6 million barrels per day (International Energy Agency, 2018). The transportation sector relies heavily on oil. In California, petroleum-based fuels

[3] Biomass energy is energy generated or produced by living or once-living organisms. The most common biomass materials used for energy are plants, such as corn and soy, above. The energy from these organisms can be burned to create heat or converted into electricity.

currently provide approximately 96% of the state's transportation energy needs (California Energy Commission, 2012).

Natural Gas/Propane

The state produces approximately 12% of the natural gas it consumes, while obtaining 22% from Canada and 65% from the Rockies and the Southwest (California Energy Commission, 2012). Total natural gas demand in California in 2012 was 2,313 billion cubic feet of natural gas (California Energy Commission, 2012).

Regional Emissions

The BAAQMD conducts periodic inventories of two types of GHG emissions within the San Francisco Bay Area Air Basin. The Consumption-Based Greenhouse Gas Inventory of San Francisco Bay Area Neighborhoods, Cities, and Counties analyzes GHG emissions related to goods and services that are produced anywhere in the world and consumed within the Bay Area and categorizes products within five basic sectors: transportation, housing, food, goods, and services. The Bay Area Emissions Inventory Summary Report: Greenhouse Gases (BAAQMD), is a production-based inventory that analyzes GHG emissions that are produced within the Bay Area.

The most recent consumption-based GHG emissions inventory provides a base year inventory for year 2013. Data from this inventory indicates the average Bay Area household emitted a total of 44.3 $MMTCO_2e$ associated with the consumption of goods and services, which is 3% less than the average California household emissions of 45.7 metric tons per year.[4] Similar to the state inventory, the transportation sector, which includes combustion of fossil fuels in mobile sources such as cars, trucks, locomotives, ships, and boats, contributes the most (14.6 $MMTCO_2e$) toward regional GHG levels (approximately 33% of regional consumption-based GHG emissions).[5]

The most recent production-based GHG emissions inventory provides a base year inventory for year 2011. Data from this inventory indicates the San Francisco Bay Area emitted a total of 86.6 $MMTCO_2e$, or approximately 20% of the total statewide GHG emissions in year 2011. The production-based inventory divides emissions into six sectors: transportation, industrial and commercial, electricity and co-generation, residential fuel usage, off-road equipment, and agriculture and farming.[6] Similar to the state inventory, the combustion of fossil fuels in mobile sources such as cars, trucks, locomotives, ships, and boats contribute the most (34.3 $MMTCO_2e$) toward regional GHG levels (approximately 40% of regional GHG emissions).[7]

[4] The BAAQMD GHG inventory is based on the U.N. IPCC's 2nd Assessment Report, which uses different GWP values to compute CO_2e. The GWP values in the 2nd Assessment Report are generally lower than the values in the UN IPCC 4th Assessment Report, which the CARB statewide inventory uses. For example, the GWP of methane was reported as 21 in the 2nd Assessment Report and is reported as 25 in the 4th Assessment Report.

[5] Jones and Kammen, 2015. A Consumption-Based Greenhouse Gas Inventory of San Francisco Bay Area Neighborhoods, Cities and Counties: Prioritizing Climate Action for Different Locations. December 2015.

[6] The BAAQMD GHG inventory is based on the U.N. IPCC's 2nd Assessment Report, which uses different GWP values to compute CO_2e. The GWP values in the 2nd Assessment Report are generally lower than the values in the UN IPCC 4th Assessment Report, which the CARB statewide inventory uses. For example, the GWP of methane was reported as 21 in the 2nd Assessment Report and is reported as 25 in the 4th Assessment Report.

[7] BAAQMD, 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases. January 2015.

Local Emissions

The Sonoma County Regional Climate Protection Authority (RCAP) has developed community-level GHG emissions inventories for 2010 and 2015, which are provided below for information purposes only (as shown in Table 3.6-2), since implementation of the Climate Action 2020 and Beyond document prepared by RCAP was put on hold following a lawsuit.[8] As shown in the below table, between 2010 and 2015, GHG emissions in Sonoma County increased for the on-road transportation, livestock and fertilizer, solid waste, and off-road transportation emissions sources, while emissions decreased for the building energy and wastewater sources. Total GHG emissions in Sonoma County increased slightly between 2010 and 2015.

TABLE 3.6-2: SONOMA COUNTY COMMUNITY-WIDE GHG EMISSIONS ($MTCO_2E$)

INVENTORY SOURCE	*YEAR 2010 EMISSIONS*	*YEAR 2015 EMISSIONS*
On-road Transportation	1,899,000	2,126,000
Building Energy	1,220,000	821,000
Livestock and Fertilizer	268,000	361,000
Solid Waste	134,000	213,000
Off-road Transportation	62,000	75,000
Water and Wastewater	19,000	16,000
Total	**3,601,000**	**3,618,000**

SOURCE: SONOMA COUNTY REGIONAL CLIMATE PROTECTION AUTHORITY, 2018.
NOTE: NUMBERS MAY NOT ADD UP DUE TO ROUNDING.

3.6.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, National Ambient Air Quality Standards motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA (EPA) is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the United States would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. The National Highway Traffic and Safety Administration,

[8] In July 2016, the Sonoma County Regional Climate Protection Authority developed a climate action plan, entitled Climate Action 2020 and Beyond, in collaboration with the County of Sonoma and nine cities within the county. However, implementation of Climate Action 2020 and Beyond was put on hold following a lawsuit.

which is part of the U.S. Department of Transportation (U.S. DOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the U.S. DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

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

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101, et seq.) promoted the development of intermodal transportation systems to maximize mobility, as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

Moving Ahead for Progress in the 21st Century (Map-21)

MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law on July 6, 2012. Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S.

transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the U.S. EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. 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 general, this national reporting requirement was designed to provide the U.S. EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level; however, certain suppliers of fossil fuels and industrial GHG, along with vehicle and engine manufacturers, will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

In 2012, the U.S. EPA 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* (2014) 573 U.S. 302 held that U.S. EPA 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 U.S. EPA and the National Highway Safety Administration published the "Safer Affordable Fuel-Efficient 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 EMission FACtor (EMFAC) model. The Final 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. 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_2 emissions adjustment factors for both the EMFAC2014 and EMFAC2017 models to account for the impact of this rule. With the incorporation of these adjustment factors, operational emission factors for CO_2 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.

STATE

California Executive Orders S-3-05, S-20-06, B-30-15, Assembly Bill 32, and Senate Bill 32

On June 1, 2005, then Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that the CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

In April 2015, Governor Jerry Brown signed Executive Order B-30-15, which requires that there be a reduction in GHG emissions to 40% below 1990 levels by 2030, in order to ensure that GHG emissions are reduced to 80% below 1990 levels by 2050. This intermediate target was codified into law by Senate Bill 32 (SB 32), which was signed into law on September 8, 2016, which includes the requirement to reduce California's GHG emissions to 40% below 1990 levels by 2030.

Climate Change Scoping Plan

On December 11, 2008, the CARB adopted its Climate Change Scoping Plan (Scoping Plan), which functions as a roadmap of the CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 169 million metric tons (MMT), or approximately 30%, from the state's projected 2020 emissions level of 596 MMT of CO_2e under a business-as-usual scenario. This is a reduction of 42 MMT CO_2e, or almost 10%, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

The CARB updated the Scoping Plan in 2013 (First Update to the Scoping Plan) and again in 2017 (the 2017 Climate Change Scoping Plan). The 2013 Update built upon the initial Scoping Plan with new strategies and recommendations, and also set the groundwork to reach the long-term goals set forth by the state. The 2017 Update expands the scope of the plan further by focusing on the strategy for achieving the State's 2030 GHG target of 40% emissions reductions below 1990 levels (to achieve the target codified into law by SB 32). The 2017 Climate Change Scoping Plan is designed to help California to:

- lower GHG emissions on a trajectory to avoid the worst impacts of climate change;
- support a clean energy economy which provides more opportunities to all Californians;
- provide a more equitable future with good jobs and less pollution for all communities;
- improve the health of all Californians by reducing air and water pollution and making it easier to bike and walk; and
- make California an even better place to live, work, and play by improving our natural and working lands.

The 2017 Climate Change Scoping Plan incorporates pre-existing state legislation that targets the reduction of GHG emissions, such as Assembly Bill (AB) 1493 and AB 1007 (Pavley, Chapter 371, Statutes

of 2005). AB 1492 required automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Separately, AB 1007 directed the CEC to prepare a plan to increase the use of alternative fuels in California. As part of the recommended Scoping Plan actions, CARB recommends statewide targets of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050.

SENATE BILL 375

SB 375 (Stats. 2008, ch. 728) was built on AB 32 (California's 2006 climate change law). SB 375's core provision is a requirement for regional transportation agencies to develop a Sustainable Communities Strategy (SCS) in order to reduce GHG emissions from passenger vehicles. An SCS is one component of the Regional Transportation Plan (RTP). The most recent SCS for the San Francisco Bay Area is entitled "Plan Bay Area 2050".

Plan Bay Area 2050 outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern in order to meet a State target for reducing GHG emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resources and farmlands.

Additionally, SB 375 modified the State's Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and the Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans.

Finally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

Governor's Low Carbon Fuel Standard (California Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 and 20% by 2030 through establishment of a Low Carbon Fuel Standard. Carbon intensity is the carbon emission rate relative to the intensity of a specific activity. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the discrete early action GHG reduction measures identified by the CARB pursuant to AB 32. Implementation of Executive Order #S-01-07 has reduced the carbon footprint associated with vehicle travel in California.

California Renewable Portfolio Standard

Established in 2002 by SB 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under Senate Bill 107 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010. Subsequent recommendations in California energy policy reports advocated a goal of 33% by 2020, and on November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08 requiring that all retail sellers of electricity shall serve 33% of their load with renewable energy by 2020. Senate Bill X1-2 was signed by Governor Edmund G. Brown, Jr., in April 2011, setting the RPS target at 33% by 2020. This RPS applied to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities had to adopt the new RPS goals of 20% of retails sales from renewables by the end of 2013, 25% by the end of 2016, and the 33% requirement being met by the end of 2020. More recently, SB 100 (passed in September 2018) established an RPS of 60% by 2030 and 100% (zero-carbon) by 2045.

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. On January 1, 2010, the California Building Standards Commission adopted CALGreen and became the first state in the United States to adopt a statewide green building standards code. CALGreen requires new buildings to reduce water consumption by 20%, divert 50% of construction waste from landfills, and install low pollutant-emitting materials. The California Building Energy Efficiency Standards are updated periodically. The standards were most recently updated in 2019, and are effective as of January 1, 2020. 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, 2018). 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, 2018).

CALIFORNIA SOLAR MANDATE

The California Energy Commission introduced the California solar mandate which requires rooftop solar photovoltaic systems to be equipped on all new homes built on January 1, 2020 and beyond. The 2019 Building Energy Efficiency Standards requires that all new single-family homes and multi-family buildings that are under three stories must conform to the new solar code standards and is climate zone-specific depending on the sizing of a home's floor area. This applies to all houses, condos, and apartments that obtain building permits on or after January 1, 2020. This initiative by the CEC aims to spearhead California's milestone goal of producing 60% of the state's energy through clean energy sources by 2030.

AB 758

AB 758, the Comprehensive Energy Efficiency in Existing Buildings Law, tasked CEC with developing and implementing a comprehensive program to increase energy efficiency in existing residential and nonresidential buildings that "fall significantly below the current standards in Title 24." (Pub. Resources Code, section 25943(a)(1).) Approximately 50% of existing residential and nonresidential buildings in California were constructed before California Building Energy Efficiency Standards went into effect in 1978. Other buildings constructed after 1978 also fall below current Title 24 standards and represent significant opportunities for energy efficiency improvements. Pursuant to AB 758, the CEC has developed an Existing Buildings Energy Efficiency Action Plan that identifies strategies to implement energy efficient renovations for such existing commercial, residential, and publicly owned buildings. Strategies include making information about a building's energy efficiency more readily available, educating the public about the cost-benefit of energy efficiency upgrades, making attractive financing more readily available, educating the public and contractors about available energy upgrades and code compliance requirements, and educating a work force capable of implementing energy upgrades.

CEQA Guidelines Appendix F

In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The goal of conserving energy implies the wise and efficient use of energy.

LOCAL

Bay Area Air Quality Management District

CEQA GUIDELINES

On June 2, 2010, the Bay Area Air Quality Management District's Board of Directors unanimously adopted thresholds of significance (Thresholds) to assist in the review of projects under the California Environmental Quality Act. These Thresholds are designed to establish the level at which the District believed air pollution and greenhouse emissions would cause significant environmental impacts under CEQA. The Thresholds were posted on the Air District's website and included in the Air District's updated CEQA Guidelines (updated May 2012).The BAAQMD published a new version of the Guidelines dated May 2017.[9]

The May 2017 BAAQMD CEQA Guidelines[10] provides the following Thresholds relevant to GHGs for Specific Plans:

- Plan-Level:
    - Construction: no thresholds.
    - Operational:
        - 4.6 CO_2e/SP/year. This efficiency threshold can be applied to other plans, such as specific plans, congestion management plans, etc.

2017 CLEAN AIR PLAN

With respect to applicable air quality plans, the BAAQMD prepared the 2017 Clean Air Plan (also known as the "Spare the Air: Cool the Climate" plan) to address nonattainment of the national 1-hour ozone standard in the Air Basin. The purpose of the 2017 Clean Air Plan is to protect public health and stabilize the climate. The 2017 Clean Air Plan includes a multi-pollutant strategy to reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as GHGs.

Plan Bay Area

On October 21, 2021, the Metropolitan Transportation Commission (MTC) and the Executive Board of the Association of Bay Area Governments (ABAG) jointly adopted Plan Bay Area 2050 and its related supplemental reports. Plan Bay Area 2050 is the most recent SCS/RTP for the Bay Area. Plan Bay Area is an integrated transportation and land use-use strategy through 2050 that marks the nine-county Bay Area region's first long-range plan to meet the requirements of SB 375.

Plan Bay Area 2040 outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern in order to meet the State target for reducing GHG emissions.

[9] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.
[10] Bay Area Air Quality Management District, CEQA Guidelines, May 2017.

The strategy must take into account the region's housing needs, transportation demands, and protection of resources and farmlands.

Plan Bay Area 2050 connects the elements of housing, the economy, transportation and the environment through 35 strategies that are intended to make the San Francisco Bay Area more equitable for all residents and more resilient. In the short-term, the plan's Implementation Plan identifies more than 80 specific actions for MTC, ABAG and partner organizations to take over the next five years to make headway on each of the 35 strategies.

Climate Action in Sonoma County

The RCPA was formed in 2009 to coordinate countywide climate protection efforts among Sonoma County's nine cities and the county. The RCPA developed a regional Climate Action Plan in 2016, entitled "Climate Action 2020 and Beyond". This plan was developed over the course of several years, with input from all local city councils, the Board of Supervisors, local government staff, consultants, community sustainability leaders, and members of the public. The RCPA certified an Environmental Impact Report and adopted the Climate Action Plan in 2016. However, the Environmental Impact Report was subsequently litigated. The Superior Court found the Environmental Impact Report inadequate and the Regional Climate Protection Authority declined to appeal due to lack of funds. Unable to adopt the Climate Action 2020 Plan, the Sonoma County Board of Supervisors adopted Resolution No. 18-0166 ("Climate Change Action Resolution"), reaffirming its intent to reduce GHG emissions as part of a coordinated effort through RCPA and to adopt local implementation measures as adopted in Climate Action 2020 and Beyond. This Resolution is intended to help create countywide consistency and clear guidance about coordinated implementation of the GHG reduction measures. See below for more details of this resolution.

CLIMATE CHANGE ACTION RESOLUTION

The Climate Change Action Resolution (Resolution) was adopted on May 8th, 2018 by the Sonoma County Board of Supervisors. Although it does not bind Sonoma County to any specific action, it includes local goals to reduce GHG emissions and provides that the County will pursue local actions to support these goals. The Resolution contains the following actions:

- Sonoma County agrees to work towards the RCPA's countywide target to reduce greenhouse gas emissions by 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050.
- Sonoma County adopts the following goals to reduce greenhouse gas emissions, and will pursue local actions that support these goals:
    - Increase building energy efficiency
    - Increase renewable energy use
    - Switch equipment from fossil fuel to electricity
    - Reduce travel demand through focused growth
    - Encourage a shift toward low-carbon transportation options
    - Increase vehicle and equipment fuel efficiency
    - Encourage a shift toward low-carbon fuels in vehicles and equipment
    - Reduce idling
    - Increase solid waste diversion

  - Increase capture and use of methane from landfills
  - Reduce water consumption
  - Increase recycled water and graywater use
  - Increase water and waste-water infrastructure efficiency
  - Increase use of renewable energy in water and wastewater systems
  - Reduce emissions from livestock operations
  - Reduce emissions from fertilizer use
  - Protect and enhance the value of open and working lands
  - Promote sustainable agriculture
  - Increase carbon sequestration
  - Reduce emissions from the consumption of goods and services;

- Sonoma County will continue to work to increase the health and resilience of social, natural, and built resources to withstand the impacts of climate change; and

- Sonoma County has the goal of increasing resilience by pursuing local actions that support the following goals:

  - Promote healthy, safe communities
  - Protect water resources
  - Promote as sustainable, climate-resilient economy
  - Mainstream the use of climate projections

CLIMATE ACTION 2020 AND BEYOND

Although Climate Action 2020 and Beyond cannot be used for CEQA processing due to the Superior Court's order, it can serve as an advisory resource for the RCPA's work to coordinate countywide climate protection efforts. Therefore, the following information relating to the Climate Action Plan is provided for informational purposes only.

Climate Action 2020 and Beyond includes:

- A background on climate change;
- an inventory of GHG emissions by sector;
- an overall strategy for reducing GHG emissions in for each GHG emissions source;
- provides detail on how GHG emissions reductions will be implemented;
- provides near-term actions for each city within the county and the unincorporated County; and
- provides an analysis of the County's "climate readiness" (i.e. ability to withstand future climate-related hazards).

Baseline year 2010 community-wide GHG emissions in Sonoma County were found to be approximately 3,601,000 MT CO_2e, with a business-as-usual forecast of approximately 5,113,000 MT CO_2e by 2050.[11]

[11] The AB 32 goal for 2050 is 80% below the 1990 levels by the year 2050.

GREENHOUSE GAS INVENTORY REPORT – SONOMA COUNTY 2015 UPDATE

In July 2018, the RCPA published the first update to the community-wide GHG inventory, based on year 2015 data. This update provides a reference point for progress towards Sonoma County's goals of reducing emissions 25% below 1990 levels by 2020 and 80% below 1990 levels by 2050. Sonoma County GHG emissions in 2015 remained 9% below 1990 levels, while county-wide population grew 4% and gross domestic product (GDP) increased 22%. A comprehensive 2015 GHG inventory update, with a breakdown of jurisdiction-specific GHG emissions, can be downloaded at the RCPA website.[12] A key finding of the 2015 update shows the GHG emissions from energy used in buildings decreased 33% between 2010 and 2015 (exceeding the short-term reduction goal of 27% by 2020).

Sonoma County General Plan

The Sonoma County General Plan identifies the following goals, objectives, and policies related to GHGs and/or energy conservation:

LAND USE ELEMENT

GOAL LU-11: Promote a sustainable future where residents can enjoy a high quality of life for the long term, including a clean and beautiful environment and a balance of employment, housing, infrastructure, and services.

Objective LU-11.1: Use the following sustainability policies pertaining to land use and development in the unincorporated area:

Policy LU-11a: Encourage reduction in greenhouse gas emissions, including alternatives to use of gas-powered vehicles. Such alternatives include public transit, alternatively fueled vehicles, bicycle and pedestrian routes, and bicycle and pedestrian friendly development design.*

Policy LU-11b: Encourage all types of development and land uses to use alternative renewable energy sources and meaningful energy conservation measures.

HOUSING ELEMENT

GOAL HE-6: Improve Conservation of Energy and Natural Resources.

Objective HE-6.1: Promote conservation of energy, water, and other natural resources as a cost-saving measure in existing residential development.

Objective HE-6.2: Promote energy and water conservation and energy efficiency in new residential and mixed-use construction projects.

Objective HE-6.3: Promote solid waste reduction, reuse, and recycling opportunities in residential and mixed-use construction.

Policy HE-6a: Encourage improvements that result in conservation of energy, water, and other natural resources in existing residential development, particularly in renter-occupied units by

[12] See: https://rcpa.ca.gov/wp-content/uploads/2018/08/Sonoma-County-GHG-Inventory-Update-2015-070618.pdf

offering workshops, individual consultations, and financial assistance for weatherization and other conservation measures. Support and expand existing programs administered by the Community Development Commission.

Policy HE-6b: Continue to provide funding through the Community Development Commission for retrofits of existing affordable housing units that result in conservation of energy, water, or other natural resources.

Policy HE-6c: Encourage residents and developers to increase energy conservation and improve energy efficiency. Continue to support education programs that promote energy conservation and energy efficiency

Policy HE-6d: Support project applicants in incorporating cost-effective energy efficiency that exceeds State standards.

Policy HE-6e: Promote the use of straw bale, rammed-earth, and other energy-efficient types of construction methods. Encourage use of the County's Alternative Building Materials review process by publishing educational and promotional materials.

Policy HE-6f: Reduce the generation of solid waste in residential construction, and increase solid waste reuse and recycling.

Policy HE-6g: Continue to support education programs related to solid waste reduction, reuse, and recycling opportunities.

Policy HE-6h: Continue to review and develop energy conservation, green building, and energy efficient design programs for new residential and mixed-use development.

OPEN SPACE AND RESOURCE CONSERVATION ELEMENT

GOAL OSRC-14: Promote energy conservation and contribute to energy demand reduction in the County.

GOAL OSRC-15: Contribute to the supply of energy in the County primarily by increased reliance on renewable energy sources.

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-14a: Continue to support education programs that promote energy conservation; energy efficiency; and solid waste reduction, reuse, and recycling opportunities for County operations, residents and businesses, and local utilities.

Policy OSRC-14b: Continue to provide strategic planning for energy conservation and efficiency in County operations.

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-14g: Develop a Greenhouse Gas Emissions Reduction Program, as a high priority, to include the following:

(1) A methodology to measure baseline and future VMT and greenhouse gas emissions

(2) Targets for various sectors including existing development and potential future development of commercial, industrial, residential, transportation, and utility sources

(3) Collaboration with local, regional, and State agencies and other community groups to identify effective greenhouse gas reduction policies and programs in compliance with new State and Federal standards

(4) Adoption of development policies or standards that substantially reduce emissions for new development

(5) Creation of a task force of key department and agency staff to develop action plans, including identified capital improvements and other programs to reduce greenhouse gases and a funding mechanism for implementation

(6) Monitoring and annual reporting of progress in meeting emission reduction targets.

Policy OSRC-14h: Continue to participate in the International Council of Local Environmental Initiatives (ICLEI) Program.

Policy OSRC-14i: Manage timberlands for their value both in timber production and offsetting greenhouse gas emissions.

Policy OSRC-14j: Encourage the Sonoma County Water Agency and other water and wastewater service providers to reduce energy demand from their operations.

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.

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.

CIRCULATION AND TRANSIT ELEMENT

GOAL CT-1: Provide a well-integrated and sustainable circulation and transit system that supports a city and community centered growth philosophy through a collaborative effort of all the Cities and the County.

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.

Policy CT-1k: Encourage development that reduces VMT, decreases distances between jobs and housing, reduces traffic impacts, and improves housing affordability.

GOAL CT-2: Increase the opportunities, where appropriate, for transit systems, pedestrians, bicycling and other alternative modes to reduce the demand for automobile travel.

Objective CT-2.6: In areas designated for through traffic, use existing circulation and transit facilities more efficiently, especially highways, to reduce the amount of investment required in new or expanded facilities, reduce greenhouse gas emissions, and increase the energy efficiency of the transportation system.

Objective CT-2.7: Use Traffic Demand Management measures to reduce peak period congestion.

Objective CT-2.8: Provide bicycle and pedestrian links from bus stops and other transit facilities to residential areas, employment centers, schools, institutions, parks, and the greater roadway system in general, especially focusing on short trips that could result in a mode shift away from automobile travel.

Objective CT-2.9: Develop alternative mode trip databases, to improve quantitative evaluation of public transit and improve integration with other alternative modes.

Objective CT-2.10: Utilize shoulders, paths, and bike lanes for other alternative transportation modes along existing streets, roads, and bicycle routes where consistent with public safety and the Vehicle Code.

Policy CT-2a: Provide convenient, accessible transit facilities for youth, seniors, and persons with disabilities, and paratransit services as required by the American Disabilities Act (ADA). Promote efficiency and cost effectiveness in paratransit service such as use of joint maintenance and other facilities.

Policy CT-2b: Establish transfer facilities and supportive park-and-ride lots that provide convenient connection to the transit routes on Figure CT-2. Locate transit centers to avoid rerouting by buses, provide adequate off street parking, and provide convenient pedestrian access from activity centers.

Policy CT-2c: On transit routes, design the physical layout and geometrics of arterial and collector highways to be compatible with bus operations.

Policy CT-2d: Require major traffic generating projects on existing or planned transit routes to provide fixed transit facilities, such as bus turnouts, passenger shelters, bike lockers, and seating needed to serve anticipated or potential transit demand from the project.

Policy CT-2d: Require major employment centers and employers to provide facilities and Traffic Demand Management (TDM) programs that support alternative transportation modes, such as bike and shower facilities, telecommuting, flexible schedules, etc. These programs may apply to existing employers as well as to new development. Establish measurable goals for these programs, and utilize a transportation coordinator that will provide information, select TDM measures, and monitor and report on program effectiveness. If voluntary TDM measures do not effectively reduce peak congestion, impose mandatory TDM measures by ordinance.

GOAL CT-3: Establish a viable transportation alternative to the automobile for residents of Sonoma County through a safe and convenient bicycle and pedestrian transportation network, well integrated with transit, that will reduce greenhouse gas emissions, increase outdoor recreational opportunities, and improve public health.

Objective CT-3.1: Design, construct and maintain a comprehensive Bikeways Network that links the County's cities, unincorporated communities, and other major activity centers including, but not limited to, schools, public facilities, commercial centers, recreational areas and employment centers.

Objective CT-3.2: Reduce Sonoma County's greenhouse gas emissions by achieving a non-motorized trips mode share of 5% for all trips and 10% for trips under five miles long by 2020.

Objective CT-3.3: Encourage pedestrian, bicycle, and transit oriented development.

Objective CT-3.7: Provide a diverse range of recreational opportunities through a well-designed network of bikeways, multi-use trails, sidewalks, and related support facilities.

Policy CT-3o: Consider development of Bicycle Boulevards in urbanized areas and unincorporated communities on routes that offer alternatives to bikeways on high speed collector and arterial roadways. Bicycle boulevards are streets optimized for travel by bicycles rather than automobiles through reduction of traffic speed and volume using traffic calming measures such as diverters and roundabouts. Traffic controls should be optimized to assign right of way to bicycles. Signage and street design should encourage use by bicyclists and informs motorists that the roadway is a priority route for bicyclists.

Policy CT-3dd: Develop a Class I "Rails with Trails" bikeway along the SMART and NCRA rights-of-way. Give highest priority to segments that provide connections between cities along the Highway 101 corridor from Windsor to Petaluma.

Policy CT-3ee: Encourage the use of flexible parking, circulation and road design standards for higher density residential and mixed-use projects that make walking and bicycling the preferred mode of transportation within the project and surrounding area.

Policy CT-3ff: Provide adequate bicycle parking as part of all new school, public transit stops, public facilities, and commercial, industrial, and retail development following standards established in adopted Bikeways Plan.

Policy CT-3pp: Require pedestrian-oriented street design in Urban Service Areas and unincorporated communities.

3.6.3 IMPACTS AND MITIGATION MEASURES

GHG METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

Analysis Approach

The California Office of Planning and Research (OPR) recommends that lead agencies under CEQA make a good-faith effort, based on available information, to estimate the quantity of GHG emissions that would be generated by a proposed project, including the emissions associated with construction activities, stationary sources, vehicular traffic, and energy consumption. The purpose of such an effort is to determine whether the impacts have the potential to result in a significant project or cumulative environmental impact and, where feasible mitigation is available, to mitigate any project or cumulative impact determined to be potentially significant. In 2010, the OPR prepared amendments to the State CEQA Guidelines, pursuant to SB 97 (Statutes of 2007) for adoption by the California Natural Resources Agency. The amendments added several provisions reinforcing the requirements to assess a project's GHG emissions as a contribution to the cumulative impact of climate change. The amendments went into effect on March 18, 2010. In late 2018, the OPR finalized further changes the CEQA Guidelines, which address the analysis of greenhouse gas emissions. The amendments became effective December 28, 2019.

Specifically, CEQA Guidelines Section 15064.4, as amended December 28, 2018, states:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Quantify greenhouse gas emissions resulting from a project; and/or

(2) Rely on a qualitative analysis or performance based standards.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following

factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

> *(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.*
>
> *(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.*
>
> *(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.*

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

GHG Thresholds of Significance

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the Project would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

AB 32, SB 375, and SB 32 target the reduction of statewide emissions. These actions do not specify that the emissions reductions should be achieved through uniform reduction by geographic location or by emission source characteristics. Consistent with the guidance provided in CEQA Guidelines Section 15064.4(a)(2), Sonoma County has prepared this EIR in a manner which includes a quantification of the Project buildout GHG emissions, as well as both quantitative and qualitative analysis and discussion of the Project's consistency with AB 32, SB 375, and SB 32. According to the BAAQMD, if the Project is consistent

with the applicable GHG threshold(s) as promulgated by BAAQMD, the Project would not generate GHGs that would have a significant impact on the environment.[13]

The May 2017 BAAQMD CEQA Guidelines[14] provides the following thresholds relevant to GHGs for Specific Plans:

- Plan-Level:
  - Construction: no thresholds.
  - Operational:
    - 4.6 CO_2e/SP/year. This efficiency threshold can be applied to other plans, such as specific plans, congestion management plans, etc.

Under the above threshold of significance in the BAAQMD CEQA Guidelines, if *annual emissions* of operational-related GHGs exceed 4.6 CO_2e/SP/year for a specific plan, the Project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change. However, if the Project is under this threshold, the Project would result in a less than cumulatively considerable contribution of GHG emissions and a less than significant impact to global climate change.

The above-referenced BAAQMD threshold was designed to meet the AB 32 goal of achieving 1990 emission levels by year 2020. However, given that year 2020 has passed, it is important to consider the SB 32 goal for year 2030 of achieving a 40% reduction in emissions levels from 1990 by year 2030. When taking into account a 40% reduction to the BAAQMD threshold contained in the BAAQMD CEQA Guidelines, the threshold would be 2.8 CO_2e/SP/year for a specific plan, for projects post-2020.

In order to determine whether or not the Project would generate GHG emissions that may have a significant impact on the environment, this EIR relies primarily on the Project's consistency with:

1. The GHG efficiency threshold established by the current BAAQMD guidance (i.e. efficiency threshold), revised to achieve the SB 32 goal as discussed above;

2. The per capita GHG efficiency threshold and GHG reduction strategies established by the latest version of the CARB Scoping Plan (the 2017 Climate Change Scoping Plan); and

3. Compliance with the existing Sonoma County General Plan, the 2017 Scoping Plan, and Plan Bay Area 2050.

[13] Bay Area Air Quality Management District, CEQA Guidelines, May 2017.
[14] Ibid.

IMPACTS AND MITIGATION MEASURES – GREENHOUSE GASES

Impact 3.6-1: Implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (Significant and Unavoidable)

As discussed above, there is no qualified GHG reduction plan that is applicable in Sonoma County.[15] Additionally, the existing Sonoma County General Plan provides goals, policies, and actions that reduce air pollutants and GHG emissions.

The following provides an analysis of the Project's consistency with (1) the current version of the statewide Scoping Plan (the 2017 Climate Change Scoping Plan), (2) the Sonoma County General Plan, (3) the Sonoma County Climate Change Action Resolution, and (4) applicable best management practices as promulgated by the BAAQMD (including consistency with the BAAQMD's GHG thresholds of significance provided for plan-level impacts).

CONSISTENCY WITH THE CARB'S 2017 CLIMATE CHANGE SCOPING PLAN

The draft Specific Plan includes a number of goals and policies to decrease vehicle trips, including:

- **Goal SC-1**: Specific Plan Goal SC-1 would ensure that the street network is designed to provide equally for all users, including pedestrians, bicyclists, and transit riders.
    - **Policies SC-1a, SC-1b, SC-1c, and SC-1e**: These policies would require improvements to pedestrian, bicycle, and transit travel within the Springs area, through circulation improvements, new pedestrian, bicycle, and transit amenities, and other features.
- **Goal SC-2**: Goal SC-2 encourages the creation of safe, convenient, and well-connected pedestrian and bicycle circulation systems with general amenities.
    - **Policies SC-2a through SC-2j:** These policies would require development to provide circulation improvements to create walkable and bikeable communities, improve pedestrian and bicycle linkages and facilities, and encourage a pedestrian- and bicyclist-friendly environment.
- **Goal SC-3**: Goal SC-3 encourages transit ridership in the Springs area.
    - **Policies SC-2a through Policy SC-3j:** These policies support Goal SC-3 by improving coordination with Sonoma County Transit, creating public awareness campaigns to promote transit use, promoting the improvement of bus stops and related amenities, and providing other approaches to increase transit ridership.
- **Goal SC-4**: Goal SC-4 ensures there is adequate parking to accommodate residents, businesses, and visitors to the Springs.
    - **Policy SC-4d**: This policy supports car-sharing by encouraging larger development projects to reserve parking spaces for car-share vehicles.
    - **Policy SC-4i**: This policy considers the establishment of means to fund bicycle path development and transit improvements.
    - **Policy SC-4j**: This policy encourages the installation of electric charging stations on both public property and in private development.

[15] Although the Sonoma County Regional Climate Protection Authority had previously developed a climate action plan for Sonoma County, entitled Climate Action 2020 and Beyond, implementation of Climate Action 2020 and Beyond was put on hold following a lawsuit.

- **Policies SC-4l and Policy SC-4m:** These policies would require bicycle parking near the front entrance of commercial buildings, and in all parking lots and structures, respectively. Development consistent with these goals and policies would reduce transportation-related GHG emissions.

The new buildings (non-residential) constructed and operated within the Plan area would be subject to the current CALGreen energy efficiency standards, resulting in development that is significantly more energy efficient than the current buildings in the surrounding area, many of which were constructed under previous versions of the Title 24 energy code. Plumbing fixtures and landscaping installed as part of the Project would result in a decrease in per capita water use compared to existing land uses throughout the Springs area and the region. The Project would also need to operate in accordance with the goals of AB 341 that requires a 75% diversion rate of waste from landfills. Once built, the Plan area would become part of existing development within the state that can be subjected to a variety of future state or federal GHG reduction measures intended to target existing development to the extent they are legally applicable. Additionally, the Project's operational emissions would be reduced as more regulations are implemented by the CARB and other State agencies to comply with the statewide GHG reduction targets. For example, the project's transportation emissions would be expected to lessen over time as vehicle efficiency standards are implemented beyond the Advanced Clean Cars program and the Low Carbon Fuel Standard is strengthened. Therefore, Project emissions would continue to be reduced beyond the buildout year due to regulations that would indirectly affect project emissions.

California met its 2020 GHG reduction target early (in 2016)[16], and is well positioned to maintain and continue reductions beyond 2020 (CARB, 2014). The first update to the Climate Change Scoping Plan elaborated on potential GHG reduction goals beyond 2020:

> *This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts [MW] of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions (CARB, 2014b).*

Similarly, the CARB's 2017 Climate Change Scoping Plan provides policies that are considered needed to meet the State's mid-term and long-term GHG emissions reduction targets. For example, the 2017 Climate Change Scoping Plan describes that, although "zero net carbon buildings" are not feasible at this time, they will be necessary to achieve the 2050 target. The CARB's 2017 Climate Change Scoping Plan also provides the "Scoping Plan Scenario", which describes policies intended to meet the Governor's climate pillars, and the State's mid-term and long-term GHG emissions reduction targets.

Therefore, recognizing the CARB as an authoritative substantial evidence source in evaluating post-2020 GHG impacts, this analysis also evaluates whether buildout of the Project would interfere with the main programs the CARB has identified to support is conclusions that the state is on a trajectory to meet the 2030 and 2050 GHG targets, discussed below.

[16] California Air Resources Board (CARB). 2018. https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time

- **(1) Initiative to Install 12,000 MW of renewable distributed energy by 2020.** Buildout of the Project would not interfere with the State's goal to install 12,000 MW of renewable distributed generation systems by 2020, since the Project would be developed after 2020.

- **(2) California Building Standards Commission's goal to construct net-zero energy homes after 2020**. As spelled out in the California Energy Efficiency Strategic Plan, the state has ambitious (though non-binding) goals for the development of zero net energy buildings. The Project is not anticipated to interfere with the ability of the California Building Standards Commission's goal of constructing net-zero energy homes after 2020. The Project is expected to achieve full buildout by approximately 2040 and would be constructed to comply with existing building energy standards at the time building permits are obtained. Therefore, buildout of the Project would not interfere with the State's ability to develop net-zero energy homes for new construction after 2020.

- **(3) Existing building retrofits under AB 758.** Buildout of the Project would not interfere with the State's implementation of building retrofits to further energy efficiency for existing buildings under AB 758. New buildings and remodels (non-residential) within the Plan area would be constructed compliant with applicable California Building Standards Code requirements, including CALGreen standards, which would not interfere with CEC or other initiatives implemented to increase energy efficiency and reduce GHG emissions associated with buildings that do not adhere to Title 24 standards.

- **(4) 60 Percent RPS by 2030 and Zero-Carbon Electricity under SB 100**. Under SB 100, the State committed to reducing GHG remissions in the electricity sector through the implementation of the 60% eligible renewables by 2030 and 100% by 2045. The California Public Utilities Commission (CPUC) implements and administers RPS compliance, by regulating California's retail sellers of electricity, which include PG&E. Buildout of the Project would not interfere with the RPS, since it would not affect any retail seller of electricity. In addition, the state is on its way to meeting the 60% RPS requirement by 2030, according to data available from the CPUC. Sonoma County has no ability to affect implementation of the RPS – rather, PG&E and Sonoma Clean Power have full responsibility for meeting the RPS requirements, as implemented and administered by the CPUC. Therefore, the Project would not interfere with implementation of the State's RPS goals.

- **(5) Low Carbon Fuel Standard**. The Low Carbon Fuel Standard is designed to encourage the use of cleaner low-carbon fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions. Buildout of the Project would not interfere with this state-level program.

- **(6) Mobile Source Strategy**. The CARB developed an updated Mobile Source Strategy in May, 2016. The Mobile Source Strategy is a framework that identifies the levels of cleaner technologies necessary to meet our many goals and high-level regulatory concepts that would allow the State to achieve the levels of cleaner technology. The actions contained in the Mobile Source Strategy are designed to deliver broad environmental and health benefits, as well as support much needed efforts to modernize and upgrade transportation infrastructure, enhance system-wide efficiency and mobility options, and promote clean economic growth in the mobile sector. Buildout of the Project would not interfere with this state-level program, since it is a planning effort at the State

level related to future transportation technology that is independent of the development of individual Projects.

- **(7) Short-Lived Climate Pollutant strategy under SB 1383**. SB 1383 is a State program that provides a strategy to reduce short-lived climate pollutants. The goals of the program are to reduce methane and hydrofluorocarbon (HFC) emissions below 2013 levels by 2030, and a 50% reduction in anthropogenic black carbon emissions below 2013 levels by 2030. Buildout of the Project would not interfere with this state-level program.

- **(8) California Sustainable Freight Action Plan**. This program is designed to improve freight system efficiency within the state by 25% by 2030. Buildout of the Project does not include any features that would interfere with this state-level program, since the Project does not develop any infrastructure or other components that would impede implementation of this program.

- **(9) Post-2020 Cap-and-Trade Program**. The CARB's Scoping Plan also recommended the development of a California Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system. On January 1, 2013, the CARB launched the second-largest GHG Cap-and-Trade Program in the world. The Cap-and-Trade Program establishes a hard and declining cap on approximately 85% of total statewide GHG emissions. Under the Cap-and-Trade Program, the CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. As the emissions cap is gradually reduced over time, and as additional sources are brought under the cap to include the vast majority of emissions in the state, the program will ensure that California remains on track to continually reduce emissions and meet the 2020 limit. The Cap-and-Trade Regulation is not directly applicable to the Project because it does not allow for uses (i.e. large industrial, electrical generation, transportation, natural gas, or similar uses) that could potentially utilize California's Cap-and-Trade Program.

Further, the Project has been evaluated based on its potential to exceed the per capita GHG efficiency thresholds established by the 2017 Climate Change Scoping Plan. As described in greater detail under Impact 3.6-2 (below), the Project would not exceed the applicable CARB Scoping Plan per capita GHG efficiency threshold of 6 MT CO_2e per capita per year for year 2030, or the interpolated per capita threshold for year , but would exceed the 2 MT CO_2e per year for year 2050. See Impact 3.6-2 for detailed numerical results and further details.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The existing Sonoma County General Plan provides goals, policies, and actions that reduce air pollutants and GHG emissions. The Project would be consistent with and rely on these goals, objectives, and policies. The Project promotes infill development, develops a centrally-located community plaza, increases the availability of affordable, workforce, and mixed use housing, improves the pedestrian, bicycle, and transit network, and creates and connects to more parks and open space than the currently exists. The goals and policies that would promote consistency with the Sonoma County General Plan include those described in the discussion above (under Consistency with the CARB's 2017 Climate Change Scoping Plan), as well as Specific Plan Goal SC-4, which would ensure adequate availability of public and private parking (by reducing vehicle travel and idling while waiting for parking spot availability to open up), Policy SC-4a and

Policy SC-4b, which facilitate the development of public parking lots and minimization of the negative impacts of parking on overall site design of individual projects. Therefore, the Project would help to reduce air pollutants and GHG emissions, consistent with the goals, objectives, and policies contained within the Sonoma County General Plan, including General Plan Goal OSRC-16 (designed to preserve and protect good air quality), Objective OSRC-16.1 (minimizes air pollution and GHG emissions), Objective OSRC-16.2 (encourages reduced motor vehicle use), Goal CT-2 (encourages increased opportunities for transit systems, pedestrians, bicycling, and other alternative modes of transportation), Objective CT-2.8 (encourages the provision of bicycle and pedestrian links from bus stop and other transit facilities), Objective CT-2.10 (Utilizes availability roadway shoulders, paths, and bike lanes for alternative transportation modes), and the related policies. See the Regulatory Setting for the full list of Sonoma County General Plan policies that are relevant to GHGs.

CONSISTENCY WITH THE SONOMA COUNTY CLIMATE CHANGE ACTION RESOLUTION

The Sonoma County Climate Change Action Resolution contains local goals to reduce GHG emissions. The Project has been developed with the local goals contained within the Sonoma County Climate Change Action Resolution in mind. A full list of Specific Plan goals and policies that demonstrate compliance with many of the GHG reduction goals contained with the Sonoma County Climate Change Action Resolution are provided at the end of this impact discussion. The Project would be consistent with all applicable GHG reduction goals identified within the Sonoma County Climate Change Action Resolution. These are summarized as follows:

- **Goal 1: Increase building energy efficiency**: New development within the Plan area would be required to implement at least existing CALGreen energy efficiency standards and/or the Tier 1 standards for new development. This would ensure that new buildings would have improved energy efficiency than existing development. Therefore, the Project would be consistent with this GHG reduction goal.

- **Goal 2: Increase renewable energy use**: Although individual solar installations are not planned at this time, development within the Plan area would be required to comply with all state and local requirements related to solar energy for new development. It is expected that development within the Project would lead to greater use of renewable energy use over time. The Project would not conflict with this goal.

- **Goal 3: Switch equipment from fossil fuel to electricity**: The Specific Plan includes goals and policies related to encouraging electric vehicles in place of fossil-fuel vehicles. For example, Specific Plan Policy SC-4j encourages the installation of electric charging stations on both public property and in private development. The Project would be consistent with this goal.

- **Goal 4: Reduce travel demand through focused growth:** The Project incorporates mixed use, infill, and higher density development. The Project is located on a transit corridor, and includes mixed-use development, improved jobs-housing balance, and would increase the amount of trips that can be completed by transit instead of personal vehicles. The Specific Plan would provide bicycle, pedestrian, and transit facilities throughout the Springs that are safe, well-lit, shaded, comfortable, well-connected, and accessible. This improved multimodal network would provide greater incentive for people to choose non-vehicular travel for their daily trips. A large number of Specific Plan goals and policies support this goal.

- **Goal 5: Encourage a shift toward low-carbon transportation options**: The Specific Plan contains many goals and policies that encourage non-single-occupancy automobile travel, such as carpooling, walking, bicycling, and transit use. For example, Specific Plan Goal SC-3 encourages transit ridership in the Springs Area, and Policy SC-3a through Policy SC-3j support Goal SC-3 by improving coordination with Sonoma County Transit, creating public awareness campaigns to promote transit use, promoting the improvement of bus stops and related amenities, and providing other approaches to increase transit ridership. Other goals and policies contained within the Specific Plan would encourage walking and bicycling, such as Goal SC-1 and Policies SC-1a, SC-1b, SC-1c, and SC-1e. The Project would be consistent with this goal.

- **Goal 11: Reduce water consumption**: The Project would be required to comply with all policies regulating water conservation, including those contained in Title 24, Part 6 of the California Code of Regulations, also known as the Building Energy Efficiency Standards. Therefore, the Project would not conflict with this goal.

- **Goal 12: Increase recycled water and graywater use**: The Project would be required to comply with all policies the use of recycled water and graywater use, including those contained in Title 24, Part 6 of the California Code of Regulations, also known as the Building Energy Efficiency Standards. Therefore, the Project would not conflict with this goal.

- **Goal 13: Increase water and waste-water infrastructure efficiency:** The Project would not develop large-scale wastewater infrastructure. However, the Project would be required to comply with all local policies relating to the development of water and wastewater infrastructure (including any relating to the local connections from new development to the existing wastewater infrastructure). The Project would not conflict with this goal.

- **Goal 19: Increase carbon sequestration**: The Project would not conflict with state or local policies regulating carbon sequestration and would increase opportunities for carbon sequestration through promoting an increase in street trees. Therefore, the Project would not conflict with this goal.

- **Goal 20: Reduce emissions from the consumption of goods and services**: The Project would not conflict with state or local policies regulating GHG emissions from the consumption of goods and services. The Project would increase the range of goods and services available to Springs area residents, and would also place housing in close proximity to existing and planned sources of local goods and services. The Project promotes walkability and bikeability and would reduce vehicle miles travelled associated with the consumption of goods and emissions. Therefore, the Project would not conflict with this goal.

CONSISTENCY WITH PLAN BAY AREA 2050

Plan Bay Area 2050 is the San Francisco Bay Area's approved SCS/RTP. Plan Bay Area 2050 charted a course for reducing per-capita greenhouse gas emissions through the promotion of more compact, mixed-use residential and commercial neighborhoods near transit. The Project would be consistent with this overall objective for development. Moreover, the Project would be consistent with each of the goals related to climate change identified in Plan Bay Area 2050. For example, the Project is consistent with Plan Bay Area 2050's goal of protecting and preserving adequate housing (to help house the region's population), improving economic mobility, shifting the location of jobs, maintaining and optimizing the existing transportation system, creating healthy and safe streets, building a next-generation transit network,

expanding access to parks and open space, and reducing climate emissions Lastly, Plan Bay Area 2050 has been developed consistent with the Sonoma County General Plan, which the Project is also required to be consistent with.

CONSISTENCY WITH BAAQMD GUIDANCE

The BAAQMD maintains separate GHG thresholds of significance for individual projects and for plans. For Specific Plans, the BAAQMD advises the use of the project-level threshold of 4.6 CO_2e/SP/year for year 2020. Since year 2020 has come and gone, the proposed Project is analyzed in comparison to the threshold adjusted for year 2030 (the target year for SB 32). As previously described, the threshold is adjusted to 2.8 CO_2e/SP/year for consistency with SB 32 goal for year 2030 of achieving a 40% reduction in emissions levels from 1990 by year 2030. According to the BAAQMD, construction emissions do not apply to this threshold (BAAQMD, 2017).

As shown under Impact 3.6-2, new development in the Plan area (i.e. development accommodated by the Specific Plan) is estimated to generate approximately 9,851.8 MT CO_2e/year under the unmitigated scenario, and 7,208.3 MT CO_2e/year under the mitigated scenario[17] (see Table 3.6-3), by Project buildout. The Project would generate approximately 1,977 new residents and 632 new employees[18] (or a service population[19] of 2,609). Therefore, based on an estimated service population of 2,609, the Project in 2040 would generate approximately 3.78 MT CO_2e/service population/year under the unmitigated scenario, and 2.76 MT CO_2e/service population/year under the mitigated scenario. Both of these scenarios do not exceed the BAAQMD Plan-level GHG threshold for specific plans of 2.8 MT CO_2e/service population/year (calculated to account for the 2030 goals contained in SB 32).

Separately, the BAAQMD advises that construction emissions do not apply the BAAQMD GHG threshold. However, the BAAQMD recommends Basic Construction Mitigation Measures for all projects. The BAAQMD also encourages lead agencies to incorporate best management practices to reduce GHG emissions during construction, as applicable. Best management practices may include, but are not limited to: using alternative fuels (e.g. biodiesel, electric) construction vehicles/equipment of at least 15% of the fleet; using local building materials of at least 10%; and recycling or reusing at least 50% of construction waste or demolition materials. Compliance with the BAAQMD construction-related mitigation requirements are considered to reduce GHG impacts at both the local and basin-wide levels. Development within the Plan area would implement such measures as required Measure Air-A, below.

CONCLUSION

Overall, the Specific Plan includes a large number of goals and policies that are aimed at reducing GHGs. For example, and as provided in the list below (entitled Specific Plan Components that Mitigate Potential Impacts), the Specific Plan is designed to support walkability, convenient access to nearby transit options, higher density housing, and infill development. New high density and mixed-use housing would bring new housing opportunities to the Springs and would be located within walking distance of transit, shops, restaurants, and other amenities. In addition, a centrally-located community plaza would be developed, which would serve as a gathering place for farmer's markets, concerts, and other community events. The

[17] The mitigated scenario does not include mitigation, as defined by CEQA. Rather, it simply takes into account relevant state and local regulations as well as Specific Plan policies and features that would reduce GHG emissions, which are characterized by the modeling software (CalEEMod) as "mitigation".

[18] W-Trans, Springs Specific Plan VMT Findings and Draft Mitigation Strategy, August 18, 2021.

[19] Note: Service population is the sum of population and employees.

Project as a whole has been designed to provide alternative modes of transportation, beyond automobile travel, which acts as the largest single source of GHG emissions in the County.

The Project is designed in such a way that it would minimize GHGs and climate change impacts to the greatest degree feasible. The Project would also be consistent with all applicable regulatory requirements aimed at reducing project-related GHG emissions, as also discussed above. The Specific Plan contains an extensive list of goals and policies that are designed to reduce GHGs, and the Project does not exceed the GHG efficiency targets promulgated by the BAAQMD guidance and the CARB in their 2017 Climate Change Scoping Plan for year 2030. However, the Project would exceed the emissions per service population threshold for year 2050 as promulgated by CARB in their latest version of the CARB's Scoping Plan (2017 Climate Change Scoping Plan). Therefore, the Project would conflict with or impede implementation of GHG reduction goals identified in AB 32, SB 375, SB 32, or other federal, statewide, and local strategies to help reduce GHG emissions. Impacts associated with GHG plans, policies, and regulations would be ***significant and unavoidable***.

SPECIFIC PLAN COMPONENTS THAT MITIGATE POTENTIAL IMPACTS

Measure Air-A: Future project proponent(s) of development, infrastructure, and other land-disturbing projects shall adhere to the *Basic Construction Mitigation Measures* established by the Bay Area Air Quality Management (BAAQMD) CEQA Guidelines 2017, as amended.

Goal SC-1: Ensure that the Street Network is Designed to Provide Equally for the Needs of All Users, including Pedestrians, Bicyclists, Motorists, and Transit Riders.

Policy SC-1a: Make it easier and safer to get around the Springs by foot, bicycle, transit, and automobile.

Policy SC-1b: Ensure that circulation improvements result in attractive, functional roadways, bicycle lanes, sidewalks, pathways, transit stops, and parking areas that enhance access and safety for all users.

Policy SC-1c: Continue to improve and enhance Highway 12 to create a vibrant, multi-modal corridor by requiring wider sidewalks, buffered bike lanes, shade trees, street furniture, and other amenities.

Policy SC-1d: Improve traffic flow by decreasing the number of driveways along Highway 12. Consolidate driveways whenever possible and provide access to parcels via side or rear streets or alleys.

Policy SC-1e: Implement the roadway cross-sections included in this Specific Plan which are designed to accommodate all modes of transportation including walking, bicycling, transit, and driving.

Policy SC-1f: Coordinate with Caltrans and the City of Sonoma to consider the potential redesignation of Highway 12 to parallel routes that are better-suited to accommodate regional traffic.

Policy SC-1g: Monitor traffic patterns on Highway 12 and collaborate with Caltrans periodically to adjust traffic signal timing to improve the flow of traffic.

Policy SC-1h: Development projects that exceed ten (10) residential units or 5,000 square feet of non-residential development shall reduce VMT through implementation of a Transportation Demand Management (TDM) plan. Development projects shall be subject to the TDM conditions below, which require applicable projects to provide a foundational set of strategies plus one additional measure. A project may propose construction or funding of offsite pedestrian, bicycle, and transit infrastructure and/or participation in future regional or countywide VMT reduction programs, in lieu of a TDM plan if demonstrated to the satisfaction of the PRMD Director that the associated reduction in vehicle travel would be comparable to the TDM requirements.

A. Foundational Measures: Development projects must implement all of the following TDM measures at a minimum:

- On-site or contracted TDM coordinator
- TDM marketing
- Rideshare matching
- Onsite bicycle amenities
- Emergency Ride Home Program (applies to nonresidential uses)

B. Additional Measures: Development projects must implement at least one additional TDM measure to achieve vehicle miles traveled (VMT) and trip reduction goals. The measure must be approved by the County and can be chosen from the strategies below. The enumerated list does not preclude a project from implementing other TDM measures if desired or required by County Code.

<u>Nonresidential development</u>

- Transit/vanpool subsidies
- Parking cash-out
- VMT Mitigation Bank (if available)
- Off-Site Physical Non-Auto Mode Improvement(s)

<u>Residential development</u>

- Transit subsidies
- School-pool matching
- Unbundled parking
- VMT Mitigation Bank (if available)
- Off-Site Physical Non-Auto Mode Improvement(s)

Goal SC-2: Create a Safe, Convenient, and Well-connected Pedestrian and Bicycle Circulation System with Generous Amenities that Encourage Walking and Cycling.

Policy SC-2a: Ensure that circulation improvements create a walkable and bikeable community with convenient access to schools, parks, shops, services, restaurants, and other local destinations.

Policy SC-2b: Improve pedestrian and bicycle linkages and facilities throughout the Springs to improve mobility; provide safe routes to schools and transit stops; make the area more inviting to pedestrians and cyclists; and improve connectivity to nearby communities and regional destinations. See Figures 5 and 6 and Tables 3 and 4.

Policy SC-2c: Create a pedestrian- and bicyclist-friendly environment by ensuring that new development is human-scale and areas are provided for public seating. Other amenities that should be provided include street furniture, landscaping, shade, bicycle racks, trash receptacles, and pedestrian oriented lighting and signage. Amenities should be placed in locations that do not decrease the walkability of the sidewalk.

The ultimate configuration of any new pedestrian crossings shall be evaluated and determined by the Sonoma County Department of Transportation and Public Works, in collaboration with Caltrans, and in consideration of the physical characteristics and best design practices that exist at the time the design is initiated.

Policy SC-2d: Require that adjacent developments be connected by safe, direct walkways. Ensure that projects are designed to anticipate and accommodate future street and sidewalk connections to new development on adjacent lands.

Policy SC-2e: Prohibit cul-de-sacs and dead end streets, except where existing conditions require them. If cul-de-sacs are necessary, require walkways connecting to adjacent streets and future development.

Policy SC-2f: Require direct pedestrian access between housing and any adjacent transit facility.

Policy SC-2g: Provide new and improved crosswalks as shown in Figure 5. Prioritize safety features, such as pedestrian warning lights and bulb-outs, that improve visibility and create a more comfortable pedestrian environment, particularly in the vicinity of schools and parks.

Policy SC-2h: Provide new and improved bicycle lanes and enhance bicycle safety through the use of signs, bicycle lane buffers, and green colored pavement, as shown in Figure 6. Priority should be given to intersections when making safety improvements.

Policy SC-2i: Prioritize crosswalk, sidewalk, and bicycle lane improvements near schools, parks, transit stops, and the Springs plaza.

Policy SC-2j: When planning new crosswalks, locate crosswalks on the far side of the bus stop so that the bus passes through the crosswalk before stopping for riders.

Policy SC-2k: Require development projects along Highway 12 to provide increased sidewalk widths, consistent with the cross-sections identified in this chapter and the setback requirements set forth in the Design Guidelines chapter.

Policy SC-2l: Establish an improvement district or comparable mechanism to fund installation and maintenance of water stations, benches, street trees, landscaping, trash cans, and other community amenities along the Highway 12 corridor.

Policy SC-2m: Require development projects to establish a mechanism to fund landscaping and maintenance of the required landscaping section along Lichtenberg Avenue, Hawthorne Avenue, and W. Thomson Street.

Policy SC-2n: Require new development and redevelopment projects to include street trees that will provide a shaded canopy whenever possible.

Where street canopy trees are not feasible due to underground infrastructure or other issues, non-canopy trees or other street landscaping, such as planters, may be used, or the street trees may be set back from the sidewalk on private property.

Policy SC-2o: Encourage the development of public spaces, such as outdoor seating areas, that are easily accessible from the public sidewalk or pathway. Ensure that public spaces are designed for pedestrian comfort and provide visual interest.

Policy SC-2p: Provide water filling stations at key locations along the Highway 12 corridor. Recommended locations are shown on Figure 6, Bicycle Circulation Map.

Goal SC-3: Increase Transit Ridership in the Springs Area

Policy SC-3a: Coordinate with Sonoma County Transit to improve local bus service by increasing the frequency of bus service in the Springs and decreasing travel times.

Policy SC-3b: Support the creation of a public awareness campaign to promote transit use. Provide easy to understand schedule and bus pass information in English and Spanish.

Policy SC-3c: Coordinate with Sonoma County Transit to promote the local shuttle service (route 32) which runs between the Springs and the City of Sonoma, including continuing the branding of route 32 as a shuttle, creating a distinct look for shuttle vehicles, and updating transit signage for route 32. Sonoma County transit is also encouraged to allocate marketing resources to publicize the shuttle route to residents, employees, and visitors.

Policy SC-3d Work with Sonoma Transit to improve bus stops by providing well-lit shelters, benches, bicycle racks, and trash cans. Provide schedule information at each bus shelter location.

Policy SC-3e: Consider including public art at bus stops and using unique designs for street furniture, recognizing that all bus shelter structures will be designed according to Sonoma County Transit's standards.

Policy SC-3f: In conjunction with road or development projects, review whether a bus turnout is appropriate in locations where transit shelters exist or are planned.

Policy SC-3g: Maintain fare-free service on the Sonoma County Transit local route serving the Springs area (currently route 32 Sonoma Shuttle).

Policy SC-3h: Explore use of micro-transit and on-demand transit.

Policy SC-3i: Encourage private shuttles to serve the community.

Policy SC-3j: Work with local employers and retailers to identify opportunities for private shuttles to serve employment sites and other destinations that are not currently served by transit.

Goal SC-4: Ensure Adequate Public and Private Parking to Accommodate Residents, Businesses, and Visitors to the Springs

Policy SC-4a: Facilitate the development of public parking lots in proximity to the future community plaza (Highway 12/Boyes Avenue) and in the northern portion of the mixed use corridor, as described in Table 5. Integrate retail into the street-level frontage of any parking garages constructed in a commercial district.

Policy SC-4b: Minimize the negative impacts of parking on the overall site design of individual projects by locating parking to the rear of the site, either behind or below buildings, unless parking is provided in a multi-level structure or a shared parking facility. Parking for parcels located along the Highway must be accessed from either side or rear streets or alleys whenever possible. If the site does not have a rear or side street access, shared driveways should be used to minimize sidewalk disruption.

Policy SC-4d: Support car-sharing by encouraging larger development projects to reserve parking spaces for car-share vehicles. Reserve strategic on-street spaces for car-share vehicles as demand for such services increases.

Policy SC-4i: Consider the establishment of a parking district or in-lieu parking fees to fund the construction of new public parking and programs that reduce parking demand, such as bicycle path development and transit improvements.

Policy SC-4j: Encourage the installation of electric charging stations on both public property and in private development.

Policy SC-4l: Require bicycle parking near the front entrance of commercial buildings.

Policy SC-4m: Include bicycle parking in all parking lots and structures.

Impact 3.6-2: Implementation of the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (Significant and Unavoidable)

A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative global impact. The Project would establish land use designations to allow development in an area that currently contains residential, commercial, office, and public uses. Future development of the Plan area would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to such future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as CH_4 and N_2O, from mobile sources and utility usage.

In order to determine if the future development contemplated by the Project would generate GHGs that may have a significant effect on the environment, Sonoma County has relied on the Project's consistency with previously adopted plans and programs aimed at reducing GHG levels both locally, regionally, and statewide (including the Sonoma County Climate Change Action Resolution, and the CARB's 2017 Climate Change Scoping Plan). In California, the primary legislation related to statewide GHG reduction targets is AB 32 and SB 32, which call for reducing statewide GHG emissions to 1990 levels by 2020, and to 40% below 1990 levels by 2030. GHG emissions generated by buildout of the Project would consist primarily of CO_2 emissions, with very limited quantities of CH_4 and N_2O also generated. CO_2e provides a universal standard of measurement against which the impacts of releasing (or avoiding the release of) different GHGs can be evaluated. CalEEMod (v.2020.4.0) was used to estimate operational GHG emissions associated with full buildout of the Project. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e$), based on the global warming potential of the individual pollutants.

Table 3.6-1 shows the CO_2e emissions, which include mobile source, area source, and energy emissions that would result from operations under buildout of the Project. The full calculations, inputs, and assumptions are provided in Appendix C. The emissions calculations presented below assume implementation of the policies and actions that are immediately available to the Springs area in the near-term. As such, these estimates are considered a "worst-case" scenario, and do not account for all additional GHG emissions reductions that may be achieved following adoption and implementation of the County's climate action plan.

POTENTIAL TO GENERATE SIGNIFICANT GHG EMISSIONS

Short-Term Construction GHG Emissions: The maximum annual GHG emissions associated with construction within the Plan area would be approximately 1,209.0 MT CO_2e/year, with total construction emissions over the lifetime of buildout of the Project estimated at 15,507.9 MT CO_2e (as provided by CalEEMod). Amortized over a 30-year period, total construction emissions of the lifetime of the buildout of the Project would be approximately 516.9 MT CO_2e/year.

Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change in the long-term. The BAAQMD does not have a GHG threshold for construction GHG emissions, and since Project GHG emissions are short-term in nature, construction emissions are not assumed to significantly contribute to long term cumulative GHG emissions impacts. Additionally, the proposed Project would implement Measure AIR-A, which requires implementation of the BAAQMD's Basic Construction Mitigation Measures for all projects. See the analysis below, and Appendix C (which contains the full CalEEMod modeling results) for further detail.

Long-Term Operational GHG Emissions: Buildout of the Plan Area, as described in Section 2.0 (Project Description,) would generate long-term operational GHG emissions. The Project's unmitigated and mitigated long-term operational GHG emissions of buildout of the Project for years 2040 and 2050 is shown in Table 3.6-3. GHG emissions are categorized into five distinct emissions categories, summarized as follows:

- Area: fossil fuel combustion from landscaping activities (such as fuel used for combustion to power landscaping equipment);
- Energy: fossil fuel combustion from building electricity and natural gas consumption;
- Mobile: fossil fuel combustion from mobile vehicles;
- Waste: off-gassing from landfilled solid waste; and
- Water: emissions associated with supplying and treating water and wastewater.

TABLE 3.6-3: OPERATIONAL GHG EMISSIONS UNDER BUILDOUT OF THE PROJECT (YEARS 2040 AND 2050)

EMISSIONS CATEGORY	*EMISSIONS CATEGORY (DETAIL)*	*UNMITIGATED CO_2E (METRIC TONS/YEAR)*	*MITIGATED CO_2E (METRIC TONS/YEAR)*
Year 2040			
Area	Energy to fuel landscaping equipment	8.8	8.8
Energy	Electricity and natural gas	1,625.8	1,462.0
Mobile	Energy for vehicle travel	7,625.4	5,175.6
Waste	Off-gassing from landfilled solid waste	431.5	431.5
Water	Energy for transport of water to consumer	160.3	130.4
Total Annual		**9,851.8**	**7,208.3**
Year 2050*			
Area	Energy to fuel landscaping equipment	8.8	8.8
Energy	Electricity and natural gas	1,625.8	1,462.0
Mobile	Energy for vehicle travel	7,398.9	5,021.3
Waste	Off-gassing from landfilled solid waste	431.5	431.5
Water	Energy for transport of water to consumer	160.3	130.4
Total Annual		**9,625.4**	**7,054.0**

SOURCES: CALEEMOD (V.2020.4.0)

*NOTE: EMISSIONS MAY NOT ADD UP DUE TO ROUNDING. *YEAR 2050 GHG EMISSIONS PROVIDED FOR INFORMATIONAL PURPOSES ONLY.*

As shown above, the Project was estimated to generate annual operational emissions in 2040 of approximately 9,851.8 MT CO_2e in the unmitigated scenario and 7,208.3 MT CO_2e under the mitigated scenario, and in 2050 of approximately 9,625.4 MT CO_2e in the unmitigated scenario and 7,054.0 MT CO_2e under the mitigated scenario. It should be noted that the mitigated scenario does not account for any mitigation, as defined by CEQA. Rather, it simply takes into account relevant state and local regulations as well as Specific Plan policies and features that would reduce GHG emissions above and beyond the modelled 'unmitigated' scenario, as provided below, but does not include mitigation as recognized by CEQA. Specifically, the mitigated scenario takes into account:

- Density of Plan Area: 11.8 dwelling units/acre and 33 jobs/ acre;
- Distance to Downtown Job Centre: 0.01 miles;
- Distance to Nearest Transit Station: 0.5 miles;
- % of Dwelling Units below market rate: 14.6%;
- Improved Pedestrian Network on-site and connecting off-site;
- Traffic calming: 25% of streets with improvements and 25% of intersections with improvements;
- No hearths;
- Meet the Title 24 Energy Efficiency requirements;
- Install modern high-efficiency lighting;

- Meet indoor water use efficiency requirements as required by the Title 24 Energy Efficiency requirements; and
- Implement water-efficient irrigation systems, as required under the Title 24 Energy Efficiency requirements.

It should also be noted that the State is on track to achieve its goal-oriented target of 100% Renewable Portfolio Standard by 2045.

ANALYSIS

Buildout of the Project is evaluated below, based on its consistency with the applicable GHG thresholds as promulgated by the BAAQMD and as provided by the CARB's 2017 Climate Change Scoping Plan.

Consistency with the CARB's 2017 Climate Change Scoping Plan

The CARB's 2017 Climate Change Scoping Plan, adopted in November 2017, provides guidance on how the State's established GHG reduction targets will be achieved through various State and local actions. As discussed in Chapter 5 of the 2017 Climate Change Scoping Plan "Achieving Success", local jurisdictions working to set GHG reduction targets aligned with the State targets may use per capita emission estimates to recognize the GHG reductions needed to remain in line with State targets. Specifically, the CARB identifies that the State's recommended per capita targets of reducing statewide annual emissions to 6 $MTCO_2e$ per capita by 2030, and a longer-term goal of reducing annual emissions to 2 $MTCO_2e$ per capita by 2050. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emissions limit established under AB 32.

Therefore, even though full buildout of the Project would occur by year 2040, an evaluation of the Project's GHG emissions in comparison to year 2050 target is appropriate at this time. It is anticipated that additional future state, regional, and local GHG strategies would be required by 2050, but the exact nature of these GHG strategies is not known at this time. Therefore, the following discussion provides an analysis of the Project's buildout per capita emissions in years 2030 and 2050, consistent with the per capita GHG emissions thresholds as established for the State of California as a whole by 2030 (see CARB's 2017 Climate Change Scoping Plan for further detail).

As shown in Table 3.6-3, new development in the Plan area by 2040 (i.e. development accommodated by the Specific Plan) is estimated to generate in 2040 approximately 9,851.8 MT CO_2e under the unmitigated scenario and 7,208.3 MT CO_2e under the mitigated scenario, and in 2050 of approximately 9,625.4 MT CO_2e in the unmitigated scenario and 7,054.0 MT CO_2e under the mitigated scenario. The Project would generate approximately 1,977 new residents by Project buildout, as described in greater detail Chapter 2.0 (Project Description). Therefore, in 2040, the Project would generate approximately 4.98 MT CO_2e per capita under the unmitigated scenario, and 3.65 MT CO_2e per capita under the mitigated scenario. Additionally, the mitigated scenario for year 2040 would not exceed the interpolated CARB threshold of 4 $MTCO_2e$ per capita for year 2040.[20]

[20] The 4 MT CO_2e per capita was calculated by taking a straight average of 2 MT CO_2e per capita for year 2030 and 6 MT CO_2e per capita for year 2050, as promulgated by the CARB in their 2017 Scoping Plan Update.

As described in greater detail under Impact 3.6-2 (below), the Project would not exceed the applicable CARB Scoping Plan per capita GHG efficiency threshold of 6 MT CO_2e per year for year 2040, but would exceed the 2 MT CO_2e per year for year 2050.

Additionally, construction emissions would also be generated by the Project. For the sake of a conservative analysis, construction emissions can be considered in conjunction with operational emissions when evaluating a project's GHG emissions against applicable thresholds. When amortized over a 30-year period, and as described in further detail above, the Project's construction emissions would contribute an additional 516.9 MT CO_2e/year. When added to the Project's operational emissions, the Project would generate in 2040 approximately 5.24 MT CO_2e per capita under the unmitigated scenario, and 3.91 MT CO_2e per capita under the mitigated scenario, and in 2050 approximately 5.13 MT CO_2e per capita under the unmitigated scenario, and 3.83 MT CO_2e per capita under the mitigated scenario. Although the 2040 scenarios do not exceed the CARB threshold of 6 MTCO_2e per capita for year 2040, the 2050 scenarios would exceed the CARB threshold of 2 MTCO_2e per capita for year 2050.

Consistency with BAAQMD Guidance

The BAAQMD maintains separate GHG thresholds of significance for individual projects and for plans. For Specific Plans, the BAAQMD advises the use of the project-level threshold of 4.6 CO_2e/SP/year. Separately, to account for the year 2030 goals contained in SB 32, the project-level threshold of 2.8 CO_2e/SP/year is also used.

There is no BAAQMD Plan-level GHG emissions threshold of significance for construction emissions. In addition, construction emissions that would occur during implementation of the Project would be temporary in nature, and would therefore not generate a significant impact on the environment. Nevertheless, for the sake of a conservative analysis, Project construction emissions were amortized over a 30-year period and are evaluated in conjunction with Project operational emissions below.

New development in the Plan area (i.e. development accommodated by the Specific Plan) is estimated to generate approximately 9,851.8 MT CO_2e/year under the unmitigated scenario, and 7,208.3 MT CO_2e/year under the mitigated scenario (see Table 3.6-3), by Project buildout. The Project would generate approximately 1,977 new residents and 632 new employees[21] (or a service population[22] of 2,609). Therefore, based on an estimated service population of 2,609, the Project in 2040 would generate approximately 3.78 MT CO_2e/service population/year under the unmitigated scenario, and 2.76 MT CO_2e/service population/year under the mitigated scenario. The mitigated scenario does not exceed the 2.8 CO_2e/SP/year for a specific plan (calculated to account for the 2030 goals contained in SB 32).

CONCLUSION

As discussed under Impact 3.6-1, the Specific Plan includes a large number of goals and policies that are aimed at reducing GHGs. For example, and as provided in the list below (entitled Specific Plan Components that Mitigate Potential Impacts), the Specific Plan is designed to support walkability, convenient access to nearby transit options, higher density housing, and infill development. New high density and mixed-use housing would bring new housing opportunities to the Springs and would be located within walking distance of transit, shops, restaurants, and other amenities. In addition, a centrally-located community

[21] W-Trans, Springs Specific Plan VMT Findings and Draft Mitigation Strategy (Updated Draft), August 18, 2021.
[22] Note: Service population is the sum of population and employees.

plaza would be developed, which would serve as a gathering place for farmer's markets, concerts, and other community events. The Project as a whole has been designed to provide alternative modes of transportation, beyond automobile travel, which acts as the largest single source of GHG emissions in the County.

The Project is designed in such a way that it would minimize GHGs and climate change impacts to the greatest degree feasible. The Project would also be consistent with all applicable regulatory requirements aimed at reducing project-related GHG emissions, as also discussed above. The Specific Plan contains an extensive list of goals and policies that are designed to reduce GHGs, and the Project does not exceed the GHG efficiency targets promulgated by the BAAQMD guidance and the CARB in their 2017 Climate Change Scoping Plan for year 2030.

The Project would comply with all relevant goals, policies, and actions as provided with the Sonoma County General Plan. Moreover, the Project would be consistent the applicable GHG emissions efficiency thresholds as promulgated by the BAAQMD. However, although the Project would achieve the year 2030 per service population efficiency target in year 2030, it would not achieve the year 2050 per service population efficiency target in year 2050, as provided in the CARB 2017 Climate Change Scoping Plan. Therefore, the Project would not be in full compliance with all relevant federal, state, and local strategies to help reduce GHG emissions. This a ***significant and unavoidable*** impact.

ENERGY METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

Analysis Approach

In order to assure that energy implications are considered in project decisions, the CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

Energy Thresholds of Significance

Per Appendix G of the State CEQA Guidelines, the Project would result in a significant impact on energy use if it would:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In order to determine whether or not the development of the Project would result in a significant impact on energy use, this EIR includes an analysis of energy use related to the development of the Project, which is provided below. The Project is also analyzed with respect to its potential to conflict with or obstruct any state or local plan for renewable energy or energy efficiency.

IMPACTS AND MITIGATION MEASURES – ENERGY

Impact 3.6-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, or conflict with or obstruct a state or local plan for renewable energy of energy efficiency (Less than Significant)

Appendix G of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). The means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The Project includes residential and non-residential land uses. The amount of energy used by development of the Project would directly correlate to the number and size of the residential units, the energy consumption of associated unit appliances, outdoor lighting, and the energy use associated with non-residential Plan area buildings and activities. Other major sources of Project energy consumption include fuel used by vehicle trips generated during construction and operation activities, and fuel used by off-road construction vehicles during construction. The following discussion provides calculated levels of energy use expected for the Project, based on commonly used modelling software (i.e. CalEEMod v.2020.4.0 and the California Air Resource Board's EMFAC2020). It should be noted that many of the assumptions provided by CalEEMod are conservative relative to the Project. For example, the energy intensity values used by CalEEMod to determine Project building energy usage are based on historical values, which are expected to go down in the future as buildings in California become increasingly energy-efficient. Additionally, the off-road construction equipment as provided by default within CalEEMod (based on the size and type of land uses within the proposed Specific Plan) were maintained within the modelling. However, these defaults typically provide an overestimate of project off-road construction emissions, for the sake of a conservative analysis. Therefore, this discussion provides a conservative estimate of Project energy usage.

ELECTRICITY AND NATURAL GAS

"Energy" is one of the categories that were modeled for GHG emissions in CalEEMod. The "Energy" category includes energy consumption from both natural gas and electricity (as provided by PG&E and Sonoma Clean Power). The Project's total operational mitigated GHG emissions generated from the "Energy" category in 2040 is approximately 1,462.0 $MTCO_2e$. The following discussion includes a more detailed breakdown of energy consumption in terms of natural gas and electricity consumption. It should be noted that "mitigated" emissions (as defined by CalEEMod) were used in the following tables, since the modeled mitigated scenario takes into account relevant state and local regulation that would reduce GHG emissions above and beyond the modelled 'unmitigated' scenario, but this does not include mitigation as recognized by CEQA.

Operational natural gas consumption by the Project is estimated to be 17 "tera-BTU" per year (TBTU/year) under the unmitigated scenario, and 15 TBTU/year under the mitigated scenario, at full project buildout. Operational electricity consumption by the Project is estimated to be 8 "tera-watt-hours" per year (TWh/year) under the unmitigated scenario, and 7 TBTU/year under the mitigated scenario, at full project buildout. See Appendix C (CalEEMod) for further detail.

According to the *Appendix A: Calculation Details for CalEEMod*, CalEEMod uses the California Commercial End Use Survey (CEUS) database to develop energy intensity value for non-residential buildings. The energy use from residential land uses is calculated based on the Residential Appliance Saturation Survey (RASS). Similar to CEUS, this is a comprehensive energy use assessment that includes the end use for various climate zones in California.

ON-ROAD VEHICLES (OPERATION)

The Project would generate vehicle trips during its operational phase. According to the Traffic Study prepared for the Project (W Trans, 2021), the Project, at full build out, would generate approximately 18,782,433 additional VMT at project buildout (i.e. additional trips that would occur beyond future VMT without the project). In order to calculate operational on-road vehicle energy usage and emissions generated by the Project, default trip lengths generated by CalEEMod were used, which are based on the Project's location and urbanization level parameters selected within CalEEMod (i.e. "Sonoma County" and "Urban", respectively). These values are provided by the individual districts or use a default average for the state (CAPCOA, 2017). Based on the data provided in *Springs Specific Plan VMT Findings and Draft Mitigation Strategy (Updated Draft)* by W-Trans (2021), the Project would generate at total increase of approximately 51,459 average daily vehicle miles travelled (Average Daily VMT). Using fleet mix data provide by CalEEMod (v.2020.4.0), and future buildout year gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2020, De Novo derived weighted MPG factors for operational on-road vehicles at buildout of the Project of approximately 32.8 MPG for gasoline and 12.4 MPG for diesel vehicles. With this information, De Novo calculated as a conservative estimate that buildout of the Project would generate vehicle trips that would use a total of approximately 1,487 gallons of gasoline and 214 gallons of diesel fuel per day, on average, or approximately 542,800 gallons of gasoline and 78,270 annual gallons of diesel fuel per year, at full buildout.

ON-ROAD VEHICLES (CONSTRUCTION)

The Project would also generate on-road vehicle trips during construction activities (from construction workers and vendors). Estimates of vehicle fuel consumed were derived based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and current gasoline MPG factors provided by EMFAC2020. For the purposes of simplicity, it was assumed that all construction worker vehicles used gasoline as the fuel source (as opposed to diesel fuel or alternative sources), and all vendor vehicles used diesel fuel as the fuels source. Table 3.6-4, below, describes gasoline and diesel fuel used by on-road mobile sources during each phase of the construction schedule. As shown, the vast majority of on-road mobile vehicle fuel used during the construction activities would occur during the building construction phase. See Appendix C for a detailed calculation.

TABLE 3.6-4: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*# OF DAYS*	*TOTAL DAILY WORKER TRIPS[A]*	*TOTAL DAILY VENDOR TRIPS[A]*	*GALLONS OF GASOLINE FUEL[B]*	*GALLONS OF DIESEL FUEL[B]*
Demolition	200	15	-	1,280	

Site Preparation	120	18	-	921	-
Grading	310	20	-	2,644	-
Building Construction	3100	641	149	42,378	24,013
Paving	220	15	-	1,408	-
Architectural Coating	220	128	-	12,011	-
Total	**N/A**	**N/A**	**N/A**	**60,642**	**24,013**

NOTE: [A] PROVIDED BY CALEEMOD. [B]SEE APPENDIX C FOR FURTHER DETAIL
SOURCE: CALEEMOD (V.2020.4.0); EMFAC2020.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction of the new development included within the Project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the Project includes: cranes, forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the Project (as provided by the CalEEMod output), and a CO_2 to diesel fuel conversion factor (provided by the U.S. Energy Information Administration), the Project would use a total of approximately 103,861 gallons of diesel fuel for off-road construction vehicles (during the site preparation and grading phases of the Project). Detailed calculations are provided in Appendix C.

OTHER

The Project could also use other sources of energy not identified here. Examples of other energy sources include alternative and/or renewable energy (such as solar PV) and/or on-site stationary sources (such as on-site diesel generators) for electricity generation. No on-site diesel generators are proposed. However, solar PV would be included within the residential portion of the project, based on the California Solar Mandate.

POTENTIAL TO CONFLICT WITH OR OBSTRUCT ANY RENEWABLE ENERGY AND/OR ENERGY EFFICIENCY PLANS OR PROGRAMS

The Project would not obstruct any state or local plan or program for renewable energy or energy efficiency. For example, the Project would not conflict with PG&E and Sonoma Clean Power's plans for implementing the statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. Moreover, overall, the Project does not conflict with any statewide requirement associated with renewable energy or energy efficiency, including the overarching state GHG-reduction requirements associated with AB 32 and SB 32; the Project would not obstruct or conflict with the State's ability to achieve its GHG reduction goals for future years. There are no local plans for renewable energy of energy efficiency – therefore, the Project would not obstruct or conflict with any local plans for renewable energy or energy efficiency.

CONCLUSION

Buildout of the Project would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel), and from off-road construction activities associated with buildout of the Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The project applicant(s)/developer(s) responsible for buildout of all or part of the Project would be responsible for conserving energy. This includes an emphasis on reducing per capita energy consumption, including through statewide and local measures, including consistency with the

most recent version of Title 24 (Energy Efficiency Standards), for each individual development at their time of individual development. Development of the proposed project is also required to comply with the California Solar Mandate. Overall, development of the proposed project would be in compliance with all applicable federal, state, and local regulations regulating energy usage, including any relevant state and local plans. The proposed project would also comply with the BAAQMD's Best Practices to Reduce Emissions of Local Air Pollution, as promulgated in the BAAQMD's *Planning Healthy Places* guidance, as described in further detail in Section 3.2: Air Quality of this EIR.

Moreover, the proposed project itself includes many goals and policies that would minimize wasteful, inefficient, or unnecessary use of energy. For example, Goal SC-1 requires the street network to be designed for the needs of all users, including non-automobile modes of transit such as pedestrians, bicyclists, and transit riders. Policy SC-1h requires development projects that exceed ten (10) residential units or 5,000 square feet of non-residential development to reduce VMT through implementation of a Transportation Demand Management (TDM) plan. Additionally, Goal SC-2 requires the creation of a pedestrian and bicycle circulation system that encourages walking and cycling. Separately, Goal SC-3 is designed to an increase Transit Ridership in the Springs Area. Other goals and policies that minimize wasteful, inefficient, or unnecessary use of energy are provided throughout the Specific Plan.

As a result, the Project would not result in any significant adverse impacts related to energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of building of the Project, including construction, operations, maintenance, and/or removal. The electricity and natural gas provider to the Plan Area maintains sufficient capacity to serve the Plan area. The Project would comply with all existing energy standards, including those established by Sonoma County, and would not result in significant adverse impacts on energy resources. Furthermore, existing connections exist between the Plan area and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. The Project would be linked closely with existing networks that, in large part, are sufficient for most residents of the Plan area and the Springs area as a whole. Lastly, the Project would not conflict with any energy plan. For these reasons, the Project would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is a ***less than significant*** impact.

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Plan area and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Plan area is built and operated in the future. This section is based in part on the following resources:

- California Department of Toxic Substances Control, 2018. Envirostar database search (DTSC, 2018). Available online at: http://www.envirostor.dtsc.ca.gov/public/.
- State Water Resources Control Board (GeoTracker) Information System and Geographic Environmental Information Management System (GEIMS), 2018 (SWRCB, 2018). Available at: https://geotracker.waterboards.ca.gov/.
- United States Environmental Protection Agency. 2018. Toxics Release Inventory (TRI) Program (USEPA, 2018). Available at: https://www.epa.gov/toxics-release-inventory-tri-program.

No comments regarding this topic were received during the public review period for the NOP or during the scoping meeting for the DEIR.

3.7.1 ENVIRONMENTAL SETTING

ACRONYMS

CCR	California Code of Regulations
CUPA	Certified Unified Program Agency
DTSC	Department of Toxic Substances Control
EPA	Environmental Protection Agency
FHSZ	Fire Hazard Severity Zones
RCRA	Resource Conservation and Recovery Act
SRA	State Responsibility Area
UST	Underground Storage Tank
WUI	Wildland Urban Interface Zone

PHYSICAL SETTING

Project Location and Existing Site Uses

The Plan area is defined as the approximately 180-acre area in the southeastern portion of Sonoma County, as shown in Figure 2.0-2. The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. The Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor. The Plan area currently includes the following uses, as identified by the Sonoma County Assessor's office: 78.5 acres of single-family residential, 21.6 acres of multi-family residential (including duplexes through fourplexes), 15.74 acres of commercial, 2.77 acres of office, 1.47 acres of industrial, 3.35 acres of mixed use, and 3.59 acres of public uses and 15.6 acres of vacant land.

Existing Surrounding Uses

As described in Section 2.0, the Plan area is located in the unincorporated area of Sonoma County. Adjoining lands to the north of the Plan area are designated for Urban Residential, Rural Residential, and Diverse Agriculture uses. Adjoining lands to the east of the Plan area are designated for Urban Residential, Rural Residential, Resources and Rural Development, Land Intensive Agriculture, and. Adjoining lands to the west of the Plan area are designated for Urban Residential, Rural Residential, Diverse Agriculture , General Commercial, and Recreation and Visitor Serving Commercial uses.

The City of Sonoma city limits are adjacent to the southern portion of the Plan area. Surrounding land uses within the City of Sonoma include low density residential, rural residential, commercial, and park. Maxwell Farms Regional Park is located south of W. Verano Avenue, south of the Plan area.

Area Topography

The Plan area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west.

WILDLAND FIRE HAZARDS

For a discussion of Wildland Fire Hazards, See Section 3.16 Wildfire.

AIRPORTS

There are no airports located within five miles of the Plan area. The nearest airport to the Plan area is the Sonoma Valley Airport. The Sonoma Valley Airport is located approximately 5.7 miles south of the Plan area. The Sonoma Valley Airport is a privately-owned airport that is open for public use. The Plan area is not located within the airport's referral area or safety zones.

SCHOOLS

There are several schools within and surrounding the plan area, including: Sonoma Charter School, Flowery Elementary School, El Verano Elementary School and Altimira Middle School.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses in the proposed Plan area and surrounding area, in order to evaluate the Plan area and adjoining properties for evidence of known environmental conditions. Standard historical sources reviewed during the preparation of this report included the following, as available:

DATABASES

There are multiple federal and state databases that sites with potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various databases. Below is a brief summary of each.

National Priorities List: The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund

program. NPL sites may encompass relatively large areas. No portion of the Plan area is listed in this database.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. Five developed sites within the Plan area are currently listed in this database. All of the sites are located along Highway 12. These sites include Pacific Bell (Handler ID: CAT080029127), J&L Carburetor (Handler ID: CAD982444846), Flowery (Handler ID: CAD981423627), "The Gas Station" (Handler ID: CAD982444796), and Continental Motors (Handler ID: CAD983594987).

CERCLIS Data: Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) is an EPA database that contains information on potential hazardous waste sites that have been reported to EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of CERCLA. CERCLIS contains sites that are either proposed for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Plan area is not listed in this database.

CORRACTS: Resource Conservation and Recovery Act Corrective Actions (CORRACTS) Report is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity. The Plan area is not listed in this database.

PADS System: PCB Activity Database System is an EPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphenyls (PCBs) who are required to notify EPA of such activities. The Plan area is not listed in this database.

Cortese List: The Cortese database list identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. There are sites in Sonoma County on the Cortese database, including sites located in Windsor, Santa Rosa, and Bodega Bay, however none of these sites are located in, or in the vicinity of, the Plan area.

GeoTracker: GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System, a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping. As shown in Table 3.7-1, the GeoTracker database lists a total of 18 sites within and in the immediate vicinity (one mile) of the Plan area. Of the 18 sites, 15 have a status of "Completed – Case Closed", two have a status of "Open – Verification Monitoring" (18618 Sonoma Highway and 18618 Sonoma Highway), and one has a status of "Open – Remediation" (18460 Sonoma Highway).

TABLE 3.7-1: GEOTRACKER DATABASE SITES

SITE NAME	*ADDRESS*	*SITE TYPE*	*STATUS*
BP Gas Station	18017 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Cal Food & Gas	18605 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Elychova Property/Modern Plumbing	17496 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed

SITE NAME	*ADDRESS*	*SITE TYPE*	*STATUS*
Ferrando's Plumbing & HTG	18495 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Filipello Property	17420 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Former Heon's Dry Cleaner	18460 Sonoma Hwy	Cleanup Program Site	Open - Remediation
Frassi Automotive	17561 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Gallo Bros. (Former)	18155 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Hooker's Texaco (Former)	16820 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Pacific Bell	17021 Cedar Ave	LUST Cleanup Site	Completed - Case Closed
Private Residence	Private Residence	LUST Cleanup Site	Completed - Case Closed
SBC Agua Caliente	17021 Cedar Ave	LUST Cleanup Site	Completed - Case Closed
Sonoma Mission Inn & Spa	18140 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Sonoma Super Gas	18618 Sonoma Hwy	LUST Cleanup Site	Open - Verification Monitoring
Sonoma Valley School District	18701 Railroad Ave	LUST Cleanup Site	Completed - Case Closed
Sonoma Valley Unified School District	17420 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed
Ultramar Station #705 (Former)	18618 Sonoma Hwy	LUST Cleanup Site	Open - Verification Monitoring
Valley of the Moon Fire D	16900 Sonoma Hwy	LUST Cleanup Site	Completed - Case Closed

SOURCE: GEOTRACKER DATABASE. ACCESSED MARCH 10, 2016.

GeoTracker has replaced past databases, such as the Leaking Underground Storage Tank Information System (LUSTIS) and the Underground Storage Tank (UST) database. There are no leaking USTs in the Plan area. Additionally, there are two permitted USTs located in the Plan area. The permitted USTs include the following:

- The Molavi Group, dba Sonoma Beacon (18618 Sonoma Highway); and
- The Molavi Group, dba Sonoma Valero (18605 Sonoma Highway).

Toxic Release Inventory: The EPA Toxic Release Inventory does not list data on disposal or other releases of toxic chemicals in the Plan area (USEPA, 2017). The nearest Toxic Release Inventory site is located in the City of Petaluma, approximately 8.0 miles to the southwest of the Plan area.

Envirostor: The DTSC maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There is one evaluation site (i.e., site which requires assessment of potentially hazardous conditions) in the City of Sonoma (Broadway Cleaners Site No. 49280010) located at 568 Broadway Sonoma. This site has been referred to the Regional Water Quality Control Board. The property has been operated as commercial dry cleaner facilities since 1957. San Francisco Bay Area Regional Water Quality Control Board (Water Board) took over as lead agency for the site in 2002. Tetrachloroethene (PCE) has been detected in soil and groundwater samples. The Water Board is requiring the property owner to submit a Work-Plan for performing a site specific remediation pilot test followed by interim remedial action to cleanup soil and groundwater contamination. The cleanup status is listed as active.

Solid Waste Information System: The Solid Waste Information System is a database of solid waste facilities that is maintained by the California Department of Resources Recycling and Recovery (CalRecycle). The Solid Waste Information System data identifies active, planned and closed sites.

There are no active, planned, or closed solid waste facilities within the Plan area. The nearest solid waste facility is the Sonoma Transfer Facility located at 4376 Stage Gulch Road, approximately 4 miles southwest of the Plan area. This facility, as well as three other closed facilities, are listed in Table 3.7-2.

TABLE 3.7-2: SOLID WASTE FACILITIES WITHIN 3 MILES OF PLAN AREA

NUMBER	*NAME*	*ACTIVITY*	*REGULATORY STATUS*	*OPERATIONAL STATUS*
49-AA-0144	Sonoma Transfer Station	Large Volume Transfer/Proc Facility	Permitted	Active
49-AA-0005	Sonoma Landfill	Solid Waste Disposal Site	Permitted	Closed
49-CR-0040	Ahlgrim Site	Solid Waste Disposal Site	Unpermitted	Closed
49-CR-0024	Sonoma Developmental Center	Solid Waste Disposal Site	Pre-regulations	Closed

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, 2016. ACCESSED OCTOBER 2018.

None of the records reviewed for the Plan area indicates that a Recognized Environmental Condition is associated with the Plan area.

Google Earth

Historical aerial photographs available on Google Earth were reviewed for information regarding past conditions and land use at the proposed Plan area and in the immediate vicinity. Below is a brief summary of the aerial photographs and related site conditions:

- 1993 Google Earth – The majority of the Plan area is built out to current conditions. However, there is some infill development potential dispersed throughout the area. The majority of the Plan area contains residential uses, including neighborhoods and ranchette style homes further from Highway 12, and commercial uses. The shopping center off Siesta Way is built to current conditions.
- 2003 Google Earth – The Plan area appears to be nearly identical to what is shown in the 1993 Google Earth imagery. The forested areas to the east and west of Highway 12 are more mature with increased tree canopy. Some developed areas appear to be slightly denser, such as the area between Vailetti Drive and Rancho Drive.
- 2004 Google Earth – The Plan area appears to be nearly identical to what is shown in the 2003 Google Earth imagery. Sonoma Charter School appears to be similar to current conditions.
- 2015 Google Earth – The entire Plan area appears built to current conditions. Grading of the Fetters Apartments site has begun.
- 2016 Google Earth – The entire Plan area appears built to current conditions. Construction of the Fetters Apartments has begun.
- 2018 Google Earth – The entire Plan area appears built to current conditions. Construction of the Fetters Apartments appears to be complete.

Transportation of Hazardous Materials

The transportation of hazardous materials within the County of Sonoma is subject to various federal, state, and local regulations. The only roadway and transportation route approved for the transportation of explosives, poisonous inhalation hazards, and radioactive materials in the vicinity of the Plan area is Highway 12.

3.7.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration, and the Department of Transportation. The section below addresses laws regarding the transport, storage, and use of hazardous materials as overseen by these agencies. Federal laws and regulations that are applicable to hazards and hazardous materials are also presented below.

Resource Conservation and Recovery Act

The federal Resource Conservation and Recovery Act (RCRA) regulates the treatment, storage, and disposal of hazardous and non-hazardous wastes. The law mandates that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

RCRA also provides for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act is the principal statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the Federal government is primarily responsible for developing, issuing, and enforcing pipeline safety

regulations, the pipeline safety statutes provide for state assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum Federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Resources Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA administers laws and regulations governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated property cleanups.

California Code of Regulations Title 22 and Title 26

CCR Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code Section 25501:

- Any 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 include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in California Health & Safety Code Sections 25117 and 25141, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop [MCPP], Dinoseb, chlordane, dichloro-diphenyltrichloroethane [DDT], and dichloro-diphenyl-dichloroethylene [DDE]), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

LOCAL

Sonoma County General Plan

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to hazards and hazardous materials aspects of the Project:

PUBLIC SAFETY ELEMENT

GOAL PS-3. Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.

Objective PS-3.1: Continue to use complete data on wildland and urban fire hazards.

Objective PS-3.2: Regulate new development to reduce the risks of damage and injury from known fire hazards to acceptable levels.

Objective PS-3.3: Use the Sonoma County Hazard Mitigation Plan to help reduce damages from wildland fire hazards.

Policy PS-3a: Continue to use available information on wildland and structural fire hazards.

Policy PS-3b: Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with the Public Safety Element in the review of projects.

Policy PS-3c: Continue to adopt revisions to the Uniform Fire and Building Codes and other standards which address fire safety as they are approved by inspection organizations and the State of California. Review, revise, and/or adopt existing or new local codes, ordinances, and Fire Safe Standards to reflect contemporary fire safe practices.

Policy PS-3d: Refer projects and code revisions to the County Department of Fire and Emergency Services and responsible fire protection agencies for their review and comment.[1]

Policy PS-3e: The County Department of Fire and Emergency Services shall offer assistance to local agencies in adoption and enforcement of fire safety regulations and shall work with local agencies to develop proposed improvements to County codes and standards.

Policy PS-3f: Encourage strong enforcement of State requirements for fire safety by the California Department of Forestry and Fire Protection.

Policy PS-3g: Encourage continued operation of California Department of Forestry and Fire Protection (CalFire) programs for fuel breaks, brush management, controlled burning, re-vegetation, and fire roads.

Policy PS-3h: Develop a program to improve and standardize the County street addressing system in order to reduce emergency service response times. Where applicable, coordinate the program with the cities.

Policy PS-3i: Encourage and promote fire safe practices and the distribution of fire safe educational materials to the general public, permit applicants, and local planning agencies.

Policy PS-3j: Provide fire hazard information signs in Very High or High Fire Hazard Severity Zones in a manner consistent with Area Plans and that does not degrade Scenic Corridors and scenic views.

Policy PS-3k: Work with the California Department of Forestry and Fire Protection (CalFire) to identify areas of high fire fuel loads and take advantage of opportunities to reduce those fuel loads, particularly in Very High or High Fire Hazard Severity Zones.

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.

GOAL PS-4. Prevent unnecessary exposure of people and property to risks of damage or injury from hazardous materials.

Objective PS-4.1: Maintain complete documentation and assessments of data on 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

[1] This department was dissolved and its duties reorganized into the Department of Emergency Management and the Fire Prevention and Hazardous Materials Division of Permit Sonoma.

of hazardous materials, including requirements for management plans, security precautions, and contingency plans.

Policy PS-4b: Prepare and maintain an inventory of sites with storage or use of hazardous materials in threshold planning quantities as determined by Federal and State laws.

Policy PS-4c: Require a use permit for any commercial or industrial use involving hazardous materials in threshold planning quantities as determined by Federal and State laws. Hazardous materials management plans shall be required as a condition of approval for such permits.

Policy PS-4d: Work with applicable regulatory agencies to regulate the transportation of hazardous materials consistent with adopted County policies.

Policy PS-4e: Continue to design and operate County owned solid waste disposal facilities to prevent disposal of and contamination by hazardous materials.

Policy PS-4f: Continue as needed the hazardous materials business advisory group, and consider adding an agricultural representative.

Policy PS-4g: Maintain the Sonoma County Operational Area Hazardous Materials Incident Response Plan, which provides for effective responses to releases of hazardous materials, the safe disposal of hazardous wastes, and a public information program.

Policy PS-4h: Avoid siting of hazardous waste repositories, incinerators, facilities that use a substantial quantity of hazardous materials, or other similar facilities intended primarily for hazardous waste disposal in any area subject to a very strong ground shaking hazard identified on Figures PS-1a through PS-1i or within one quarter mile of schools.

Policy PS-4i: Avoid siting of hazardous waste repositories, incinerators, or similar facilities intended primarily for hazardous waste disposal in any area designated for urban residential or rural residential use or on agricultural lands or at County approved solid waste disposal facilities.

Policy PS-4j: Site hazardous waste facilities which have the primary purpose of reuse, recycling, or source reduction of hazardous wastes in areas designated for industrial use in close proximity to users of hazardous materials and/or generators of hazardous wastes.

Policy PS-4k: Continue to educate the public about and promote the Sonoma County Waste Management Authority's Household Hazardous Waste Program. Encourage free drop-off and reuse of computers and similar equipment containing hazardous materials.

Policy PS-4l: Continue to educate the public about green business opportunities and expand and promote the County Department of Fire and Emergency Services Sonoma Green Business Program.

Policy PS-4m: Continue to educate the public about, encourage, and promote the reduction in use of hazardous materials and the use of safe alternatives to hazardous materials in County operations and private businesses.

Policy PS-4n: Encourage the private sector to reduce the use of potentially hazardous pesticides and to use alternatives such as best management practices.

Policy PS-4o: Encourage reduction in the use of potentially hazardous pesticides and increased use of alternatives, such as best management practices, in County operations, including but not limited to maintenance of roads, parks, and facility grounds. Emphasize the use of alternatives to potentially hazardous pesticides in areas likely to drain to waterways. Coordinate with the cities in this effort.

Sonoma County Hazard Mitigation Plan

The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan Update 2021 (MJHMP) was adopted by the Sonoma County Board of Supervisors on December 7, 2021. Previously, the 2016 Sonoma County Hazard Mitigation Plan was approved on April 25, 2017.

The newly adopted MJHMP was developed as Multi-Jurisdictional plan that will serve multiple cities and fire districts, including the City of Sonoma and the Sonoma Valley Fire District that encompasses the Springs Specific Plan Area. The MJHMP serves multiple purposes, including:

- Protect people and minimize loss of life, injury, and social impacts
- Minimize potential for loss of property, economic and social impacts, and displacement due to hazards
- Minimize potential for environmental impacts and consider a broad-range of mitigation solutions including nature-based solutions
- Communicate natural hazard risk to the whole community within Sonoma County
- Support and inform the development of relevant mitigation policies and programs
- Promote an adaptive and resilient Sonoma County that proactively anticipates the future impact of hazards within the county
- Pursue the development and implementation of long-term, cost-effective, and environmentally sound mitigation projects

Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. In Sonoma County, the Sonoma County Hazardous Materials Unit is responsible for the County's CUPA programs. Each designated CUPA is responsible for the implementation of six statewide programs within its jurisdiction. These programs include:

- Underground storage of hazardous substances (USTs);
- Hazardous Materials Business Plan (HMBP) requirements;
- Hazardous Waste Generator requirements;
- California Accidental Release Prevention (Cal-ARP) program;
- Uniform Fire Code hazardous materials management plan;
- Above Ground Storage Tanks (Spill Prevention Control and Countermeasures Plan only).

Implementation of these programs involves:

- Permitting and inspection of regulated facilities;
- Providing educational guidance and notice of changing requirements stipulated in State or Federal laws and regulations;
- Investigations of complaints regarding spills or unauthorized releases;

- Administrative enforcement actions levied against facilities that have violated applicable laws and regulations.

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the Project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- 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.
- 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 for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Potential hazards associated with active agricultural operations in close proximity to urban uses is addressed in Section, 3.2, Agricultural Resources.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Implementation of the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant)

Future development, infrastructure, and other projects allowed under the Project may involve the transportation, use, and/or disposal of hazardous materials. Hazardous materials are typically used in industrial, agricultural, and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal

of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial and agricultural activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, either associated with previous activities on a site or naturally occurring hazards such as asbestos.

The Former Heon's Dry Cleaner is a State Water Resources Control Board Cleanup Program Site with a status of open – remediation. According to GeoTracker, the site is currently partially occupied by PC Metro, a cellular phone business. Land use in this area is generally light commercial and residential. There is a small creek located approximately 75 yards to the north of the site which flows to the west. A dry cleaning facility (Heon's Dry Cleaners) was formerly located in the northwestern portion of the onsite building and used the common dry cleaning chemical tetrachloroethene (PCE) at the site for approximately 10 to 20 years until 1993 at which time dry cleaning operations ceased. The site is also the subject of an active leaking fuel UST investigation (the former Sonoma Motorcycle site). Results of a March 2008 water-supply well sampling event, in addition to information obtained from sampling of monitoring wells associated with the site's UST investigation, indicated that there was a release of PCE from the former Heon's Cleaners. PCE have been detected in water supply wells in the site vicinity. PCE appear to have entered a floor drain adjacent to the former dry cleaning facility and entered sewer lines which apparently provided a preferential pathway for migration of PCE and its degradation chemicals. The release of PCE have impacted water wells at 46 and 210 West Thomson Avenue. After initial detection of contamination, drinking water was provided to residents at these two locations. Subsequently, in March 2008, well-head treatment systems were installed at these two water wells. Sub-slab depressurization systems were also installed beneath two buildings to mitigate vapor intrusion into indoor air.

Because the well-head treatment systems have been installed at the two water wells, contaminated drinking water at these two new wells is not present. Any future proposed uses within the Plan area would be served by Valley of the Moon Water District. Additionally, no new wells are proposed to serve new development within the Plan area. If wells are constructed in the area in the future, construction of these wells would comply with the existing County water well construction ordinance, and any required remediation or treatment systems would be installed. No future activities or uses within the Plan area would be at risk due to the Former Heon's Dry Cleaner site.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the State Division of Occupational Safety and Health, and the Department of Toxic Substances Control consistent with the requirements of federal, state, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with state regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Sheriff and Fire District) would respond. All future projects allowed under the Project would be required to comply with the provisions of federal, state, and local requirements related to hazardous materials. If future projects are consistent and comply with the Specific Plan, the future project would not require further CEQA review.

The County's General Plan includes objectives and policies to address potential impacts associated with hazardous materials. These policies and actions in the General Plan would ensure that potential hazards are identified on a project site, that development is located in areas where potential exposure to hazards and hazardous materials can be mitigated to an acceptable level, and that business operations comply with federal and state regulations regarding the use, transport, storage, and disposal of hazardous

materials. Subsequent development projects proposed within the Plan area would be subject to all applicable General Plan objectives and policies, as well as federal and state regulations.

For example, Policy PS-4c requires a use permit for any commercial or industrial use involving hazardous materials in threshold planning quantities as determined by federal and state laws. Policy PS-4i aims to avoid siting of hazardous waste repositories, incinerators, or similar facilities intended primarily for hazardous waste disposal in any area designated for urban residential or rural residential use or on agricultural lands or at County approved solid waste disposal facilities. Further, Policies PS-4n and PS-4o encourage reducing pesticide use in the County. Compliance with federal, state and local regulations in addition to General Plan Policies PA-4a through PS-4o listed in Section 3.7.2, Regulatory Setting, would ensure that this potential impact is **less than significant**.

Impact 3.7-2: Implementation of the Project has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Less than Significant)

As noted previously, the Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. There are three sites in Sonoma County on the Cortese database, located in Windsor, Santa Rosa, and Bodega Bay. None of these sites are located in the Plan area. Therefore, this is considered a **less than significant** impact.

Impact 3.7-3: Implementation of the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant)

The Project has limited potential for the routine transport, use, or disposal of hazardous materials as discussed above (Impact 3.7-1). One school, Sonoma Charter School, is located within the Plan area. Flowery Elementary school is located immediately west of the Plan area. Additionally, one other school is located within one-quarter mile of the Plan Area: El Verano Elementary School. The area within ¼-mile of these three schools is mostly developed, but some development potential exists in the area.

The proposed Specific Plan Land Use Chapter includes General Plan and zoning designations, but does not propose actual businesses. As such, it is currently not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste are the Retail Business and Service and Neighborhood Commercial designations.

The Sonoma Charter School, which is located within the Plan area, is surrounded by existing residential development, and the school site is designated Public Facility by the Springs Zoning Map. The Springs Zoning Map identifies areas of High Density Residential to the west and east of the Sonoma Charter School site, Medium Density Residential to the north of the school site, and Planned Community to the south of the school site. As expected, residential uses are allowed in the High Density Residential and Medium Density Residential designations. Allowed uses in the Public Facility zone include county- and city-owned

facilities, special district facilities for utilities, and schools. The area adjacent to the school that is zoned Planned Community is the site of the existing Fetter Apartments project.

Additionally, there are no known existing commercial, industrial, or agricultural businesses that are known to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school.

Nevertheless, all hazardous materials would be handled in accordance with c, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the Bay Area Air Quality Management District, Regional Water Quality Control Board, Department of Toxic Substances Control, and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable federal, state, and local regulations and policies, including hazard mitigation plans. Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan policies and programs that reduce impacts associated with hazardous materials. For example, Policy PS-4c requires a use permit for any commercial or industrial use involving hazardous materials in threshold planning quantities as determined by federal and state laws. Policy PS-4d aims to work with applicable regulatory agencies to regulate the transportation of hazardous materials consistent with adopted County policies. Further, Policy PS-4h avoids siting of hazardous waste repositories, incinerators, facilities that use a substantial quantity of hazardous materials, or other similar facilities intended primarily for hazardous waste disposal in any area subject to a very strong ground shaking hazard identified on Figures PS-1a through PS-1i or within one quarter mile of schools.

Implementation of the federal, state, and County regulations, as detailed in Section 3.7-2, Regulatory Setting, would ensure that this potential impact is **less than significant**.

Impact 3.7-4: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

(*Note: The following discussion is associated with potential impacts of the proposed Project on emergency response plans and/or evacuation plans. Emergency vehicle access to and from the future developments within the Plan area is addressed in Chapter 3.13, Transportation and Circulation.*)

the County has an Emergency Operations Plan, Hazard Mitigation Plan, and Community Wildfire Protection Plan. Each of these plans is summarized briefly below, along with the county department responsible for their preparation and dates of planned updates.

> Emergency Operations Plan (Sonoma County Department of Emergency Management): an emergency support function based plan that directs emergency response actions countywide. The EOP is an all-hazard plan. Annexes to the EOP provide additional information relevant to a specific threat or response action, when needed. An Evacuation Annex, prepared by the Department of Emergency Management and published in August 2021, outlines the strategies, procedures, and organizational structures to be used in managing coordinated, large-scale evacuations in the Sonoma County Operational Area (countywide).
>
> Sonoma County Multi-Jurisdictional Hazard Mitigation Plan (Permit Sonoma): enhance public awareness, aid in decision-making to address vulnerabilities to future disasters, support eligibility

for state and federal grant programs, support coordination of hazard mitigation policies across local jurisdictions. An MJHMP was adopted by the Board of Supervisors on December 7, 2021. The MJHMP is not a regulatory plan and is not intended as an emergency response or emergency evacuation plan.

Community Wildfire Protection Plan (Permit Sonoma): provides wildfire hazard and risk assessments, community descriptions, options for addressing issues of structural vulnerability to wildfire (e.g. home hardening), and provides a prioritized list of projects which, if implemented, can serve to reduce wildfire hazards, reduce risk of loss of life, property loss, and environmental damage. The Fire Prevention Division of Permit Sonoma began an update process for this plan in 2021. Similar to the MJHMP, the CWPP is not regulatory and is not intended as an emergency response or emergency evacuation plan.

The EOP and its Annexes are not a formally "adopted" plan. However, the EOP functions as the emergency response plan and emergency evacuation plan for the unincorporated County, including for the Plan area. For the reasons discussed below, the Project would not impair implementation of or physically interfere with the EOP.

According to the EOP Evacuation Annex, the County has primary responsibility for emergency evacuation in unincorporated areas, such as the Springs. Any new development in the Plan area, facilitated by this plan, would be accessed by preexisting roadways. No new roads are provided for or contemplated in the Plan. The Specific Plan would not create physical impediments or interfere with the use of the roadways for evacuation or response during an emergency. All future development in the Plan area would be required to meet the most current applicable fire safety and emergency access and egress standards, including those regarding roadway width, turnarounds, and other necessary capacities.

As described in Section 3.12, Public Services, all new construction within the Plan Area would be subject to a Fire Impact Fee, adopted on March 23, 2021. The purpose of the fire impact fee is to fund the cost of fire protection and emergency response facilities, apparatus, and equipment attributable to new residential and nonresidential development in the District. The fire impact fee will ensure that new development will not burden existing development with the cost of expanded facilities, apparatus, and equipment required to accommodate growth as it occurs within the District. (Sonoma Valley, 2022).

The EOP's Evacuation Annex discusses evacuation methods, routes, and assets. The primary mode of evacuation is assumed to be various forms of ground transport (personal vehicle, bicycle, rail, bus, etc.) for most persons in an evacuation area. Because evacuation routes are situation-specific, the Evacuation Annex does not identify specific routes but states that routes may include interstate, state and surface roads, and will be chosen based on the relative safety of roadway infrastructure and current traffic conditions. Evacuation routes will be selected by law enforcement officials, approved by the Incident Commander at the time of the evacuation decision, then communicated to the EOC.

The Evacuation Annex assumes that the majority of residents can self-evacuate using personal vehicles, and acknowledges that transit-dependent populations (such as those with disabilities and with access and/or functional needs and households without a vehicle) may require public transportation to evacuate. In those cases, Transportation Assembly Points (TAPs) would be used to transport persons who require evacuation assistance to temporary evacuation points and/or shelters in safe areas. The Annex acknowledges that evacuees may arrive at TAPs by foot, bicycle, public transit, paratransit, or private vehicles, and identifies public and private transportation assets (public and private buses) that would be

used for evacuation from TAPs. As with evacuation routes, the location of TAPs in a particular emergency will be selected and activated depending on the immediate circumstances.

The Project is proposed in an existing urbanized area. Implementation of the Project would support improvements to transportation systems throughout the Plan area. The Plan identifies future improvements including addition of new crosswalks, bulb-outs and flashing beacons to improve pedestrian visibility at crossings. Sidewalks would be added along portions of Donald Street, Harley Street and smaller segments throughout the Plan area. Furthermore, the plan's emphasis on improved pedestrian and bicycle infrastructure is intended to support reduced congestion and improved circulation, and may facilitate evacuation, especially for those without access to vehicles who will need to make their way to the designated TAP for their area in the event of an evacuation. Development facilitated by the Project will use existing roadways. Accordingly, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, nor would it reduce existing levels of emergency response service as discussed above. Implementation of the Project would have a **less than significant** impact with regard to this issue.

Impact 3.7-5: Implementation of the Project has the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (Less than Significant)

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), weather (winds, temperatures, humidity levels and fuel moisture content), topography (degree of slope) and potential ignition sources. The California Department of Forestry and Fire Protection (CalFIRE) uses these factors in the Fire and Resource Assessment Program (FRAP) to quantify fire hazards and categorized them as Fire Hazard Severity Zones (FHSZ). Areas are designated as Moderate or High FHSZ, with areas of significant risk identified as Very High FHSZ. These areas are fully mapped in CalFIRE's jurisdiction (State Responsibility Areas), while areas within local jurisdiction are only categorized if they are Very High FHSZ and the local agency accepts CalFire's recommendation.

Wildland fire hazard and associated risk of loss, injury or death cannot be eliminated entirely but they can be reduced. This can be achieved by limiting the presence of people and structures in areas with potential for wildland fire and by taking measures to reduce risks for existing and proposed development within or adjacent to these areas. This Plan mitigates exposure to wildland fire through both of these approaches.

The Plan area does not include areas designated as Very High FHSZ, which is .6 miles to the north, and accordingly avoids exposure of people or structures to the most significant risk of loss, injury or death involving wildland fires. A majority of the Plan area is in areas of existing urban development and is not within an area identified as having elevated wildfire potential. A portion of the southeast Plan area is in a Moderate Fire Hazard Zone (15 parcels) and a portion of the northeast Plan area is in a High Fire Hazard Zone (46 parcels).

All future projects allowed under the Project would be required to comply with the provisions of federal, state, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the County, each project would be evaluated for consistency with all applicable building and safety code sections that reduce fire risk. Compliance with these state and local regulations would ensure that potential wildland fire hazards are mitigated through requirements for automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, home hardening

provisions, emergency access provisions, defensible space requirements and other mechanisms to ensuring adequate fire protection, hazard minimization and improved public preparedness.

Implementation of the Project would have a **less than significant** impact by avoiding new development in Very High FHSV and by implementing state and local fire and building standards most appropriate for each site.

Impact 3.7-6: Implementation of the Project has the potential to result in a safety hazard or excessive noise for people residing or working in the project are due to proximity to a private airstrip or public airport (Less than Significant)

The nearest airport to the Plan area is the Sonoma Valley Airport. There is no public airport or public use airport within two miles of the Plan area. The Sonoma Valley Airport is located approximately 5.7 miles south of the Plan area.

The primary referral area boundary for the airport, shown in Exhibit 8F of the Comprehensive Airport Land Use Plan, follows Bonneau Road and parcel lines on the north. The boundary follows parcel line to the northeast, the North Western Railroad to the east, Schell Slough, Steamboat Slough, and Sonoma Creek on the northeast, east, and southeast, respectively.

The Plan area is not located within the airport's referral area or safety zones. Implementation of the Project would have a **less than significant** impact with regards to this environmental issue.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy Wildfire-1: In order to reduce fire risk, all projects shall comply with the applicable State and local fire safety regulations associated with wildland-urban interfaces, including fire-safe building standards, and defensible space requirements.

Policy Wildfire-2: New buildings located in the Plan area shall comply with the Wildland-Urban Interface Fire Area Building Standards and Sonoma County Code Chapter 13, or successor regulations, which establish minimum standards for materials and provide a reasonable level of exterior wildland fire exposure protection. The standards require the use of ignition resistant materials and design to resist the intrusion of flame or burning embers from a vegetation fire into buildings.

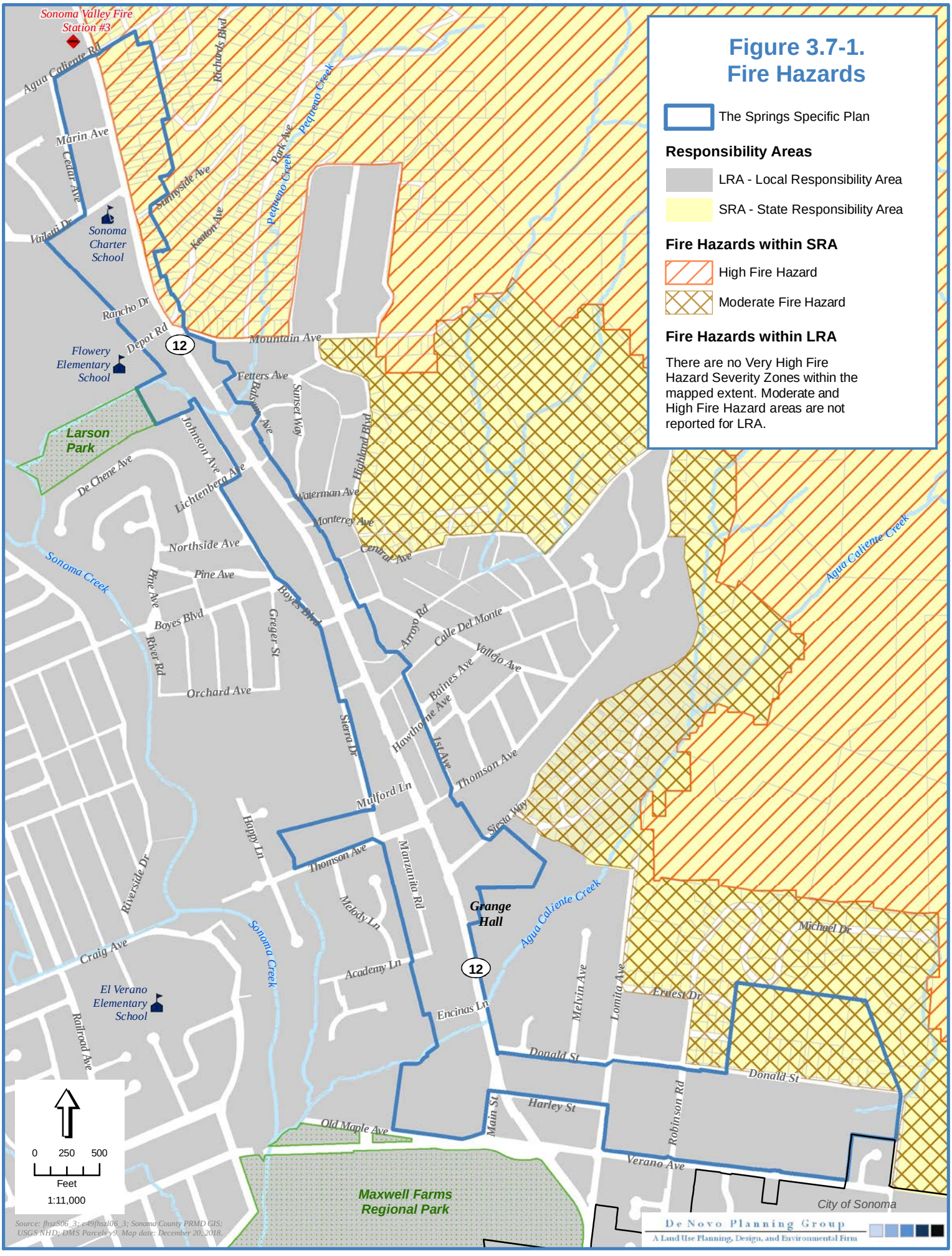
Figure 3.7-1.
Fire Hazards
The Springs Specific Plan
Responsibility Areas
LRA - Local Responsibility Area
SRA - State Responsibility Area
Fire Hazards within SRA
High Fire Hazard
Moderate Fire Hazard
Fire Hazards within LRA
There are no Very High Fire Hazard Severity Zones within the mapped extent. Moderate and High Fire Hazard areas are not reported for LRA.
Sonoma Valley Fire Station #3
Agua Caliente Rd
Marin Ave
Cedar Ave
Vailetti Dr
Sonoma Charter School
Rancho Dr
Depot Rd
Flowery Elementary School
Larson Park
De Chene Ave
Johnson Ave
Lichtenberg Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
River Rd
Orchard Ave
Greger St
Riverside Dr
Craig Ave
El Verano Elementary School
Railroad Ave
Happy Ln
Sierra Dr
Muilford Ln
Thomson Ave
Melody Ln
Manzanita Rd
Academy Ln
Encinas Ln
Grange Hall
Siesta Way
1st Ave
Hawthorne Ave
Baines Ave
Vallejo Ave
Calle Del Monte
Arroyo Rd
Central Ave
Monterey Ave
Waterman Ave
Highland Blvd
Sunset Way
Bismarck Ave
Fetters Ave
Mountain Ave
Richards Blvd
Sunnyside Ave
Keaton Ave
Park Ave
Pequeno Creek
Agua Caliente Creek
Melvin Ave
Lomita Ave
Ernest Dr
Michael Dr
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
12
0 250 500
Feet
1:11,000
Source: fhszS06_3; c49fhszl06_3; Sonoma County PRMD GIS; USGS NHD; DMS Parcels v9. Map date: December 20, 2018.
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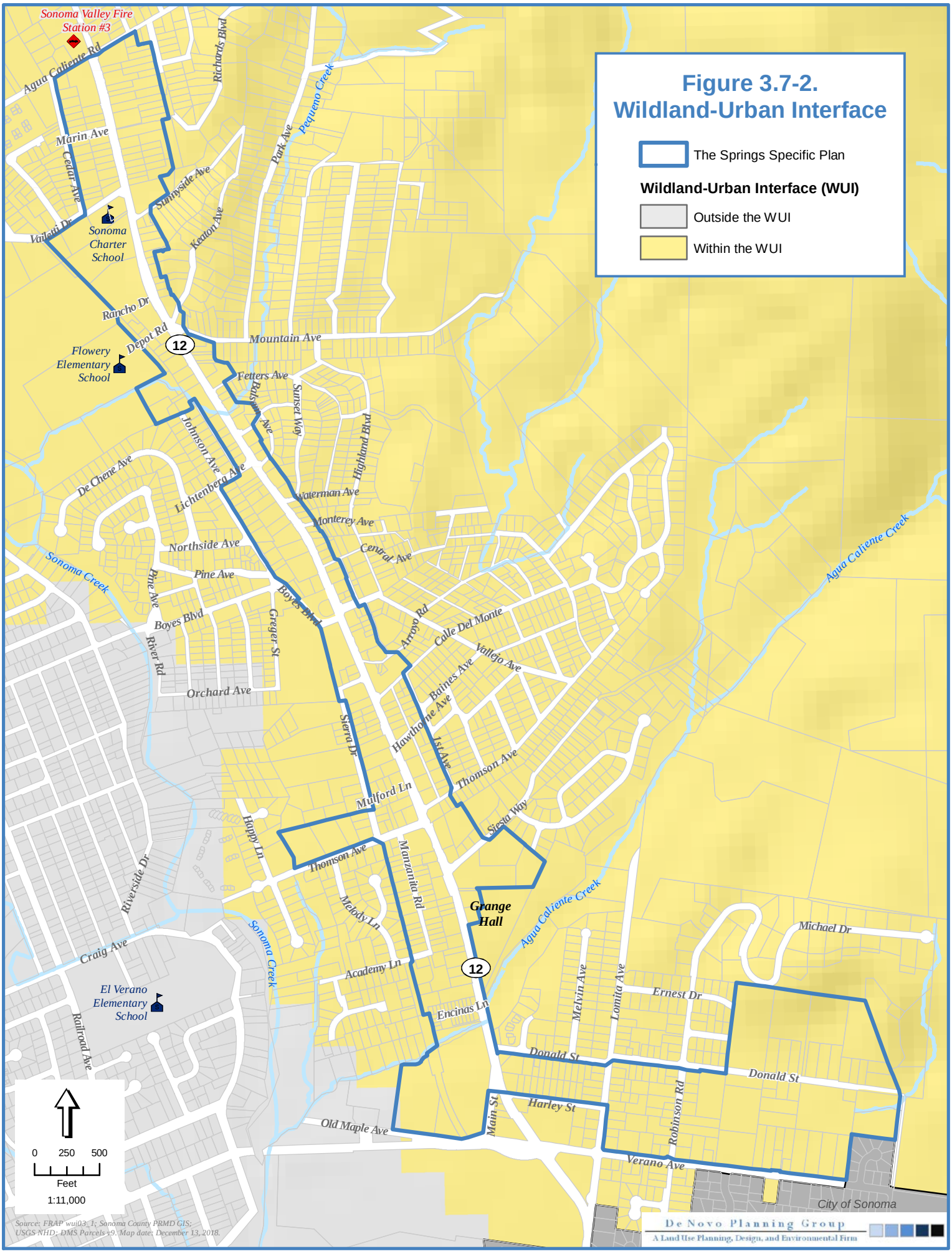
Figure 3.7-2.
Wildland-Urban Interface
The Springs Specific Plan
Wildland-Urban Interface (WUI)
Outside the WUI
Within the WUI
Sonoma Valley Fire Station #3
Agua Caliente Rd
Marin Ave
Cedar Ave
Vallejo Dr
Sonoma Charter School
Sunnyside Ave
Keaton Ave
Richards Blvd
Park Ave
Pequeno Creek
Rancho Dr
Depot Rd
12
Flowery Elementary School
Mountain Ave
Fetters Ave
Bisman Ave
Sunset Way
Highland Blvd
Johnson Ave
Lichtenberg Ave
De Chene Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Pine Ave
Boyes Blvd
Sonoma Creek
River Rd
Gregory St
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Thomson Ave
Siesta Way
Sierra Dr
Milford Ln
Happy Ln
Thomson Ave
Manzanita Rd
Melody Ln
Grange Hall
Agua Caliente Creek
Michael Dr
Ernest Dr
Melvin Ave
Lomita Ave
Encinas Ln
Academy Ln
Craig Ave
Riverside Dr
Sonoma Creek
El Verano Elementary School
Railroad Ave
Donald St
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
City of Sonoma
0 250 500
Feet
1:11,000
Source: FRAP wui03_1; Sanoma County PRMD GIS; USGS NHD; DMS Parcels v9. Map date: December 13, 2018.
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This section describes the regulatory setting, regional hydrology and water quality impacts that are likely to result from implementation of the Project, and includes measures to reduce potential impacts related to stormwater drainage, flooding, and water quality. This section is based in part on the following documents, reports and studies: Sonoma County General Plan 2020 (2008); Sonoma County General Plan 2020 General Plan Update Draft Environmental Impact (2006); Sonoma County Water Agency 2015 Urban Water Management Plan (Brown Caldwell, 2016); Sonoma County Water Agency 2020 Urban Water Management Plan (Brown Caldwell, 2020); Springs Specific Plan Water Supply Assessment (Maddaus Water Management, Inc., 2019); San Francisco Bay Basin Water Quality Control Plan (Basin Plan) (California Regional Water Quality Control Board San Francisco Bay Region, 2017); Sonoma Valley Urban Water Management Plan (EKI, 2021) and Sonoma Valley Sustainable Groundwater Management Plan (Sonoma Water, 2021).

One comment was received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: California Department of Transportation (July 2018). The portion of the comment related to this topic is addressed within this section.

3.8.1 ENVIRONMENTAL SETTING

ACRONYMS

AFY	acre-feet per year
CWA	Clean Water Act
DWR	Department of Water Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps (FIRMs
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System
RCD	Resource Conservation District
RWQCB	Regional Water Quality Control Board
SCWA	Sonoma County Water Agency
SGMA	Sustainable Groundwater Management Act
SRWCB	State Water Resources Control Board
SUSWMP	Standard Urban Storm Water Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USGS	United States Geological Survey
UWMP	Urban Water Management Plan

REGIONAL HYDROLOGY

The 178-8-acre Plan area is located in central Sonoma Valley immediately north of the City of Sonoma, as described in Section 2.0, and is located within the Sonoma Creek watershed. The watershed has an area of approximately 170 square miles and drains to San Pablo Bay. Elevations in the watershed range from sea level at San Pablo Bay to approximately 2,500 feet mean sea level at Bald Mountain. The City of Sonoma and the unincorporated communities of Boyes Hot Springs, Agua Caliente, Fetters Hot Springs,

and Glen Ellen are all located on the valley floor near the center of the elongated watershed, with the community of Schellville in the lower or southern portion, near the edge of San Pablo Bay, and Kenwood in the upper or north end. Major creeks and tributaries in the Sonoma Creek watershed include Tolay Creek, Schell Creek, Fowler Creek, Arroyo Seco, Yulupa Creek, Graham Creek, Mill Creek, Wilson Creek, Agua Caliente Creek, Calabazas Creek, Nathanson Creek, Dowdall Creek, Carriger Creek, Felder Creek, Asbury Creek, and Bear Creek.

The central part of the Sonoma Creek watershed on the valley bottom is mostly urbanized, while the areas of the valley farther south are mostly in agricultural production. Approximately 54 percent of the watershed is in agricultural use, 30 percent is rural and about 11 percent is recreational. The vegetative cover of the hill slopes of the watershed, where not converted to vineyards, is mostly oak woodland, forest, and some areas of brush.

Flooding in the Sonoma Creek watershed is the result of intense, short-duration rainfall occurring within a larger duration storm event. Tidal action in the San Pablo Bay has a variable effect on flooding in the Sonoma Creek watershed. While flooding above the reclaimed tidal area is of relatively short duration, floodwater ponding in the floodplain adjacent to the San Pablo Bay can last for a few days. The principal flood problems in the main channel are caused by inadequate channel capacity to carry off large flows from short-duration storms of high intensity. Flood problems are accentuated by encroachment of residential development on the channels.

The San Francisco Bay RWQCB has classified the Sonoma Creek watershed as an impaired water body due to sedimentation, nutrients, and pathogens. The development of vineyards on steep hillsides, especially in the 1980s and early 1990s before the county developed vineyard erosion control regulations, has been attributed to be one of the major causes of erosion and sedimentation. This and other related watershed management issues were evaluated and addressed in the Sonoma Creek Watershed Management Plan, with implementation currently underway by the Southern Sonoma Resource Conservation District (RCD) and the Sonoma Ecology Center through educational and outreach programs with stakeholder groups, including the Sonoma Valley Vintners and Growers Alliance.

FEMA Flood Zones

The Federal Emergency Management Agency's (FEMA's) mapping provides important guidance for the County to plan for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs).

Figure 3.8-1 illustrates the areas within the FEMA designated 100- and 500-year floodplain. The majority of the Plan area and surrounding area is designated by FEMA as Zone X (unshaded) which is an area determined to be outside the 500-year floodplain. However, small portions of the Plan area are subject to flooding along the creeks and drainages that traverse the southern portion of the Plan area. The 100-year floodplain extends across Highway 12 between Encinas Lane and Meadowbrook Avenue along Agua Caliente Creek. This portion of the Plan area is delineated as Zone A, which is subject to 100-year flooding with no base flood elevation determined.

Dam Failure

Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. As shown in Figure 3.8-2, the Plan area is not

within a dam inundation area. However, areas west of the Plan area (approximately 500 feet) are subject to inundation from the failure of Suttonfield Dam, and the associated floodwaters down Sonoma Creek. The Suttonfield Dam is located near Glen Ellen at Suttonfield Lake, approximately 2.3 miles northwest of the Plan area. The Suttonfield Dam is owned by the Indian Valley Community Services District. This dam was examined by the DWR in 2016 and was determined to have no safety concerns. The dam inundation area generally follows Arnold Drive from south of Glen Ellen to north of Sonoma.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

A critical period for surface water quality is following a rainstorm that produces significant amounts of runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels and contaminants have accumulated on impervious surfaces over the drier summer months. Besides greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980s. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules that categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Sonoma Creek exceeds water quality standards for sediment. The listing was prompted by declines in native fish populations. The Sonoma Creek Sediment TMDL addresses this water quality problem, identifies pollutant sources, and specifies actions to create solutions.

The goals of the Sonoma Creek Sediment TMDL and Habitat Enhancement Plan are to:

- Conserve the steelhead trout population
- Restore water quality to meet water quality standards, including attaining beneficial uses
- Enhance the overall health of the native fish community
- Protect and enhance habitat for native aquatic species
- Enhance the aesthetic and recreational values of the creek and its tributaries

To achieve these goals, specific actions are needed to:

1. Reduce sediment loads, and fine sediment in particular, to Sonoma Creek and its tributaries
2. Attain and maintain suitable gravel quality in freshwater reaches of Sonoma Creek and its tributaries
3. Reduce and prevent channel incision
4. Reduce erosion and sedimentation
5. Repair large sources of sediment supply (e.g., landslides)

6. Enhance channel complexity (e.g., by adding and encouraging retention of large woody debris and restoring riparian vegetation)

Additionally, Sonoma Creek and its tributaries are impaired by pathogens. The overall goal of the Sonoma Creek Pathogens TMDL is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities such as wading, swimming, fishing, and rafting. The following source categories have the potential to discharge pathogens to surface waters in the Sonoma Creek watershed:

- On-site sewage disposal systems (septic systems)
- Sanitary sewer systems
- Municipal runoff
- Grazing lands
- Dairies
- Municipal wastewater treatment facility
- Wildlife

As of July 2014, the Sonoma County Permit & Resource Management Department has adopted a new NPDES boundary. The boundary is used to determine areas subject to special NPDES storm water requirements to improve water quality. In particular, the boundary assists in determining where low impact development post-construction best management practices (LID BMPS) are required to improve water quality. In addition, the map is a requirement of the North Coast Region Water Quality Control Board, Santa Rosa, in order for the County of Sonoma to reapply for coverage to discharge storm water from local Municipal Separate Storm Sewer System (MS4) into waters of the State as part of the NPDES Phase 1, Term 4 permit renewal.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices can lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies, these same factors often cause a buildup of sediment, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affects both aquatic resources and flood control efforts.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal Clean Water Act (CWA) requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

The Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. However, as noted above, Sonoma Creek is listed on the Section 303(d) list for sediment and pathogens. Sonoma Creek is located west of the Plan area, and the natural creeks and drainages that traverse the Plan area are hydrologically connected to Sonoma Creek.

GROUNDWATER RESOURCES

Chapter 3.14, Utilities, of this EIR includes extensive and detailed information regarding the County's water supplies and water demands, specifically, Section 3.14.2, Water Supplies. Groundwater information as provided in Chapter 3.14 is summarized below for convenience.

DWR has identified a total of fourteen groundwater basins and sub-basins in Sonoma County. The Valley of the Moon Water District (Water District) provides water services to development in the Plan area. The Water District is located within the Sonoma Valley Groundwater Subbasin. In addition to the project's direct location in the Sonoma Valley Groundwater Basin, water provided to Water District via SCWA includes groundwater supplies from the Santa Rosa Plain Sub-Basin of the Santa Rosa Valley Basin. No basins with the County are listed as Critically Overdrafted Basins by the DWR.

Sonoma Valley Groundwater Sub-Basin

The Sonoma Valley Groundwater is a sub-basin (DWR number 2-02.02) of the Napa-Sonoma Valley Groundwater Basin (DWR 2-02). The Sonoma Valley Groundwater Subbasin is not adjudicated and has not been identified by the DWR as a critically-overdrafted groundwater basin (California Department of Water Resources, 2019). Approximately 15 percent of the Water District's supply comes from groundwater. The Water District owns and/or operates a total of seven municipal production wells, five of which are currently active, with capacities ranging from 90 gallons per minute (gpm) to 250 gpm.

Groundwater Management

The Sonoma Valley Groundwater Sustainability Plan provides a groundwater management framework. The Sonoma Valley Groundwater Sustainability Agency is a public agency formed to sustainably manage groundwater in the Sonoma Valley groundwater basin. The agency was formed in June 2017 and has a Board of Directors, an administrator and an advisory committee.

A Groundwater Sustainability Plan is a 20-year plan to ensure the sustainable use of groundwater within a groundwater basin. The Sonoma Valley Groundwater Sustainability Agency is required by state law, the Sustainable Groundwater Management Act (SGMA), to develop a Groundwater Sustainability Plan by 2022. The goal of the Groundwater Sustainability Plan is to establish a standard for sustainability of groundwater management and use, and to determine how the basin will achieve this standard. See the Regulatory Setting section below for further information about the SGMA. The Sonoma Valley Groundwater Sustainability Plan was adopted on December 6, 2021.

HISTORICAL AND PROJECTED FUTURE GROUNDWATER USE

The average volume of groundwater pumped from wells located within the District between 2016 and 2020 is provided in Table 3.8-1. The District pumped an average of 532 acre-feet per year over the 5-year time period between 2016 and 2020, and a maximum of 644 acre-feet in 2018. The available groundwater supply and the purchased water supply have been sufficient to meet all of the Districts demands in the past five years and all prior years.

TABLE 3.8-1: HISTORICAL GROUNDWATER PRODUCTION AND ACTUAL WATER DEMAND

	2016	*2017*	*2018*	*2019*	*2020*
Total Groundwater Production (AFY)	477	596	644	526	419
Total Potable and Raw Water Demand – Actual (AFY)	2,334	2,470	2,671	2,430	2,649

SOURCE: VALLEY OF THE MOON WATER DISTRICT 2020 UWMP, TABLE 6-8

The Water District will continue to use groundwater to supplement the purchased SCWA water, but plans to decrease the use of groundwater wells over time as the Water District implements additional water conservation programs. Groundwater production will be used to meet demands in the case of a drought or if allocations of imported SCWA water are decreased. The Water District's projected groundwater production for their service area is presented in Table 3.8-2. As shown in Table 3.8-2, projected groundwater use in the District's service area is projected to decrease.

TABLE 3.8-2: PROJECTED FUTURE GROUNDWATER PRODUCTION – VALLEY OF THE MOON WATER DISTRICT SERVICE AREA

	2020	*2025*	*2030*	*2035*	*2040*
Total Groundwater Production (AFY)	450	327	232	100	100

SOURCE: SPRINGS SPECIFIC PLAN WATER SUPPLY ASSESSMENT, MADDAUS WATER MANAGEMENT, INC., 2019.

Table 3.8-3 shows the future system demand projections until 2045.

TABLE 3.8-3: FUTURE SYSTEM DEMAND PROJECTIONS (WITHOUT ADDITIONAL PROJECTS)

		2025	*2030*	*2035*	*2040*	*2045*
District Supplies (AFY[1])		3089	3275	3467	3667	3856
Demand Projections with Passive and Active Conservation Savings (AFY[2])		2997	3101	3220	3352	3447

NOTES: [1] VALUES ARE CONSISTENT WITH 2020 UWMP TABLE 4-7 PROJECTED POTABLE WATER DEMAND
[2]DEMAND VALUES ARE CONSISTENT WITH THE DISTRICT'S 2015 UWMP APPENDIX C WATER DEMAND ANALYSIS AND WATER CONSERVATION MEASURES UPDATE.

Table 3.8-4 shows the total projected annual additional demand generated from future buildout of the Plan area.

TABLE 3.8-4: ANNUAL ADDITIONAL FUTURE WATER DEMANDS FROM PROJECT (AFY)

	2020	*2025*	*2030*	*2035*	*2040*
Project Future Water Demand	-	52	104	157	209

NOTE: THIS IS THE TOTAL NET INCREASE IN DEMAND DUE TO THE PROJECT. THE REMOVAL OF THREE EXISTING SINGLE-FAMILY UNITS IS INCLUDED IN THIS ESTIMATE
SOURCE: SPRINGS SPECIFIC PLAN WATER SUPPLY ASSESSMENT, MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

Table 3.8-5 shows the total system demand projected for the District including the demand from the Project.

TABLE 3.8-5: TOTAL SYSTEM DEMAND WITH ADDED PROJECT, NO DROUGHT

	2015[1]	*2020*	*2025*	*2030*	*2035*	*2040*
Demand Projection for District with Passive and Active Conservation (AFY)	2,528	2,937	2,905	2,850	2,846	2,850
Net Demand from Additional Project (AFY)	N/A	-	52	104	157	209
Total System Demand (AFY)	2,528	2,937	2,957	2,955	3,002	3,059
Supply Assurance (AFY)	2,528	3,650	3,527	3,432	3,300	3,300
Estimated Remaining Supply (AFY)	N/A	713	570	477	298	241
Est. Remaining Supply Reliability (%)	N/A	20%	16%	14%	9%	7%

NOTE: 2015 DATA IS BASED ON ACTUAL NUMBERS FROM THE DISTRICT'S 2015 UWMP. 2020 DATA RELEASED AFTER THE NOP INCLUDE THE SPRINGS SPECIFIC PLAN IN BUILDOUT ESTIMATES, AND CONCUR WITH THESE PROJECTIONS.
SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

The total system demand is calculated by adding the net demand generated from the Project from Table 3.14-7 to the system demand projections.

3.8.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation, including the Federal Emergency Management Agency, the US Environmental Protection Agency, the US Army Corps of Engineers, the SWRCB, and the RWQCB. The following is an overview of the federal, state and local regulations that may be applicable to projects within the County of Sonoma.

FEDERAL AND STATE

Clean Water Act (CWA)

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. The SWRCB is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-0001-DWQ) for small MS4s covered under the CWA to efficiently regulate numerous stormwater discharges under a single permit. Permittees must comply with all requirements as specified under the general permit.

Permittees must meet the requirements in Provision D of the General Permit, which require the development and implementation of a Storm Water Management Plan with the goal of reducing the discharge of pollutants to the maximum extent practicable. The Storm Water Management Plan must include the following six minimum control measures:

1) Public Education and Outreach on Storm Water Impacts
2) Public Involvement/Participation
3) Illicit Discharge Detection and Elimination
4) Construction Site Storm Water Runoff Control
5) Post-Construction Storm Water Management in New Development
6) Redevelopment and Pollution Prevention/Good Housekeeping for Municipal Operations

Sonoma County is covered under the statewide construction general permit (CGP).

The CWA, and its implementing regulations, requires that certain industrial facilities, construction sites, and MS4 obtain coverage for their stormwater discharges under an NPDES permit, develop a Stormwater Pollution Prevention Plan (SWPPP) or Stormwater Management Plan (SWMP) and put measures in place to prevent discharges of pollutants in stormwater runoff.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal CWA requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a TMDL. The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved. The Plan area does not include any water bodies listed on the Section

303(d) list of impaired water bodies. However, Sonoma Creek, which is located west of the Plan area, is listed on the Section 303(d) list of impaired water bodies. The listing for sediment in Sonoma Creek originated from fine sediment impacts to spawning and rearing habitat as noted in the TMDL. The TDML provides actions to reduce fine sediment input to the non-tidal portions of the main stems and all freshwater tributaries.

National Flood Insurance Program

The NFIP, born out of the National Flood Insurance Act of 1968, is a voluntary program that aims to reduce future flood damage by adopting and enforcing floodplain management programs. The NFIP is comprised of three components: FIRMs; flood insurance; and floodplain management. The FEMA FIRMs identify flood plain hazard areas prone to flooding during major storm events. The FIRMs are used by insurance companies to set flood insurance rates and by local municipalities for implementing flood-control ordinances which govern new development. FEMA operates the NFIP.

Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations. The County and all of the incorporated cities within the county are participants in the NFIP.

Sustainable Groundwater Management Act

A three-bill legislative package, composed of AB 1739, SB 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act (SGMA) was signed into state law in 2014. SGMA requires local governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, basins should reach sustainability within 20 years of implementing their sustainability plans. The Sonoma Valley Sub-basin classified as having high priority (California Department of Water Resources, 2020).

California Water Code

The Federal CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the states to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Senate Bill 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act (UWMP), as well as the California Water Code Section 10910, et seq. The foundation document for compliance with SB 610 is the UWMP, which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a Water Supply Assessment if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system.

Based on the following assumptions, SB 610 does apply to the proposed Specific Plan:

1. The proposed Specific Plan is subject to CEQA and an EIR is required.
2. The proposed Specific Plan, with up to 685 future residential dwelling units, and other non-residential land uses, meets the definition of a "Project" as specified in Water Code section 10912(a) paragraph (1) as defined for residential development.

The proposed Specific Plan has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Thus, a WSA, as required by these criteria under SB 610, has been prepared for the Specific Plan. The Water Supply Assessment is included in Appendix D of this EIR.

California Division of Safety of Dams

The California Division of Safety of Dams has established specific requirements with respect to dam operation. The California Government Code requires dam operators to prepare emergency plans for dam failure and evacuation. The contingency plans are updated every two years and submitted to the State Office of Emergency Services for review and comment.

Incorporated cities are responsible for developing contingency plans for State-designated dams affecting incorporated areas. Sonoma County has the responsibility for developing emergency plans for State-designated dams affecting unincorporated areas within the county. SCWA also reviews development applications when referred from a city for projects within incorporated cities, for compliance with its Flood Control Design Criteria. This manual provides hydrologic and hydraulic analysis and design procedures, criteria, and standards for drainage and flood control projects.

National Pollutant Discharge Elimination System

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal CWA, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal CWA and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for periods of five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the San Francisco Bay Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. Stormwater discharges from industrial and construction activities in the San Francisco Bay can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

San Francisco Bay Basin Water Quality Control Plan

The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the CWA.

LOCAL

Sonoma County Water Agency

The SCWA was formed in 1949 with the primary responsibilities to produce and furnish water for beneficial uses, water conservation, and flood management. Nine geographical zones, each encompassing a major watershed, were proposed in 1958 as a means of financing the construction and maintenance of flood control works in the county. To date, eight of these zones were officially formed and six zones are currently active. The agency works cooperatively with the incorporated cities, unincorporated communities, and the State and federal government to oversee flood control channel modifications and flood control revenue collection within the six active zones. The SCWA also conducts drainage investigations and develops and implements drainage and flood improvement plans for areas, often working cooperatively with cities to address drainage problems common to both incorporated and unincorporated areas within the Flood Control Zones.

Guidelines for the Standard Urban Storm Water Mitigation Plan

The Guidelines for the Standard Urban Storm Water Mitigation Plan (dated June 2005) were developed to assist project sponsors and municipal staff to implement the Santa Rosa Area Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that were adopted by the North Coast RWQCB in June 2003. Since the SUSMP requirements apply to both privately sponsored projects and public capital improvement projects, the Guidelines should be used by development project applicants, municipal development project review staff, and municipal staff responsible for capital improvement projects. The SUSMP requirements are part of the SWMP that has become an enforceable part of the reissued municipal storm water NPDES permit for the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency.

The SUSMP applies to projects within the area covered by the storm water permit boundary as shown in Figure 1-1 of the Guidelines. In addition, these SUSMP guidelines apply to the unincorporated and urbanized areas surrounding the Cities of Petaluma and Sonoma, which are also shown in Figure 1-1. The

SUSMP does not apply to the cities of Healdsburg, Windsor, Sebastopol, Rohnert Park, Cotati, Petaluma and Sonoma. The majority of the Plan area is within the area covered by the storm water permit boundary.

Valley of the Moon Water District Urban Water Management Plan

The Valley of the Moon Water District's 2015 UWMP describes how the current and future water resources and demands within the District's service area will be managed to provide an adequate and reliable water supply. The service area encompasses approximately 11.8 square miles and includes residential and commercial customers. The District's water supply comes from water purchased from the SCWA and local groundwater production. The District, along with seven other water contractors, has a water supply agreement with the SCWA for the purchase of Russian River water, commonly referred to as the Restructured Water Supply Agreement. The Valley of the Moon Water District adopted the most recent 2020 UWMP in 2021, after the Notice of Preparation for the Springs Specific Plan.

Sonoma Valley Groundwater Sustainability Agency

The Sonoma Valley Groundwater Sustainability Agency is a public agency formed to sustainably manage groundwater in the Sonoma Valley groundwater basin. The agency was formed in June 2017 and has a Board of Directors, an administrator and an advisory committee. The Agency was required by the SGMA to develop a Groundwater Sustainability Plan by 2022. The goal of the Groundwater Sustainability Plan is to establish a standard for "sustainability" of groundwater management and use, and to determine how the basin will achieve this standard. The Sonoma Valley Groundwater Sustainability Plan was adopted on 6, 2021.

Sonoma County Municipal Code

The Sonoma County Permit and Resource Management Department oversees grading activities in the county, enforcing the County's grading requirements and erosion control provisions of the California Building Code, as well as other provisions of the County Code dealing with subdivision and land development.

GRADING AND STORMWATER

Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits.

It is the intent of the Board of Supervisors in enacting Chapter 11A to protect the health, safety and general welfare of the County's citizens by:

- Controlling the discharge to the county's stormwater system from spills and the dumping or disposal of materials other than stormwater.
- Reducing pollutants in stormwater discharges to the maximum extent practicable.

Chapter 36 of the County Code is known as the Sonoma County Vineyard and Orchard Development and Agricultural Grading and Drainage Ordinance. This chapter may also be referred to as the Sonoma County Vineyard Erosion and Sediment Control Ordinance. This chapter is enacted for the purpose of regulating vineyard and orchard development and agricultural grading and drainage within the unincorporated area of the county, and to establish ministerial standards for those activities that:

a. Protect the public health, safety, and welfare of the county;
b. Minimize hazards to life and property;
c. Protect against erosion, and the pollution of watercourses with soil and other pollutants;
d. Maintain natural and existing drainage patterns;
e. Protect aquatic resources and wildlife habitat; and
f. Promote water conservation and groundwater recharge.

The provisions of this chapter shall apply to all vineyard and orchard development and agricultural grading and drainage occurring within the unincorporated area of the county and require permits issued by the Department of Agriculture Weights and Measures.

Grading not associated with vineyard development requires a grading permit issued by the Permit and Resource Management Department including site plans, existing and proposed contour changes, an estimate of the volume of earth to be moved, and soils and / or geotechnical reports. Projects involving grading activities may also require submittal of a drainage plan, especially where alterations to natural drainage ways are proposed or where the project is in a flood prone area. Drainage plans include supporting hydrologic and hydraulic calculations. Most grading activities are also subject to the County's NPDES stormwater program requirements.

FLOOD CONTROL AND FLOODPLAIN MANAGEMENT

Chapter 7B (Flood Damage Prevention Ordinance) of the Sonoma County Code discusses general and specific flood prevention standards to prevent flood damage within the county. Such measures apply to all structures or land constructed, located, extended, converted, or altered within special flood hazard areas in the county, as identified on the FEMA floodplain maps. The code section on Floodplain Management is based on the model FEMA program, and is focused on prevention of placement of fill, buildings and other obstructions in regulatory floodways (the zone along a channel where flow moves with depth and velocity and where obstructions can cause the most damage) and on raising building elevations in floodplain areas to be above the 100-year flood.

Sonoma County General Plan

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to hydrology and water quality issues associated with the Plan area:

PUBLIC SAFETY ELEMENT

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-2.1: Maintain complete data on flood hazards.

Objective PS-2.2: Regulate new development to reduce the risks of damage and injury from known flooding hazards to acceptable levels.

Objective PS-2.3: Use the Sonoma County Hazard Mitigation Plan to help reduce future damage from flood hazards.

Policy PS-2a: Maintain available information on flooding and flood hazards in the appropriate County departments.

Policy PS-2b: Coordinate flood hazard analysis and management activities with the U.S. Army Corps of Engineers, Federal Emergency Management Agency (FEMA), and other responsible agencies. Using the flood data collection program, request changes in FEMA maps where appropriate to reflect new data or analyses.

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-2g: Base land use planning and development review on FEMA maps and data or parcel specific scaled interpretations of these maps and site specific elevation data.

Policy PS-2h: Work cooperatively with each City to prepare a comprehensive analysis of the potential flood hazards and drainage impacts for the watersheds with major flood problems in the County (i.e., Russian River, Sonoma Creek, and Petaluma River). Include the following in the analysis:

(1) Identification of flood hazard areas;
(2) Identification of historic drainage patterns and existing retention/detention characteristics serving each watershed;
(3) Identification of impacts associated with placement of significant new impervious surfaces;
(4) Identification of downstream impacts on existing development and land uses;
(5) Identification of mitigation measures to reduce flood hazards;
(6) Identification of significant water recharge areas;
(7) Identification of sources of significant soil sedimentation and/or stream bank failures; and
(8) Identification and adoption of regional mitigation measures to be applied to new development to address the proportionate fair share of flood hazard reduction.

Policy PS-2i: Until such time as the analysis under Policy PS-2h is completed and the regional mitigation measures adopted, each discretionary project located in the above watersheds with major flood problems shall analyze drainage and flooding impacts and include feasible and appropriate mitigation measures to reduce flood hazards from the project. Thereafter, each project shall implement its proportionate fair share of the regional mitigation measures.

Policy PS-2k: Use the 100-year flood event and corresponding elevations as the County measure of acceptable level of risk and protection in the consideration of any amendments of the Land Use Map.

Policy PS-2l: On-site and off-site flood related hazards shall be reviewed for all projects located within areas subject to known flood hazards.

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-2n: Consider developing regulations that require the use of low impact development techniques to reduce stormwater runoff from future development.

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.

Policy PS-2q: Require that tentative and final subdivision maps and approved site plans show areas subject to flooding as shown on the FEMA maps.

Policy PS-2r: Give priority to floodplain management over flood control structures for preventing damage from flooding except where the intensity of development requires a high level of protection and justifies the costs of structural measures. Where possible, maintain flood channel capacity.

Policy PS-2s: Consider the potential risk of damage from flooding in the design and review of projects, including those which could facilitate floodplain development.

Policy PS-2t: Avoid variances to building setbacks along streams and in 100-year flood plains without the review and approval of the Permit and Resource Management Department.

Policy PS-2u: Request that the Sonoma County Water Agency prioritize and undertake flood hazard mitigation projects on a continuous basis on selected waterways subject to the policies of the Open Space and Resource Conservation Element.

Policy PS-2v: Continue to enforce County code requirements on construction in flood hazard areas and other adopted regulations which implement the National Flood Insurance Program.

Policy PS-2w: Encourage the timely completion and filing of inundation maps for all dams whose failure could cause loss of life or personal injury within Sonoma County. Where inundation maps indicate dam or levee failure could cause loss of life or property or personal injury, coordinate with the corresponding responsible party to investigate levee or dam stability and management and identify rehabilitative maintenance needs as appropriate.

WATER RESOURCES ELEMENT

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-1.1: Work with the Regional Water Quality Control Boards (RWQCB) and interested parties in the development and implementation of RWQCB requirements.

Objective WR-1.2: Avoid pollution of stormwater, water bodies and groundwater.

Objective WR-1.3: Inform the public about practices and programs to minimize water pollution and provide educational and technical assistance to agriculture in order to reduce sedimentation and increase on-site retention and recharge of stormwater.

Objective WR-1.4: Seek and secure funding for development of countywide groundwater quality assessment, monitoring, management, and education regarding groundwater quality issues.

Objective WR-1.5: Seek to protect groundwater from saltwater intrusion.

Policy WR-1a: Coordinate with the RWQCB, public water suppliers, Cities, Resource Conservation Districts (RCDs), watershed groups, stakeholders and other interested parties to develop and implement public education programs and water quality enhancement activities and provide technical assistance to minimize stormwater pollution, support RWQCB requirements and manage related County programs. Where appropriate, utilize watershed planning approaches to resolve water quality problems.

Policy WR-1b: Design, construct, and maintain County buildings, roads, bridges, drainage and other facilities to minimize sediment and other pollutants in stormwater flows. Develop and implement "best management practices" for ongoing maintenance and operation.

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-1d: Where appropriate, support RWQCB waste discharge requirements for all wastewater treatment systems and other point sources.

Policy WR-1e: Assist in the development of Total Maximum Daily Loads (TMDLs) for the impaired water bodies and pollutants of concern identified by the RWQCBs to achieve compliance with adopted TMDLs. Work with the RWQCB to develop and implement measures consistent with the adopted TMDLs.

Policy WR-1f: Work closely with the RWQCBs, incorporated cities, public water suppliers, and other interested parties in the development and implementation of water quality plans and measures.

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-1j: Support educational technical assistance programs for agricultural activities and dissemination of best management practices for erosion and sediment control, which include on-site retention of stormwater, maintaining natural sheetflow and drainage patterns, and avoiding concentrated runoff, particularly on slopes greater than 35%.

Policy WR-1k: Seek opportunities to participate in developing programs and implementing projects for water quality restoration and remediation with agencies and organizations such as

RWQCBs, the California Department of Fish and Game, and RCDs in areas where water quality impairment is a concern. Consider allowing expanded treatment options for contaminated water from individual wells.

Policy WR-1o: Require that commercial and industrial uses reduce and pretreat wastes prior to their entering sewer systems.

Policy WR-1q: Require new development projects to evaluate and consider naturally-occurring and human caused contaminants in groundwater.

Policy WR-1r: Work with the Sonoma County Health Services Department and the RWQCBs to educate the general public on evaluating, monitoring and protecting the quality of groundwater.

Policy WR-1s: Resist accepting administrative responsibility for regulatory programs required by State or Federal agencies unless a State or Federal subvention will compensate the County for costs associated with such shift in administrative responsibility.

Policy WR-1t: Where area studies or monitoring find that saltwater intrusion has occurred, support analysis of how the intrusion is related to groundwater extraction and support development of a groundwater management plan or other appropriate measures to avoid further intrusion and, where practicable, reverse past intrusion.

Policy WR-1u: In the marshlands and agricultural areas south of Sonoma and Petaluma, require all environmental assessments and discretionary approvals to analyze and, where practicable, avoid any increase in saltwater intrusion into groundwater.

Policy WR-1v: Request that the SCWA revise the SCWA flood control design criteria to include a section on stream geomorphic analysis and to update information on bank protection and erosion control to incorporate biotechnical bank stabilization methods for the purpose of preventing erosion and siltation in drainage swales and streams.

GOAL WR-2: Manage groundwater as a valuable and limited shared resource.

Objective WR-2.1: Conserve, enhance and manage groundwater resources on a sustainable basis that assures sufficient amounts of clean water required for future generations, the uses allowed by the General Plan, and the natural environment.

Objective WR-2.2: Develop a scientifically based program to collect the data needed to assess and understand groundwater conditions.

Objective WR-2.3: Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.

Objective WR-2.4: Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.

Objective WR-2.5: Avoid additional land subsidence caused by groundwater extraction.

Policy WR-2a: Encourage and support research on and monitoring of local groundwater conditions, aquifer recharge, watersheds and streams where needed to assess groundwater quantity and quality.

Policy WR-2b: Initiate and support educational programs to inform residents, agriculture, businesses and other groundwater users of best management practices in the areas of efficient water use, water conservation, and increasing groundwater recharge.

Policy WR-2c: Work with well drillers and other parties familiar with groundwater conditions in Sonoma County to develop well permit standards in order to:

(1) Improve the data obtained from well permit applications on locations, depths, yield, use, flow direction where appropriate, and water levels of proposed and existing wells on the site.
(2) Establish standards to reduce the potential for well interference and drawdown.
(3) Ensure sufficient groundwater quantity and quality for existing and proposed uses using the subject well through standards for pump tests, well yields, pollutant levels, and water storage, particularly for higher capacity wells.
(4) In areas where a groundwater management plan has been approved and has been accepted by the County, require the issuance of well permits and any limitations imposed on well permits to be consistent with the adopted plan.

Policy WR-2d: Continue the existing program to require groundwater monitoring for new or expanded discretionary commercial and industrial uses using wells. Where justified by the monitoring program, establish additional monitoring requirements for other new wells.

Policy WR-2f: Require that discretionary projects in Urban Service Areas maintain the site's pre-development recharge of groundwater to the maximum extent practicable. Develop voluntary guidelines for rural development that would accomplish the same purpose.

Policy WR-2g: In cooperation with Sonoma County Water Agency (SCWA), DWR, and other public agencies and well owners, support the establishment and maintenance of a system of voluntary monitoring of wells throughout the county, utilizing public water system wells and private wells where available. Encourage participation in voluntary monitoring programs, and, if funds are available, consider funding of well monitoring where determined necessary in order to stimulate participation.

Policy WR-2h: In cooperation with SCWA, DWR and other public agencies, support the establishment and maintenance of a groundwater data base from available application data, well tests, monitoring results, study reports and other sources; analyze the data collected in an annual report to the Board; provide the data to DWR; and use the data along with other available information to refine the mapping of groundwater availability classifications. Protect the proprietary nature of well drilling data and release it only in summary form.

Policy WR-2i: In order to identify areas where groundwater supplies may be declining, in the annual report review well permit data, monitoring data and reported problems and recommend to the Board of Supervisors areas where comprehensive groundwater studies are needed. As part of the first annual report, consider the recommendations of the recently completed groundwater studies in the Joy Road, Mark West Springs, and Bennett Valley areas, as well as the Sonoma Valley Groundwater Management Plan. In each such special study area that is approved by the Board following a public hearing, develop a comprehensive groundwater assessment that includes the following:

(1) An existing system of monitoring wells and stream gauges,

(2) Locations of water wells,
(3) Available data on groundwater and surface water levels and contamination,
(4) Maps and graphs that show past and present data and changes in precipitation, imports, groundwater levels, groundwater quality, rates of extraction, and the relationship of groundwater to surface water,
(5) Drillers' logs, geologic data and monitoring data needed to estimate water yields in the area,
(6) Estimated future rates of imports, recharge, extraction, exports, changes in groundwater levels, and possible changes in groundwater quality,
(7) A water budget for the area that estimates the total amount of water gain or loss in the area,
(8) Any needed changes in well monitoring, data collection and reporting, and
(9) Provisions for applicant fees and other funding of County costs.

If an area assessment, as defined above, demonstrates a need for additional management actions to address groundwater problems, prepare a plan for managing groundwater supplies pursuant to the California Water Code or the County's land use or other legal authority. Include involvement by the affected water users, well drillers, local agencies, private water companies and landowners. In recognition of concerns regarding the potential for overdraft condition in the south Santa Rosa Plain groundwater basin, give a high priority to preparation of a groundwater assessment and adoption of a management plan or other appropriate actions in this area prior to approval of any city annexations and changes in land use or density in this area of the county.

Policy WR-2j: Cooperate with the incorporated Cities, SCWA, DWR, US Geological Survey, well drillers, and all water users and purveyors in the development of a comprehensive groundwater assessment for each major groundwater basin in the county and the priorities, sequence and timing for such studies. Prepare such assessments to meet the applicable requirements of the California Water Code for a "groundwater management plan" and, where appropriate, include the following:

(1) Computer models of groundwater recharge, storage, flows, usage and sustainable yield,
(2) Assessment of nitrates, boron, arsenic, saltwater and other water quality contaminants,
(3) Analysis of resource limitations and relationships to other users for wells serving public supply systems and other large users,
(4) Opportunities for changing the sources of water used for various activities to better match the available resources and protect groundwater,
(5) Possible funding sources for monitoring, research, modeling and development of management options, and
(6) Provisions for applicant fees and other funding of County costs.

If a basin assessment indicates that future groundwater availability, water quality and surface water flows may be threatened and there may be a need for additional management actions to address groundwater problems, prepare a plan for managing groundwater supplies which may require limitations on water extraction and use and other special standards for allowed development, wells, extraction or use. Consideration of new management actions shall include involvement by the interests and parties stated above in development of alternatives addressing specific problems and a review of legal and fiscal issues for each alternative.

Policy WR-2k: Encourage and support comprehensive studies of long term changes in climate and precipitation patterns in the county and region.

Policy WR-2l: Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.

Policy WR-2m: Work with SWRCB, DWR, California Department of Health Services (DHS), CalEPA, public water suppliers, and applicable County and City agencies to seek and secure funding sources for development of groundwater assessment, protection, enhancement and management programs.

Policy WR-2n: Where area studies or monitoring find that land subsidence has occurred, support analysis of how the subsidence is related to groundwater extraction and develop a groundwater management plan or other appropriate actions, where practicable, to avoid further subsidence.

LAND USE ELEMENT

GOAL LU-8: Protect Sonoma County's water resources on a sustainable yield basis that avoids long term declines in available surface and groundwater resources or water quality.

Objective LU-8.1: Protect, restore, and enhance the quality of surface and groundwater resources to meet the needs of all beneficial uses.

Objective LU-8.2: Coordinate with operators of public water systems to provide an adequate supply to meet long term needs consistent with adopted general plans and urban water management plans.

Objective LU-8.3: Increase the role of water conservation and re-use in meeting the water supply needs of both urban and rural users.

Objective LU-8.4: Participate in the review of new proposals for surface and groundwater imports and exports in order to provide consistency with Sonoma County's ability to sustain an adequate water supply for its water users and natural environment.

Objective LU-8.5: Improve understanding and sound management of water resources on a watershed basis.

Policy LU-8a: Require that new development comply with applicable waste discharge requirements and minimize pollution of storm water, surface water and groundwater.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;

- Substantially alter the existing drainage pattern of the 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;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    - Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation; and/or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Implementation of the Project could result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Less than Significant)

Section 303(d) of the Federal CWA requires states to identify waters that do not meet water quality standards or objectives and, thus, are considered "impaired" and to develop TMDLs to achieve water quality objectives. The Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. However, Sonoma Creek, which is located west of the Plan area, is listed on the Section 303(d) list of impaired water bodies, and is the receiving water body of creeks that are located within the Plan area.

Sonoma Creek exceeds water quality standards for sediment. The listing was prompted by declines in native fish populations. The Sonoma Creek Sediment TMDL addresses this water quality problem, identifies pollutant sources, and specifies actions to create solutions. Additionally, Sonoma Creek and its tributaries are impaired by pathogens. The overall goal of the Sonoma Creek Pathogens TMDL is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities such as wading, swimming, fishing, and rafting.

The potential construction and operational water quality impacts are discussed below.

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

The Plan area currently includes the following uses, as identified by the Sonoma County Assessor's office: 78.5 acres of single-family residential, 21.6 acres of multi-family residential (including duplexes through fourplexes), 15.74 acres of commercial, 2.77 acres of office, 1.47 acres of industrial, 3.35 acres of mixed use, and 3.59 acres of public uses and 15.6 acres of vacant land. The areas that are currently vacant (15.6 acres) would be developed in the future under the Project. Similarly, the areas that are underdeveloped or underutilized would be redeveloped.

Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities in the Plan area could temporarily increase runoff, erosion, and sedimentation.

Construction activities also could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

As required by the CWA, each subsequent development project or improvement project within the Plan area will require an approved SWPPP prior to site disturbance that includes best management practices for grading and preservation of topsoil. A SWPPP is not required if the project will disturb less than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

Future development project applicants within the Plan area must submit the SWPPP with a Notice of Intent to the RWQCB to obtain a General Permit. The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the California CWA). For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs.

Further, Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits. This Chapter of the Code applies to projects regardless of the site size. Future projects in the Plan area would be subject to the requirements included in Chapter 11A.

Based upon the wide scope of the Specific Plan, development of detailed, site-specific information on this impact is not feasible. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The RWQCB will require a project specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Compliance with these state and local requirements would ensure that future development does not exacerbate the pathogen and sediment TMDLs for Sonoma Creek.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development located on vacant sites under the Project would increase urban runoff compared to the existing condition. Redevelopment of developed or underdeveloped sites under the Project would also increase urban runoff. The increase in urban runoff (i.e., surface runoff of rain water created as a result of urbanization) would introduce constituents into the storm water that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. These pollutants tend to build up during the dry months of the year. Precipitation during the early portion of the wet season (generally from November to April) washes away most of these pollutants, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff is referred to as the "first flush" of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The amount and type of runoff generated by the various future projects would be greater than under existing conditions, due to increases in impervious surfaces. Due to the increased development potential

and associated increase in population and employment in the Plan area, there would be a corresponding increase in urban runoff pollutants due to the increased number of structures and persons in the Plan area and first flush roadway contaminants due to the increased number of vehicles, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents would result in water quality impacts to onsite and offsite drainage flows to area waterways.

CONCLUSION

The MS4 permits require the discharger to develop and implement a SWMP with the goal of reducing the discharge of pollutants to the maximum extent practicable. The County has developed a Storm Water Management Plan for each of the two MS4 Permits which specifies what BMPs will be used to address certain program areas. The CWA, and its implementing regulations, requires that certain industrial facilities, construction sites, and MS4 obtain coverage for their stormwater discharges under an NPDES permit, develop a SWPPP or SWMP and put measures in place to prevent discharges of pollutants in stormwater runoff.

Each future development project within the Plan area is required to prepare a detailed project specific drainage plan and/or a SWPPP that will control storm water runoff and erosion, both during and after construction. For projects under one acre for which a SWPPP is not required, compliance with Chapter 11A of the County Code would control storm water runoff through implementation of BMPs. Further, a SWMP would be required in order to reduce the discharge of pollutants. In some very limited cases, construction dewatering due to accumulated water in trenches or excavations may be needed. If the project involves the discharge of dewatering into surface waters, the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the RWQCB. It is noted, however, that future projects in the Plan area would likely not involve dewatering.

Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations. Further, subsequent development projects would be subject to Chapter 11 and 11A of the County Code, which require implementation of BMPs, among other requirements, during construction and operation. Lastly, future development projects located within the area covered by the storm water permit boundary would be subject to the Guidelines for the Standard Urban Storm Water Mitigation Plan.

The implementation of these General Plan policies, combined with compliance with Federal and State regulations and applicable local requirements (i.e., Guidelines for the Standard Urban Storm Water Mitigation Plan requirements and County Code), would ensure that implementation of the Project would have a **less than significant** impact related to violation of water quality standards or waste discharge requirements or substantial degradation of surface or ground water quality.

Impact 3.8-2: Implementation of the Project could result in decreased groundwater supplies or interfere substantially with groundwater recharge

such that the Project may impede sustainable groundwater management of the basin (Less than Significant)

The proposed project would connect to the Valley of the Moon Water District water system. As reported in its 2020 UWMP, the Water District primarily relies upon surface water purchased from the SCWA to meet customer demands. Under normal conditions, approximately 85 percent of the District's water supply is surface water purchased from the SCWA. Local groundwater production from wells owned and leased by the District comprises the remaining portion of the District's water supply portfolio.

The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

As shown in Table 3.8-c, projected groundwater use in the District's service area is projected to decrease over the next 20 years, regardless of the Project. Subsequent development projects proposed within the Plan area, such as residential, commercial, office, and recreational projects, would result in new impervious surfaces and could reduce stormwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of groundwater recharge; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff. The amount of new pavement and the extent to which it affects infiltration depends on the site-specific soil type; clay soils tend to have lower infiltration rates. The Plan area soils (shown in Figure 3.5-3 in Section 3.5, Geology and Soils) consist of primarily clay loams (gravelly, silty, and cobbly). These clay soils typically have lower recharge potential.

Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. According to the Sonoma County Assessor's office, 15.6 acres of the 178.81-acre Plan area (or 8.7 percent of the Plan area) are currently vacant. The remaining parcels are developed or partially developed with residential, commercial, office, public, industrial, or mixed uses. Development of the 15.6 acres (or 0.024 square miles) of vacant parcels scattered throughout the Plan area would result in an increase in impervious surfaces within the Plan area. However, development would be required to be consistent with all applicable County and service provider infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. For example, the Groundwater Sustainability Plan, which was adopted in 2021, establishes a standard for "sustainability" of groundwater management and use, and determines how the basin will achieve this standard. The Plan includes sustainable management criteria, establishes a groundwater monitoring network, and includes management actions and plan implementation measures to address groundwater recharge. While this plan initially emphasizes voluntary actions, future implementation may include new development requirements for future projects in the plan area in order to maintain sustainable groundwater levels. Irrespective of those potential measures, under adoption of the Project future projects within the Plan area would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (compared to impermeable concrete, permeable pavers would provide opportunities for groundwater infiltration in areas used which would typically be paved with impermeable surfaces). The sustainability measures incorporated would vary based on the project size, project location, and project type.

Additionally, the County's General Plan includes objectives and policies which address groundwater quality and groundwater recharge. For example, General Plan Pol icy WR-2f requires that discretionary projects maintain the site's pre-development recharge of groundwater to the maximum extent practicable. For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs. These BMPs and Water Quality Management Plan details would control storm water runoff while also maintaining opportunities for recharge, as applicable. Further, the Specific Plan includes Policy SLU-1i, which requires development to incorporate sustainability measures, such as setbacks from creeks and sensitive habitats, use of native or drought tolerant plants, permeable concrete or pavers, and minimal night lighting in the vicinity of creeks and habitat corridors, whenever appropriate. This policy is supported through compliance with the County's Water Efficient Landscape Ordinance, which regulates the design, installation, and maintenance of new and rehabilitated landscapes in order to ensure that landscape water use is minimized and opportunities for rainwater harvesting or stormwater retention are maximized. Subsequent development projects proposed within the Plan area would be subject to this policy and the supporting Water Efficient Landscape Ordinance.

Lastly, the County's Riparian Corridor Combining Zone requires a 50-foot setback from Agua Caliente and Pequeno Creeks. Section 7-14.5 of the Sonoma County Code establishes stream setbacks for structures requiring a building permit, with minimum setbacks equal to the greatest of 1) two and one-half times the height of the stream bank plus thirty feet, 2) thirty feet outward from the top of the stream bank, or 3) any distance established in the general plan and/or zoning code. Future development project would be subject to these setback requirements. Preventing development within the riparian corridors in the Plan Area would maintain these creeks for groundwater recharge.

In summary, the Project would not result in decreased groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. Implementation of the relevant General Plan objectives and policies, Specific Plan Policy SLU-1i, and the applicable County and local regulations and standards summarized above would ensure that the Project would have a **less than significant** impact relative to groundwater supplies and interference with groundwater recharge.

SPECIFIC PLAN POLICY THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy SLU-1i: Require development to incorporate sustainability measures, such as setbacks from creeks and sensitive habitats, use of native or drought tolerant plants, permeable concrete or pavers, and minimal night lighting in the vicinity of creeks and habitat corridors, whenever appropriate.

Impact 3.8-3: Implementation of the Project could alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site, increase the rate or amount of surface runoff which would result in flooding, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows (Less than Significant)

Individual future projects developed within the Plan area after adoption of the Project would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm

events. In addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the non-point source discharge of pollutants. Anticipated runoff contaminants include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. Contributions of these contaminants to stormwater and non-stormwater runoff would degrade the quality of receiving waters. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces, where they can accumulate until the first storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported via runoff to stormwater drainage systems. Contaminated runoff waters could flow into the stormwater drainage systems that discharge into rivers, agricultural ditches, sloughs, and channels, and ultimately could degrade the water quality of any of these water bodies.

Additionally, individual future projects developed after adoption of the Project could potentially alter surface drainage patterns as a result of directly altering flow patterns. By altering the flow patterns, increased amounts of stormwater runoff occurs as a result of increases in impervious surface areas, or concentration of flows to a specific or smaller area. The construction activities associated with future projects, such as residential, commercial, office, and recreational projects, as well as other infrastructure projects that convert permeable surfaces or install permanent structures, would require stormwater drainage management measures to avoid flooding impacts. For example, future development projects located within the area covered by the storm water permit boundary would be subject to the Guidelines for the Standard Urban Storm Water Mitigation Plan. Some of the treatment controls in the Guidelines can be used to provide flood control by including additional flood detention storage. The existing storm drainage network in the Plan area may require improvements, including additional underground drainage infrastructure, connections to existing drainage infrastructure, and on-site drainage improvements, to convey the additional runoff from individual future projects. If the storm drainage network is not appropriately designed, it could be overwhelmed during a large storm event and result in flooding.

Based upon the wide scope of the Project, development of detailed, site-specific information on this impact is not feasible. As previously discussed, a future project applicant would be required to obtain permits from the U.S. Army Corps of Engineers and the Department of Fish and Wildlife if any work is performed within a waterway, such as Aqua Caliente Creek. Each future development project must also include detailed project specific drainage studies that assess the drainage characteristics of the individual site, the characteristics of the project including the amount of impervious and pervious surfaces proposed, and the location and capacity of infrastructure, so that an appropriate storm drainage plan can be prepared to control storm water runoff, both during and after construction. The drainage plan will ultimately include project specific best management measures that are designed to allow for natural recharge and infiltration of stormwater. Construction of storm drainage improvements would occur as part of an overall development project and is considered in the environmental impacts associated with project construction and implementation as addressed throughout this EIR.

The County of Sonoma has developed the proposed Specific Plan to include goals and policies that, when implemented, will reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. The Sonoma County General Plan also contains a number of policies that would reduce the potential for implementation of the Project to result in increased flooding or result in water quality impacts associated with increased runoff, siltation, or erosion. For example, General Plan Policy WR-1h requires 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. General Plan Policy PS-2f requires preservation of 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. Further, the County Flood Damage Prevention Ordinance outlines the flood prevention standards. Such measures apply to all structures or land constructed, located, extended, converted, or altered within special flood hazard areas in the county, as identified on the FEMA floodplain maps. Chapter 11A of the County Code outlines the County's stormwater regulations and is intended to control the discharge to the county's stormwater system from spills and the dumping or disposal of materials other than stormwater, and reduce pollutants in stormwater discharges to the maximum extent practicable. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the County's MS4 permit as requirements of stormwater discharge permits.

Implementation of the General Plan policies, Specific Plan policies, County Code requirements, and other applicable local regulations and guidance would ensure that the Project would have a **less than significant** impact relative to alteration of the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site, increasing the rate or amount of surface runoff which would result in flooding, creating or contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impeding or redirecting flood flows.

Impact 3.8-4: Implementation of the Project could result in flood hazards or risk release of pollutants due to 100-year flood hazard, tsunami, or seiche zones (Less than Significant)

The risks of flooding hazards in the County of Sonoma and immediate surroundings are primarily related to large, infrequent storm events. These risks of flooding are greatest during the rainy season between November and March. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure to waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

Figure 3.8-1 illustrates the areas within the FEMA designated 100-year floodplain. The majority of the Plan area and surrounding area is designated by FEMA as Zone X (unshaded) which is an area determined to be outside the 500-year floodplain. However, small portions of the Plan area are subject to flooding along the natural creeks and drainages that traverse the southern portion of the Plan area. The 100-year flood plain extends across Highway 12 between Encinas Lane and Meadowbrook Avenue along Agua Caliente Creek. This portion of the Plan area is delineated as Zone A, which is subject to 100-year flooding with no base flood elevation determined. The four parcels within the 100-year floodplain are designated (currently and proposed) Urban Residential. The parcels within the 100-year floodplain are currently developed with mobile home park uses. It is noted that a very small portion of these parcels are affected by the 100-year floodplain.

The 100-year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. Floodplain zones (Special Flood Hazard Areas) are determined by FEMA and used to create FIRMs. These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations, intended to be adopted by the local jurisdictions, for any construction, whether residential, commercial, or industrial within 100-year floodplains.

Lands within the FEMA-designated 100-year floodplain (Special Flood Hazard Areas) are subject to mandatory flood insurance as required by FEMA. The insurance rating is based on the difference between

the base flood elevation, the average depth of the flooding above the ground surface for a specific area, and the elevation of the lowest floor. Because Sonoma County participates in the National Flood Insurance Program, it must require development permits to ensure that construction materials and methods will mitigate future flood damage, and to prevent encroachment of development within floodways consistent with the NFIP Flood Insurance Manual. The NFIP Flood Insurance Manual establishes lowest floor requirements for new construction and substantial improvements of residential structures in relation to the base flood level.

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. As shown in Figure 3.8-2, the Plan area is not within a dam inundation area. However, areas west of the Plan area (approximately 500 feet) is subject to inundation from the failure of Suttonfield Dam located at the Sonoma Developmental Center, and the associated floodwaters down Sonoma Creek.

The Sonoma County General Plan includes numerous objectives and policies specifically designed to address flood hazards. Policy PS-2l requires on-site and off-site flood related hazards to be reviewed for all projects located within areas subject to known flood hazards. Policy PS-2s requires the consideration of the potential risk of damage from flooding in the design and review of projects, including those which could facilitate floodplain development. Policy PS-2i requires discretionary projects located in the Russian River, Sonoma Creek, and Petaluma River watersheds to analyze drainage and flooding impacts and include feasible and appropriate mitigation measures to reduce flood hazards from the project. Thereafter, each project shall implement its proportionate fair share of the regional mitigation measures. Policy PS-2t requires avoidance of variances to building setbacks along streams and in 100-year flood plains without the review and approval of the Permit and Resource Management Department. Policy PS-2l requires review of on- and off-site flood related hazards for all projects located within areas subject to known flood hazards.

In addition to the General Plan requirements, the Project does not remove the floodplain combining district (F2) designation which is applied to lands within the 100-year floodplain. Lands within the F2 district are subject to development standards for floodplains which require development to be designed so that appreciable damage will not occur from the 100-year flood and that structures comply with the flood protection regulations of Chapter 7B of the Sonoma County Code

Subsequent development, infrastructure, and planning projects would be subject to the aforementioned General Plan and County Code requirements. The policies contained in the General Plan combined with the County Code standards for floodplain development represent a comprehensive and holistic approach by Sonoma County to reduce the risks of flooding to city residents and properties. Furthermore, as described in the regulatory setting section, numerous Federal, State, and local agencies are responsible for maintaining flood protection features in the County, including the U.S. Army Corps of Engineers, DWR, and Department of Fish and Wildlife at the Federal and State level.

The implementation of these policies and regulations would ensure that implementation of the Project would have a **less than significant** impact related to flood hazards or risk release of pollutants due to 100-year flood hazard, tsunami, or seiche zones.

Impact 3.8-5: Implementation of the Project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Less than Significant)

The San Francisco Bay Basin Water Quality Control Plan and the Groundwater Sustainability Plan are the two guiding documents for water quality and sustainable groundwater management in the project area. Consistency with the two plans are discussed below.

SAN FRANCISCO BAY BASIN WATER QUALITY CONTROL PLAN

The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

As discussed in Impact 3.8-1, impacts related to water quality during construction and operation would be less-than-significant with implementation of a project specific drainage study and SWPPP and compliance with relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The County General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

Further, Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits. This Chapter of the Code applies to projects regardless of the site size. Future projects in the Plan area would be subject to the requirements included in Chapter 11A.

GROUNDWATER SUSTAINABILITY PLAN

The Sonoma Valley Groundwater Management Plan provides a groundwater management framework. The Sonoma Valley Groundwater Sustainability Agency is a public agency formed to sustainably manage groundwater in the Sonoma Valley groundwater basin. The agency was formed in June 2017 and has a Board of Directors, an administrator and an advisory committee.

A Groundwater Sustainability Plan is a 20-year plan to ensure the sustainable use of groundwater within a groundwater basin. The Sonoma Valley Groundwater Sustainability Agency was required by state law, the SGMA, to develop a Groundwater Sustainability Plan by 2022. Adopted in 2021, the goal of the Groundwater Sustainability Plan is to establish a standard for "sustainability" of groundwater management and use, and to determine how the basin will achieve this standard. As shown in Table 3.8-

2, projected groundwater use in the District's service area is projected to decrease over the next 20 years, regardless of the Project. As discussed in Impact 3.8-2, the project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

As noted above, the MS4 permits require the discharger to develop and implement a SWMP with the goal of reducing the discharge of pollutants to the maximum extent practicable. The County has developed a Storm Water Management Plan for each of the two MS4 Permits which specifies what BMPs will be used to address certain program areas. The CWA, and its implementing regulations, requires that certain industrial facilities, construction sites, and MS4 obtain coverage for their stormwater discharges under an NPDES permit, develop a SWPPP or SWMP and put measures in place to prevent discharges of pollutants in stormwater runoff. These requirements and Plans are consistent with groundwater conservation efforts.

Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. The Plan area is largely built out and developed. Development of the 15.6 acres of vacant parcels would result in an increase in impervious surfaces within the Plan area. However, development would be required to be consistent with all applicable County and service provider infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. Additionally, future projects within the Plan area would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (which would provide opportunities for groundwater infiltration in areas which would typically be paved with impermeable surfaces).

CONCLUSION

Overall, implementation of the proposed project would have a ***less than significant*** impact related to conflicts with the Basin Plan and Sonoma Valley Groundwater Management Plan.

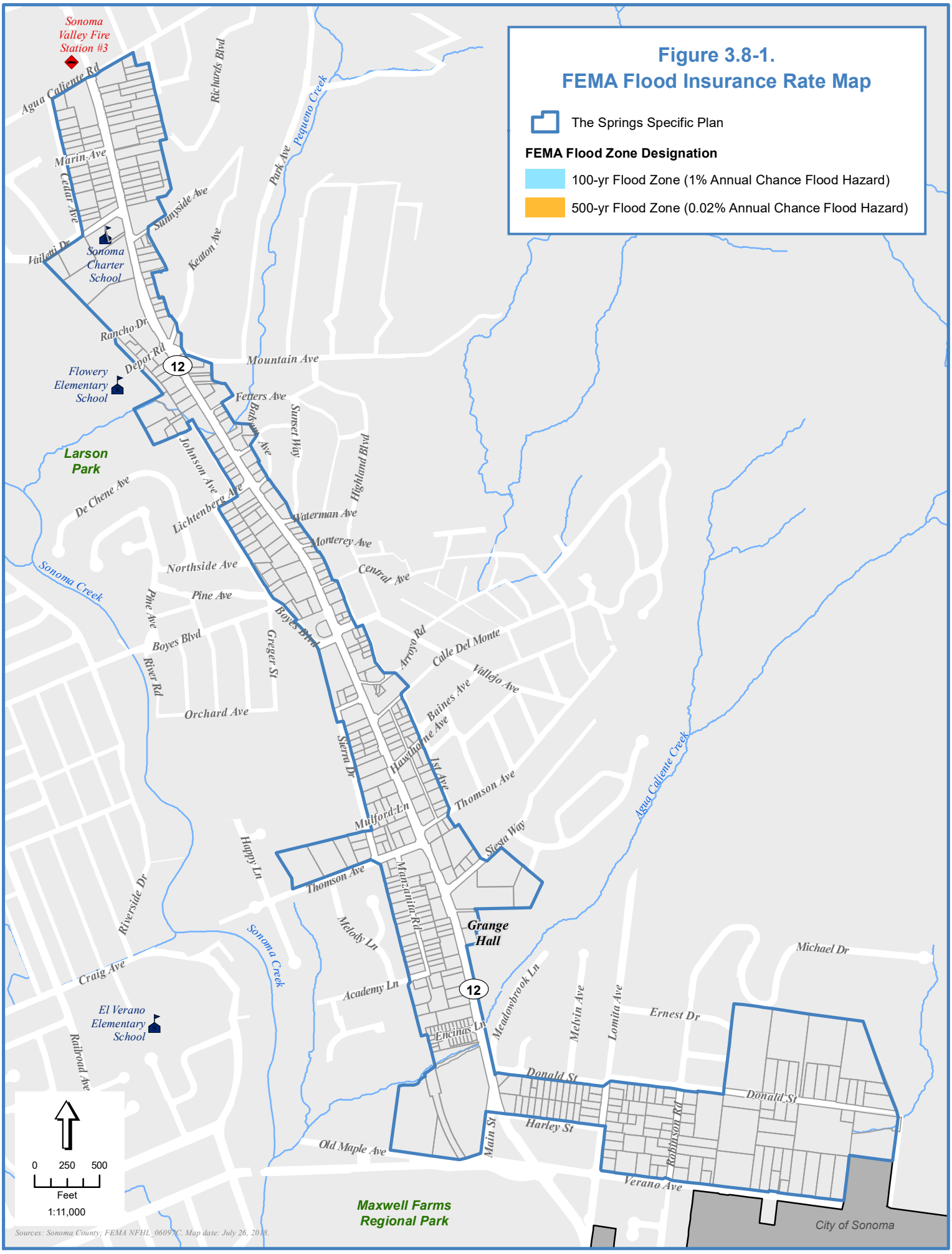
Figure 3.8-1.
FEMA Flood Insurance Rate Map
The Springs Specific Plan
FEMA Flood Zone Designation
100-yr Flood Zone (1% Annual Chance Flood Hazard)
500-yr Flood Zone (0.02% Annual Chance Flood Hazard)
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Vailetti Dr
Sonoma Charter School
Keaton Ave
Rancho Dr
Depot Rd
12
Mountain Ave
Flowery Elementary School
Fetters Ave
Bartolomei Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
De Chene Ave
Lichtenberg Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
Gregar St
River Rd
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Sierra Dr
Thomson Ave
Mulford Ln
Siesta Way
Agua Caliente Creek
Happy Ln
Riverside Dr
Thomson Ave
Manzanita Rd
Grange Hall
Melody Ln
Sonoma Creek
Craig Ave
Academy Ln
12
Encinas Ln
Meadowbrook Ln
Melvin Ave
Lomita Ave
Michael Dr
Ernest Dr
El Verano Elementary School
Railroad Ave
Donald St
Donald St
Harley St
Robinson Rd
Main St
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
0 250 500
Feet
1:11,000
Sources: Sonoma County; FEMA NFHL_0609C. Map date: July 26, 2018.

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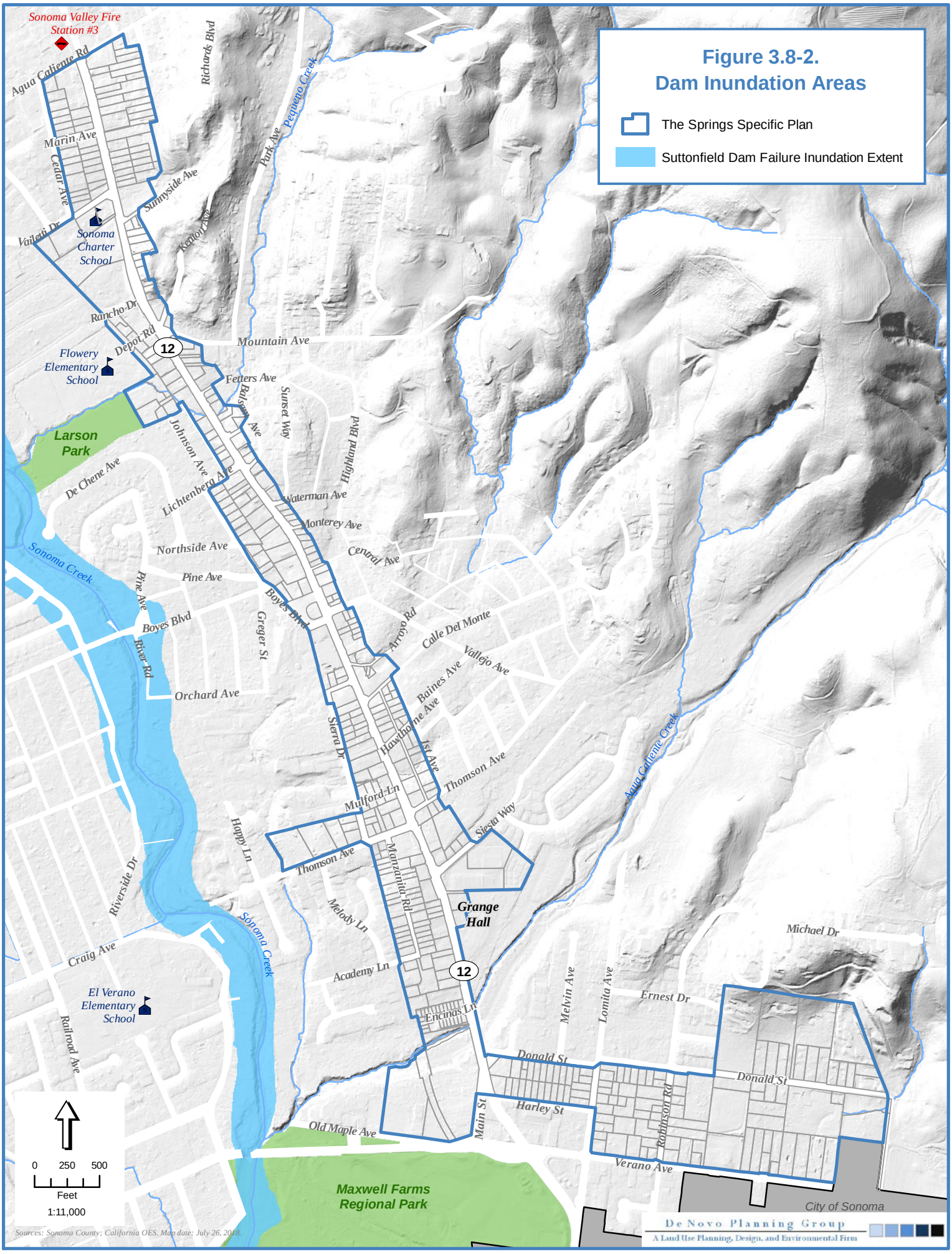
Figure 3.8-2.
Dam Inundation Areas
The Springs Specific Plan
Suttonfield Dam Failure Inundation Extent
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Kenton Ave
Vailetti Dr
Sonoma Charter School
Rancho Dr
Depot Rd
12
Mountain Ave
Flowery Elementary School
Fetters Ave
Balsam Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
Lichtenberg Ave
De Chene Ave
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
Greger St
River Rd
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
1st Ave
Sierra Dr
Thomson Ave
Mulford Ln
Siesta Way
Agua Caliente Creek
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Craig Ave
Academy Ln
Sonoma Creek
El Verano Elementary School
Railroad Ave
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
Michael Dr
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
0 250 500
Feet
1:11,000
Sources: Sonoma County; California OES. Map date: July 26, 2018.
De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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The purpose of this section is to identify the existing land use conditions of the proposed Springs Specific Plan area (Plan area) and the surrounding areas, analyze the Project's compatibility with existing land uses, analyze the Project's consistency with relevant planning documents and policies, and recommend mitigation measures to avoid or minimize the significance of potential impacts.

Information in this section is based on site surveys conducted by De Novo Planning Group in 2017 and 2018, ground and aerial photographs, and the following reference documents: the Sonoma County General Plan 2020 (adopted 2008), the Sonoma County General Plan 2020 Draft Environmental Impact Report (2006), and the Sonoma County Zoning Code.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: DP&F Attorneys at Law (July 2018), Ellen Conlan (July 2018), J. Kapolchok & Associates (July, 2018), and Michael R. Woods Law Office (July 2018). Each of the comments related to this topic are addressed within this section. The DP&F Attorneys at Law letter includes comments pertaining to the zoning designation for the Sonoma Splash property (located north of Old Maple and Verano Avenues). The Ellen Conlan letter includes general comments regarding the County's Scenic Resources Overlay, and various comments about the Springs Specific Plan zoning map. The J. Kapolchok & Associates letter includes comments pertaining to the Fairmont Sonoma Mission Inn & Spa property. The Michael R. Woods Law Office letter includes comments pertaining to the Sonoma Splash property.

3.9.1 ENVIRONMENTAL SETTING

PROJECT SITE

The Plan area is located in central Sonoma Valley, north of the City of Sonoma. The Plan area includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. The Plan area is primarily located along the Highway 12 corridor from Agua Caliente Road to Verano Avenue. The Plan area also includes a residential community that exists east of Highway 12, just north of the City of Sonoma. The Project's regional location is shown in Figure 2.0-1 and the Plan area, which serves as the Project boundary, are shown in Figure 2.0-2.

SURROUNDING LAND USES

Adjoining lands to the north of the Plan area include a fire station and residential uses; these lands are designated for Public/Quasi-public, Urban Residential, Rural Residential by the General Plan. Adjoining lands to the east of the Plan area are primarily residential; these adjacent lands are designated Urban Residential, Rural Residential, and Resources and Rural Development by the General Plan. Adjoining lands to the west of the Plan area include residential, commercial, park, and public/quasi-public uses; these lands are designated Urban Residential, Public/Quasi-public, and General Commercial.

The City of Sonoma city limits are adjacent the majority of the southern portion of the Plan area. Surrounding land uses within the City of Sonoma include low density residential, rural residential, commercial, and park. Maxwell Farms Regional Park is located south of W. Verano Avenue, south of the Plan area and is designated Public/Quasi-public by the General Plan.

3.9.2 REGULATORY SETTING

STATE

Government Code

For general law jurisdictions, such as the County of Sonoma, the State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code, Section 65860, subd. [c]).

California Specific Plan Law

Article 8, Specific Plan [65450-65457] of the Government Code contains the following provisions for the use of Specific Plan documents for local planning purposes:

65450. After the legislative body has adopted a general plan, the planning agency may, or if so directed by the legislative body, shall, prepare specific plans for the systematic implementation of the general plan for all or part of the area covered by the general plan.

65451. (a) A specific plan shall include a text and a diagram or diagrams which specify all of the following in detail:

> (1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.
>
> (2) The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.
>
> (3) Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.
>
> (4) A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).

(b) The specific plan shall include a statement of the relationship of the specific plan to the general plan.

65452. The specific plan may address any other subjects which in the judgment of the planning agency are necessary or desirable for implementation of the general plan.

65453. (a) A specific plan shall be prepared, adopted, and amended in the same manner as a general plan, except that a specific plan may be adopted by resolution or by ordinance and may be amended as often as deemed necessary by the legislative body.

(b) A specific plan may be repealed in the same manner as it is required to be amended.

65454. No specific plan may be adopted or amended unless the proposed plan or amendment is consistent with the general plan.

65455. No local public works project may be approved, no tentative map or parcel map for which a tentative map was not required may be approved, and no zoning ordinance may be adopted or amended within an area covered by a specific plan unless it is consistent with the adopted specific plan.

65456. (a) The legislative body, after adopting a specific plan, may impose a specific plan fee upon persons seeking governmental approvals which are required to be consistent with the specific plan. The fees shall be established so that, in the aggregate, they defray but as estimated do not exceed, the cost of preparation, adoption, and administration of the specific plan, including costs incurred pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code. As nearly as can be estimated, the fee charged shall be a prorated amount in accordance with the applicant's relative benefit derived from the specific plan. It is the intent of the Legislature in providing for such fees to charge persons who benefit from specific plans for the costs of developing those specific plans which result in savings to them by reducing the cost of documenting environmental consequences and advocating changed land uses which may be authorized pursuant to the specific plan.

(b) Notwithstanding Section 66016, a city or county may require a person who requests adoption, amendment, or repeal of a specific plan to deposit with the planning agency an amount equal to the estimated cost of preparing the plan, amendment, or repeal prior to its preparation by the planning agency.

(c) Copies of the documents adopting or amending the specific plan, including the diagrams and text, shall be made available to local agencies, and shall be made available to the general public as follows:

> (1) Within one working day following the date of adoption, the clerk of the legislative body shall make the documents adopting or amending the plan, including the diagrams and text, available to the public for inspection.
>
> (2) Within two working days after receipt of a request for a copy of the documents adopting or amending the plan, including the diagrams and text, accompanied by payment for the reasonable cost of copying, the clerk shall furnish the requested copy to the person making the request.

(d) A city or county may charge a fee for a copy of a specific plan or amendments to a specific plan in an amount that is reasonably related to the cost of providing that document.

65457.(a) Any residential development project, including any subdivision, or any zoning change that is undertaken to implement and is consistent with a specific plan for which an environmental impact report has been certified after January 1, 1980, is exempt from the requirements of Division 13 (commencing with Section 21000) of the Public Resources Code. However, if after adoption of the specific plan, an event as specified in Section 21166 of the Public Resources Code occurs, the exemption provided by this subdivision does not apply unless and until a supplemental environmental impact report for the specific plan is prepared and certified in accordance with the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code. After a supplemental environmental impact report is certified, the exemption specified in this subdivision applies to projects undertaken pursuant to the specific plan.

(b) An action or proceeding alleging that a public agency has approved a project pursuant to a specific plan without having previously certified a supplemental environmental impact report for the specific plan,

where required by subdivision (a), shall be commenced within 30 days of the public agency's decision to carry out or approve the project.

LOCAL

Sonoma County General Plan

The Sonoma County General Plan 2020 is the guiding document for development in the Plan area. Sonoma County updated its General Plan in September 2008. The County's General Plan provides a comprehensive set of goals, policies, and implementing actions to guide the County's growth through the year 2020. Key Sonoma County General Plan policies that guide development and improvements within Sonoma Valley, which includes the Plan area, include the following (please refer to the referenced General Plan element for policies and actions that implement each goal):

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.

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.

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.

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.

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.

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.

GOAL LU-8: Protect Sonoma County's water resources on a sustainable yield basis that avoids long term declines in available surface and groundwater resources or water quality.

GOAL LU-10: The uses and intensities of any land development shall be consistent with preservation of important biotic resource areas and scenic features.

GOAL LU-11: Promote a sustainable future where residents can enjoy a high quality of life for the long term, including a clean and beautiful environment and a balance of employment, housing, infrastructure, and services.

> **Policy LU-20a:** Avoid urban residential and commercial development within Sonoma's Urban Growth Boundary until annexed by the City.

Policy LU-20d: Recognize certain existing commercial development on the Land Use Map with the "Limited Commercial" land use designation to encourage and facilitate the maintenance, upgrading, and redevelopment of commercial structures within the Sonoma Valley Redevelopment Area.

Policy LU-20e: Recognize certain identified vacant and/or residentially developed parcels along Highway 12 within the Sonoma Valley Redevelopment Area with "Limited Commercial - Traffic Sensitive" land use designation.

Policy LU-20f: Continue to utilize the "Traffic Sensitive" zoning district for the "Limited Commercial" and "Limited Commercial - Traffic Sensitive" categories that limit the uses allowed to specified traffic impact levels. Apply this zoning to all such designated parcels in order to limit new or expanded commercial uses to those that would result in traffic levels consistent with the Circulation and Transit Element.

Policy LU-20i: Use the "Limited Commercial" and "Limited Commercial - Traffic Sensitive" categories for commercial lands in communities with urban services, including Boyes Hot Springs/El Verano/Agua Caliente, Glen Ellen and Kenwood. Require that new uses meet the following criteria:

(1) The size, scale, and intensity of the use is consistent and compatible with the character of the local community,
(2) Capacities of public services are adequate to accommodate the use and maintain an acceptable level of service,
(3) Design and siting are compatible with the scenic qualities and local area development guidelines of the local area, and
(4) Siting of structures is compatible with planned infrastructure improvements such as roadway widening and under grounding of public utilities.

Policy LU-20j: Encourage the development or redevelopment of existing commercial land as a greater priority than designation of additional lands for new commercial uses. Approve new commercial designations only if they meet the following minimum criteria and where applicable comply with Policies LU-20g and LU-20i:

(1) The lands are in an Urban Service Area or in Kenwood,

(2) The existing supply of commercial land is insufficient to meet projected needs, and

(3) Service capacities, including water and sewer systems and roads, are adequate to accommodate the additional development.

Policy LU-20p: The General Commercial designation is applied to the Clemente Inn property only to accommodate a proposal to renovate the former hotel. It is the intent of the Board of Supervisors that if the Clemente Inn building were to be removed, the property be returned to the "Urban Residential 8 units/ac" designation (APN 056-251-038).

Policy LU-20t: APNs 056-201-62, -66, -67 and -76 are designated "Urban Residential" partly because the 1989 General Plan EIR does not address the traffic impacts of 6.4 acres of "General Commercial" uses in the area. The Board would consider a General Plan amendment to a commercial land use category provided that the proposal is accompanied by adequate

environmental information and proposes a traffic sensitive commercial use.

Policy LU-20jj: Notwithstanding the Urban Residential one dwelling unit per acre land use designation of APN 127-101-002, a seven-unit Bed and Breakfast (B&B) Inn comprised of a four-bedroom primary dwelling identified as the "Chalet Farmhouse" and three "cottages" with bathrooms operating in conformance with PRMD File Number ORD05-0005 is considered conforming with the General Plan and is a transitional use between the open space and agricultural uses to the east and residential uses to the south, west and north. Such B & B uses and structures may be remodeled, repaired and reconstructed to continue in perpetuity, but cannot be expanded in terms of additional guest units or square footage dedicated to guest services. Should this site be subdivided to separate a second existing primary dwelling unit from the B & B uses, this policy would only apply to the portion of the site containing the B & B.

Sonoma County Zoning Code

The Sonoma County zoning code sets forth specific land use regulations and standards that establish the pattern and character of development in the County. The zoning code establishes various districts within the unincorporated county and designates the uses permitted in each district as well as the standards for development. In addition, the Zoning Code requires that all projects be consistent with both the General Plan and any adopted Specific or Area Plan (Article 2, Section 26-02-040).

Springs Highway 12 Design Guidelines

The Springs Highway 12 Design Guidelines were adopted in 1994 and provide a vision and a design vocabulary intended to lead to a beautification of the Highway 12 corridor, through both public and private efforts. The document is organized into three parts: Corridor Overview, Design Guidelines, and Site Elements Appendix.

The Corridor Overview includes information the design goals for the Springs area, an analysis of existing setting and an overall design concept for the enhancement of the Corridor. Included in the design concept are sketch plans for key study areas which illustrate potential public and private improvement collaborations. The Design Guidelines include design criteria for private development to ensure the consistency of each individual project with the overall character of the corridor. The Site Elements Appendix provides a palette of street furniture, fencing, lighting, and landscape materials which have been selected for their appropriateness to the country character of the corridor in the Springs Area.

These Guidelines will be superseded upon adoption of the proposed Specific Plan.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on land use and planning if it will:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or

- Conflict with any applicable habitat conservation plan or natural community conservation plan.

IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Implementation of the Project would not physically divide an established community (Less than Significant)

The overall purpose of the Project is to identify the community's vision for the future growth, development, and community resources within the Plan area in a manner consistent with the quality of life desired by residents and businesses.

The land uses allowed under the Project (Figures 2.0-8 and 2.0-9 in Chapter 2.0, Project Description) provide opportunities for cohesive new growth within existing urbanized areas of the County, as well as new infill growth adjacent to existing urbanized areas, but would not create physical division within the community. New development and redevelopment projects would be designed to complement the character of the existing community and neighborhoods and provide connectivity between existing development and new development. The Project does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. The Project would have a **less than significant** impact associated with the physical division of an established community.

Impact 3.9-2: Implementation of the Project may conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect (Less than Significant)

STATE PLANS

The proposed Specific Plan was prepared in conformance with State laws and regulations associated with the preparation of specific plans. Discussion of the Project's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. Highway 12, which traverses the Plan area, is a State-owned highway facility. The State would continue to have authority over any State-owned lands in the vicinity of the Plan area, such as Highway 12, and the Project would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

COUNTY PLANS

In September 2008, Sonoma County completed and adopted a comprehensive update to the General Plan. The Sonoma County General Plan 2020 is the overarching policy document that guides land use, housing, transportation, infrastructure, community services, and other policy decisions. The Land Use Element of the General Plan establishes land uses for the Plan area. As shown in Figure 2.0-6 in Chapter 2.0, the Plan area is currently designated General Commercial/Limited Commercial, Public/Quasi-Public, Recreation/Visitor-Serving Commercial, and Urban Residential by the Sonoma County General Plan Land Use Map.

The land uses as proposed are not consistent with the General Plan. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency.

The proposed Specific Plan would require amendments to the General Plan land use map and to land use policies to create consistency with the document. As shown in Figure 2.0-9 in Chapter 2.0, the proposed land uses for the Plan area would include Urban Residential, General Commercial, Public/Quasi-Public, and Recreation & Visitor-Serving Commercial. Although an amendment would be required to change the General Plan land uses in the area, the proposed location and type of uses are similar to the existing uses. For example, the core of the Highway 12 corridor is currently designated for General Commercial/Limited Commercial, Public/Quasi-Public, and Urban Residential land uses, while the proposed Highway 12 core would be designated for General Commercial, Public/Quasi-Public, and Urban Residential land uses. Additionally, the southeastern portion of the Plan area (off Donald Street) is currently designated for Urban Residential land uses, and the proposed land use designation for this area is also Urban Residential. The change in land use designations would allow for increased land use intensities and increased residential densities. These changes in land use designations remove the "Limited Commercial – Traffic Sensitive" designation from the Plan area.

In addition to the changes to the General Plan Land Use Map, the Project will result in text amendments to the General Plan Land Use Element and the Circulation Element. The Land Use Element changes include:

- Amend Policy LU-20e to note that the Limit Commercial Traffic Sensitive zoning will not apply to parcels in the Plan Area;
- Revise Policy LU-20i to remove reference to the Springs/El Verano/Agua Caliente area as uses, public services, design, and siting of development in this area would be addressed by the Specific Plan,
- Remove Policy LU-20p, which addresses the Clemente Inn property and is no longer applicable as the Clemente Inn building has been demolished, and
- Remove Policy LU-20t as several referenced parcels no longer exist ((APNs 056-201-67 and 056-201-76)) and any changes to land use designations for the remaining parcels (APNs 056-201-67 and 056-201-76) would require a General Plan Amendment and a Specific Plan Amendment, including associated CEQA documentation to address the proposed changes.

The Circulation Element changes include:

- Revise Policy CT-7ll to remove reference to the Highway 12 Design Guidelines, which will be superseded by adoption of the proposed Specific Plan, and
- Remove Policy CT-7mm as the Traffic Sensitive designation and zoning will be removed by the proposed Specific Plan.

Traffic impacts associated with implementation of the proposed Specific Plan, including associated changes to the General Plan and the growth in the Plan area that would be accommodated with these changes, are described in Chapter 3.13, Transportation and Circulation. This Draft EIR addresses the environmental impacts associated with development allowed under the Project, including impacts associated with an increase in population, jobs, and development allowed under the Specific Plan, including development accommodated by changes to General Plan land use designations, General Plan text requirements, and zoning. The proposed zoning districts would establish permitted uses and standards for each zone. Upon approval of the requested General Plan amendment, the Plan would be consistent with the County General Plan.

The proposed Specific Plan contains detailed development standards, design guidelines, distribution of uses, infrastructure requirements, and goals and policies for the development of a specific geographic area. The Land Use Chapter of the Specific Plan establishes the General Plan and zoning designations for

the Plan area, describes key land use concepts in the Plan, identifies the Plan's development capacity, and provides the goals and policies to guide future land use. These designations implement both the Specific Plan and the County's General Plan vision, policies, and land use classifications for the project area.

The proposed Specific Plan carries forward and enhances policies and measures from the County's existing General Plan that were intended for environmental protection and would not remove or conflict with County plans, policies, or regulations adopted for environmental protection.

The Project would require modifications to the County's Zoning Ordinance to provide consistency between the General Plan and proposed Specific Plan zoning; however, these modifications will not remove or adversely modify portions of the Sonoma County Code that were adopted to mitigate an environmental effect. The Project would also require amendments to the adopted General Plan land use map. Once the requested amendment is approved, the Project would be consistent with the County's General Plan.

CONCLUSION

Subsequent development projects within the Plan area would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the County as well as those adopted by agencies with jurisdiction over components of future development projects. Approval of the General Plan amendment would ensure that the Project would be substantially consistent with the Sonoma County General Plan land use requirements and would have a **less than significant** impact relative to land use and planning.

The Project could result in potential adverse environmental impacts, including those related to traffic, noise, water quality, biological resources, aesthetics, agricultural resources, drainage and water quality, air quality, hazards, geology/soils, and cultural resources. Impacts to these resources, including consistency with applicable plans, policies, and regulations, are evaluated in the appropriate sections of this EIR.

Impact 3.9-3: Implementation of the Project may conflict with an applicable habitat conservation plan or natural community conservation plan (No Impact)

No natural community conservation plans or habitat conservation plans have been adopted in Sonoma County. The Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Implementation of the Project would have **no impact** relative to this topic.

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This section provides a discussion of the anticipated growth that would result from Project implementation, an analysis of the Project's consistency with relevant planning documents and policies related to population and housing, the regulatory setting, and an impact analysis. Information in this section is derived primarily from California Department of Finance Population and Housing Estimates and the U.S. Census.

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.11.1 ENVIRONMENTAL SETTING

ACRONYMS

ABAG Association of Bay Area Governments
RHNA Regional Housing Needs Allocation
RHNP Regional Housing Needs Plan

SPECIFIC PLAN AREA

The approximate population within the proposed Springs Specific Plan area (Plan area) is 1,803. This is based on the number of residential dwelling units currently located within the Plan area, as provided by the Assessor's data and updated to reflect projects under construction, and household data from the U.S. Census for Sonoma County (U.S. Census Bureau, 2014b).

REGIONAL DATA

The Plan area encompasses portions of three U.S. Census tracts: 1502.02, 1503.05, and 1503.06. The three census tracts that include the Springs reflect a range of demographics, as shown in Tables 3.11-1, 3.11-2, and 3.11-3. Census tract 1503.5 is the most urban of the census tracts and encompasses the Specific Plan area that is west of SR 12 and north of Agua Caliente Creek. Census tract 1502.02 includes both urban (a portion of the City of Sonoma) and rural areas and includes the Plan area that is south of Agua Caliente Cree, including the Donald St./Verano Ave. neighborhood that is north of the City of Sonoma. Census tract 1503.06 is a mixture of urban and rural development and includes the Specific Plan area that is north of Agua Caliente Creek and east of SR 12.

Existing population, housing units, and households in these census tracts, as provided by the U.S. Census Bureau, are depicted in Table 3.11-1.

TABLE 3.11-1: POPULATION, HOUSING, AND HOUSEHOLDS – SPRINGS AREA (2017 5-YEAR ESTIMATE)

AREA	*POPULATION*	*HOUSING UNITS*	*HOUSEHOLDS*	*PERSONS PER HOUSEHOLD*
Census Tract #1502.02	4,557	2,767	2,203	2.04
Census Tract #1503.05	6,068	2,005	1,831	3.78
Census Tract #1503.06	4,206	1,909	1,700	2.47
Total of the three Census Tracts	14,831	6,681	5,734	2.76

SOURCE: UNITED STATES CENSUS BUREAU, AMERICAN FACTFINDER: 2013-2017 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES (U.S. CENSUS BUREAU, 2017).

HOUSING STOCK

Family households represent 4,159 of the 5,981 total households within the three census designated areas listed above. This represents an aggregate average of approximately 70% of households within these areas. Married-couple families represent approximately 55% of total households.

An average of 59% of housing in the three local Census Tracts (1502.02; 1503.05; and 1503.06) is owner-occupied, with remainder renter-occupied. The average family size within the three Census Tracts is 2.25 persons. The area also includes 17% households with their own children under 18 years of age. Additionally, approximately 32% of all householders live alone, and approximately 40% of households include an individual 65 years of age or older.

Additionally, Tables 3.11-2 and 3.11-3 below provide further population and housing statistics for the aforementioned three U.S. Census Tracts. Information on tenure, median household income, and per capita income is shown in Table 3.11-2. Information on working age population in the labor force, working age population employed, and unemployment rate are shown in Table 3.11-3.

TABLE 3.11-2: HOUSEHOLD TENURE, MEDIAN HOUSEHOLD INCOME, AND PER CAPITA INCOME, SPRINGS AREA (2017 ACS ESTIMATE)

AREA	*% OF HOUSING OWNER-OCCUPIED*	*MEDIAN HOUSEHOLD INCOME*	*PER CAPITA INCOME*
Census Tract #1502.02	63. 2%	$94,280	$68,519
Census Tract #1503.05	44.1%	$66,510	$27,327
Census Tract #1503.06	63.2%	$68,180	$41,940

SOURCE: UNITED STATES CENSUS BUREAU, AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES (U.S. CENSUS BUREAU, 2019)

TABLE 3.11-3: PERSONS IN LABOR FORCE, EMPLOYED PERSONS, AND UNEMPLOYED PERSONS, SPRINGS AREA (2017 ACS ESTIMATE)

AREA	*WORKING AGE POPULATION IN LABOR FORCE*	*WORKING AGE POPULATION EMPLOYED*	*UNEMPLOYMENT RATE*
Census Tract #1502.02	2,878	2,578	10.4%
Census Tract #1503.05	3,104	3,078	.8%
Census Tract #1503.06	2,452	2,369	3.3%

SOURCE: U.S. CENSUS BUREAU (2015-2019). EMPLOYMENT STATUS FOR THE POPULATION 16 YEARS AND OVER AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES. RETRIEVED FROM <HTTPS://CENSUSREPORTER.ORG>

PERSONS PER DWELLING UNIT

The average number of persons residing in a dwelling unit in Sonoma County is 2.64 (California Department of Finance, 2018). According to the Market and Feasibility Analysis completed for the Springs Specific Plan (New Economics & Advisory, 2016), the average household size in the Plan area is 2.8.

3.11.2 REGULATORY SETTING

Plan Bay Area 2040

Plan Bay Area 2040 is a focused update to the 2013 Plan Bay Area. Plan Bay Area 2040 is a Regional Transportation Plan and Sustainable Communities Strategy for the nine-county Bay Area. Plan Bay Area

2040 projects expected household and employment growth in the Bay Area over a 24-year period, providing a roadmap for expected growth connected to a regional transportation investment strategy.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA) and is based on a Regional Housing Needs Plan developed by councils of government. The Association of Bay Area Governments (ABAG) is the lead agency for developing the Housing Needs Plan for the nine-county area that includes Sonoma County. The County's fair share of the adopted RHNA for 2013-2023, including the share for all of its cities, is summarized in Table 3.11-4.

***TABLE 3.11-4: REGIONAL HOUSING NEEDS ALLOCATION** - 2015-2023*

	VERY LOW INCOME	*LOW INCOME*	*MODERATE INCOME*	*ABOVE MODERATE INCOME*	*TOTAL*
Sonoma County (All Jurisdictions)	1,818	1,094	1,355	4,177	8,444
Sonoma County (Unincorporated)	126	37	160	192	515

SOURCE: ABAG, 2015.

The County is not required to ensure that adequate development to accommodate the RHNA occurs; however, the County must facilitate housing production by ensuring that land is zoned for housing and that unnecessary development constraints have been removed. The County's Housing Element, adopted in 2014, provides for the accommodation of the 2015-2023 RHNA.

The combined RHNA for the next housing cycle allocates 14,562 housing units for all Sonoma County jurisdictions, and the unincorporated County's assigned share of that RHNA is 3,881 units, or nearly eight times the share of the County's share of the current RHNA (515 total).

Sonoma County General Plan

The existing Sonoma County General Plan identifies the following goals, objectives, and policies related to population and housing:

LAND USE ELEMENT

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-1.2: Encourage the major share of commercial and industrial growth in the cities but accommodate a limited amount of this growth in unincorporated communities with urban services.

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.

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.

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.

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.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Based on the standards established by Appendix G of the CEQA Guidelines, the Project will have a significant impact on population and housing if it will:

- Induce substantial 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);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Implementation of the Project would not induce substantial population growth (Less than Significant)

The Project accommodates future growth in the Plan area, including new businesses and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. While no specific development projects are proposed as part of the Project, the Springs Specific Plan will accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. As described in Chapter 2.0, Project Description, of this Draft EIR, buildout of the Springs Specific Plan could yield up to 706 dwelling units, up to 120 hotel rooms, and up to 276,903 square feet of non-residential uses, including:

- 168,029 square feet of commercial uses;
- 82,226 square feet of office uses; and
- 26,648 square feet of recreation uses.

Given the historical and current population, housing, and employment trends, growth in the County, as well as the entire state, is inevitable. The primary factors that account for population growth are natural

increase and net migration. According to the California Department of Finance, Demographic Research Unit, the average annual birth rate for California is expected to be 10 births per 1,000 population. Additionally, according to the Public Policy Institute of California, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation.

Plan Bay Area 2040 states that by 2040 the Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year. From 2010 through 2040, Plan Bay Area 2040 anticipates 33,200 new households in Sonoma County, including 3,000 households in the unincorporated area, and 40,900 new employees, including 10,100 employees in the unincorporated area. During this same period, the California Department of Finance projected that Sonoma County's population would increase by 99,976 persons countywide. While the 2040 Plan Bay Area does not include community-specific growth projections, the 2013 Plan Bay Area projected that The Springs would grow by 1,150 households and 480 jobs. The Project would accommodate up to 706 new households (up to approximately 1,977 new residents) and up to 632 new employees. Overall, the growth associated with the Project is within the level of growth planned for the County and Bay Area.

Future development under the Project is anticipated to be primarily infill development as well as redevelopment and intensification of existing uses, since the Plan area is substantially built-out. In order to accommodate the planned growth, surrounding infrastructure (i.e., water, sewer, and storm drainage facilities) would be extended to vacant infill sites from nearby and/or adjacent roadways or developments. Additionally, some internal access roadways may be required for future infill development. The plan would not extend infrastructure to areas outside of the Plan area that are not currently served by infrastructure and does not increase capacity of infrastructure beyond that necessary to accommodate the growth anticipated for the Project. Growth under the Project is anticipated to remain within the general growth levels projected statewide, as well as locally, and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed Specific Plan is intended to assist in accommodating the County's fair share of statewide housing needs, which are allocated by the Association of Bay Area Governments, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

The existing Sonoma County General Plan includes goals, objectives, and policies that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. The Sonoma County General Plan does not establish any growth caps or thresholds, but rather sets a vision for growth in the County, with a focus on growth occurring in and around the cities and in unincorporated communities with adequate water and sewer capacity. Additionally, this Draft EIR includes mitigation measures, where appropriate, to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Chapters 3.1 through 3.14 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed Specific Plan.

With adherence to the existing General Plan goals, objectives, and policies intended to guide growth to appropriate areas and provide services necessary to accommodate growth, development of the land uses allowed under the proposed Specific Plan and the infrastructure anticipated to accommodate such development would be consistent with the long-range growth planned for the County and Bay Area and would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the Project would result a **less than significant** impact.

Impact 3.11-2: Implementation of the Project would not displace substantial numbers of people or existing housing (Less than Significant)

There are approximately 557 existing residences (approximately 347 single-family units and 210 multi-family units) located within the Plan area. As buildout of the Plan area progresses, it is likely that some of the existing housing units would be remodeled, renovated, expanded on, demolished, or otherwise removed or replaced with new development. However, the proposed Specific Plan does not require the removal of any housing. The Project would accommodate up to 706 new housing units. New development allowed under the Project would significantly increase the available housing stock in the County. Therefore, Project implementation would not displace substantial numbers of people or housing units. Therefore, impacts associated with displacement would be **less than significant**.

This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, schools, parks and recreation, and other services for the Project. Impacts associated with solid waste and wildfires are discussed in Section 3.14, Utilities, and Section 3.7, Hazards and Hazardous Materials, respectively.

Comments were received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic from the following: DP&F Attorneys at Law (July 2018), and an anonymous member of the public during the NOP Scoping Meeting (July 2018). These comments pertain to parks/open space, community health, and the location of land zoned for recreation. Each of the comments related to this topic are addressed within this section.

3.12.1 ENVIRONMENTAL SETTING

ACRONYMS

CDE	California Department of Education
OES	Office of Emergency Services
SVFD	Sonoma Valley Fire District

FIRE PROTECTION

The Sonoma Valley Fire District (SVFD) provides all-risk fire, rescue, and paramedic level emergency medical services to the communities of Agua Caliente, Boyes Hot Springs, City of Sonoma, Diamond-A, El Verano, Fetters Hot Springs, Glen Ellen, Mayacamas, Temelec, and Seven Flags.

On February 1, 2002, the City of Sonoma and Valley of the Moon Fire Protection District entered into a Joint Powers Agreement creating a public entity known as the Sonoma Valley Fire & Rescue Authority. The purpose of the Authority was to eliminate duplication of equipment, personnel and resources, control costs, and provide higher levels of fire and rescue services to both communities.

On December 19, 2011, the City of Sonoma signed a contract for fire and emergency medical services with the Valley of the Moon Fire Protection District to further eliminate duplication of administrative services. The Fire District served as the employer of both employee groups.

On July 1, 2020, the Sonoma Valley Fire District was formed through a consolidation of the Valley of the Moon and Glen Ellen Fire Districts as well as the Mayacamas Volunteer Fire Company service area. The new District's formation went through the LAFCO re-organization process that included public hearings and legal requirements. The consolidation is intended to provide benefits to citizens and taxpayers by employing common equipment, resources, and personnel under a single administration and operations.

The District maintains four career-staffed fire stations and four volunteer-staffed stations, an administrative office, and a maintenance facility. The District staffs six companies: four Paramedic Engine Companies and two ALS Ambulances. The District also staffs an assortment of specialized equipment through the supplemental staffing of 41 dedicated volunteer firefighters. This equipment includes a Ladder Truck, two Rescues, three Water Tenders, and nine additional Fire Engines, including six specialized wildland engines.

3.12 PUBLIC SERVICES AND RECREATION

The District, including the City, serves an area of approximately 74 square miles with a resident population of approximately 48,000. The District also provides ambulance service to the greater Sonoma Valley, an area of approximately 100 square miles.

The Sonoma Valley Fire District is an autonomous Special District, as defined under the Fire Protection District Law of 1987, Health and Safety Code, Section 13800, of the State of California. A seven-member Board of Directors, elected at-large by their constituents, and each serving a four-year term, govern the District. The Fire Chief oversees the general operations of the District in accordance with the policy direction prescribed by the Board of Directors.

FIRE RESPONSE TIMES

Response times in different cities vary greatly depending on the size of the jurisdiction and department, geographical location and levels of crime. Smaller cities usually have faster response times, due simply to the geography.

According to the SVFD, in 2017, 34 percent of the district's calls were in the Plan area. Response times from Station 2 to East Thompson Avenue were approximately seven minutes and 46 seconds. Response times from Station 3 to Verano Avenue were approximately seven minutes and 21 seconds. Calls for service based on a fairly stable population have risen from approximately 4,500 in 2013 to 5,400 in 2018, a 20 percent increase.

POLICE PROTECTION

The Plan area is served by the Sonoma County Sheriff's Department. The Sonoma Valley Substation provides patrol services to the entire Sonoma Valley from Pythian Road to San Pablo Bay. The Substation is located at 810B Grove Street and is staffed with two Sergeants, sixteen Deputy Sheriffs and one Community Services Officer.

Table 3.12-1 presents crime statistics for the Plan area and its general vicinity between March 2015 and March 2016. As shown on the table, the majority of crimes within the area (41.7%) consist of drug and narcotics related offences. Other common offences include: vandalism (13.5%), theft (12.2%), aggravated assault (10.6%), and burglary (7.6%).

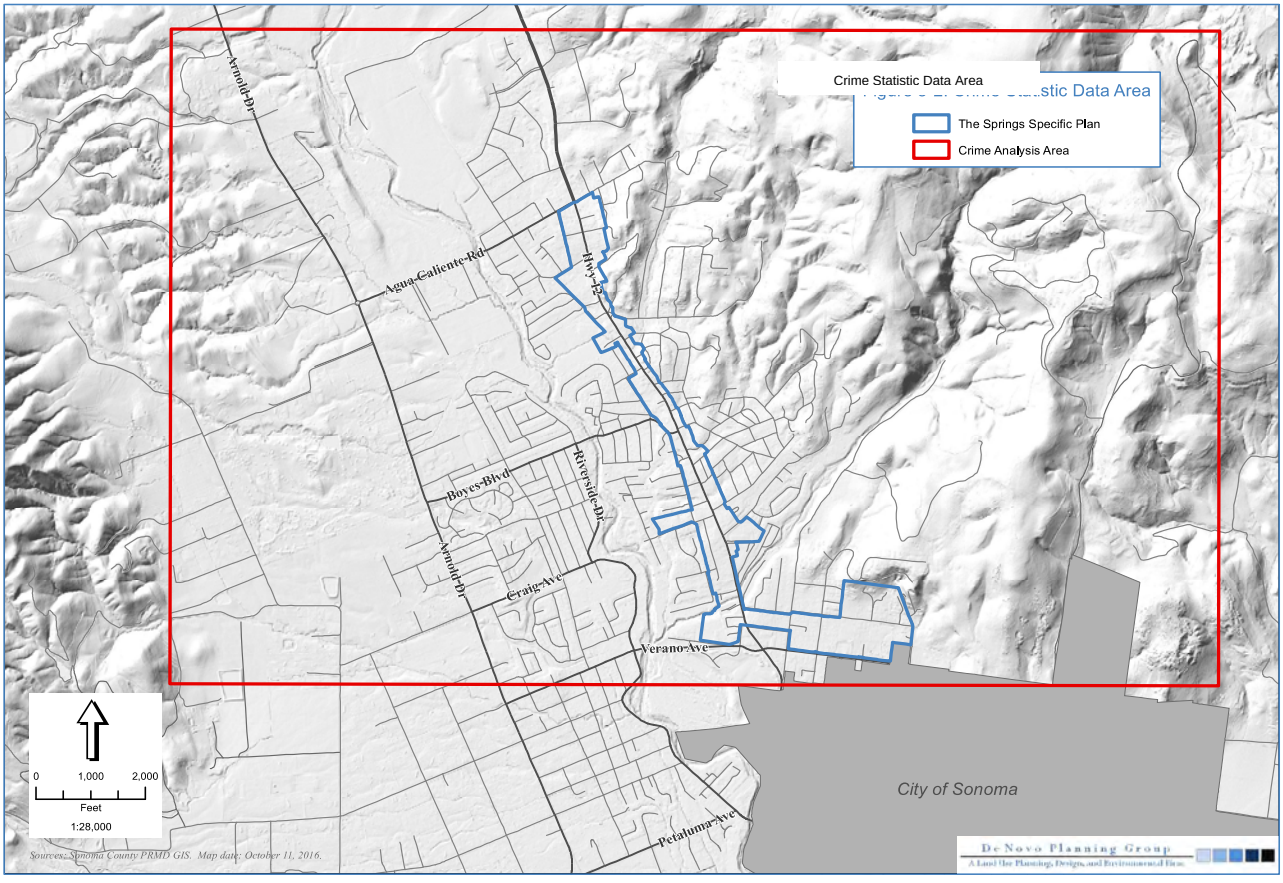
The Plan area and general vicinity where the above-mentioned crimes occurred is shown in Figure 3.12-1.

TABLE 3.12-1: CRIMES WITHIN THE VICINITY OF THE PLAN AREA

CRIME CLASS	*NUMBER OF CRIMES*	*PERCENT OF CRIMES*
Drug/Narcotics Violations	130	41.7%
Vandalism	42	13.5%
Theft	38	12.2%
Aggravated Assault	33	10.6
Burglary	24	7.6%
Sexual Assaults	18	5.8%
DUI	14	4.5%
Shoplifting	7	2.2%
Robbery (Individual)	3	1.0%
Arson	1	0.3%
Motor Vehicle Theft	1	0.3%
Homicide	1	0.3%

SOURCE: BAIR ANALYTICS 1 YEAR CRIME STATISTICS AND CRIME MAPPING DATA MARCH 2015 THROUGH FEBRUARY 2016.

FIGURE 3.12-1: CRIME ANALYSIS AREA FOR VICINITY OF THE PLAN AREA (TABLE 3.12-1)



POLICE RESPONSE TIMES

As noted above, response times in different cities vary greatly depending on the size of the jurisdiction and department, geographical location and levels of crime. Smaller cities usually have faster response times, due simply to the geography. Calls for service are prioritized into two general categories.

- Priority 1 calls involve an immediate threat to life or crimes that are in progress.
- Priority 2 calls are high priority but do not elevate to the level of an emergency.

The Sheriff's Department had 50 Priority 1 events and 295 Priority 2 events in the Plan area between January 1, 2018 and December 30, 2018. During this time period, the median response time was 1 minutes and 30 seconds for Priority 1 calls and 2 minutes and 36 seconds for Priority 2 calls.

SCHOOLS

The Sonoma Valley Unified School District (School District) includes the City of Sonoma and the communities of El Verano, Boyes Hot Springs, Agua Caliente, Eldridge, and Glen Ellen. The district serves approximately 4,600 students in grades K through 12 located on 11 campuses throughout the valley.

According to the School District's attendance boundaries, students living in the northern portion of the Plan area would generally attend Flowery Elementary while students living in the south would attend Sassarini Elementary. El Verano Elementary school serves students living to the west of Sonoma Creek. Two charter schools are in the District's boundaries, Sonoma Charter School and Woodland Star Charter School, which are open to all K through 8 students. Altimira Middle School also serves grades 6 through 8. Local high school students attend Sonoma Valley High School located within the City of Sonoma. Local schools are listed below on Table 3.12-2.

TABLE 3.12-2: SCHOOLS SERVING THE PLAN AREA AND VICINITY

SCHOOL	*ADDRESS*	*SCHOOL DISTRICT*	*GRADES*	*STUDENT POPULATION*
Altimira Middle School	17805 Arnold Drive	Sonoma Valley Unified	6-8	557
Flowery Elementary	17600 Sonoma Hwy	Sonoma Valley Unified	K-5	348
Sassarini Elementary	652 Fifth St	Sonoma Valley Unified	K-5	378
Sonoma Charter	17202 Sonoma Hwy	Sonoma Valley Unified	K-8	219
Sonoma Valley High School	20000 Broadway	Sonoma Valley Unified	9-12	1,312
El Verano Elementary	18606 Riverside Dr	Sonoma Valley Unified	Preschool-5	446
Woodland Star Charter	17811 Arnold Dr	Sonoma Valley Unified	K-8	249

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION, EDUCATIONAL DEMOGRAPHICS UNIT, CALIFORNIA PUBLIC SCHOOL ENROLLMENT-SCHOOL REPORT (2014-2015)

LIBRARY SERVICES

Sonoma County provides public library services throughout the County. The Plan area of is served by the Sonoma Valley Regional Library located approximately one mile south of the Plan area at 755 West Napa Street in the City of Sonoma. The library offers programs for children and families, adults and teens. The library holds book sales and book discussion forums. Sonoma County also operates library branches in

Santa Rosa, Cloverdale, Forestville, Guerneville, Healdsburg, Occidental, Petaluma, Rohnert Park, Sebastopol, and Windsor.

MUSEUMS

There are no museums located within the Plan area. However, there are many museums within Sonoma County, and the neighboring City of Sonoma. Museums located within the City of Sonoma are described below.

The **Sonoma Valley Museum of Art (Museum of Art)**, located at 551 Broadway in the City of Sonoma, was founded and incorporated as a 501 (c)(3) nonprofit organization to promote the creation, exhibition, and collection of fine arts from around the world and provide educational opportunities to people of all ages.

Since 1999, Museum of Art has staged more than 70 exhibitions attracting over 130,000 visitors. It occupies an 8,000-square-foot space just one-half block south of the historic Sonoma Town Plaza, approximately 1.25 miles southeast of the Plan area. The museum purchased the building in early 2001, and extensive renovations, including the addition of a new façade, were completed in March 2004. In 2010, classroom space was installed. With a membership of more than 1,000 households, SVMA is the largest visual arts organization in the San Francisco North Bay region (Sonoma, Marin, Napa and Solano Counties). In recent years, the curatorial mission has evolved to feature modern and contemporary work, bringing a new perspective to the area.

The **Depot Park Museum** is located in the City of Sonoma. The City of Sonoma acquired the old Northwestern Pacific depot and adjacent land to prevent the loss of the historic site. In 1975, fire destroyed the historic train depot. A major fund-raising drive by the Sonoma Valley Historical Society, along with a grant from the city, provided funding to rebuild the depot as a community museum. The adjacent land was dedicated as Depot Park. The museum and park opened in 1979.

OTHER COMMUNITY FACILITIES

The **Sonoma Community Center** is housed on the campus of the historic Sonoma Grammar School at 276 East Napa Street in the City of Sonoma (outside the Plan area). Its mission is to enrich the lives of Valley residents and visitors with a broad range of cultural, educational, recreational and community service activities. Additionally, the Center puts on many community events throughout the year including Sonoma's nationally acclaimed Old Fashioned 4th of July Parade & Celebration, the Plaza-packing City Party, the free-to-all Thanksgiving Dinner and many other events throughout the community.

The **Teen Center**, located at 17440 Sonoma Highway (SR 12) outside of the Plan area, is a free drop-in center provided by Teen Services Sonoma. The Center offers caring adult supervision, free snacks and meals, and a place for teens to connect and build friendships. Services include a homework assistance program, GED preparation assistance, credit recovery help, and job referrals. Activities include art and cooking classes, athletic and fitness activities, and participation in outdoor adventure fieldtrips. The Teen Center hosts a weekly girls' support group..

Art Escape, located at 17474 Sonoma Highway (SR 12) outside of the Plan area, is a non-profit art center. Art Escape's mission is to provide a vibrant, stimulating place where the diverse population of Sonoma Valley can gather to discover and explore their creative potential. Art Escape offers free and affordable programs to the community, including art projects and after-school classes for students.

The **Sonoma State Historic Park** is located in the City of Sonoma (outside the Plan area) and includes multiple historical locations in the vicinity of the Sonoma Plaza. The park includes historical features including the Sonoma Mission, Blue Wing Inn, Mission San Francisco Solano de Sonoma Complex, Sonoma Barracks, Adobe Indian House, and General Vallejo's Home and associated outbuildings. Sonoma Petaluma Parks is a non-profit organization that provides docent and supportive services to further the interpretive and educational functions of the Sonoma State Historic Park.

A **U.S Post Office**, also known as the Boyes Hot Springs Post Office, is located within the Plan area at 18092 Sonoma Highway.

PARKS AND RECREATION SYSTEM

The Sonoma County Regional Parks system includes more than 50 parks and trails from Petaluma to Gualala and Sonoma to Bodega Bay. Many offer natural, undeveloped landscapes. Others feature sports fields, playgrounds, campgrounds, swimming beaches and boat launches. The Sonoma County Regional Parks Department also manages ocean marinas and the county's largest environmental education center.

The Sonoma County Regional Parks Department manages several parks within the vicinity of the Plan area including:

Larson Park, totaling 7.59 acres, is located at 329 DeChene Avenue, adjacent to Flowery School. Larson Park features a community garden and lovely views of the riparian habitat along Sonoma Creek. It is also a great family spot, with an accessible playground, a picnic area, restrooms, a baseball/softball field, basketball court, soccer/multi-use field, and four tennis courts.

Ernie Smith Community Park, totaling 10.38 acres, is located at the corner of Arnold drive and Craig Avenue (18776 Gillman Drive). This park provides an athletic field for little league and softball, a basketball court, children's accessible play area, 1/2-acre dog park with picnic tables, wheelchair-accessible group picnic area, and a paved trail.

Maxwell Farms Regional Park, totaling 78.82 acres, is located at 100 Verano Avenue, adjacent to the southern portion of the Plan area, has fields for soccer and baseball, tennis and volleyball courts, an accessible playground and picnic sites, and 2.5 miles of nature trails winding through 40 acres of backcountry. Maxwell Farms Regional Park also features:

- **Macdougald Skateboard Park**. This park was built through local grants and donations. The city of Sonoma manages the skateboard park.
- **The Valley of the Moon Boys and Girls Club.** The Boys and Girls Club offers the children of Sonoma Valley a variety of educational and recreational activities such as sports, computer skills, tutoring and art. This facility also was built with local grants and donations.

The **Sonoma Valley Trail** is a 13-mile paved trail along the scenic Highway 12 corridor between Santa Rosa and Sonoma proposed for construction by Sonoma County Regional Parks. The scenic corridor currently lacks a safe and separated pathway for pedestrians and bicyclists traveling north and south. A feasibility study was completed in February 2016 to help facilitate the trail development. This trail project would develop a separated pathway connecting Sonoma with Santa Rosa. Sonoma County Regional Parks is currently searching for funding opportunities to complete the Sonoma Valley Trail.

As shown in Table 3.12-3, three area parks are located in the vicinity of the Plan area, totaling 96.79 acres of parklands.

TABLE 3.12-3: PARKS IN THE PLAN AREA AND VICINITY

PARK NAME	*AGENCY*	*TYPE*	*TOTAL ACREAGE*
Larson Park	Sonoma County Regional Parks Dept	Open Access	7.59
Ernie Smith Park	Sonoma County Regional Parks Dept	Open Access	10.38
Maxwell Farms Regional Park	Sonoma County Regional Parks Dept	Open Access	78.82

SOURCE: SONOMA COUNTY REGIONAL PARKS DEPARTMENT; CALIFORNIA DEPARTMENT OF PUBLIC HEALTH MAPPING TOOL

Policy PS-2c of the Sonoma County General Plan outlines the following park standard: "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."

The Plan area encompasses portions of three U.S. Census tracts: 1502.02, 1503.05, and 1503.06. The total population for these three U.S. Census tracts is 15,335[1]. With 96.79 acres of parkland, the Plan area currently provides 6.3 acres of parkland for every 1,000 people, which is slightly above the County's goal of 5.0 acres for every 1,000 people.

3.12.2 REGULATORY SETTING

FEDERAL

Federal Highway Administration Section 4(f)

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 which provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. The law, now codified in 49 U.S.C. §303 and 23 U.S.C. §138, applies only to the U.S. Department of Transportation and is implemented by the Federal Highway Administration and the Federal Transit Administration through the regulation 23 Code of Federal Regulations 774. Section 4(f) applies to projects that receive funding from or require approval by an agency of the U.S. Department of Transportation. Before approving a project that uses Section 4(f) property, the Federal Highway Administration must determine that there is no feasible and prudent alternative that avoids the Section 4(f) properties and that the project includes all possible planning to minimize harm to the Section 4(f) properties; or, Federal Highway Administration makes a finding that the project has a de minimis impact on the Section 4(f) property. .

[1] *American Community Survey 5-year estimates.* Retrieved from *Census Reporter Profile page for Census Tract 1502.02, Sonoma, CA* <http://censusreporter.org/profiles/14000US06097150202-census-tract-150202-sonoma-ca/

STATE

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

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

EMERGENCY RESPONSE/EVACUATION PLANS

The State passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standardized Emergency Management System program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with Standardized Emergency Management System could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

UNIFORM FIRE CODE

The Uniform Fire Code with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000, et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Parks and Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development.

Schools

CALIFORNIA CODE OF REGULATIONS

California public school districts are authorized to assess development fees within their boundaries under California Education Code Section 17620, et seq. Such fees are subject to the limitations and requirements of California Government Code Sections 65995-65998(h). Under these provisions, the payment of school fees is deemed to be full and complete mitigation of the impacts of land use approvals involving the planning, use, or development of real property with regard to the provision of adequate school facilities.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between developed grounds area around the buildings and building areas. The CDE SFPD believes that when the grounds exceed this ratio by an appreciable amount, the maintenance costs for landscaping increase beyond the budget of the average school district. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.

- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.

- **Level III** fees are outlined in Government Code Section 65995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

LOCAL

Fire Protection and Emergency Response

SONOMA VALLEY FIRE & RESCUE AUTHORITY 2015-2020 STRATEGIC PLAN

The Sonoma Valley Fire & Rescue Authority 2015-2020 Strategic Plan addresses the organization's mission, values, and vision, and sets forth a continuous improvement plan. The Strategic Plan also contains

goals and strategies which aim to achieve the mission of the Authority (now the District), and input received from stakeholders (internal and external).

SONOMA COUNTY FIRE SAFETY ORDINANCE

Chapter 13 of the Municipal Code contains the Sonoma County Fire Safety Ordinance. The Fire Safety Ordinance outlines the County Fire Code, adopts the California Fire Code (with amendments), and summarizes the County's fire safe standards. Under Section 13-15 of the Code, the County fire chief "shall be responsible for plan checking and inspection of new construction and alterations subject to the county fire code, Chapter 13 within both those portions of the unincorporated area of the county not in a local fire protection district and those portions of the unincorporated area of the county in a local fire protection district which has adopted the county fire code, unless a local fire protection district notifies the county fire chief in writing that it has elected to have the local fire chief exercise those responsibilities within its jurisdictional area, whether according to the county fire code or the district's amendment of the county fire code adopted per subsection (d). Any such action shall only be effective if it is thereafter approved by the board of directors of the local fire protection district."

Sonoma County General Plan

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to public services:

PUBLIC FACILITIES AND SERVICES ELEMENT

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-2.1:** Provide an adequate supply and equitable geographic distribution of regional and local parks and recreation services based on population projections.
>
> **Objective PF-2.2:** Use the National Recreation and Parks Administration (NRPA) standards as the minimum standards for determining park needs.
>
> **Objective PF-2.3:** Assist school districts in developing more precise estimates of population growth within their attendance areas.
>
> **Objective PF-2.4:** Use estimates by school districts of new school site needs as the basis for applying school site designations on land use plan maps.
>
> **Objective PF-2.5:** Promote cooperation among fire and emergency service agencies in the area of public education and awareness, especially in those areas isolated from emergency service providers either by distance or topography.
>
> **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.
>
> **Objective PF-2.7:** Encourage more effective use of existing emergency and medical services by emphasizing an integrated Countywide response system.

Objective PF-2.8: Continue to coordinate fire protection services and planning with all other related agencies.

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-2d: Provide community parks as needed in Urban Service Areas until the area incorporates, are annexed, or another service providing entity is established.

Policy PF-2e: In the event that a proposed park or school site is designated on the GP 2020 Land Use Maps (Figures LU-5a through 5i) or Open Space and Resource Conservation Maps (Figures OSRC-5a through 5i), consider the designation as applying to a general area rather than a particular parcel, unless and until a particular site is acquired and approved for public use development authorized by the land use plan.

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-2h: Consider establishing a land acquisition reserve fund to purchase park or recreation lands in areas lacking adequate park facilities.

Policy PF-2i: Consider user fees in County park areas where special facilities are available. Offer discounts to County residents.

Policy PF-2j: Where there is an unmet need for local park facilities, encourage the formation of County service areas or other special districts to meet the need, if economically feasible.

Policy PF-2k: Assist school districts in estimating the amount, rate and location of projected population growth within their attendance areas.

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-2o: The Department of Fire Service shall review and comment on any proposed changes in the boundaries of areas of State and local responsibility for wildland fire protection and the service boundaries of local fire districts and volunteer companies.

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.

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to public safety:

PUBLIC SAFETY ELEMENT

GOAL PS-3: Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.

Objective PS-3.1: Continue to use complete data on wildland and urban fire hazards.

Objective PS-3.2: Regulate new development to reduce the risks of damage and injury from known fire hazards to acceptable levels.

Objective PS-3.3: Use the Sonoma County Hazard Mitigation Plan to help reduce damages from wildland fire hazards.

Policy PS-3a: Continue to use available information on wildland and structural fire hazards.

Policy PS-3b: Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with the Public Safety Element in the review of projects.

Policy PS-3i: Encourage and promote fire safe practices and the distribution of fire safe educational materials to the general public, permit applicants, and local planning agencies.

Policy PS-3k: Work with the California Department of Forestry and Fire Protection (CalFire) to identify areas of high fire fuel loads and take advantage of opportunities to reduce those fuel loads, particularly in Very High or High Fire Hazard Severity Zones.

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.

Policy PS-3d: Refer projects and code revisions to the County Department of Fire and Emergency Services and responsible fire protection agencies for their review and comment.

Policy PS-3e: The County Department of Fire and Emergency Services shall offer assistance to local agencies in adoption and enforcement of fire safety regulations and shall work with local agencies to develop proposed improvements to County codes and standards.

Policy PS-3f: Encourage strong enforcement of State requirements for fire safety by the California Department of Forestry and Fire Protection.

Policy PS-3g: Encourage continued operation of California Department of Forestry and Fire Protection (CalFire) programs for fuel breaks, brush management, controlled burning, re-vegetation, and fire roads.

Policy PS-3h: Develop a program to improve and standardize the County street addressing system in order to reduce emergency service response times. Where applicable, coordinate the program with the cities.

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to open space and resource conservation:

OPEN SPACE AND RESOURCES CONSERVATION ELEMENT

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-17a: Apply the "Public-Quasi Public/Park" designation to all existing local, County, and State parklands.

Policy OSRC-17b: Apply the "Planned Parks" designation to indicate general areas where a need exists for parks.

Policy OSRC-17c: Consider requiring dedication of public access by fee or easement from a public roadway to a navigable stream (Subdivision Map Act), the ocean, public lakes, and major reservoirs as a condition of approval for major subdivisions if the project blocks an existing public access point or it results in the need for additional access, and other reasonable access is not available.

Policy OSRC-17d: The trails on Figure OSRC-3 make up the County's designated plan for trails. Trail locations [which apply to the Plan area] are approximate and are described below. Roadways may be used where access cannot be obtained through private property.

- **Hood Mountain Trail North.** The proposed trail links Hood Mountain County Park to a 240-acre Bureau of Land Management holding to the east at the Sonoma/Napa county line.

- **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.

- **Sonoma Trail.** The proposed trail follows the right-of-way of the Northwestern Railroad from the City of Sonoma to Highway 121/12.

Classify potential trails as follows:

(1) **Recreational Waterways.** Recognize boating and canoeing activities on designated waterways. Limit hiking trails to connections between urban areas, parks and the waterway.

(2) **Hiking and Equestrian Trails.** Locate a trail system along the Sonoma County/Napa County boundary. Link existing and proposed State and County parks adjacent to urban areas.

(3) **Multiple Use Trails.** Use railroad rights-of-way and water agency channels as multiple use trails for hiking, equestrian and bike use. Use existing roadways as alternative routes if access cannot be obtained.

Policy OSRC-17e: Encourage private organizations to assist in the construction and maintenance of trails.

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.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on public services if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
    - Fire Protection;
    - Police Protection;
    - Schools;
    - Parks; and/or
    - Other Public Facilities.
- Increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Recreational facilities or the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: Implementation of the Project could result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services (Less than Significant)

Development accommodated under the Project would result in additional residents and businesses in the County, including new residential, office, and commercial uses. As described in Chapter 2.0, full buildout of the proposed Specific Plan Land Use Map within the Plan area would result in up to:

- 706 dwelling units; and
- 276,903 SF of non-residential uses, including:
    - 168,029 SF of commercial uses;
    - 82,226 SF of office uses; and
    - 26,648 SF of recreation uses; and
- 120 hotel rooms

This new growth may increase the County's population by approximately 1,977 residents.[2]

Development and growth facilitated by the Project would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the County. Impacts to parks are discussed in detail in Impact 3.12-2, and impacts to schools are discussed in detail in Impact 3.12-3. Police and fire services are discussed in detail below.

POLICE SERVICES

The Project would facilitate an increase in population in the Sheriff's services area. According to the Sheriff's office, future development within the Plan area would require approximately 0.44 deputies to support the increased population. This is based on the Sheriff Department's current level of service with 117 field service deputies patrolling a population of 500,675. The Department did not identify other needs that would result from the Project (i.e., new facilities or equipment).

The Specific Plan includes policies and guidelines which require development projects to offset impacts to community services, including police services, to ensure that service levels for existing uses are not impaired or significantly impacted. Policy CF-1e requires development projects to install off-site infrastructure or pay appropriate in-lieu fees. Additionally, Policy CF-c requires all development, infrastructure, and long-term planning projects to be consistent with all applicable County and service provider infrastructure master plans. Compliance with these policies would ensure that the proposed Specific Plan does not result in adverse physical impacts on the environment associated with police protection facilities.

FIRE SERVICES

The Project would facilitate an increase in the population in the SVFD. According to the SVFD, implementation of the Specific Plan would result in the need for new equipment (i.e., ladder truck) and personnel (i.e., one full time employee). An impact fee was adopted by the Sonoma County Board of Supervisors on March 23, 2021 which requires future development in the SVFD to pay a one-time fee to ensure that the SVFD fire facilities and apparatus fleet will meet or exceed current service levels. Policy CF-1e requires development projects to install off-site infrastructure or pay appropriate in-lieu fees, including the applicable impact fee.

As noted above, the Specific Plan includes policies and guidelines which require development projects to offset impacts to community services, including fire services, to ensure that service levels for existing uses are not impaired or significantly impacted. Policy CF-1f requires all new utilities in the Plan area to be installed underground, including electricity utilities. This would eliminate the potential for future power

[2] Calculated using the the average household size for the Plan area of 2.8, based on the Market and Feasibility Analysis completed for the Springs Specific Plan (New Economics & Advisory, 2016) .

lines to start fires in the Plan area. Additionally, Policy CF-c requires all development, infrastructure, and long-term planning projects to be consistent with all applicable County and service provider infrastructure master plans. Compliance with these policies would ensure that the proposed Specific Plan does not result in adverse physical impacts on the environment associated with fire protection facilities.

CONCLUSION

As future development and infrastructure projects (including potential new public facilities) within the Plan area and serving the Plan area are considered by the County, each project will be evaluated for conformance with the Specific Plan, Sonoma County General Plan, Sonoma County Municipal Code, and other applicable regulations.

This Draft EIR addresses the potential impacts of development that may occur under the Project, including residential, commercial, office, recreation, and a range of other uses, including infrastructure improvements. In order to address impacts, the proposed Specific Plan identifies policies to reduce the impact associated with public services.

The Sonoma County General Plan includes a range of objectives and policies to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the County and appropriate service agency, and that new development funds its fair share of services. The Sonoma County General Plan includes policies to ensure that fire protection and law enforcement services keep pace with new development and that schools and governmental services are adequately planned and provided. For example, Policy PF-2g requires dedication of land or in-lieu fees as a means of funding park and fire services and facilities. Policy PF-2n requires 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. Subsequent development projects proposed within the Plan area would be subject to these policies. Further, the proposed Specific Plan includes Policy CF-1d, which requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Therefore, this impact is considered **less than significant** and no additional mitigation is necessary.

SPECIFIC PLAN POLICIES THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Policy CF-1b: Prepare a water system maintenance and upgrade plan that programs improvements to ensure that water lines meet current design standards and adequate levels of service are maintained under existing and buildout conditions.

Policy CF-1c: Require development, infrastructure, and long-term planning projects to be consistent with all applicable County and service provider infrastructure master plans.

Policy CF-1d: Require development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development.

Policy CF-1e: Require development projects to install off-site infrastructure or pay appropriate in-lieu fees to ensure adequate infrastructure capacity to serve the project.

Policy CF-1f: Require new utilities in the Plan area to be installed underground.

Impact 3.12-2: Implementation of the Project may result in adverse physical impacts associated with the deterioration of existing parks and recreation

facilities or the construction of new parks and recreation facilities (Less than Significant)

Growth accommodated under the Project would include a range of uses (including commercial, office, recreation, and hotel uses) that would increase the population of the county and also attract additional workers and tourists to the county. This growth would result in increased demand for parks and recreation facilities. It is anticipated that over the life of the Specific Plan, use of regional parks, trails, and recreation facilities would increase, due to new residents, as well as tourists visiting the region. Use of neighborhood parks would also increase. The level of increase would be less pronounced since the proposed Specific Plan accommodates and encourages public and semipublic spaces throughout the Plan area, such as pocket parks, parklets, and a centrally-located community plaza. Additionally, future residential projects within the Plan area would be required to provide in-lieu fees to ensure that adequate parks and recreation facilities are provided within the County to serve the development. These in-lieu fees would be used for park and recreation facilities.

As notes previously, Policy PS-2c of the Sonoma County General Plan outlines the following park standard: "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."

The Plan area encompasses portions of three U.S. Census tracts: 1502.02, 1503.05, and 1503.06. The total population for these three U.S. Census tracts is 15,335. With 96.79 acres of parkland, the Plan area currently provides 6.3 acres of parkland for every 1,000 people, which is slightly above the County's goal of 5.0 acres for every 1,000 people.

Additionally, Policy OSRC-17h of the Sonoma County General Plan outlines the following park site evaluation goal: "Identify and evaluate alternative sites in the Boyes Hot Springs area to meet the projected need for a regional park facility in Sonoma Valley.:" Although the proposed Specific Plan does not provide capacity for a new regional park facility, as noted above, the Project accommodates public and semipublic spaces throughout the Plan area. The existing Maxwell Farms Regional Park located south of W. Verano Avenue and the Sonoma Valley Regional Park north of the Plan area currently serve the Sonoma Valley.

The provision of new park and recreational facilities is required by Sonoma County General Plan Policy PS-2g. The additional demand on existing parks and recreational facilities, particularly regional facilities, would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown. These impacts would be addressed in future environmental review for any given park project.

The provision of new parks and recreation facilities would reduce the potential for adverse impacts and physical deterioration of existing parks and recreation facilities, by providing additional facilities to accommodate the demand for parks and recreation facilities. The Project anticipates, and the proposed Specific Plan zoning allows for, a new pocket park provided in the Donald/Verano neighborhood as well as park and recreation improvements to enhance and provide greater connectivity to Larson Park. Additional new facilities would likely be provided at a pace and in locations appropriate to serve new development, as required by Sonoma County General Plan Policies PS-2a, PS-2d, PS-2g, OSRC-17c, OSRC-17e, and OSRC-17f; however, details of any specific improvements associated with implementation of these policies are not known at this time. Subsequent development projects proposed within the Plan

area would be subject to all relevant General Plan objectives and policies that provide protections for park and recreation facilities.

As future parks and recreation projects that serve the Plan area are considered by the County, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Parks and recreation projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The Sonoma County General Plan establishes the objectives and policies to ensure that existing parks and recreation facilities are improved and maintained, by providing for a range of improvements appropriate to serve growth and ensure on-going improvement and maintenance of existing facilities, and includes provisions to ensure that adequate parks and recreational facilities are provided at a pace adequate to serve new population growth.

This Draft EIR addresses the potential impacts of development that may occur under the Project, including residential, commercial, recreation facilities, and a range of other uses. In order to address impacts, the proposed Specific Plan identifies policies to ensure adequate community services and facilities. Significant adverse environmental impacts associated with deterioration of recreational facilities or construction of new recreational facilities are not anticipated to occur. Therefore, this impact is considered **less than significant** and no mitigation is necessary.

SPECIFIC PLAN POLICY THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Policy CF-1d: Require development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development.

Impact 3.12-3: Implementation of the Project may increase demand for schools and result in the need to construct new schools (Less than Significant)

Implementation of the Project would indirectly lead to new population growth within the county, which would increase the demand for schools and school facilities. The Plan area is served by the Sonoma Valley Unified School District. The Project does not include any new or expanded school facilities.

The General Plan includes Objective PF-2.3, which assists school districts in developing more precise estimates of population growth within their attendance areas. Additionally, Policy PS-2k assists school districts in estimating the amount, rate and location of projected population growth within their attendance areas. Policy PS-2l requires implementation of 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. Furthermore, Policy PS-2x requires utilization of 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.

Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that provide provisions related to schools.

In order to further assist the local school districts in the acquisition of suitable sites for future facilities, the County's General Plan includes Objective PF-2.4, which requires the use of estimates by school districts of new school site needs as the basis for applying school site designations on land use plan maps. This ensures that there are ample sites throughout all areas of the County which are suitable for the

construction of future schools to meet demands associated with buildout of the General Plan, which includes the proposed Plan area.

The Sonoma Valley Unified School District collects developer fees in order to assist in funding facility needs at their sites, and to acquire and develop new school sites to meet increased demand for schools and school facilities. Additionally, in accordance with Section 65995(h) of the California Government Code, 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 as defined in Section 56021 or 56073, on the provision of adequate school facilities." Subsequent development projects proposed within the Plan area would be subject to the applicable school facility impact fees.

This Draft EIR addresses the potential impacts of development that may occur under the Specific Plan, including residential, commercial, recreation facilities, and a range of other uses. Significant adverse environmental impacts associated with school facilities are not anticipated to occur. In order to address impacts, the proposed Specific Plan identifies policies to ensure adequate community services and facilities. Consistent with Specific Plan Policy CF-1d, future projects within the Plan area would be required to pay the statutory fees adopted by the Sonoma Valley Unified School District, which would mitigate impacts associated with the provision of adequate school facilities under Government Code Section 65995(h). For these reasons, implementation of the Project would have a **less than significant** impact related to school facilities.

SPECIFIC PLAN POLICY THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Policy CF-1d: Require development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development.

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This section describes the anticipated impacts to the multimodal transportation system associated with adoption and implementation of the Springs Specific Plan. This section is based on information provided by W-Trans, a traffic engineering consultant, to address the transportation and circulation impacts of the Springs Specific Plan. The impact analysis examines the roadway, transit, bicycle, and pedestrian components of the proposed project. To provide a context for the impact analysis, this section begins with the regulatory framework influencing and/or governing the transportation system and providing the basis for impact significance thresholds used in the impact analysis, followed by an overview of the analysis methodologies that were used. The transportation setting, which is a description of the existing physical and operational conditions for the transportation system, is then discussed along with an overview of existing and future conditions without the Specific Plan. The section concludes with a description of the Specific Plan and the impact analysis findings.

ACRONYMS

ADA	Americans with Disabilities Act
DD	Deputy Directive
LOS	Level of Service
MTC	Metropolitan Transportation Commission
SCT	Sonoma County Transit
SCTA	Sonoma County Transportation Authority
TAZ	Traffic Analysis Zone
TCR	Transportation Concept Report
V/C	Volume-to-Capacity
VMT	Vehicle Miles Traveled

METHODOLOGY

Vehicle Miles Traveled

A common indicator used to quantify the amount of motor vehicle travel is Vehicle Miles Traveled, or VMT. VMT represents the number of daily miles driven and can be expressed in different ways such as total regional VMT, VMT per capita (for residential uses), and VMT per employee (for employment uses). Many factors affect VMT including the average distance residents commute to work, school, and shopping, as well as the proportion of trips that are made by non-automobile modes. Areas that have a diverse land use mix and ample facilities for non-automobile modes of travel, including transit, tend to generate lower VMT than auto-oriented suburban areas.

Sophisticated travel demand models are typically used to produce VMT estimates, particularly for larger projects or programmatic land use plans such as the Springs Specific Plan. The SCTM\15 travel demand model operated by SCTA has the capacity to estimate VMT and was used for the analysis. Custom runs of the model were used to produce project specific VMT data. The model estimates the VMT associated with the aggregate land uses in each "traffic analysis zone" (TAZ) in consideration of the countywide land use pattern and transportation infrastructure, including travel beyond the county's boundary. The Specific Plan area is encompassed by TAZs 167, 168, 170, 172,

and 182 of the SCTA model. An assessment of both the project's VMT per capita and VMT per employee was chosen in accordance with guidance provided in the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, California Governor's office of Planning and Research (OPR), December 2018 (referred to herein as the "OPR Technical Advisory.") VMT related to retail uses is not specifically analyzed since all potential retail uses in the Specific Plan area would be local-serving and substantially smaller than 50,000 square feet, meeting retail screening guidance provided in the OPR Technical Advisory.

Residential VMT per capita represents the VMT associated with home-based trips divided by the population in the corresponding geographical area. Employment VMT per employee represents the VMT associated with home-based employment trips (commute trips) divided by the number of employees. The OPR Technical Advisory indicates that residential and employment VMT in unincorporated county areas should be compared to a regional average, which for Sonoma County corresponds to the nine-county Bay Area overseen by the Metropolitan Transportation Commission and Association of Bay Area Governments. While the SCTM\15 travel demand model is generally consistent with the MTC regional model, it is not a direct subset of the MTC model and includes a much finer-grained level of detail within Sonoma County. The Springs Specific Plan's VMT was estimated using the SCTM\15 model and compared to regional thresholds based on the MTC model. Further information on the applied VMT significance thresholds is provided in the Thresholds of Significance section below.

The assessment completed for the Specific Plan analyzes the project's effects on VMT in the Springs area, specifically the five SCTA model TAZs that encompass the Plan area boundaries. The project's potential impacts are considered in the context of baseline conditions using efficiency metrics including VMT per capita and VMT per employee, consistent with guidance provided in the OPR Technical Advisory. With respect to cumulative impacts, the Technical Advisory states "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."

3.13.1 EXISTING SETTING

The existing physical and operational conditions for the Springs Specific Plan's transportation system are based on review of local and regional transportation plans, as well as a physical review of the existing transportation system, as described below. Descriptions are organized by transportation system component beginning with roadways and intersections, and followed by the pedestrian and bicycle network, transit system, and truck routes.

EXISTING CIRCULATION NETWORK

Roadway Network

This section describes the characteristics of the roadway network in the Springs. Highway 12 forms a "spine" that runs centrally down the length of the Specific Plan area and is the defining roadway feature in the area. Most of the other arterial and local streets in the Specific Plan area run

perpendicular to and feed into Highway 12. Figure 3.13-1 depicts the existing roadway network within the Plan area.

ROADWAY DESCRIPTIONS

Highway 12 is the primary route connecting the Springs to the City of Sonoma to the south and the City of Santa Rosa to the northwest. Within the Springs, Highway 12 currently serves as the community's "main street" and generally runs north-south with one through travel lane in each direction. With the recently-completed highway project, nearly the entire length of the corridor includes a center two-way left-turn lane, with the only exception being an approximately 200-foot long segment over Agua Caliente Creek. Vehicular travel lanes are approximately 11-feet wide with eight-foot bike lanes. No on-street parking exists on Highway 12 within the plan area. The roadway is maintained by Caltrans. Within the Specific Plan area, Highway 12 is designated by the Sonoma County General Plan 2020 as an Urban Principal Arterial. Existing daily traffic on the highway in the central part of the Specific Plan area averages 12,300 vehicles per day.

Agua Caliente Road is a two-way County road primarily serving residential neighborhoods within the plan area. Approximately 300-foot long segments along the south side of Agua Caliente Road on each side of Highway 12 are within the boundary of the Specific Plan. Existing traffic on this roadway to the west of Highway 12 is approximately 4,300 vehicles per day, with this segment classified as an Urban Minor Arterial by the County of Sonoma. To the east of Highway 12 Agua Caliente is a local street with volumes of approximately 630 vehicles per day. The street generally includes 11-foot wide travel lanes with variable shoulder widths of two to four feet, with discontinuous sidewalks to the west of Highway 12 and no sidewalks to the east.

Boyes Boulevard is a two-way roadway which provides connections to residential neighborhoods and the Springs' commercial core. An approximately 300-foot long segment of the street lies within the Specific Plan boundaries. Boyes Boulevard generally runs east-west with one lane in each direction. This roadway has an average volume of 4,500 vehicles per day. Sonoma County classifies this roadway as an Urban Major Collector. The segment of the street within the plan area includes 11- to 12-foot wide lanes with two-foot shoulders, and has no parking except for three spaces on the north side of the street near Highway 12. Continuous sidewalks exist on the south side of the street while discontinuous sidewalks exist on the north side.

Verano Avenue is a two-way roadway that runs east-west, connecting the northern portion of the City of Sonoma to Arnold Drive. An approximately 1,900-foot segment of the street to the east of Highway 12 (specifically to the east of Lomita Avenue) forms the southern boundary of the Specific Plan. This segment is a local street with volumes averaging 4,700 vehicle per day near Highway 12, with 12-foot travel lanes, eight-foot parking areas, and continuous sidewalks. To the west of Highway 12, Verano Avenue is designated as an Urban Minor Arterial by the County of Sonoma, with average daily traffic of approximately 9,500 vehicles.

All remaining streets within the Specific Plan boundaries are designated as **Local Streets** by the County of Sonoma. Because the Specific Plan largely follows the Highway 12 corridor, the segments of local streets between Agua Caliente Road and Verano Avenue generally extend 200 to 400 feet on either side of the Highway. Exceptions include West Thompson Avenue, where an "arm" of the Specific Plan extends approximately 1,000 feet to the west of Highway 12, and Donald Street in the southern Plan area which extends approximately 3,000 feet to the east of Highway 12. All local

streets within the Plan boundaries include one travel lane in each direction with 10- to 12-foot vehicle lane widths. Few of the streets include curb, gutter, and/or sidewalk. Shoulder widths vary greatly but are generally unpaved, with informal parking occurring in most areas on the sides of the paved width (both within and outside of the street rights-of-way).

Additional information and mapping related to the existing vehicular circulation network in the plan area is included in the *Springs Specific Plan Existing Conditions Report*.

VEHICLE MILES TRAVELED

Based on modeling completed by MTC, the existing average home-based VMT per capita in the nine-county Bay Area is 15.0. For employment uses, MTC's reported average home-based commute VMT in the nine-county Bay Area is 21.8 VMT per employee.[1]

Bicycle and Pedestrian Network

The following section describes the bicycle and pedestrian network in the Springs. Additional information and mapping pertaining to the pedestrian and bicycle facilities currently existing within the plan area is included in the *Springs Specific Plan Existing Conditions Report*. Bicycle and pedestrian volumes were collected at ten study intersections within the Specific Plan area during the same peak periods that vehicle counts were obtained. The pedestrian and bicycle volume data was then normalized using factors obtained from the National Bicycle & Pedestrian Documentation Project count adjustment factors published in 2009 (see http://bikepeddocumentation.org), and converted to both peak hour (the hour of the day with the highest level of pedestrian activity) and daily averages. The resulting bicycle and pedestrian volumes are shown in Figure 3.13-2.

PEDESTRIAN FACILITIES

The Springs experiences a significant amount of pedestrian activity throughout the day, especially in the commercial areas between Boyes Boulevard and Verano Avenue on Highway 12. Within this commercial corridor, pedestrian-scale street lighting, street trees, 6- to 8-foot wide sidewalks, and ADA-accessible curb ramps exist. Pedestrian facilities are continuous north of the commercial core to Agua Caliente Road. However, sidewalk gaps exist on Highway 12 south of Encinas Lane and on most of the side streets that serve adjacent residential neighborhoods. Side streets that *do* include sidewalks within the Specific Plan boundary include:

- Vailetti Drive (south side)
- Depot Road (south side)
- Lichtenberg Avenue (south side)
- Boyes Boulevard (south side)
- Vallejo Avenue
- Sierra Drive (within 120 feet of Hwy 12)
- East Thompson Ave (north side within 110 ft of Hwy 12)
- West Thompson Avenue (south side)
- Siesta Way (south side and north side within 200 ft of Hwy 12)
- Encinas Lane

[1] W-Trans, 2021. Springs Specific Plan VMT Findings and Mitigation Strategy. August 18, 2021.

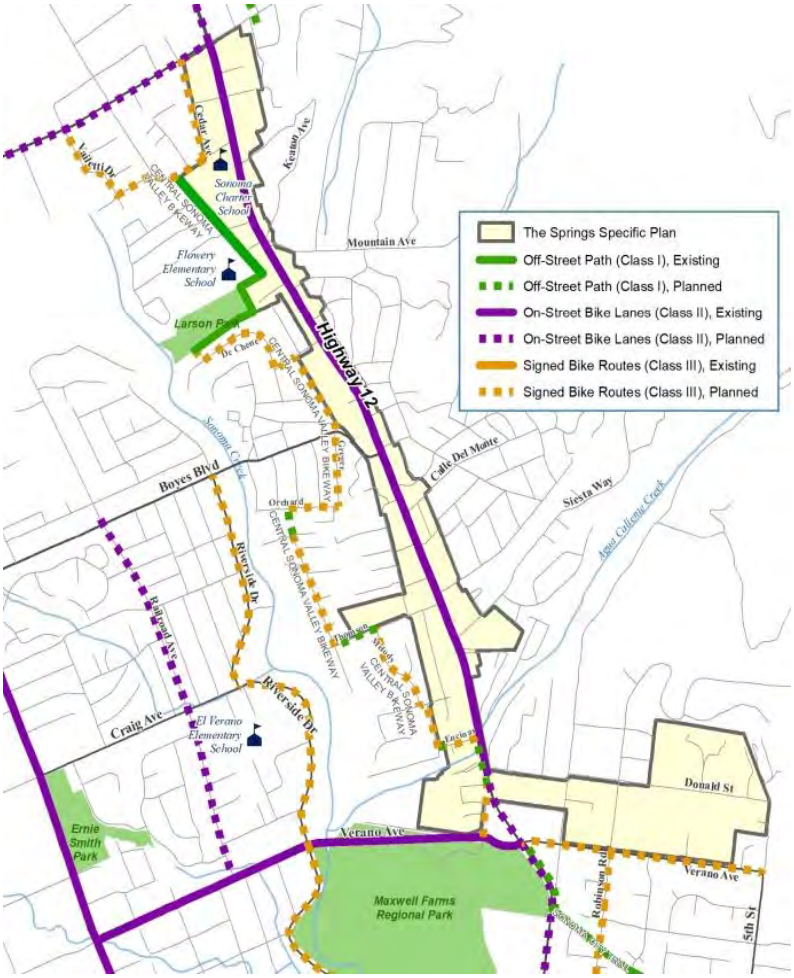
Schools have a major influence on pedestrian activity levels in the Specific Plan area. Flowery School and Sonoma Charter School on Highway 12 generate school-age pedestrian traffic on school days, particularly from 7:30 to 8:30 in the morning and 2:45 to 3:45 in the afternoon. Larson Park and Maxwell Farms Regional Park are also generators of pedestrian activity.

There are currently nine marked crosswalks to facilitate pedestrian and bicycle crossings of Highway 12 between Agua Caliente Road and Verano Avenue. These are located at Agua Caliente Road (signalized), Depot Road (signalized), Waterman Avenue, Central Avenue, Boyes Boulevard/ Vallejo Avenue (signalized), Sierra Drive, West Thompson Avenue (signalized), Siesta Way (signalized), and Verano Street (signalized).

BICYCLE FACILITIES

The Sonoma County Bicycle and Pedestrian Plan classifies bikeways into three categories:

1. Class I Bikeways are also known as multi-use paths. Class I bikeways provide bicycle travel on an all-weather surface within a right-of-way that is for exclusive use by pedestrians, bicyclists and other non-motorized modes. Class I bikeway surface must be compliant with provisions of the Americans with Disabilities Act (ADA). These bikeways are intended to provide superior safety, connectivity, and recreational opportunities as compared to facilities that share right-of-way with motor vehicles.
2. Class II Bikeways are often referred to as "bike lanes" and provide a striped and stenciled lane for one-way travel on either side of a street or highway. Unlike Class III bikeways (below), Class II bikeways have specific width and geometric standards.
3. Class III Bikeways are intended to provide continuity to the County bicycle network. Bike routes are established along through routes not served by Class I or II bikeways or to connect discontinuous segments of Class I or Class II bikeways.



EXISTING AND PLANNED BICYCLE FACILITIES IDENTIFIED IN THE *2010 SONOMA COUNTY BICYCLE AND PEDESTRIAN PLAN*

Continuous Class II bike lanes exist on Highway 12 between Agua Caliente Road and Donald Street. The bike lanes are generally eight feet wide along the segment. Future extensions of these bike lanes to the Sonoma Plaza are shown in the bicycle plan. Just outside of the Plan area, on-street bicycle lanes exist on Verano Avenue between Sonoma Highway and Arnold Drive, and future bike lanes are planned on Agua Caliente Road. A signed bike route is planned on Verano Avenue to the east of Highway 12.

The Central Sonoma Valley Trail is a project being overseen by Sonoma County Regional Parks that will provide a trail parallel to Highway 12 for pedestrians and bicyclists between Agua Caliente Road and Verano Avenue. The first segment of the trail was completed in 2011 and extends from DeChene Avenue through Larson Park. In 2016, additional trail segments were completed between Vailetti Drive and Depot Road as well as through the Flowery School property.

Transit Network

Sonoma County Transit (SCT) is the primary transit provider in the Springs planning area and provides regularly-scheduled fixed-route service to major activity centers and transit hubs within the County.

TRANSIT ROUTES

Three SCT routes serve the Springs. Bus routes in and surrounding the Specific Plan area are shown in Figure 3.13-3.

Route 30 travels between Santa Rosa, Oakmont/Kenwood, Glen Ellen, and Sonoma Valley/ Sonoma. The route operates Monday through Friday between 6:15 a.m. and 8:31 p.m. with approximately hour–and-a-half to two-hour headways. Weekend service operates between 6:45 a.m. and 5:00 p.m. with approximately three-hour headways.

Route 32 is the Sonoma Valley Local Service, referred to as the "Sonoma Shuttle," and runs Monday through Friday between 7:30 a.m. and 4:09 p.m. with approximately 45-minute headways. Saturday service operates between 8:00 a.m. and 4:09 p.m. The route operates throughout Sonoma Valley with connections to the City of Sonoma. Rides on the Sonoma Shuttle are currently free to all users.

Route 34 connects Santa Rosa and the City of Sonoma. It operates Monday through Friday during the a.m. and p.m. peak commute hours. Route 34 operates along Highway 12 and Boyes Boulevard in the Springs.

BICYCLE ACCOMMODATION

Front loading bicycle racks, which typically accommodate two bicycles, are provided on all fixed route transit buses that operate in Sonoma County. Bicycle rack spaces are available on a first come, first served basis. When the front-loading racks are full, drivers can accommodate bicycles inside the bus at their discretion.

TRANSIT SUPPORT FACILITIES

Transit amenities at bus stops in the Springs planning area include signs, benches, and bus shelters. Most stops include a sign and bench. Shelters are present at the stop on Agua Caliente at Highway 12, the Fiesta Plaza stop at Siesta Way, and at Highway 12/Central Avenue.

PARATRANSIT

Paratransit, also known as dial-a-ride or door-to-door service, is available for those that are unable to independently use the transit system due to a physical or mental disability. Individuals must be registered and certified as Americans with Disabilities Act (ADA) eligible before using the service. Paratransit operators are required by the ADA to service areas within three-quarters of a mile of their respective, public fixed-route service. Volunteer Wheels serves as the ADA paratransit operator for Sonoma County Transit and the City of Sonoma. Service hours are Monday through Friday from 5:00 a.m. to 11:00 p.m. and Saturday and Sunday from 7:00 a.m. to 9:00 p.m. Ride reservations can be scheduled daily.

TAXI SERVICE AND RIDESHARING SERVICE

Taxi service in Sonoma is provided by private operators that serve the greater Sonoma County area and beyond. Taxi service is available 24 hours a day, seven days a week by calling in a service request. Additional ridesharing services, such as Uber and Lyft, are also available in the Springs.

3.13.2 REGULATORY SETTING

The Sonoma County General Plan along with a variety of regional, state and federal plans, legislation, and policy directives provide guidelines for the safe operation of streets and transportation facilities in the Springs. While the County of Sonoma has primary responsibility for the maintenance and operation of transportation facilities within the Springs, Highway 12 is under the jurisdiction of the California Department of Transportation (Caltrans). County staff also works on a continual basis with regional agencies including the Sonoma County Transportation Authority (SCTA) and Metropolitan Transportation Commission (MTC) to maintain, improve, and balance the competing transportation needs of the community and the region.

STATE

Caltrans

DEPUTY DIRECTIVE 64-R1: COMPLETE STREETS – INTEGRATING THE TRANSPORTATION SYSTEM

In 2001, Caltrans adopted Deputy Directive (DD) 64; a policy directive related to non-motorized travel throughout the state. In October 2008, DD 64 was strengthened to reflect changing priorities and challenges. DD 64-R1 states:

> *The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for*

all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility across California."

DIRECTOR'S POLICY 22: "DIRECTOR'S POLICY ON CONTEXT SENSITIVE SOLUTIONS"

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all State highways, was adopted by Caltrans in November of 2001. The policy reads:

The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

VEHICLE MILES TRAVELED-FOCUSED TRANSPORTATION IMPACT STUDY GUIDE

Caltrans has not established formal VMT significance thresholds, though in May 2020 released the *VMT-Focused Transportation Impact Study Guide* (TISG) that refers to guidance provided in the OPR Technical Advisory, which recommends VMT per capita or per employee thresholds 15% below existing city or regional levels. The Caltrans TISG also refers to OPR's guidance on the types of projects that can be presumed to have a less than significant transportation impact. Caltrans also reiterates that automobile delay is no longer considered a significant impact on the environment within CEQA transportation analysis, indicating that the agency's Local Development-Intergovernmental Review (LD-IGR) program will focus on VMT consistent with the CEQA guidelines.

STATE ROUTE 12 (WEST) TRANSPORTATION CONCEPT REPORT

The State Route 12 (West) Transportation Concept Report (TCR) was published in 2014 and provides an evaluation of the current and projected conditions together with a vision for future development along the state route. The TCR was developed with goals of increasing safety, improving mobility, providing stewardship, and meeting community and environmental needs along the corridor. Unlike Caltrans planning documents of the past that placed a heavy emphasis on the need for vehicular capacity, this plan has a strong multimodal focus and recognizes the different community and "place" types that the highway traverses. Regarding the role of Highway 12 through the Springs, the TCR states:

SR 12 is a "Main Street" not only in the City of Sonoma, but also within Agua Caliente, Fetters Springs and Boyes Hot Springs. Work is already underway to provide sidewalks and bike lanes north of Sonoma, but overall the road varies in width, number of lanes, and bike/pedestrian facilities. These communities could be developed as a Compact Community with parking, pedestrian, bicycle and local traffic given precedence over through traffic. Thought should

be given to traffic calming in areas with high business/retail presence, including removing turn lanes, where appropriate, to minimize pedestrian crossing distances.

The route concept and strategy for the highway through the Springs is to "maximize Smart Mobility benefits over vehicle throughput," pursuing the planned Sonoma Valley Trail parallel to the highway as well as future enhanced transit service. With respect to traffic capacity, the plan indicates that Highway 12 along with Arnold Drive are expected to provide sufficient capacity into the future.

Senate Bill 743

Senate Bill (SB) 743, signed into law in 2013, requires CEQA lead agencies to shift from using traditional level of service (LOS) standards and automobile delay to determine significant traffic impacts. As a result of SB 743, the State Office of Planning and Research has updated CEQA guidelines and criteria to use VMT as the metric for evaluating the significant traffic impacts. Pursuant to Public Resources Code Section 21099(b)(2), "automobile delay, as described solely by level of service of similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment." The OPR Technical Advisory (December, 2018) provides details on VMT assessment, methodologies, and suggested metrics.

REGIONAL

Metropolitan Transportation Commission

The current Regional Transportation Plan produced by MTC, Plan Bay Area, was adopted in 2013. Plan Bay Area sets forth regional transportation policy and provides capital program planning for all regional, State, and Federally funded projects. In addition, Plan Bay Area provides strategic investment recommendations to improve regional transportation system performance over the next 25 years. Investments in regional highway, transit, local roadway, bicycle, and pedestrian projects are recommended. Plan Bay Area includes no roadway improvement projects within the Springs area, though it does include regional funding to implement Sonoma County's Safe Routes to School program, implement bicycle and pedestrian improvements countywide, and enhance bus service frequencies in the County.

Sonoma County Transportation Authority

COMPREHENSIVE TRANSPORTATION PLAN FOR SONOMA COUNTY

The SCTA is the agency that provides planning, project management, finance, grant administration, and other important functions related to the transportation network in Sonoma County. In 1997, SCTA relinquished its position as the County Congestion Management Agency under new state legislation that made this function optional. SCTA now serves as the coordinating and advocacy agency for transportation funding for Sonoma County, managing Measure M funds and prioritizing state and federal funds for roadway, transit, bicycle, and pedestrian projects. Measure M, or the Traffic Relief Act for Sonoma County, was passed by Sonoma County voters in 2004 in order to provide multi-modal transportation improvement projects throughout the county. These projects include, among others, improving local street operations and building safe bicycle and pedestrian routes. SCTA partners with Caltrans on the State Highway System and manages transportation improvement projects.

There is currently no adopted regional congestion management program in Sonoma County; however, SCTA has adopted and is implementing the Comprehensive Transportation Plan: Moving Forward 2050, which serves as the primary long-term regional transportation planning document for Sonoma County. Moving Forward 2050 establishes goals for a transportation system that is connected and reliable, safe and well-maintained community-oriented and place-based, and zero emission. Moving Forward 2050 includes projects 62 to 83 to support transportation in the Springs area, including additional and more frequent bus routes, expanded paratransit service, safe routes to schools, and expanded and enhanced bicycle and pedestrian facilities in the Plan area.

SCTA's Countywide Bicycle and Pedestrian Master Plan was updated in 2014 and establishes a goal and broad objectives for the development and maintenance of a comprehensive countywide bicycle and pedestrian transportation system.

THE SPRINGS COMMUNITY BASED TRANSPORTATION PLAN

SCTA produced the Springs Community Based Transportation Plan in 2010, which provides a guide for decision makers relative to transportation improvements needed in the Specific Plan area based on input received from public outreach. The plan identifies specific solutions to transportation challenges ranked by high, medium, and low priority. The following solutions relevant to the Specific Plan area are included:

High Priority

- Increase frequency of Route 32 buses to/from the Springs and Sonoma
- Safe Routes to Schools Program
- Maintain existing levels of transit service
- Enhance pedestrian crossings on Highway 12 at various locations
- Install more shelters, benches, and bike racks at bus stops

Medium Priority

- Increase frequency of Route 40 buses to/from the Springs
- Increase frequency of Route 30 buses to/from the Springs, Santa Rosa, and Sonoma

Lower Priority

- Later afternoon and/or evening bus service and expanded ADA paratransit service
- Pedestrian lighting on Highway 12 from Donald Street to Verano Avenue
- Provide incentives for businesses to provide safe and convenient bicycle parking

LOCAL

Sonoma County General Plan

Sonoma County adopted its General Plan in September 2008. The County's General Plan provides a comprehensive set of goals, policies, and implementing actions to guide the County's growth through the year 2020. The following excerpts from the Circulation Element of the General Plan,

which was updated to include goals, objectives, and policies established by the 2010 Sonoma County Bicycle and Pedestrian Plan, are particularly relevant to transportation and circulation in the Springs.

GOAL CT-1: Provide a well-integrated and sustainable circulation and transit system that supports a city and community centered growth philosophy through a collaborative effort of all the Cities and the County.

> **Objective CT-1.4:** Reduce the need for future automobile use by a combination of improvements and land development policies that give equal favor to alternate modes as to automobile use.
>
> **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.

GOAL CT-2: Increase the opportunities, where appropriate, for transit systems, pedestrians, bicycling and other alternative modes to reduce the demand for automobile travel.

> **Objective CT-2.8:** Provide bicycle and pedestrian links from bus stops and other transit facilities to residential areas, employment centers, schools, institutions, parks, and the greater roadway system in general, especially focusing on short trips that could result in a mode shift away from automobile travel.

GOAL CT-3: Establish a viable transportation alternative to the automobile for residents of Sonoma County through a safe and convenient bicycle and pedestrian transportation network, well integrated with transit, that will reduce greenhouse gas emissions, increase outdoor recreational opportunities, and improve public health.

> **Objective CT-3.1:** Design, construct and maintain a comprehensive Bikeways Network that links the County's cities, unincorporated communities, and other major activity centers including, but not limited to, schools, public facilities, commercial centers, recreational areas and employment centers.
>
> **Objective CT-3.2:** Reduce Sonoma County's greenhouse gas emissions by achieving a non-motorized trips mode share of 5% for all trips and 10% for trips under five miles long by 2020.
>
> **Objective CT-3.3:** Encourage pedestrian, bicycle, and transit-oriented development.
>
> **Objective CT-3.4:** Increase use of non-motorized modes for commute trips by providing safe, convenient routes and adequate end of trip facilities at workplaces, with an emphasis on facilities that have potential to close gaps in the network and/or reduce shorter trips.
>
> **Objective CT-3.5:** Provide incentives for business and government to increase the use of walking and bicycling by employees for both commuting and daily operations.
>
> **Objective CT-3.6:** Reduce bicycle and pedestrian accidents per mile traveled by at least 2% per year.
>
> **Objective CT-3.7:** Provide a diverse range of recreational opportunities through a well-designed network of bikeways, multi-use trails, sidewalks, and related support facilities.

Objective CT-3.8 Increase the safety, convenience, and comfort of all pedestrians and bicyclists, by eliminating the potential obstacles to this mode choice that is associated with the lack of continuous and well-connected pedestrian walkways and bicycle facilities, and the lack of safe crossing facilities, especially focusing on short trips that could result in a decrease in automobile travel.

Objective CT-3.9: Develop alternative mode trip and accident databases, to improve safety, allow regional coordination of improvements, and travel model development to improve the level of quantitative evaluation.

2010 SONOMA COUNTY BICYCLE AND PEDESTRIAN PLAN

The *Sonoma County Bicycle and Pedestrian Plan*, adopted in 2010, was prepared to plan for primary facilities that serve Sonoma County's unincorporated communities. The Plan establishes bicycle and pedestrian policy along with bicycle and pedestrian infrastructure projects and a prioritized set of programmatic improvements. The principal goal is identified below; objectives from the Sonoma County Bicycle and Pedestrian Plan are reflected in the General Plan.

Goal: Establish a viable transportation alternative to the automobile for residents of Sonoma County through a safe and convenient bicycle and pedestrian transportation network, well integrated with transit, that will reduce greenhouse gas emissions, increase outdoor recreational opportunities, and improve public health.

COMPLETE STREETS POLICY

In 2015, the Sonoma County Board of Supervisors adopted a resolution finding that the General Plan Circulation Element is consistent with the complete streets policies and principles required by the Complete Streets Act of 2008.

3.13.3 IMPACTS AND MITIGATION MEASURES

This section identifies the thresholds of significance used to identify environmental impacts to the transportation and circulation system, the Specific Plan project characteristics related to the transportation system, and environmental impacts associated with implementation of the Specific Plan.

THRESHOLDS OF SIGNIFICANCE

The following standards of significance are based on Appendix G of the CEQA Guidelines, in addition to criteria set forth by the County of Sonoma and Caltrans. The Springs Specific Plan would result in a significant impact on transportation if it would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system including transit, roadway, bicycle and pedestrian facilities;
2. Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled?
3. Substantially increase hazards due to a geometric design feature or incompatible use; or
4. Result in inadequate emergency access.

VMT Thresholds of Significance

VMT thresholds for this analysis were established based on guidance provided in the OPR Technical Advisory as well as direction from the County of Sonoma. The applied significance thresholds are as follows:

A significant VMT impact would occur if the Plan results in:

- Residential VMT per Capita within the Planning Area exceeding a level of 15 percent below the regional average VMT per capita; or
- Employment VMT per Employee within the Planning Area exceeding a level of 15 percent below the existing regional average VMT per employee.

Based on modeling completed by MTC, the existing average home-based VMT per capita in the nine-county Bay Area is 15.0[2]. The applicable significance threshold for residential uses is 15 percent below this value, or 12.8 home-based VMT per capita. For employment uses, MTC's reported average home-based commute VMT in the nine-county Bay Area is 21.8 VMT per employee[3], which translates to an applicable significance threshold of 18.5 home-based commute VMT per employee.

It should be noted that some future development projects in the Springs Specific Plan area would qualify for VMT screening, which is a process described in the OPR Technical Advisory that identifies certain types of projects that can be presumed to result in a less than significant VMT impact and thereby do not need to perform a VMT analysis. Such projects would include 100 percent affordable residential developments as well as projects that are expected to generate fewer than 110 automobile trips per day. Given the programmatic nature of the proposed Specific Plan, all potential future development within the Plan boundaries is included in the VMT analysis. In other words, no residential "screening" has been included in the analysis even though some of the future development may, individually, qualify for screening from VMT analysis.

W-trans coordinated with SCTA to run the SCTM\15 travel demand model to identify the home-based and employee-based VMT per capita for the Project. W-trans presented the results and discussion of potential mitigation measures in the Springs Specific Plan VMT Findings and Mitigation Strategy memo dated August 18, 2021 (see Appendix F).

SPECIFIC PLAN PROJECT CHARACTERISTICS

Buildout of the Specific Plan includes the construction of new roadways, intersections, and transit, pedestrian, and bicycle facilities to effectively manage traffic generated by the various land use changes within the Specific Plan area boundaries. Buildout of the Specific Plan also includes a circulation system that aligns with the surrounding existing networks.

[2] http://analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerCapita, accessed June 21, 2021

[3] http://analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerWorker, accessed June 21, 2021

Specific Plan Circulation Improvements

The street network within the Specific Plan area is aligned along the Highway 12 corridor, including the highway itself, as well as local and collector streets within one to two blocks, plus several local streets in the southeastern Plan area. The pedestrian and bicycle networks generally coexist with the street network, though also include off-street segments of the Central Sonoma Valley Bikeway.

PEDESTRIAN AND BICYCLE NETWORK IMPROVEMENTS

The Specific Plan includes several new marked crosswalks on Highway 12, some of which would have pedestrian refuge islands, and some of which would have pedestrian warning lights. The Plan also includes new sidewalks on side streets that fill the gaps in the existing pedestrian network, as shown in Table 3.13-1 below.

The Specific Plan's bicycle improvements include enhancing the existing bike lanes on Highway 12 with painted buffers between bicycle and vehicle traffic, using green-colored bike lanes in areas where bike and vehicle traffic interact. The Specific Plan also incorporates and expands upon the planned completion of the Central Sonoma Valley Bikeway, including new bicycle route connections between the Bikeway and Highway 12. A summary of the pedestrian and bicycle improvements identified in the Specific Plan is shown in Table 3.13-1. Maps from the Specific Plan depicting the pedestrian and bicycle networks are shown in Figures 3.13-4 and 3.13-5, respectively.

TABLE 3.13-1: SPECIFIC PLAN PEDESTRIAN AND BICYCLE NETWORK IMPROVEMENTS

PEDESTRIAN CROSSING IMPROVEMENTS	
Central Avenue	New warning lights at existing crosswalk
Fetters Avenue	New crosswalk (south side), bulb-out (west side)
Vailetti Drive	New crosswalk (north side), bulb-outs, warning lights
Lichtenberg Avenue	New crosswalk (north side), bulb-outs, warning lights
Waterman Avenue	New bulb-outs at existing crosswalk
Arroyo Road	New crosswalk (north side), bulb-outs, median refuge, warning lights
Sierra Drive	Remove crosswalk upon signalization of Calle del Monte intersection
Calle del Monte	New crosswalk once intersection is signalized
Hawthorne Avenue	New crosswalk (south side), bulb-outs, median refuge, warning lights
Encinas Lane	New crosswalk, bulb-outs, warning lights (post bridge widening)
Donald Street	New crosswalk (south side), bulb-outs, warning lights (occurs after sidewalks completed on Highway 12 and Donald Street)
Marin Avenue	New crosswalk (north side), bulb-outs, median refuge, warning lights; this new crosswalk is identified in the Specific Plan as optional
Mulford Lane	New crosswalk (north side), bulb-outs, warning lights; this new crosswalk is identified in the Specific Plan as optional
South of Grange Hall	New crosswalk, bulb-outs, warning light
SIDEWALK IMPROVEMENTS	
Highway 12	Complete sidewalk (Encinas Lane to Harley Street) Widen bridge over Agua Caliente Creek Widen sidewalks
Side Streets	Add sidewalks adjacent to new on-street parking

Donald-Verano Area	Fill sidewalk gaps
BICYCLE LANE SAFETY IMPROVEMENTS	
Green Bike Lanes	Use at locations where vehicle and bike traffic interact, such as near intersections and major driveways
Bicycle Lane Buffers	Hwy 12: Convert existing 8-foot wide bike lanes to 5-foot wide bike lanes with a 3-foot striped buffer between bicycle and vehicle lanes
BIKE PATHS AND ROUTES	
New Off-Street Bike Paths	West Thomson Avenue between Happy Lane and Hwy 12 West of Highway 12 between Encinas Lane and Main Street Verano Avenue between Main Street and Hwy 12 West end of Encinas Lane between Fairview Lane and Encinas Lane North end of Happy Lane between Orchard Avenue and Happy Lane
New On-Street Bike Routes	Vailetti Drive, between Hwy 12 and Lake Street Lichtenberg Avenue Boyes Boulevard, between Hwy 12 and Greger Street Melody Lane Encinas Lane

AUTOMOBILE NETWORK IMPROVEMENTS

The Plan maintains the existing single travel lanes in each direction along the Highway 12 corridor. Traffic flow, as well as pedestrian and bicycle safety, would be improved by consolidating and/or removing private driveways along Highway 12, reorienting access to side streets and alleys wherever feasible. On two segments of Highway 12 where the existing two-way left-turn lane is not needed to provide left-turn access to and from public side streets, Waterman to Central and Calle del Monte to West Thomson, the highway would be modified to eliminate the center turn lane and create on-street parking on one side of the street. Improvements to local streets would include modifying portions of Lichtenberg Avenue, Hawthorne Avenue, and West Thomson Avenue to create sidewalks and new on-street parking supplies. Other local streets would be modified as fronting parcels redevelop to include sidewalks and formalized on-street parking on one side of the street; in some areas that are constrained by physical or environmental constraints, the on-street parking and/or landscaping zones of these streets could be eliminated.

A summary of the automobile network improvements identified in the Specific Plan is shown in Table 3.13-2, and the Specific Plan map depicting the vehicle network is shown in Figure 3.13-3.

TABLE 3.13- 2: SPECIFIC PLAN AUTOMOBILE NETWORK IMPROVEMENTS

HIGHWAY 12	
Driveway Consolidation	Consolidate driveways New development is required to provide rear access and eliminate driveways on the highway whenever possible
Left turns at Intersections	Left turns permitted at all public street intersections except Arroyo Road to allow for a new crosswalk with median refuge at that location
Left Turns at Driveways	Use painted median to prohibit left turns to and from private driveway in areas with on-street parking
Traffic Signals	New signal at Highway 12/Calle del Monte New signal at Highway 12/Donald Street Coordinate timing of traffic signals along Highway 12 within the Specific Plan area

On-Street Parking	Add spaces to one side of Highway 12 in the following areas: Waterman to Central (approximately 9 spaces) Calle del Monte to West Thomson (approximately 20 spaces)
SIDE STREETS	
Typical cross-section	44-foot Right-of-way: two 5-foot wide sidewalks with 4-foot planting strips, two 9-foot wide travel lanes and one 8-foot wide parking lane 28-foot Right-of-way: two 5-foot wide sidewalks and two 9-foot wide travel lanes. No on-street parking.
New traffic controls	Install all-way stop controls or mini-roundabout at Donald Street/Robinson Road
On-Street Parking	Add parking on the following side streets: Lichtenberg (approximately 6 spaces) Hawthorne (approximately 12 spaces) West Thomson (approximately 25 spaces)

TRANSIT IMPROVEMENTS

The Specific Plan identifies numerous physical amenities that enhance the comfort and convenience of using transit, including shelters, benches, route information signs, bike racks, and lighting. The Plan has also been structured to prioritize new and enhanced pedestrian facilities in the areas near transit stops. With respect to transit service, the Specific Plan includes policies supporting increased frequencies (headways) on Sonoma County Transit routes serving the Springs communities and continuing a public awareness campaign to encourage transit ridership.

Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT) (Significant and Unavoidable)

The VMT modeling results produced by the SCTM\15 travel demand model indicate that residential uses in the Springs area would on average generate 22.4 VMT per capita with implementation of the Plan, which is a decrease from the existing average of 24.2 VMT per capita. The VMT per capita associated solely with the incremental increase in residents would be 14.7. While these shifts reflect improvement in residential VMT per capita compared to existing development, they would still fall short of the applied 12.8 VMT per capita threshold corresponding to a level of 15 percent below the regional average. This would be a **significant impact**.

Employment VMT modeling results indicate that employment-based uses in the Springs area would on average generate 18.4 home-based commute VMT per employee with implementation of the Plan, which is a decrease from the existing average of 20.1 VMT per employee. The home-based commute VMT per employee associated with the project's incremental increase in employees would be 15.8. Both the areawide and project VMT per employee ratios would fall below the applied 18.5 VMT per employee significance threshold that corresponds to a level of 15 percent below the regional average. This would be a **less than significant impact**.

A summary of the VMT analysis for residential and employment uses is shown in Table 3.13-3.

TABLE 3.13-3: VEHICLE MILES TRAVELED ANALYSIS SUMMARY

	RESIDENTIAL VMT PER CAPITA	*EMPLOYMENT VMT PER EMPLOYEE*
Regional Baseline		
Baseline Regional Average	15.0	21.8
Significance Threshold (average minus 15%)	12.8	18.5
Specific Plan Area		
Base Year (No Project)	24.2	20.1
Base Year plus Project	22.4	18.4
Project Increment		
Vehicle Miles Traveled	29,062	9,988
Residents or Employees	1,977	632
Project VMT Rate	14.7	15.8
Impact	Yes	No

NOTES: REGIONAL BASELINE REFLECTS NINE-COUNTY BAY AREA; RESIDENTIAL VMT INCLUDES ALL HOME-BASED VEHICLE TRIPS; EMPLOYMENT VMT INCLUDES ALL HOME-BASED COMMUTE VEHICLE TRIPS
SOURCE: W-TRANS, 2021

CONCLUSION

Implementation of Specific Plan Policies SC-2b, SC-2d, SC-2h, SC-2i, and SC-2k support provision of pedestrian and bicycle amenities and facilities in the Plan area to support these non-vehicle travel modes. Implementation of Specific Plan Policy SC-3g (which would maintain fare-free service on the Sonoma Shuttle Route 32) and Specific Plan Policy SC-1h (specifying TDM requirements), would reduce the VMT generated by new development in the Springs, including residential home-based VMT per capita. Uncertainty remains, however, as to whether implementation of these measures can achieve the 12.0 percent reduction in residential VMT per capita required to reduce impacts to a level of less than significant. Continuation of subsidized rides on Route 32 in perpetuity would require a substantial funding commitment from the County of Sonoma or private development that may not realistically be achievable all years. Beyond the subsidized transit, the ability for residential development to achieve an additional 8.0 percent reduction in VMT per capita may also be infeasible, as the effectiveness of TDM can be limited outside of major urbanized areas, and some projects (particularly smaller developments) may be unable to fund offsite improvements to non-auto networks. Further, while regional strategies such as VMT mitigation fees, exchanges, and banks hold much promise, they have yet to be implemented and their structures and resulting effectiveness remain uncertain. As a result, impacts would remain **significant and unavoidable**.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy SC-1h: *Development projects that exceed ten (10) residential units or 5,000 square feet of non-residential development shall reduce VMT through implementation of a Transportation Demand Management (TDM) plan. Development projects shall be subject to the TDM conditions below, which require applicable projects to provide a foundational set of strategies plus one additional measure. A project may propose construction or funding of offsite pedestrian, bicycle, and transit infrastructure and/or participation in future regional or countywide VMT reduction programs, in lieu*

of a TDM plan if demonstrated to the satisfaction of the PRMD Director that the associated reduction in vehicle travel would be comparable to the TDM requirements.

A. Foundational Measures: Development projects must implement all of the following TDM measures at a minimum:

- *On-site or contracted TDM coordinator*
- *TDM marketing*
- *Rideshare matching*
- *Onsite bicycle amenities*
- *Emergency Ride Home Program (applies to nonresidential uses)*

B. Additional Measures: Development projects must implement at least one additional TDM measure. The measure must be approved by the County and can be chosen from the strategies below. The enumerated list does not preclude a project from implementing other TDM measures if desired or required by County Code.

Nonresidential development

- *Transit/vanpool subsidies*
- *Parking cash-out*
- *VMT Mitigation Bank (if available)*
- *Off-Site Physical Non-Auto Mode Improvement(s)*

Residential development

- *Transit subsidies*
- *School-pool matching*
- *Unbundled parking*
- *VMT Mitigation Bank (if available)*
- *Off-Site Physical Non-Auto Mode Improvement(s)*

***Policy SC-2b**: Improve pedestrian and bicycle linkages and facilities throughout the Springs to improve mobility; provide safe routes to schools and transit stops; make the area more inviting to pedestrians and bicyclists; and improve connectivity to nearby communities and regional destinations. See Figures 5 and 6 and Tables 3 and 4.*

The ultimate configuration of any new pedestrian crossings shall be evaluated and determined by the Sonoma County Department of Transportation and Public Works, in collaboration with Caltrans on crossings along Highway 12, and in consideration of the physical characteristics and best design practices that exist at the time the design is initiated.

***Policy SC-2d**: Require that adjacent developments be connected by safe, direct walkways. Ensure that projects are designed to anticipate and accommodate future street and sidewalk connections to new development on adjacent lands.*

***Policy SC-2g**: Provide new and improved bicycle lanes and enhance bicycle safety through signs, bicycle lane buffers, and green colored pavement, as shown in Figure 6. Priority should be given to intersections when making safety improvements.*

***Policy SC-2h**: Prioritize crosswalk, sidewalk, and bicycle lane improvements near schools, parks, transit stops, and the Springs plaza.*

***Policy SC-2j**: Require development projects along Highway 12 to provide increased sidewalk widths, consistent with the cross-sections identified in this chapter and the setback requirements set forth in the Design Guidelines chapter.*

***Policy SC-3a**: Coordinate with Sonoma County Transit to improve local bus service by increasing the frequency of bus service in the Springs and decreasing travel times.*

***Policy SC-3b:** Support the creation of a public awareness campaign to promote transit use. Provide easy to understand schedule and bus pass information in English and Spanish.*

***Policy SC-3c:** Coordinate with Sonoma County Transit to promote the local shuttle service (route 32) which runs between the Springs and the City of Sonoma, including continuing the branding of route 32 as a shuttle, creating a distinct look for shuttle vehicles, and updating transit signage for route 32. Sonoma County Transit is also encouraged to allocate marketing resources to publicize the shuttle route to residents, employees, and visitors.*

***Policy SC-3d:** Work with Sonoma Transit to improve bus stops by providing well-lit shelters, benches, bicycle racks, and trash cans. Provide schedule information at each bus shelter location.*

***Policy SC-3f:** In conjunction with road or development projects, review whether a bus turnout is appropriate in locations where transit shelters exist or are planned.*

***Policy SC-3g:** Maintain fare-free service on the Sonoma County Transit local route serving the Springs area (currently route 32 Sonoma Shuttle).*

Impact 3.13-2: Implementation of the Project would not substantially increase hazards due to a geometric design feature or incompatible use (Less than Significant)

The County of Sonoma maintains improvement standards that guide the construction of new transportation facilities to minimize design hazards for all users of the system. The Springs Specific Plan is within the jurisdiction of the County of Sonoma, with Highway 12 under the jurisdiction of Caltrans, and is subject to all design standards which minimize hazards due to design features. The proposed land use changes that are estimated to add traffic to the surrounding street network would be evaluated through the development review process. If needed, individual projects would be conditioned to construct or provide funding for improvements that minimize or eliminate potential hazards. Typical improvements include shoulder widening, adding turn pockets, adding sidewalks or crosswalks, realigning sharp curves, and prohibiting certain turning movements, among other options. As part of the entitlement process for individual development projects, the County of Sonoma requires traffic impact studies to be prepared that address specific topic areas related to circulation design and safety. Such criteria, outlined in the County's *Guidelines for Traffic Impact Studies*, include analysis of on-site roads and frontage improvements including design features, accommodation of alternative transportation modes, analysis of vehicle queuing at intersections,

and analysis of warrants for new turn lanes. New development within the Specific Plan would be subject to this review, and acceptance of the findings by the County would be required prior to project approval.

Newly constructed and upgraded roadways needed to accommodate new development would be designed according to applicable State and local design standards, with design reviews and approvals overseen by the County of Sonoma (as well as Caltrans for improvements affecting Highway 12). The Specific Plan also establishes policies intended to enhance the safety and comfort of pedestrian and cyclists, as shown below. Specifically, Policy SC-1b of the Specific Plan aims to ensure that circulation improvements result in attractive, functional roadways, bicycle lanes, sidewalks, pathways, transit stops, and parking areas that enhance access and safety for all users. Policy SC-2b aims to improve the pedestrian and bicycle linkages and facilities throughout the Springs to improve mobility; provide safe routes to schools and transit stops; make the area more inviting to pedestrians and bicyclists; and improve connectivity to nearby communities and regional destinations. Policy SC-2g requires provision of new and improved crosswalks. This policy also prioritizes safety features, such as pedestrian warning lights and bulb-outs (curb extensions), that improve visibility and create a more comfortable pedestrian environment, particularly in the vicinity of schools and parks.

New development allowed within the Specific Plan area would include new streets, access points, pathways, and other circulation improvements that would be reviewed and checked for compliance with design and safety standards as part of the entitlement process conducted by the County of Sonoma, or as required during the encroachment permit process overseen by Caltrans. Therefore, this impact would be **less than significant**.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy SC-1b*: Ensure that circulation improvements result in attractive, functional roadways, bicycle lanes, sidewalks, pathways, transit stops, and parking areas that enhance access and safety for all users.*

Policy SC-2b*: Improve pedestrian and bicycle linkages and facilities throughout the Springs to improve mobility; provide safe routes to schools and transit stops; make the area more inviting to pedestrians and bicyclists; and improve connectivity to nearby communities and regional destinations.*

Policy SC-2g*: Provide new and improved crosswalks. Prioritize safety features, such as pedestrian warning lights and bulb-outs, that improve visibility and create a more comfortable pedestrian environment, particularly in the vicinity of schools and parks.*

Impact 3.13-3: Implementation of the Project would not result in impacts related to emergency access (Less than Significant)

Buildout of the proposed Specific Plan would result in increased development densities and land use intensities within the Specific Plan area. As a result of the intensified land use mix, the volume of users accessing the transportation network within the Specific Plan area is expected to increase. Emergency access along proposed and existing roadways must be accommodated in conjunction within the expected population and employment growth. Plans submitted for individual

developments to be constructed in the Specific Plan area would be reviewed for compliance with emergency access requirements by public safety officials during the County's entitlement process.

Roads and emergency access requirements are governed by existing State and local law. Development in the State Responsibility Area (SRA) is governed by the State Board of Forestry and Fire Protection Regulations (14 CCR 1270 et seq.) and development in the Local Responsibility Area (LRA) is governed by the County's Fire Safe Standards (Sonoma County Code Chapter 13 Article V) (see more on the SRA and LRA in Section 3.16, Wildfire). Regulations govern road surfaces, grades, curves, intersections, and widths and provide specific requirements for two-way, one-way, and dead-end roads. The roadway cross sections identified in the Specific Plan have been configured to meet these requirements.

Additionally, the proposed Specific Plan includes Policies SC-1e, SC-1g, and SC-2e, listed below, which address roadway design and site access. Specifically, Policy SC-1e requires implementation of the roadway cross-sections included in this Specific Plan which are designed to accommodate all modes of transportation including walking, bicycling, transit, and driving. Policy SC-1g requires monitoring of traffic patterns on Highway 12 and collaboration with Caltrans periodically to adjust traffic signal timing to improve the flow of traffic. Policy SC-2e prohibits cul-de-sacs and dead end streets, except where existing conditions require them. If cul-de-sacs are necessary, this policy requires walkways connecting to adjacent streets and future development.

General Plan Policy CT-4j requires that the County design roads for reasonable access by emergency vehicles. Traffic signal communications equipment, including any new signals constructed within the Specific Plan area, would utilize OPTICOM pre-emption devices for emergency responders. Streets within the Specific Plan area are generally interconnected, providing multiple points of access by emergency vehicles. The configuration of Highway 12, including bike lanes, buffers, and the center turn lane, also provides space for automobile drivers to safely pull over and allow emergency responders to pass. Given these conditions, any impacts to emergency access are anticipated to be **less than significant**.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

***Policy SC-1e**: Implement the roadway cross-sections included in this Specific Plan which are designed to accommodate all modes of transportation including walking, bicycling, transit, and driving.*

***Policy SC-1g**: Monitor traffic patterns on Highway 12 and collaborate with Caltrans periodically to adjust traffic signal timing to improve the flow of traffic.*

***Policy SC-2e**: Prohibit cul-de-sacs and dead end streets, except where existing conditions require them. If cul-de-sacs are necessary, require walkways connecting to adjacent streets and future development.*

Impact 3.13-4: Implementation of the Project would not conflict with a program, plans, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities (Less than Significant)

CONSISTENCY WITH ADOPTED CIRCULATION PLANS, INCLUDING PEDESTRIAN AND BICYCLE PLANS AND POLICIES

Implementation of the Specific Plan would be consistent with, and would expand upon, the pedestrian and bicycle network identified in the *Sonoma County General Plan Circulation Element,* the Sonoma County *2010 Bicycle and Pedestrian Plan,* and the SCTA *Moving Forward 2050 Sonoma County Comprehensive Transportation Plan*. The Specific Plan would improve the existing bicycle and pedestrian circulation infrastructure within the Specific Plan area, building upon the improvements made by the recent Highway 12 improvements project while also improving convenience and safety for people crossing the highway and traversing the corridor by walking and bicycling. The Plan would also support and strengthen connections to the Central Sonoma Valley Bikeway. The Plan requires future development to be connected by walkways, constructing new or widened sidewalks in many areas as redevelopment activity occurs. The proposed Specific Plan supports and expands upon current policies regarding transportation, including Sonoma County's General Plan 2020 and the *2010 Bicycle and Pedestrian Plan a*nd does not include components that would conflict with or impede implementation of adopted plans and requirements addressing the circulation system. Accordingly, implementation of the Specific Plan would result in **less than significant** impacts with respect to consistency with adopted policies, plans, or programs.

PEDESTRIAN FACILITIES

As shown in Table 3.13-1 and Figure 3.13-4, and as described in the Circulation Chapter of the Specific Plan document, the Specific Plan calls for filling all gaps in the sidewalk network and establishing several new off-street path segments, which would be expected to have beneficial impacts to pedestrian circulation and safety. The Plan also identifies 11 locations on the Highway 12 corridor where new crosswalks would be installed, many of which would include enhancements such as pedestrian warning lights and/or treatments like curb extensions and raised medians that reduce pedestrian crossing distances and exposure to vehicle traffic. Most of these new crossing locations are in the existing commercial district and/or adjacent to transit stops, and already experience substantial pedestrian activity including legal crossings at intersections with unmarked crosswalks. Other locations on Highway 12 in the Plan area do not currently encounter high levels of pedestrian activity but would be expected to as future development permitted by the Specific Plan occurs, and the number of people living, working, and visiting such areas increases. The determination of when to install new pedestrian crossings as well as their ultimate configuration must be carefully considered in order create the safety benefits that the crossings are intended to provide. Table 3 in the Specific Plan's circulation chapter identifies which improvements should be considered near-term versus long-term. The new pedestrian crossings are inherently intended to improve pedestrian safety. As required by Specific Plan Policy SC-2b, the ultimate configuration of any new pedestrian crossing would be evaluated and determined by the County's Department of Transportation and Public Works, in collaboration with Caltrans regarding improvements along Highway 12, with consideration of the physical characteristics and best design practices that exist at the time the design is initiated.

The sidewalk gaps on side street throughout the Plan area will be filled over time as funding allows and as development and/or improvements on individual parcels occurs. In the northern and central portions of the Specific Plan, the plan's boundaries generally extend one to two parcels on each side of Highway 12. As such, the potential for significant traffic increases to adversely affect pedestrian safety on side streets is limited, even in cases where a gap in the sidewalk network between the project site and Highway 12 would result. In the southern plan area including the Donald Street neighborhood, the plan generally designates lower density residential uses, and side street traffic volumes are anticipated to remain low. In these areas, pedestrian circulation currently takes place on the shoulders of existing streets and, while not optimal, such a configuration is not anticipated to reflect an adverse safety condition for pedestrians during the periods prior to completion of the sidewalk network.

There may be certain cases such as with projects anticipated to generate higher pedestrian volumes where the sidewalk gaps occurring prior to Plan buildout *could* present pedestrian safety concerns. The circumstances unique to each individual development project will be considered by the County of Sonoma during the entitlement process, and if deemed necessary, projects would be required to construct offsite pedestrian facilities to fill gaps in the walking network. The County currently maintains the authority to determine the need for and require such improvements and would maintain that authority with implementation of the Specific Plan.

Implementation of the Specific Plan would fill gaps in the pedestrian network, establish enhanced pedestrian crossings on Highway 12, and improve pedestrian connectivity through provision of new off-street paths. While sidewalk gaps existing prior to buildout of the plan are generally not anticipated to result in adverse pedestrian safety concerns, the County of Sonoma will continue to review individual development projects for location- and use-specific impacts, and would require sidewalk gaps to be filled where deemed necessary to enhance pedestrian safety. As a result, the Specific Plan is expected to result in **less than significant** impacts to pedestrians.

BICYCLE FACILITIES

The proposed bicycle network is depicted on the Bicycle Circulation Plan (Figure 6 in the Springs Specific Plan document and included herein as Figure 3.13-5). The Specific Plan includes new bike facilities that are consistent with those identified in the *Sonoma County Bicycle and Pedestrian Plan*, including completion of the Central Sonoma Valley Bikeway that runs parallel to Highway 12 through the community. Additional bicycle connections newly-proposed by the Specific Plan include a multi-use path connection between Highway 12 and Larson Park, and bike route designations on Lichtenberg Avenue and Boyes Boulevard between Highway 12 and the Central Sonoma Valley Bikeway.

The Specific Plan also proposes to modify the existing bicycle lanes on Highway 12 to include a striped buffer between the bike lane and vehicle lanes, and to use green-colored bike lanes in areas where bicycle and vehicle traffic interacts (such as near intersections). These enhancements would be expected to improve the visibility of cyclists to drivers, thereby improving bicyclist safety.

The intensification of land uses within the Plan will add vehicular and bicyclist traffic to side streets, though because the Plan boundaries are generally located within 400 feet of Highway 12 (typically one to two parcels) throughout much of the Specific Plan, the potential for any individual side street to be so impacted by traffic as to create a safety concern for bicyclists is limited. Where the Plan

boundaries extend farther from Highway 12, such as in the Donald Street neighborhood, the proposed intensification of land uses is relatively low, again resulting in little potential for adverse impacts to bicyclists to occur. Vehicular speeds on side streets within the Plan area are currently low and are anticipate to remain so based on existing and proposed roadway configurations and increased activity associated with new development. Bicyclists traveling longer distances will have convenient access to the proposed buffered bike lanes on Highway 12, as well as the lower-volume streets and paths that comprise the Central Sonoma Valley Bikeway.

The new bicycle facilities identified in the Specific Plan are anticipated to increase bicyclist comfort and safety, supporting travel by non-auto modes, and would be expected to result in a **less than significant** impact.

TRANSIT

Implementation of the proposed Specific Plan is expected to increase population and employment within the Specific Plan area. The corridor-based configuration of the Specific Plan aligns with existing transit routes operated by Sonoma County Transit, and the Specific Plan includes policies to coordinate with SCT to increase transit frequencies in the future. The Specific Plan also emphasizes pedestrian and bicyclist connectivity to transit facilities and includes policies that prioritize transit stop enhancements. The Plan's transit orientation would reduce reliance on travel by single-occupant vehicles, creating a shift in mode share from autos to transit that would be expected to result in increased transit ridership and system efficiency. Specifically, the demand for SCT transit service is expected to increase as it provides access to local and regional activity centers including those in the cities of Sonoma and Santa Rosa.

Given the Specific Plan's strong focus on creating a transit-supportive circulation network, in addition to policies supporting transit enhancements within the Specific Plan area, impacts related to public transit are considered **less than significant**.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy SC-2b*: Improve pedestrian and bicycle linkages and facilities throughout the Springs to improve mobility; provide safe routes to schools and transit stops; make the area more inviting to pedestrians and bicyclists; and improve connectivity to nearby communities and regional destinations.*

The ultimate configuration of any new pedestrian crossings shall be evaluated and determined by the Sonoma County Department of Transportation and Public Works, in collaboration with Caltrans, and in consideration of the physical characteristics and best design practices that exist at the time the design is initiated.

Policy SC-2d*: Require that adjacent developments be connected by safe, direct walkways. Ensure that projects are designed to anticipate and accommodate future street and sidewalk connections to new development on adjacent lands.*

Policy SC-2h*: Provide new and improved bicycle lanes and enhance bicycle safety through signs, bicycle lane buffers, and green colored pavement. Priority should be given to intersections when making safety improvements.*

***Policy SC-2i**: Prioritize crosswalk, sidewalk, and bicycle lane improvements near schools, parks, transit stops, and the Springs plaza.*

***Policy SC-2k**: Require development projects along Highway 12 to provide increased sidewalk widths, consistent with the cross-sections identified in this chapter and the setback requirements set forth in the Design Guidelines chapter.*

***Policy SC-3a**: Coordinate with Sonoma County Transit to improve local bus service by increasing the frequency of bus service in the Springs and decreasing travel times.*

***Policy SC-3d**: Work with Sonoma Transit to improve bus stops by providing well-lit shelters, benches, bicycle racks, and trash cans. Provide schedule information at each bus shelter location.*

***Policy SC-3f**: In conjunction with road or development projects, review whether a bus turnout is appropriate in locations where transit shelters exist or are planned.*

***Policy SC-3g:** Maintain fare-free service on the Sonoma County Transit local route serving the Springs area (currently route 32 Sonoma Shuttle).*

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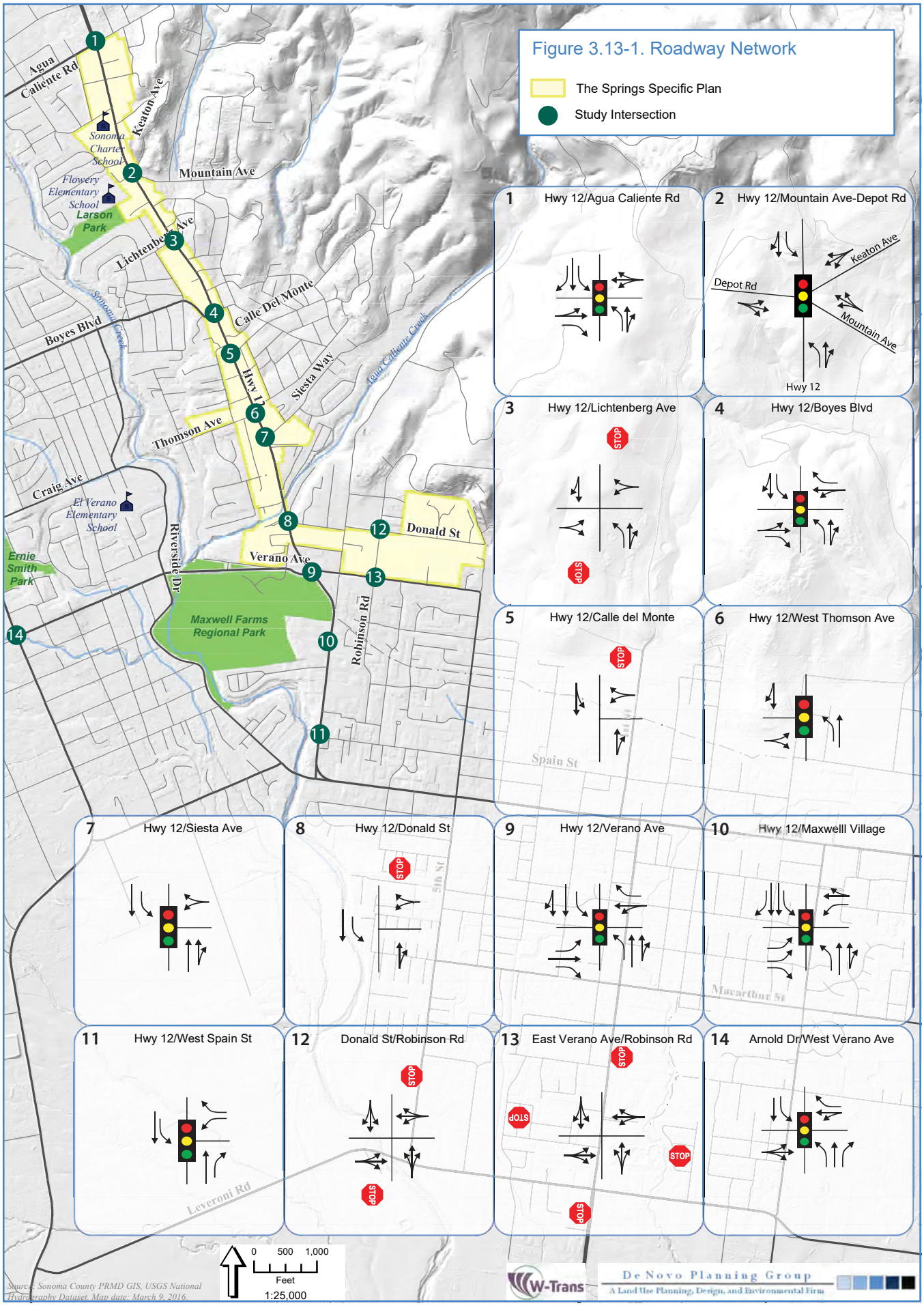
Figure 3.13-1. Roadway Network
The Springs Specific Plan
Study Intersection
Agua Caliente Rd
Keaton Ave
Sonoma Charter School
Mountain Ave
Flowery Elementary School
Larson Park
Lichtenberg Ave
Calle Del Monte
Boyes Blvd
Sonoma Creek
Hwy 12
Siesta Way
Agua Caliente Creek
Thomson Ave
Craig Ave
El Verano Elementary School
Riverside Dr
Ernie Smith Park
Verano Ave
Donald St
Maxwell Farms Regional Park
Robinson Rd
Spain St
Leveroni Rd
1 Hwy 12/Agua Caliente Rd
2 Hwy 12/Mountain Ave-Depot Rd
Depot Rd
Keaton Ave
Mountain Ave
Hwy 12
3 Hwy 12/Lichtenberg Ave
4 Hwy 12/Boyes Blvd
5 Hwy 12/Calle del Monte
6 Hwy 12/West Thomson Ave
7 Hwy 12/Siesta Ave
8 Hwy 12/Donald St
9 Hwy 12/Verano Ave
10 Hwy 12/Maxwelll Village
11 Hwy 12/West Spain St
12 Donald St/Robinson Rd
13 East Verano Ave/Robinson Rd
14 Arnold Dr/West Verano Ave
STOP
0 500 1,000
Feet
1:25,000
Source: Sonoma County PRMD GIS, USGS National Hydrography Dataset. Map date: March 9, 2016.
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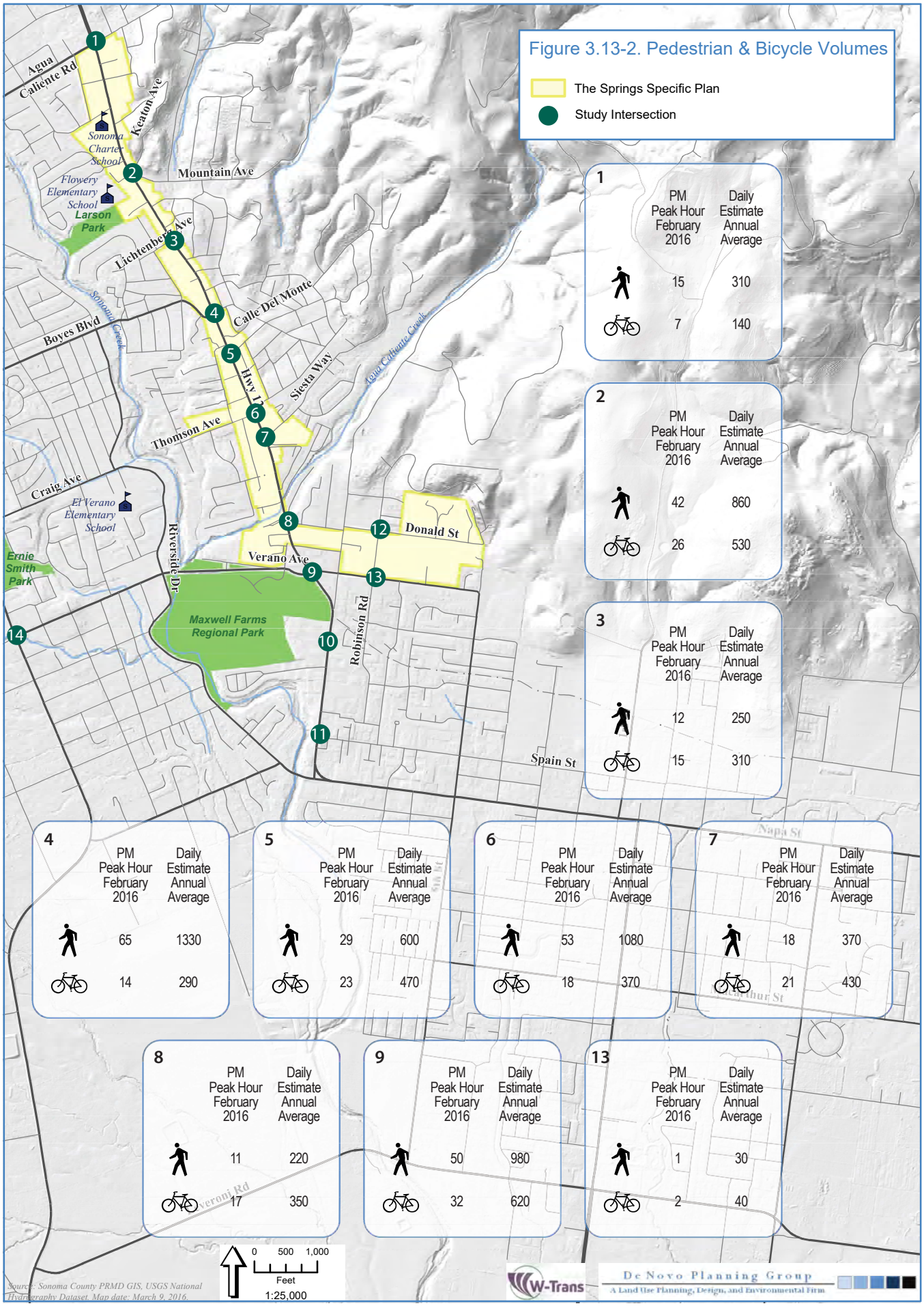
Figure 3.13-2. Pedestrian & Bicycle Volumes
The Springs Specific Plan
Study Intersection
Agua Caliente Rd
Keaton Ave
Sonoma Charter School
Mountain Ave
Flowery Elementary School
Larson Park
Lichtenberger Ave
Sonoma Creek
Boyes Blvd
Calle Del Monte
Hwy 12
Siesta Way
Agua Caliente Creek
Thomson Ave
Craig Ave
El Verano Elementary School
Ernie Smith Park
Riverside Dr
Verano Ave
Donald St
Maxwell Farms Regional Park
Robinson Rd
Spain St
Napa St
Arthur St
Veroni Rd
1
PM Peak Hour February 2016
Daily Estimate Annual Average
15
310
7
140
2
PM Peak Hour February 2016
Daily Estimate Annual Average
42
860
26
530
3
PM Peak Hour February 2016
Daily Estimate Annual Average
12
250
15
310
4
PM Peak Hour February 2016
Daily Estimate Annual Average
65
1330
14
290
5
PM Peak Hour February 2016
Daily Estimate Annual Average
29
600
23
470
6
PM Peak Hour February 2016
Daily Estimate Annual Average
53
1080
18
370
7
PM Peak Hour February 2016
Daily Estimate Annual Average
18
370
21
430
8
PM Peak Hour February 2016
Daily Estimate Annual Average
11
220
17
350
9
PM Peak Hour February 2016
Daily Estimate Annual Average
50
980
32
620
13
PM Peak Hour February 2016
Daily Estimate Annual Average
1
30
2
40
0
500
1,000
Feet
1:25,000
Source: Sonoma County PRMD GIS, USGS National Hydrography Dataset. Map date: March 9, 2016.
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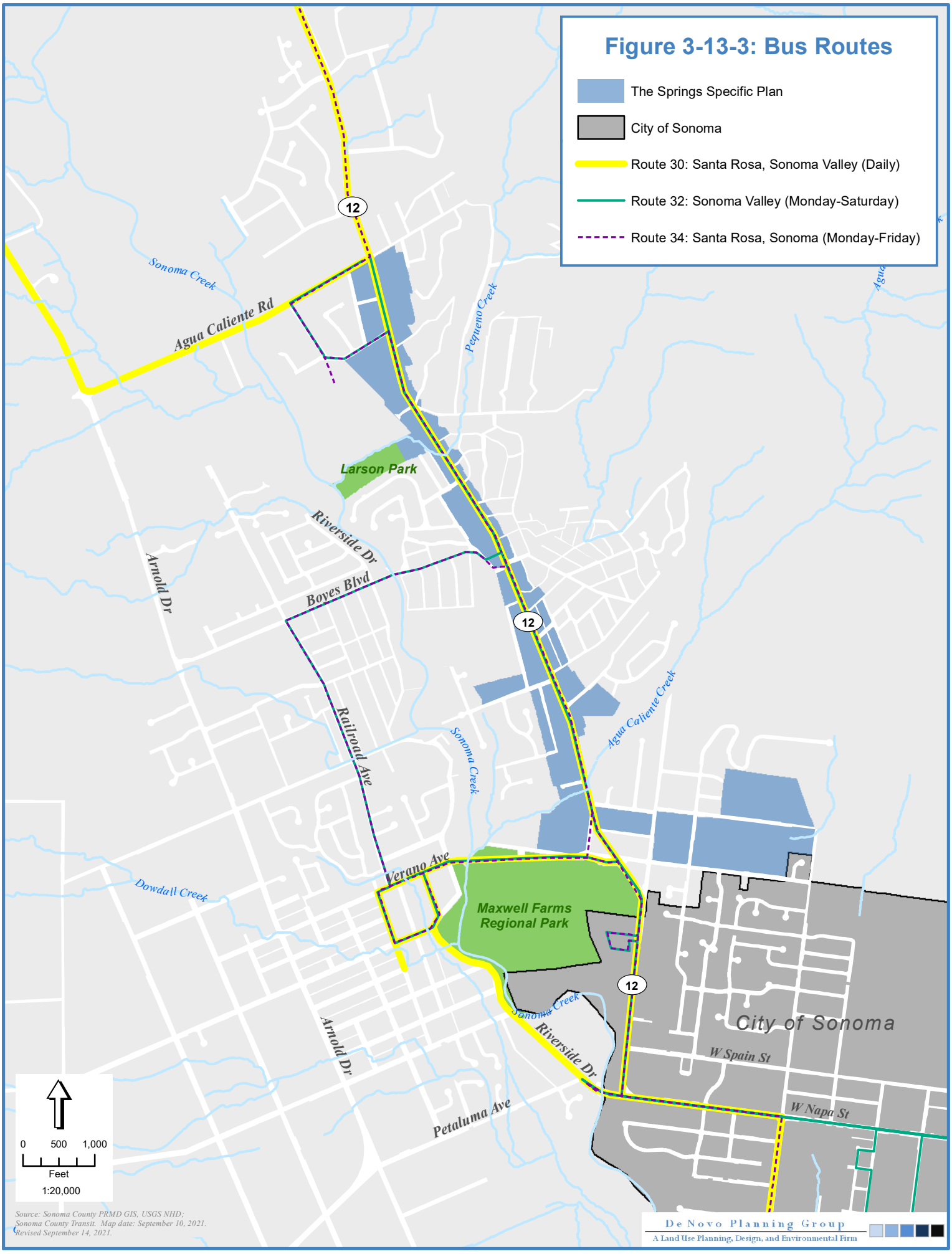
Figure 3-13-3: Bus Routes
The Springs Specific Plan
City of Sonoma
Route 30: Santa Rosa, Sonoma Valley (Daily)
Route 32: Sonoma Valley (Monday-Saturday)
Route 34: Santa Rosa, Sonoma (Monday-Friday)
12
Sonoma Creek
Agua Caliente Rd
Pequeno Creek
Larson Park
Riverside Dr
Arnold Dr
Boyes Blvd
Railroad Ave
Agua Caliente Creek
Verano Ave
Dowdall Creek
Maxwell Farms Regional Park
City of Sonoma
W Spain St
W Napa St
Petaluma Ave
0 500 1,000
Feet
1:20,000
Source: Sonoma County PRMD GIS, USGS NHD; Sonoma County Transit. Map date: September 10, 2021. Revised September 14, 2021.
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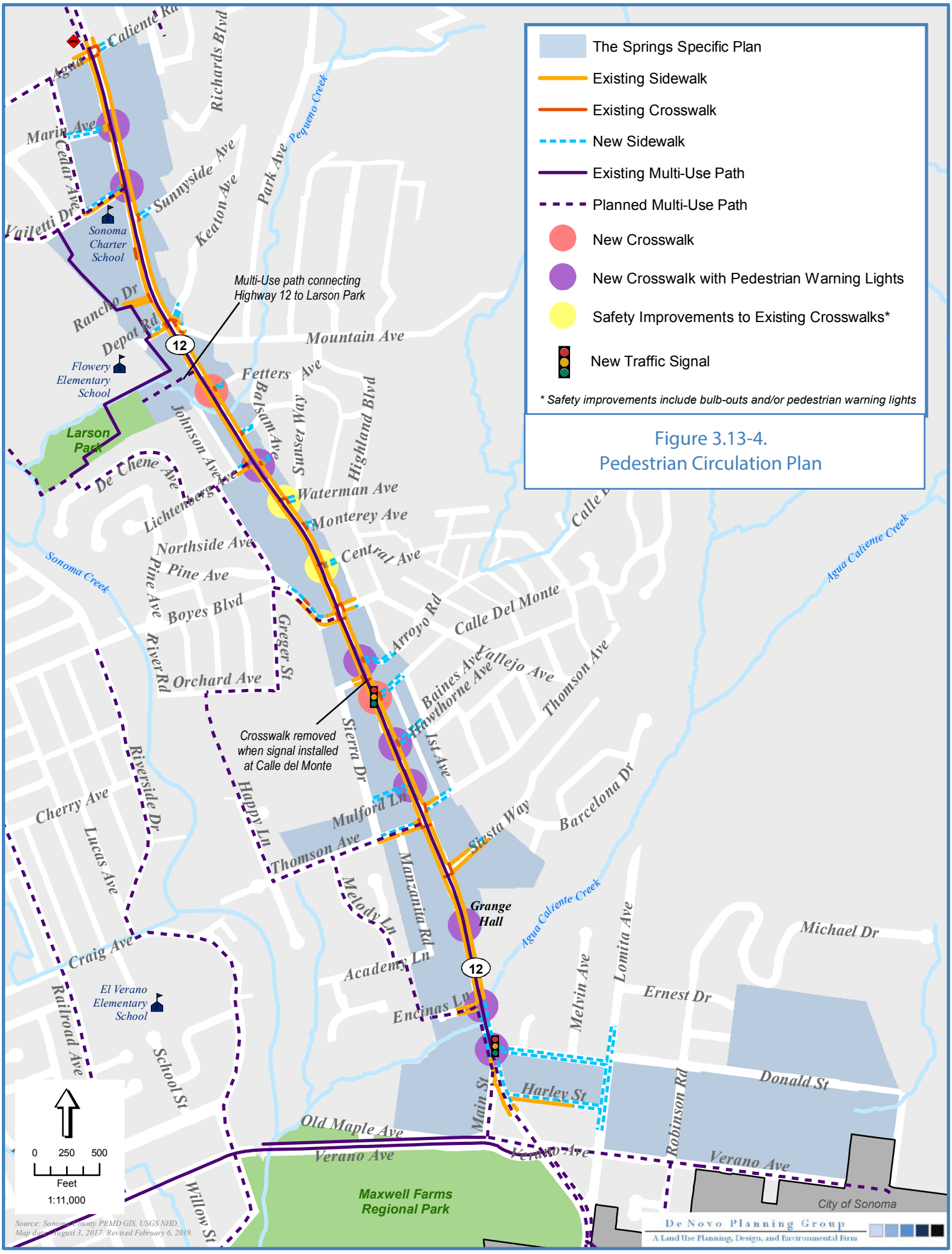

Figure 3.13-4.
Pedestrian Circulation Plan

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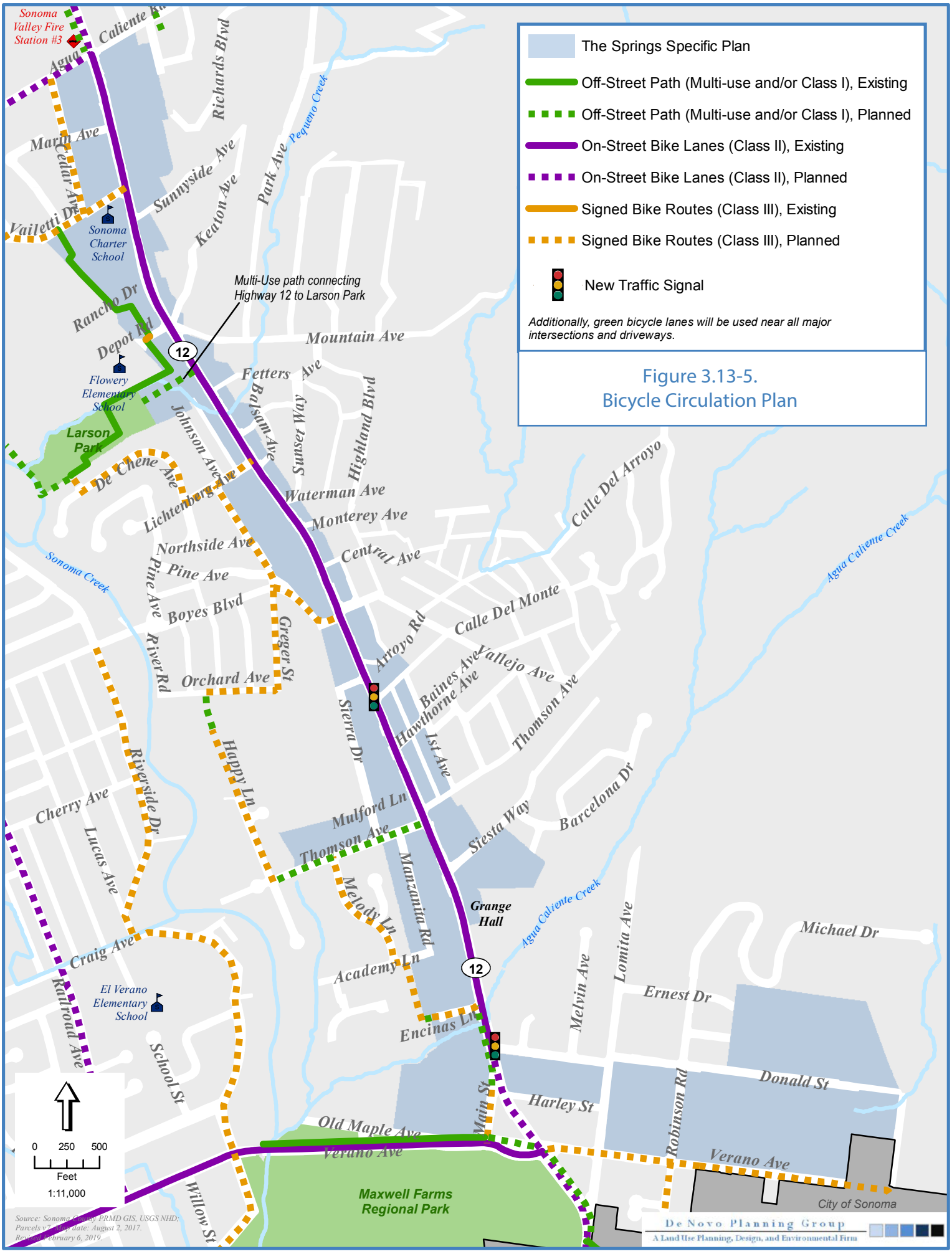

Figure 3.13-5.
Bicycle Circulation Plan

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This section describes the regulatory setting, impacts associated with wastewater services, water services, and solid waste disposal that are likely to result from implementation of the Project, and policies to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. A discussion of the Project's storm drainage and flood control facilities is included in Section 3.8, Hydrology and Water Quality. Therefore, storm water drainage and infrastructure are not addressed in this EIR section. This section is based in part on the following documents, reports and studies: *California's Groundwater* (California Department of Water Resources, 2015), CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary*, *Sonoma Valley County Sanitation District Sanitary Sewer Assessment and Master Plan* (Sonoma County Water Agency, 2016), *Sonoma Valley County Sanitation District Sewer System Management Plan* (Sonoma County Water Agency, 2016), *Sonoma County Water Agency 2015 Urban Water Management Plan*, *Technical Memorandum, Subject: Sanitary Sewer Capacity Evaluation for the Springs Specific Plan* (Sonoma County Water Agency, 2019), *The Springs Specific Plan Utility Infrastructure Needs Report* (EBA Engineering, 2019), and *Springs Specific Plan Water Supply Assessment* (Maddaus Water Management, Inc., 2019).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.14.1 WASTEWATER SERVICES

ACRONYMS

I&I	Inflow & Infiltration
gpd	gallons per day
mgd	million gallons per day
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SCWA	Sonoma County Water Agency (Sonoma Water)
SECAP	System Evaluation and Capacity Assurance Plan
SWRCB	State Water Resources Control Board
SVCSD	Sonoma Valley County Sanitation District

ENVIRONMENTAL SETTING

The SVCSD provides wastewater collection, treatment, and disposal services within the Plan area. SVCSD's service area covers approximately 4,500 acres and serves approximately 17,548 single family dwelling equivalents.

SVCSD's treatment plant provides tertiary treatment for a permitted average daily dry weather influent flow capacity of up to three mgd. SVCSD's treatment plant currently treats approximately 2.7 mgd during dry weather conditions (average dry weather flow) and an average 11 mgd wintertime maximum treatment. According to the Sonoma Valley County Sanitation District Sanitary Sewer Capacity Assessment and Master Plan Final Report (MPFR) created by RMC Water and Environment Inc., dated April 2016, the existing collection system base wastewater flow estimate for peak flow on a non-rainfall wintertime day including groundwater infiltration is 4.9 mgd and peak wet weather flow for a 10-year 24-hour design storm event is approximately 20.7 mgd.

The SVCSD sanitary sewer collection system includes sewer pipelines ranging in size from 4 to 42 inches in diameter. The larger pipes, primarily the 10-inch and larger sewers and a portion of the smaller diameter pipes, comprise the trunk sewer system, which is the primary network for conveying wastewater flows to the treatment plant.

Current reuse of wastewater treated by SVCSD includes wetland habitat enhancement, vineyard and pasture irrigation, water for construction, and a small amount of water used for residential landscape irrigation. In recent years, the SVCSD has explored the feasibility of expanding recycled water use to offset local groundwater pumping or imported Russian River water in addition to reducing or eliminating discharges to San Pablo Bay.

Potential Issues with Existing Infrastructure

According to the SVCSD, the trunk and relief mains in Vista Drive are scheduled to be replaced by 2024. The SVCSD has identified issues with inflow and infiltration (I&I) in their existing sewer infrastructure throughout the Sonoma Valley, including locations within the Plan area. Inflow and infiltration are terms used to describe the ways that clean groundwater or stormwater flow into the sewer system through cracked sewer lines, leaky holes, improper storm drain connections, and other means. Most inflow comes from stormwater and most infiltration comes from groundwater. The exact locations of the problem areas were not provided. The Utility Infrastructure Needs Report prepared for the Specific Plan identifies existing issues with sewer overflows during large rain events involving the sewer mains in Vailetti Drive near State Highway 12 and the sewer trunk line located in the Rancho Vista Trailer Park.

Per the SCVSD, many of the pipes in the Plan area are more than 50 years old. During heavy rain events the system overloads and sewage can flow into local creeks and other waterways. One of the major contributing factors to sewer system overflow is I&I of stormwater runoff and groundwater through seepage into existing deteriorated laterals and sewer mains, resulting in a substantial increase in the amount of water flowing to the SCVSD treatment facility during storm events.

In 2015 and 2019, due to system overflows, SVCSD was issued a Cease and Desist Order (Order) by the RWQCB. The Order requires that the District construct the remaining trunk sewer replacement projects identified in a 2002 study that have not yet been completed; prepare a Sewer Capacity Study, to identify, prioritize, and develop a schedule for completing projects necessary to reduce or eliminate recurring system overflows; and implement those projects per the schedule. As a result of the Order, the SVCSD prepared the Sanitary Sewer Capacity Assessment and Master Plan, most recently updated April 2021, which addresses current and future projected capacity of the SVCSD system and identifies projects necessary to address system overflows and accommodate planned development. A 24-hour duration, 10-year return period storm event based on historical rainfall statistics was selected as the design event for evaluating system capacity and sizing required system improvements, if needed.

REGULATORY SETTING

Clean Water Act / National Pollutant Discharge Elimination System Permits

The Clean Water Act is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and

biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The Clean Water Act regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program that makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes the U.S. Environmental Protection Agency, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand, (2) total suspended solids, and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another Clean Water Act program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the SWRCB has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to a RWQCB. The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits. The Plan Area is located in the San Francisco Bay RWQCB jurisdiction.

Sonoma Valley County Sanitation District Sanitary Sewer System Master Plan (2016)

At the onset of the Springs Area Specific Plan planning process, staff utilized the most recent available data provided in the Master Plan published in 2016. In 2019, staff requested and received from Sonoma Water a supplemental analysis based on the proposed growth potential from the Springs Area Specific Plan. Since then, an updated Master Plan has been published in 2021 and any changes in environmental impact have been reflected.

The Sewer System Master Plan is intended to meet the requirements of the Statewide Waste Discharge Requirements and is organized consistent with the SWRCB guidelines. The Sewer System Master Plan includes eleven elements, as listed below. Each of these elements forms a section of the document.

1. Goals
2. Organization
3. Legal Authority
4. Operations and Maintenance program
5. Design and Performance Provisions
6. Overflow Emergency Response Plan ("OERP")
7. Fats, Oils, and Grease Control Program
8. System Evaluation and Capacity Assurance Plan ("SECAP")
9. Monitoring, Measurement and Program Modifications
10. Sewer System Master Plan Program Audits
11. Communications Program

Sonoma Valley County Sanitation District Private Sewer Lateral Ordinance

The Private Sewer Lateral Ordinance, which went into effect on March 8, 2017, addresses inflow and infiltration ("I&I") from private homes and businesses, and requires property owners of homes and businesses that are 30 years or older to have private sewer laterals inspected, and repaired if necessary, to prevent sewer overflows. Inflow and infiltration occurs when storm water or groundwater enters the sanitary sewer system through defects in pipes and manholes (infiltration) or direct drainage connections (inflow). The SVCSD facilitates free inspections of private sewer laterals, rebates of up to $1,000 for repairs, and a low interest loan program to aid property owners in paying for repairs.

Sonoma County General Plan

The Sonoma County General Plan identifies the following goals, objectives, and policies related to wastewater services:

PUBLIC FACILITIES AND SERVICES ELEMENT

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 1-1: Operate County water and wastewater facilities in accordance with planned growth and in compliance with applicable State and Federal standards.

Objective PF 1-2: Help resolve water problems resulting from proliferation of small water systems.

Objective PF 1-3: Limit extension of public water and sewer services into rural areas.

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.

Policy PF-1b: Prepare or encourage the preparation of master plans or equivalent documentation for all wastewater management systems prior to approval of project facilities. Design and construct all facilities in accordance with General Plans of the applicable jurisdictions. In the event that a master plan or monitoring fails to show adequate facilities or supplies for planned growth, consider moratoria on plan

amendments, zoning changes, building permits or other entitlements in order to protect services to existing residents. The minimum contents necessary for an adequate master plan or equivalent documentation are:

(1) Maps showing future service area boundaries,
(2) Forecasted growth that reflects all potential sources of future demand for facilities and the relationship to General Plan projections and limits,
(3) Projected service and facility needs,
(4) Estimated costs and revenues for needed improvements,
(5) System design parameters and assumptions,
(6) A program for water use reduction,
(7) A program to reduce storm water infiltration, and
(8) A program to monitor and account for amendments of the General Plan Land Use Map over time.

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.

Policy PF-1f: Avoid extension of public sewer services outside of either a sphere of influence or Urban Service Area. To the extent allowed by law, consider exceptions to this policy only:

(1) Where necessary to resolve a public health hazard resulting from existing development, or
(2) Where appropriate to allow farmworker housing or an affordable housing project providing exclusively lower income housing on properties adjoining urban service boundaries.

Policy PF-1g: Use the following guidelines for any exception allowed by Policy PF-1f:

(1) The property must adjoin the Urban Service Boundary or the proposed connection to a public sewer system must be no more than 200 feet from the Urban Service Boundary,
(2) Size sewage facilities to serve development consistent with the General Plan, and

(3) Require written certification that adequate service capacity is available for the use to be connected to the system.

Policy PF-1h: Avoid extension of public water service to a property that is outside of both the Urban Service Area and sphere of influence of the water provider. Consider exceptions to this policy, to the extent allowed by law, only:

(1) Where necessary to resolve a public health hazard resulting from existing development such as failing wells or groundwater contamination, or
(2) Where water service is to be extended for a property which is located within a water district boundary in effect in November, 2003, or
(3) Where appropriate to allow an affordable housing project providing exclusively lower income housing on properties adjoining Urban Service Boundaries.

Policy PF-1i: Use the following guidelines for any exception allowed by Policy PF-1h:

(1) Size facilities to serve development consistent with the General Plan,
(2) Require written certification that adequate service capacity is available for the use to be connected to the system or planned to be connected in the future, and
(3) Utilize out-of-service area agreements rather than annexations.

WATER RESOURCES ELEMENT

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 1-1: Work with the Regional Water Quality Control Boards (RWQCB) and interested parties in the development and implementation of RWQCB requirements.

Objective WR 1-2: Avoid pollution of stormwater, water bodies and groundwater.

Policy WR-1l: Consider development or expansion of community wastewater treatment systems in areas with widespread septic system problems that are a health concern and cannot be addressed by on-site maintenance and management programs.

Policy WR-1m: Consider on-site wastewater management districts in areas with septic problems.

Policy WR-1n: Initiate a review of any sewer systems when they persistently fail to meet applicable standards. If necessary to assure that standards are met, the County may deny new development proposals or impose moratoria on building and other permits that would result in a substantial increase in demand and may impose strict monitoring requirements.

Policy WR-1o: Require that commercial and industrial uses reduce and pretreat wastes prior to their entering sewer systems.

Policy WR-1p: Actively pursue the abatement of failing septic systems that have been demonstrated as causing a health and safety hazard.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on the environment associated with Utilities if it will:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has inadequate capacity to serve the projects projected demand in addition to the providers existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: Implementation of the Project would not result in a determination by the wastewater treatment provider which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments, or require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

WASTEWATER GENERATION AND CAPACITY

The SVCSD is operated by the SCWA. The SVCSD's treatment plant provides tertiary treatment for a permitted average daily dry weather flow capacity of 3.0 mgd. The SVCSD's treatment plant currently treats approximately 2.7 mgd during dry weather conditions and an average 11 mgd wintertime maximum treatment, with winter flows peaking at 22 mgd.

As the Plan area develops in the future, there will be an increased need for water and wastewater services, including a reliable source of recycled water. These needs have been addressed in the SCWA's and SVCSD's master plans and will require that the water agency and district continue to implement phased improvements to some pump stations, sewer mains, and the wastewater treatment plant when triggered by growth.

As shown in Table 2.0-4 in Chapter 2.0, the Project would result in up to 706 units, up to 276,903 square feet of non-residential uses, and up to 120 hotel rooms. The Utility Infrastructure Needs Report indicates that the total wastewater flow increase generated by the Project would be up to 166,655 gpd, or 0.17 mgd, as shown in Table 3.14-1. An increase of 0.17 mgd would not result in exceedance of the SVCSD's treatment plant capacity of 3.0 mgd.

TABLE 3.14-1: PROJECT WASTEWATER FLOW INCREASE

LAND USE CATEGORY	*WASTEWATER FLOW (GPD)*	*NET NEW DEVELOPMENT*	*WASTEWATER FLOW INCREASE*
Single Family Units	200 per unit	88	17,600
Multifamily Units	160 per unit	461	73,760
Work/Live & Mixed Use Units	160 per unit	157	25,120
Commercial SF	0.19 per SF	168,029	31,926

LAND USE CATEGORY	*WASTEWATER FLOW (GPD)*	*NET NEW DEVELOPMENT*	*WASTEWATER FLOW INCREASE*
Office SF	0.076 per SF	82,226	6,249
Hotel Rooms	100 per room	120	12,000
Recreation SF	0 per SVCSD	26,648	-
		Wastewater Flow Increase (gpd)	***166,655***
		Wastewater Flow Increase (mgd)	***0.17***

NOTE: SF = SQUARE FEET

SOURCE: EBA ENGINEERING, 2019; DE NOVO PLANNING GROUP, 2021.

The Sonoma County General Plan includes objectives and policies that would reduce impacts related to wastewater treatment. These relevant objectives and policies are listed above under the Regulatory Setting.

Additionally, the proposed Specific Plan includes infrastructure policies aimed to support the private development and public improvements which would result from implementation of the Project. For example, Policy CF-1a requires preparation of a sewer maintenance and upgrade plan that programs improvements to ensure that adequate levels of service are maintained under existing and buildout conditions. Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Further, Policy CF-1e requires development projects to install off-site infrastructure or pay appropriate in-lieu fees when applicable. Subsequent development projects proposed within the Plan area would be subject to these policies. The project would have a **less than significant** impact on the capacity of the wastewater treatment provider to serve the Project's projected demand in addition to their existing commitments.

WASTEWATER FACILITIES AND INFRASTRUCTURE

The Project growth estimates for the Plan area were analyzed and documented by Woodard and Curran in the SCWA Collection System Hydraulic Modeling Support technical memorandum, dated March, 2019. The sewer system model previously analyzed in the 2016 SVCSD Master Plan Final Report was used to analyze the Plan area in the 2019 System Hydraulic Modeling Support technical memorandum. The sewer system model analyzed existing and future system capacity needs for a 10-year, 24-hour design storm event under peak dry weather flow and peak wet weather flow conditions.

According to the 2016 SVCSD Master Plan Final Report, no deficiencies were identified within the system under peak dry weather flow conditions, and several recommended Capital Improvement Projects were proposed to correct capacity deficiencies identified under peak wet weather flow conditions. Of the recommended Capital Improvement Projects identified, project nos. 1, 3, 4, 5, and 14 are within the vicinity of the Plan area. See Table 3-3 of the Utility Infrastructure Needs Report (Appendix G of this Draft EIR) prepared for the Project for the detailed list of Capital Improvement Projects.

The 2019 System Hydraulic Modeling Support technical memorandum analyzed the system under the future scenario conditions, which included additional growth due to the Project. No deficiencies were found under future peak dry weather flow conditions. No new deficiencies were identified under future peak wet weather flow conditions, with minor exception to Capital Improvement Project #5. Deficiencies associated with Capital Improvement Project #5 have now been identified as impacting 164 additional feet of pipe for a total impact of 1,144 feet of the system.

The sewer system Capital Improvement Projects scheduled/identified within the Plan area in the 2016 SVCSD Master Plan Final Report were sized to accommodate the projected growth at that time. The subsequent 2019 System Hydraulic Modeling Support technical memorandum analysis of the Plan area, under a future growth scenario from the Project, confirmed that the recommended Master Plan Final Report Capital Improvement Projects #'s 1, 3, 4, 5, and 14 within the Plan area with an additional extension to Capital Improvement Project #5, will be sufficient to accommodate the increased flow from buildout of the Project. The extension to Capital Improvement Project #5 would require the project (replacement of existing deficient pipe) to be extended by an additional 164 feet. This extension would replace existing pipe within the existing right-of-way in an urbanized, developed neighborhood and would result in temporary air quality and noise impacts associated with construction activities; these impacts would be mitigated to less than significant with adherence to the Bay Area Air Quality Management District Basic Construction Mitigation Measures and adherence to the standard Best Management Practices, including measures that address air quality, dust control and equipment emissions, management of hazardous materials, and adherence to the applicable noise control standards for construction projects would address potential impacts.

As development occurs throughout the Plan area, each project will need to be analyzed on a project-by-project basis to determine the extents of the localized sanitary sewer infrastructure upgrades needed. Factors that will determine the extents of the improvements will include, at a minimum:

- Age and type of existing laterals/infrastructure;
- The type and size of the project;
- Any known I&I issues associated with the greater area where a project is proposed;
- The location of the project in relation to the existing infrastructure; and
- The capacity of the existing infrastructure to account for the planned upstream development.

Sewer system conveyance shall be designed in accordance with accepted engineering principles and shall conform to the SVCSD's Standard Plans and specifications. The project would have a **less than significant** impact on the environment in regards to potential effects from the relocation or construction of new or expanded wastewater facilities to accommodate the Project.

CONCLUSION

While full buildout of the Project would increase the demand on treatment infrastructure, in addition to anticipated growth throughout other areas of the district, the County's General Plan and the Project include provisions to ensure that new development cannot be approved until it can be demonstrated that adequate capacity is available to serve it. As described above, the SVCSD must also periodically review and update its master plan, and as growth continues to occur within the Plan area, the SVCSD will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development. Future sewer system upgrades would be subject to the SVCSD and SCWA Sanitation Code and Design and Construction Standards.

Development under the Project would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment facilities and conveyance infrastructure, as described above. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site, extension of some facilities off-site within roadway rights-of-way, and may also involve improvements to existing facilities and disturbance of existing rights-of-way.

The majority of the required wastewater conveyance infrastructure will be constructed on-site in conjunction with development and redevelopment of individual parcels within the Plan area. Wastewater conveyance infrastructure would be located underground, within the right-of-way footprint of future roadways in the Plan area, and must be constructed to meet the requirements contained in the SVCSD Codes and Standards.

Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. Impacts associated with temporary construction activities may include air quality, drainage, and noise, and impacts associated with operation including traffic, noise, air quality, hazards, and land stability. These impacts would generally occur as described in the relevant chapters (Chapters 3.1 through 3.14, and 4.0) of this Draft EIR.

Other impacts that may occur include short-term direct visual impacts associated with construction activities; potential direct impacts on a variety of biological resources, including wetlands and riparian resources; loss of trees and other sensitive habitats; and loss or disturbance of special status plant and animal species. Additionally, during construction air quality emissions of particulate matter, greenhouse gases, oxides of nitrogen, and reactive organic gases may be generated. Where potentially significant or significant impacts are identified, this Draft EIR identifies mitigation measures in the relevant chapter to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels. As discussed in Sections 3.1 through 3.13, there are no significant and unavoidable impacts associated with construction activities.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the Specific Plan, General Plan, County Code, and other applicable regulations.

The County's General Plan includes objectives and policies designed to ensure adequate wastewater treatment capacity is available to serve development, to minimize the potential adverse effects of wastewater treatment, and to ensure that development does not move forward until adequate wastewater capacity exists. Policy PF-1d requires all discretionary development projects to obtain written certification that either existing services are available or needed improvements will be made prior to occupancy.

Additionally, as noted previously, the proposed Specific Plan includes infrastructure and public services policies to support the private development and public improvements which would result from implementation of the Project. For example, Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. As discussed throughout this Draft EIR, the Specific Plan includes policies to reduce the potential for impacts to air quality, biological resources, noise, traffic, and other environmental topics. Subsequent development projects proposed within the Plan area that are required to connect to existing sewer facilities or replace or upgrade facilities would be subject to these policies. The project would have a **less than significant** impact on the capacity of the wastewater treatment provider to serve the Project's projected demand in addition to their existing commitments and the project would have a **less than significant** impact on the environment in regards to potential effects from the relocation or construction of new or expanded wastewater facilities to accommodate the Project.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy CF-1a: Review updates to the Sonoma Valley County Sanitation District sewer plans to ensure that adequate levels of service are maintained under existing and buildout conditions.

Policy CF-1c: Require development, infrastructure, and long-term planning projects to be consistent with all applicable County and service provider infrastructure master plans.

Policy CF-1d: Require development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development.

Policy CF-1e: Require development projects to install off-site infrastructure or pay appropriate in-lieu fees to ensure adequate infrastructure capacity to serve the project.

Policy CF-1f: Require new utilities in the Plan area to be installed underground.

Policy CF-1f: Require all future development projects sized beyond existing size and density to obtain written verification of availability of water and wastewater capacity.

3.14.2 WATER SUPPLIES

ACRONYMS

AFY	acre-feet per year
cfs	cubic feet per second
DWR	Department of Water Resources
GSA	Groundwater Sustainability Agency (a County agency)
mgd	million gallons per day
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
SCWA	Sonoma County Water Agency
SGMA	Sustainable Groundwater Management Act
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan

ENVIRONMENTAL SETTING

The Valley of the Moon Water District (Water District) provides water services to development in the Plan area. The Water District's service area extends from the Trinity Oaks Subdivision in the north to the Temelec Subdivision in the south. The service area encompasses approximately 11.8 square miles and includes residential and commercial customers. The 2015 UWMP indicates that the Water District service area population is projected to increase from 23,782 (2015) to 26,300 persons by 2040. At the time of the Notice of Preparation, the Water District was in the process of updating its UWMP. The Springs Draft EIR was prepared based on the most recent plan (2015 UWMP) that was available at the time of preparation. Staff requested and received a supplemental memo from Sonoma Water in 2019 that included updated analysis based on projected proposed growth in the Springs Area Specific Plan. Since then, the 2020 UWMP was subsequently adopted in June, 2021. The 2020 UWMP expands the forecast population through 2040 to 31,081, which is based on the forecasted buildout of the Project in addition to other factors.

WATER SUPPLIES

The Water District manages the distribution, operation, and maintenance of the water supply system that would serve the Project. Its water sources, treatment facilities, and distribution system are described in this section.

SCWA Wholesale Water

As reported in its 2015 UWMP, the Water District primarily relies upon surface water purchased from the SCWA to meet customer demands. Local groundwater production from wells owned and leased by the District comprises the remaining portion of the District's water supply portfolio. Under normal conditions, approximately 85 percent of the District's water supply is surface water purchased from the SCWA. The District does not have any recycled water sources to supplement its supply.

The SCWA is currently authorized by the SWRCB to store up to 245,000 AFY of water in Lake Sonoma and up to 122,500 AFY in Lake Mendocino. Per a series of four permits issued by the SWRCB, the SCWA may divert and redivert 180 cubic feet per second (cfs) of water, up to a maximum of 75,000 AFY, from the Russian River at the SCWA's Wohler and Mirabel facilities and other points of diversion.

The SCWA storage and transmission system is supplied water from the natural flow of the Russian River. This water is stored in Lake Sonoma, behind Warm Springs Dam, and in Lake Mendocino, behind Coyote Dam. The design water supply pool capacities of Lake Sonoma and Lake Mendocino are 245,000 AFY and 122,500 AFY, respectively. The SCWA uses approximately 14 miles of the natural channel of Dry Creek and approximately eight miles of the Russian River to convey water from Lake Sonoma to its diversion facilities. The diverted river water percolates through sand and gravel and only needs the addition of chlorine to meet the California Drinking Water Program quality standards.

The SCWA also owns and operates three groundwater supply wells located in the Santa Rosa Plain Subbasin of the Santa Rosa Valley Groundwater Basin. These groundwater wells are located along the Russian River-Cotati Intertie Pipeline and are used to supplement the SCWA water supply.

The Water District's water supply is conveyed through ten turnouts (where water is released) from the Sonoma Aqueduct, which is owned and operation by the SCWA. The District's distribution system contains approximately 92 miles of water mains ranging in size from less than 2 inches to 14 inches in diameter, with more than 95 percent between 4 and 12 inches in diameter.

The Water District's water distribution system has 11 pressure zones. The majority of the Water District's customers that are located on the valley floor are served from the SCWA aqueduct pressure, while customers in the higher elevations of the Sonoma Valley are served by separate pressure zones. The District's infrastructure assets include 10 turnouts from the Sonoma aqueduct owned and operated by the SCWA, 7 groundwater wells, 10 pumping stations, and 15 storage tanks. The Water District's water supply is conveyed through these 10 turnouts. Pressure for the aqueduct in this region is provided by Sonoma Booster Pump Stations No. 1 and No. 2, located on the east side of Spring Lake.

Groundwater

The Water District is located within the Sonoma Valley Groundwater Subbasin 2-002.02 and is a subbasin of the Napa-Sonoma Valley Groundwater Basin (DWR 2-002). The Basin is not adjudicated and has not been identified by the DWR as a critically over-drafted groundwater basin.

The SGMA of 2014, the first comprehensive groundwater legislation in California history, was enacted on September 16, 2014. The legislation provides a framework for the sustainable management of groundwater by local agencies, with an emphasis on the preservation of local control. The state agencies primarily responsible for implementing SGMA are DWR and the SWRCB. At the time of publication of the NOP for this DEIR, the Napa-Sonoma Basin was listed as a medium priority basin and therefore subject to the requirements of SGMA. In the 2019 prioritization update, DWR designated the Sonoma Valley Groundwater Subbasin as high priority. The Sonoma Valley GSA is a public agency formed to sustainably manage groundwater in the Sonoma Valley Groundwater Basin. The agency was formed in June 2017 and has a Board of Directors, an administrator, and an advisory committee. The development of a Groundwater Sustainability Plan is scheduled to be completed by January 31, 2022 and is currently in process.

Analysis of groundwater data has highlighted two groundwater depression zones in the Sonoma Valley. Management efforts in these areas to date have included informational meetings with impacted parties,

community messaging, and voluntary conservation. It is expected that, as the groundwater management program moves from voluntary to mandatory, additional actions will be required to address these areas.

Supply Source and Contractual Provisions

The Water District is one of eight Water Contractors that hold water supply contracts with the SCWA under the Restructured Agreement for Water Supply. The Restructured Agreement was executed in 2006 and generally provides for the finance, construction, and operation of existing and new diversion facilities, transmission lines, storage tanks, booster pumps, conventional wells, and appurtenant facilities. The term of the Restructured Agreement is through 2037 and can be extended by amendment.

Under the Restructured Agreement, the Water District is entitled to 3,200 AFY, with an average daily rate of flow during any month of 8.5 mgd. Provided the supply is available, the Restructured Agreement permits the District to take delivery of water in excess of its entitlement during a given month, provided specific conditions from the Agreement are met.

Emergency Connections

In accordance with the Emergency Services Act, the Water District has developed an Emergency Operations Plan that guides response to unpredicted catastrophic events which might impact water delivery, including regional power outages, earthquakes, and other disasters. The Emergency Operation Plan outlines standard operating procedures for all levels of emergency, from minor accidents to major disasters. The Emergency Operation Plan has been coordinated with the SCWA and neighboring water purveyors. However, emergency connection infrastructure is missing and may be needed in the future.

Water transfers between SCWA's Water Contractors are authorized under the Restructured Agreement. Such transfers have been utilized in the past out of necessity and may be needed in the future.

Service Area Information and Population Projections

The Water District's service area is in Sonoma County, approximately 50 miles north of San Francisco, and is adjacent to the City of Sonoma. The service area encompasses approximately 11.8 square miles and includes residential and commercial customers. Elevations in the service area range from approximately 90 feet to 1,190 feet above mean sea level.

The Water District's service area climate is typical of the Napa and Sonoma County areas, characterized by summers that are dry and warm, and winters that are relatively mild with most rainfall occurring during this season. Average annual evapotranspiration is 46.1 inches and average annual rainfall is 29.4 inches. The temperature ranges from an average minimum of 44.2 °F to an average maximum of 73.7 °F.

The water supply assessment (WSA) prepared for the Project (Appendix D of this Draft EIR) uses the population projections contained in the Water District's 2015 UWMP, whereby the District's 2015 and 2020 service area population was estimated to be 23,782 and 24,873, respectively. The District's year 2015 and projected service area population is summarized in Table 3.14-2 in five-year increments through the year 2040. The percent increases for the population growth are also listed.

TABLE 3.14-2: DISTRICT CURRENT AND PROJECTED POPULATION

	2015[1]	*2020[2]*	*2025[2]*	*2030[2]*	*2035[2]*	*2040[2]*
Service Area Population	23,782	24,873	25,229	25,586	25,943	26,300
Population Increase (%)	--	4.6%	1.4%	1.4%	1.4%	1.4%

NOTES:

[1] 2015 DATA IS CALCULATED BASED ON A PERSONS-PER-CONNECTION METHOD.

[2] PROJECTED POPULATIONS ARE BASED ON SONOMA COUNTY DRAFT GENERAL PLAN 2005 ESTIMATES.

SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

Water Supply Projections

The Water District purchases potable water from the SCWA to meet most of the water demands within the service area. The District owns and/or operates a total of seven municipal production wells, five of which are currently active, with capacities ranging from 90 gpm to 300 gpm. The District will continue to use its wells to supplement its purchased SCWA water but plans to decrease the use of the wells over time as the District implements additional water conservation programs. Groundwater production will be expanded to meet demands in the case of a drought or a decrease in SCWA water supply.

The Water District plans to continue to purchase wholesale water from SCWA, while monitoring its production of groundwater. The District does not anticipate developing additional long-term water supplies from other sources in the near future. Water supplies from the SCWA through 2040 are projected to be equivalent to the District's entitlement of 3,200 AFY, established in the Restructured Agreement and effective through 2037. The District has the capacity to meet the demands of its customers in wet and normal years based on supplies from SCWA and groundwater.

During periods of shortage, Section 3.5 of the SCWA Restructured Agreement provides a method for allocating water among the various Water Contractors and other customers of the SCWA water supply. On April 18, 2006, SCWA's Board of Directors adopted Resolution No. 06-0342, which approved a methodology for allocating water in the event of a water supply shortage or in the event of a temporary impairment of the capacity of SCWA's transmission system. This methodology first restricts the delivery of surplus water and then caps water deliveries to each Water Contractor at its respective annual entitlement. If further reductions are required, Section 3.5 of the Restructured Agreement provides a guaranteed supply to each Water Contractor equal to the quantity of water required for human consumption, sanitation, and fire protection. The remaining water is then allocated to each Water Contractor proportionately based up their respective annual entitlements, up to a maximum equal to its "reasonable requirement." SCWA supply and Water District groundwater projections for normal years are presented in Table 3.14-3.

TABLE 3.14-3: WATER DISTRICT CURRENT AND PROJECTED WATER SUPPLIES

	2015[1]	*2020[2]*	*2025[2]*	*2030[2]*	*2035[2]*	*2040[2]*
SURFACE WATER SUPPLIES						
Total SCWA Supplies (AFY)	1,947	3,200	3,200	3,200	3,200	3,200
Percent Normal (%)	N/A	100%	100%	100%	100%	100%

	2015[1]	*2020*[2]	*2025*[2]	*2030*[2]	*2035*[2]	*2040*[2]
GROUNDWATER SUPPLIES						
Total Groundwater Supplies (AFY)	581	450	327	232	100	100
Percent Normal (%)	N/A	100%	100%	100%	100%	100%
Total Supplies	**2,528**	**3,650**	**3,527**	**3,432**	**3,300**	**3,300**
Percent of Normal	**N/A**	**100%**	**100%**	**100%**	**100%**	**100%**

NOTES:
[1] 2015 DATA IS CALCULATED BASED ON ACTUAL NUMBERS FROM THE DISTRICT'S 2015 UWMP.
[2] PROJECTIONS ARE FROM THE DISTRICT'S 2015 UWMP, TABLE 6-2.
SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

The SCWA and its Water Contractors are in the process of updating the water shortage allocation methodology. The water supply reliability projections presented in this Plan reflect the new methodology as it is likely to govern supply allocations during periods of water shortage over the forecast timeframe. The updated methodology utilizes the same allocation principles established under the Restructured Agreement but refines the calculation of the human health demands and reasonable requirements. Under the proposed revised methodology, the District's human health, sanitation, and fire flow needs are determined to be 1,716 AFY, whereas its reasonable requirement is 2,908 AFY. Based on the annual entitlements included in the Restructured Agreement, the District's Annual Entitlement of 3,200 AFY represents 4.1 percent of the total entitlements of all Water Contractors (77,445 AFY). Therefore, in the event of a water supply reduction imposed by SCWA, the District will receive its human health needs of 1,716 AFY plus 4.1 percent of the remaining water supply, up to a maximum of 2,908 AFY. The SCWA provided the District with water supply reliability projections for use in its UWMP.

The District's SCWA water supply represents its anticipated supply allocations based upon the allocation methodology described previously. Per the allocation methodology, the District is expected to receive its reasonable requirement of 2,908 AFY during the projected supply reductions occurring after 2025. The District anticipates receiving between 91 and 100 percent of its total projected water supply in single dry years over the forecast timeframe.

No SCWA supply reductions and no groundwater supply reductions are projected to occur during multiple dry years over the forecast timeframe. The Water District anticipates receiving 100 percent of its total projected water supply in all multiple dry year scenarios during this time.

Table 3.14-4 shows projected supply for the Water District for a normal year, single dry year, and for five consecutive dry years, as reported in the Water Supply Assessment prepared for the Project. During the periods of supply reductions, specifically, a single dry year, the District will have to implement the Water Shortage Contingency Plan (WSCP) to reduce demand. The District WSCP describes the triggering levels and actions to be considered for each stage of demand reduction. As detailed in the next section, the plan has four stages with each stage set to respond to increasingly more severe conditions. Therefore, the system demand will decrease to meet the reduced allocations by SCWA.

TABLE 3.14-4: DISTRICT PROJECTED WATER SUPPLIES PER 2015 UWMP

	2015[1]	*2020*[2]	*2025*[2]	*2030*[2]	*2035*[2]	*2040*[2]
SINGLE DRY YEARS						
SURFACE WATER SUPPLIES						
Total SCWA Supplies (AFY)	1,947	3,200	2,908	2,908	2,908	2,908
Percent Normal (%)	N/A	100%	91%	91%	91%	91%

	2015[1]	*2020[2]*	*2025[2]*	*2030[2]*	*2035[2]*	*2040[2]*
GROUNDWATER SUPPLIES						
Total Groundwater Supplies (AFY)	581	450	327	232	100	100
Percent Normal (%)	N/A	100%	100%	100%	100%	100%
Total Supplies	**2,528**	**3,650**	**3,235**	**3,140**	**3,008**	**3,008**
Percent of Normal	**N/A**	**92%**	**91%**	**91%**	**91%**	**91%**
MULTIPLE DRY YEARS (YEARS 1-4)[3]						
SURFACE WATER SUPPLIES						
Total SCWA Supplies (AFY)	1,947	3,200	3,200	3,200	3,200	3,200
Percent Normal (%)	N/A	100%	100%	100%	100%	100%
GROUNDWATER SUPPLIES						
Total Groundwater Supplies (AFY)	581	450	327	232	100	100
Percent Normal (%)	N/A	100%	100%	100%	100%	100%
Total Supplies	**2,528**	**3,650**	**3,527**	**3,432**	**3,300**	**3,300**
Percent of Normal	**N/A**	**100%**	**100%**	**100%**	**100%**	**100%**

NOTES:

[1] 2015 DATA IS CALCULATED BASED ON ACTUAL NUMBERS FROM THE DISTRICT'S 2015 UWMP.

[2] PROJECTIONS ARE FROM THE DISTRICT'S 2015 UWMP, TABLES 6-4 AND 6-6.

[3] THE WATER SUPPLY NUMBERS FOR YEARS 1-4 ARE THE SAME AND INCLUDE THE MULTIPLE DRY YEARS FIRST YEAR SUPPLY.

SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

District Water Shortage Contingency Plan

The Water District WSCP was revised on April 7, 2015 to address day per week water restrictions that were mandated by the SWRCB. Among other revisions, the current version of the WSCP includes a new tier for residential billing and provides minor modifications to the water shortage stages. The updated WSCP also gives the District additional flexibility to address supply shortfalls that may result from, but are not limited to: droughts, extreme weather events, natural disasters, extended power outages, reduced deliveries from the SCWA, and regulatory droughts.

The District's increasingly stringent stages of action for responding to reduced supply in a water shortage are summarized below. Stages 2, 3, and 4 of the District's WSCP are enacted through the adoption of a resolution by the District's Board of Directors.

Stage I: This is the normal stage that includes voluntary prohibitions with the goal of up to 25 percent overall reduction. This stage is a continuing effort to conserve water and includes actions such as: (a) limiting irrigation to between 8 pm and 6 am; (b) requiring a hose-end shut-off nozzle for garden or utility hoses; (c) prohibiting street washing using potable water; (d) prohibiting washing of sidewalks, patios, driveways and other hardscapes, unless for public health and safety; (e) and requiring construction dust control to use recycled water.

Stage II: This stage is mandatory with the goal of 25 percent overall reduction in water use. This stage includes actions such as: (a) adopting a rationing ordinance assigning Stage 2 allotment to each water service; (b) adopting a resolution to implement Stage 2 Water Shortage Charges; (c) increasing District staffing support, including adding a temporary position to staff phone lines, performing patrols for water waste violations, and conducting customer water use audits; and (d) increasing public education and outreach campaigns.

Stage III: This stage is mandatory with the goal of 35 percent overall reduction in water use. This stage includes actions such as: (a) adopting a rationing ordinance assigning Stage 3 allotment to each water service; (b) adopting a resolution to implement Stage 3 Water Shortage Charges; (c) increasing public education and outreach campaigns; (d) establishing a construction water demand offset program; and (e) expanding efforts to patrol for water waste violations and conducting customer water use audits.

Stage IV: This stage is mandatory with the goal of 50 percent overall reduction in water use. This stage includes actions such as: (a) adopting a rationing ordinance assigning Stage 4 allotment to each water service; (b) adopting a resolution to implement Stage 4 Water Shortage Charges; (c) increasing public education and outreach campaigns; (d) promoting participation in a construction water demand offset program; and (e) expanding efforts to patrol for water waste violations and conducting customer water use audits.

Depending on the extent of the water waste, the District may, after written notification to customer and a reasonable time to correct the violation as solely determined by the District, take action to enforce the District's water waste prevention ordinance (Ordinance No. 1007[1]) or the WSCP. Penalties, fees, and charges are established by a resolution adopted by the District's Board of Directors. While Stages 2, 3, and 4 of the WSCP are in place, customers are subject to potential enforcement action if their water use exceeds the established allotment over two consecutive billing cycles or exceeds the established allotment in three billing cycles within a twelve-month period.

Because the District has based its planning on the SCWA's current water rights and because these current water rights are more restrictive than the multiple dry year condition, a multiple dry year 3-year minimum water supply analysis would be identical to the normal water year analysis.

WATER DEMAND

Table 3.14-5 shows the future system demand projections and the difference (excess supply allocation) until 2040. As shown, available supplies are sufficient to meet system demand projections in a normal year.

The District's water demand projections were conducted as part of its 2015 UWMP Water Demand Analysis and Water Conservation Measures Update that was produced by Maddaus Water Management on July 1, 2015 and published in Appendix C of the District's 2015 UWMP. The land use and population assumptions that underpin the water use projections are based on the 2008 Sonoma County General Plan (General Plan)[2]. The population and job forecasts provided in the General Plan were relied upon for the demand projections conducted in the Maddaus Water Management demand analysis.

TABLE 3.14-5: FUTURE SYSTEM DEMAND PROJECTIONS (WITHOUT ADDITIONAL PROJECTS)

	2015[1]	*2020*	*2025*	*2030*	*2035*	*2040*
District Supplies (AFY[2])	2,528	3,650	3,527	3,432	3,300	3,300
Demand Projections with Passive and Active Conservation Savings (AFY[3])	2,528	2,937	2,905	2,850	2,846	2,850
Annual Excess (AFY)	n/a	713	622	582	454	450
Percent Excess (%)	n/a	20%	18%	17%	14%	14%

NOTES:

[1] Valley of the Moon Water District. (2000). Water Waste Prohibition Ordinance No. 1007.
[2] Sonoma County. 2008 General Plan, accessed July 2019: https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/General-Plan/

[1] *2015 DATA IS BASED ON ACTUAL DEMAND NUMBERS FROM THE DISTRICT'S 2015 UWMP.*
[2] *VALUES ARE CONSISTENT WITH 2015 UWMP TABLE 5.10 WATER SUPPLIES*
[3] *DEMAND VALUES ARE CONSISTENT WITH THE DISTRICT'S 2015 UWMP APPENDIX C WATER DEMAND ANALYSIS AND WATER CONSERVATION MEASURES UPDATE.*
SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

Projected demands include both active and passive conservation. Passive conservation refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs from the District. These savings result primarily from: (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards and (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards. Active conservation measures undertaken by the District may include rebates; these are presented in Section G of the WSA (Appendix D of this Draft EIR).

Potential Issues with Existing Infrastructure

The Valley of the Moon Water District has summarized the recommended Capital Improvement Projects needed within their service area boundary in the 2019 Water Master Plan. The recommended Capital Improvement Projects are defined to solve supply and storage deficiencies, hydraulic capacity deficiencies, and replace infrastructure that has reached the end of its useful life to facilitate the SSP. Five of the 24 connections associated with recommended capital improvement project P1 of the 2019 Water Master Plan will be replaced within the Plan area. Table 2-2 of the WSA summarizes the recommended capital improvement projects located within the Plan area.

REGULATORY SETTING

Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1974 and amended in 1986 and 1996. It is the Country's primary law regulating drinking water quality and in implemented by the U.S. Environmental Protection Agency. The Safe Drinking Water Act authorizes the U.S. Environmental Protection Agency to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health, Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the CCR, Titles 7 and 22.

Sustainable Groundwater Management Act

The SGMA directs DWR to identify groundwater basins and subbasins that are in conditions of critical overdraft. This designation is determined based upon the presence of "undesirable impacts" such as seawater intrusion, land subsidence, groundwater depletion, and chronic lowering of groundwater levels. As noted previously, the District is located within the Sonoma Valley Groundwater Subbasin 2-02.02 and is a subbasin of the Napa-Sonoma Valley Groundwater Basin (DWR 2-02). The Basin is not adjudicated and has not been identified by the DWR as a critically-over-drafted groundwater basin.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (California Water Code Sections 11950 – 11954). Consistent with California Water Code Sections

11950 – 11954, the District has implemented various water conservation efforts, as well as WSCP that identifies actions that can be taken to respond to catastrophic interruption of water supply.

California Water Code

Water Code Section 10910(f) states:

> *10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.*
>
> *10910(f)(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.*
>
> *10910(f)(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long term overdraft condition.*
>
> *10910(f)(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.*
>
> *A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.*
>
> *10910(f)(4) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.*
>
> *A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.*

Senate Bill 610

Senate Bill (SB) 610 was adopted in 2001 and reflected a growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910, et seq. The foundation document for compliance with SB 610 is the UWMP, which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a WSA required under SB 610.

Development accommodated under the Project exceeds the threshold amount identified to be subject to the WSA requirement established by SB 610 because it contemplates development of includes more than 500 residential units. The Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Thus, a WSA, as required by these criteria under SB 610, has been prepared for the Project. The WSA is included in Appendix D of this EIR.

Sonoma County Water Agency 2015 Urban Water Management Plan

The purpose of the SCWA 2015 UWMP is to address the SCWA water transmission system. The UWMP includes a description of SCWA's water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The UWMP complies with the Urban Water Management Planning Act (California Water Code Section 10610, et seq.), the Water Conservation Act of 2009 (California Water Code Section 10608), and the 20x2020 Water Conservation Plan, which are being implemented by the California DWR.

SCWA adopted a 2020 UWMP in June 2021. Consistent with CEQA requirements, this DEIR relies on data from the 2015 UWMP because that was the document that was available at the time the Notice of Preparation was published for this DEIR.

Valley of the Moon Water District 2015 Urban Water Management Plan

The purpose of the Water District's 2015 UWMP is to address the existing and future water needs of the Water District. The UWMP includes a description of the Water District's water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The UWMP complies with the Urban Water Management Planning Act (California Water Code Section 10610, et seq.), the Water Conservation Act of 2009 (California Water Code Section 10608), and the 20x2020 Water Conservation Plan, which are being implemented by the California DWR.

The Water District adopted a 2020 UWMP in June 2021. Consistent with CEQA requirements, this DEIR relies on data from the 2015 UWMP because that was the document that was available at the time the Notice of Preparation was published for this DEIR.

Sonoma County General Plan

The Sonoma County General Plan identifies the following goals, objectives, and policies related to water supplies:

PUBLIC FACILITIES AND SERVICES ELEMENT

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 1-1: Operate County water and wastewater facilities in accordance with planned growth and in compliance with applicable State and Federal standards.

Objective PF 1-2: Help resolve water problems resulting from proliferation of small water systems.

Objective PF 1-3: Limit extension of public water and sewer services into rural areas.

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.

Policy PF-1b: Prepare or encourage the preparation of master plans or equivalent documentation for all wastewater management systems prior to approval of project facilities. Design and construct all facilities in accordance with General Plans of the applicable jurisdictions. In the event that a master plan or monitoring fails to show adequate facilities or supplies for planned growth, consider moratoria on plan amendments, zoning changes, building permits or other entitlements in order to protect services to existing residents. The minimum contents necessary for an adequate master plan or equivalent documentation are:

(1) Maps showing future service area boundaries,
(2) Forecasted growth that reflects all potential sources of future demand for facilities and the relationship to General Plan projections and limits,
(3) Projected service and facility needs,
(4) Estimated costs and revenues for needed improvements,
(5) System design parameters and assumptions,
(6) A program for water use reduction,
(7) A program to reduce storm water infiltration, and
(8) A program to monitor and account for amendments of the General Plan Land Use Map over time.

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.

Policy PF-1h: Avoid extension of public water service to a property that is outside of both the Urban Service Area and sphere of influence of the water provider. Consider exceptions to this policy, to the extent allowed by law, only:

(1) Where necessary to resolve a public health hazard resulting from existing development such as failing wells or groundwater contamination, or
(2) Where water service is to be extended for a property which is located within a water district boundary in effect in November, 2003, or
(3) Where appropriate to allow an affordable housing project providing exclusively lower income housing on properties adjoining Urban Service Boundaries.

Policy PF-1i: Use the following guidelines for any exception allowed by Policy PF-1h:

(1) Size facilities to serve development consistent with the General Plan,
(2) Require written certification that adequate service capacity is available for the use to be connected to the system or planned to be connected in the future, and
(3) Utilize out-of-service area agreements rather than annexations.

WATER RESOURCES ELEMENT

GOAL WR 2: Manage groundwater as a valuable and limited shared resource.

Objective WR 2.1: Conserve, enhance and manage groundwater resources on a sustainable basis that assures sufficient amounts of clean water required for future generations, the uses allowed by the General Plan, and the natural environment.

Objective WR 2.2: Develop a scientifically based program to collect the data needed to assess and understand groundwater conditions.

Objective WR 2.3: Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.

Objective WR 2.4: Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.

Policy WR-2a: Encourage and support research on and monitoring of local groundwater conditions, aquifer recharge, watersheds and streams where needed to assess groundwater quantity and quality.

Policy WR-2b: Initiate and support educational programs to inform residents, agriculture, businesses and other groundwater users of best management practices in the areas of efficient water use, water conservation, and increasing groundwater recharge.

Policy WR-2c: Work with well drillers and other parties familiar with groundwater conditions in Sonoma County to develop well permit standards in order to:

(1) Improve the data obtained from well permit applications on locations, depths, yield, use, flow direction where appropriate, and water levels of proposed and existing wells on the site.
(2) Establish standards to reduce the potential for well interference and drawdown.

(3) Ensure sufficient groundwater quantity and quality for existing and proposed uses using the subject well through standards for pump tests, well yields, pollutant levels, and water storage, particularly for higher capacity wells.
(4) In areas where a groundwater management plan has been approved and has been accepted by the County, require the issuance of well permits and any limitations imposed on well permits to be consistent with the adopted plan.

Policy WR-2d: Continue the existing program to require groundwater monitoring for new or expanded discretionary commercial and industrial uses using wells. Where justified by the monitoring program, establish additional monitoring requirements for other new wells.

Policy WR-2e: Require proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas. 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 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.

Policy WR-2f: Require that discretionary projects in Urban Service Areas maintain the site's pre-development recharge of groundwater to the maximum extent practicable. Develop voluntary guidelines for rural development that would accomplish the same purpose.

Policy WR-2g: In cooperation with Sonoma County Water Agency (SCWA), DWR, and other public agencies and well owners, support the establishment and maintenance of a system of voluntary monitoring of wells throughout the county, utilizing public water system wells and private wells where available. Encourage participation in voluntary monitoring programs, and, if funds are available, consider funding of well monitoring where determined necessary in order to stimulate participation.

Policy WR-2h: In cooperation with SCWA, DWR and other public agencies, support the establishment and maintenance of a groundwater data base from available application data, well tests, monitoring results, study reports and other sources; analyze the data collected in an annual report to the Board; provide the data to DWR; and use the data along with other available information to refine the mapping of groundwater availability classifications. Protect the proprietary nature of well drilling data and release it only in summary form.*

Policy WR-2i: In order to identify areas where groundwater supplies may be declining, in the annual report review well permit data, monitoring data and reported problems and recommend to the Board of Supervisors areas where comprehensive groundwater studies are needed. As part of the first annual report, consider the recommendations of the recently completed groundwater studies in the Joy Road, Mark West Springs, and Bennett Valley areas, as well as the Sonoma Valley Groundwater Management Plan. In each such special study area that is approved by the Board

following a public hearing, develop a comprehensive groundwater assessment that includes the following:

(1) An existing system of monitoring wells and stream gauges,
(2) Locations of water wells,
(3) Available data on groundwater and surface water levels and contamination,
(4) Maps and graphs that show past and present data and changes in precipitation, imports, groundwater levels, groundwater quality, rates of extraction, and the relationship of groundwater to surface water,
(5) Drillers' logs, geologic data and monitoring data needed to estimate water yields in the area,
(6) Estimated future rates of imports, recharge, extraction, exports, changes in groundwater levels, and possible changes in groundwater quality,
(7) A water budget for the area that estimates the total amount of water gain or loss in the area,
(8) Any needed changes in well monitoring, data collection and reporting, and
(9) Provisions for applicant fees and other funding of County costs.

If an area assessment, as defined above, demonstrates a need for additional management actions to address groundwater problems, prepare a plan for managing groundwater supplies pursuant to the California Water Code or the County's land use or other legal authority. Include involvement by the affected water users, well drillers, local agencies, private water companies and landowners. In recognition of concerns regarding the potential for overdraft condition in the south Santa Rosa Plain groundwater basin, give a high priority to preparation of a groundwater assessment and adoption of a management plan or other appropriate actions in this area prior to approval of any city annexations and changes in land use or density in this area of the county.

Policy WR-2j: Cooperate with the incorporated Cities, SCWA, DWR, US Geological Survey, well drillers, and all water users and purveyors in the development of a comprehensive groundwater assessment for each major groundwater basin in the county and the priorities, sequence and timing for such studies. Prepare such assessments to meet the applicable requirements of the California Water Code for a "groundwater management plan" and, where appropriate, include the following:

(1) Computer models of groundwater recharge, storage, flows, usage and sustainable yield,
(2) Assessment of nitrates, boron, arsenic, saltwater and other water quality contaminants,
(3) Analysis of resource limitations and relationships to other users for wells serving public supply systems and other large users,
(4) Opportunities for changing the sources of water used for various activities to better match the available resources and protect groundwater,
(5) Possible funding sources for monitoring, research, modeling and development of management options, and
(6) Provisions for applicant fees and other funding of County costs.

If a basin assessment indicates that future groundwater availability, water quality and surface water flows may be threatened and there may be a need for additional management actions to address groundwater problems, prepare a plan for managing groundwater supplies which may require limitations on water extraction and use and other special standards for allowed development, wells, extraction or use. Consideration of new management actions shall include

involvement by the interests and parties stated above in development of alternatives addressing specific problems and a review of legal and fiscal issues for each alternative.

Policy WR-2k: Encourage and support comprehensive studies of long term changes in climate and precipitation patterns in the county and region.

Policy WR-2l: Increase institutional capacity and expertise within the County to competently review hydrogeologic reports and data for critical indicators and criteria.

Policy WR-2m: Work with SWRCB, DWR, California Department of Health Services (DHS), CalEPA, public water suppliers, and applicable County and City agencies to seek and secure funding sources for development of groundwater assessment, protection, enhancement and management programs.

Policy WR-2n: Where area studies or monitoring find that land subsidence has occurred, support analysis of how the subsidence is related to groundwater extraction and develop a groundwater management plan or other appropriate actions, where practicable, to avoid further subsidence.

GOAL WR 3: Encourage public water systems and their sources to provide an adequate supply to meet long term needs that is consistent with adopted general plans and urban water management plans and that is provided in a manner that maintains water resources for other water users while protecting the natural environment.

Objective WR 3.1: Assist public water suppliers in the collection and dissemination of surface and groundwater data and the assessment of available water supplies and protection of water quality.

Objective WR 3.2: Work with public water suppliers in the development and implementation of long term plans for water supply, storage, and delivery necessary to first meet existing water demands and, secondly, to meet planned growth within the designated service areas, consistent with the sustainable yield of water resources.

Objective WR 3.3: Work with public water suppliers to balance reliance on groundwater and surface water to assure the sustainability of both resources.

Policy WR-3a: Work with public water suppliers in assessments of the sustainable yield of surface water, groundwater, recycled water and conserved water, including during possible drought periods. This work should include the exploration of potentially feasible alternative water supplies. Surface and groundwater supplies must remain sustainable and not exceed safe yields.

Policy WR-3b: Support to the extent feasible the actions and facilities needed by public water suppliers to supply water sufficient to meet the demands that are estimated in adopted master facilities plans, consistent with adopted general plans, urban water management plans and the sustainable yields of the available resources and in a manner protective of the natural environment.

Policy WR-3c: Request technical assistance and water resource data from public water suppliers and share available water resource information with them and the public.

Policy WR-3d: Assist public water suppliers in complying with Federal and State water quality standards by assuring that water sources used for public water systems are not contaminated by land uses or pollutants in the watershed, by supporting continued study and monitoring of water quality, and by encouraging acquisition of critical watershed areas by the suppliers or the Sonoma County Agricultural Preservation and Open Space District.

Policy WR-3e: Work with public water suppliers in developing and implementing wellhead protection plans.

Policy WR-3f: Support water conservation and education programs with measurable targets for public water suppliers.

Policy WR-3g: Assist public water suppliers in assuring that proposed water supplies and facilities are consistent with adopted general plans, that all planning jurisdictions are notified of and consider potential water supply deficiencies during the preparation of such plans, and that adopted general plans accurately reflect secure water sources.

Policy WR-3h: Help public water suppliers to disseminate and discuss information on the limits of available water supplies, how the supplies can be used efficiently, the possible effects of drought conditions, acceptable levels of risk of shortage for various water users, priorities for allocation of the available water supply, conditions for use of limited supplies, and limits of alternate sources that could be used or developed.

Policy WR-3i: Prepare or encourage the preparation of master facilities plans, and urban water management plans where required by State law, for all public water suppliers to design and construct all facilities in accordance with sustainable yields and the general plans of applicable jurisdictions. A master facilities plan should contain but not be limited to the following:

(1) Maps showing future service area boundaries,
(2) Forecasted growth and relationship to General Plan projections and limits,
(3) Projected service and facility needs,
(4) Estimated costs and revenues for needed improvements,
(5) System design parameters and assumptions,
(6) Monitoring and mitigation measures to assure long-term adequacy of sources, including during possible drought conditions, and
(7) Water conservation measures.

In the event that a master plan or monitoring fails to show adequate public water facilities or supplies for planned growth, consider moratoria on plan amendments, zoning changes, building permits or other entitlements in order to protect services to existing residents.

Policy WR-3j: Seek to maintain consistency between the Sonoma County General Plan, adopted groundwater management plans and the master facilities plans of public water suppliers through meetings between staff of PRMD and public water suppliers, PRMD review of proposed master facilities plans, and referral of General Plan changes to all public water suppliers.

Policy WR-3k: Cooperate with public water suppliers in the planning, development and construction of the storage and transmission facilities needed to supply water pursuant to adopted General Plan policies, urban water management plans, water supply agreements, master facilities plans, and, where applicable, programs to mitigate identified groundwater overdraft conditions.

Policy WR-3l: Pursuant to the requirements of Government Code 65400-65402, request that local public agencies that are public water suppliers, including cities, county-dependent districts, special districts and other local public agencies, consult with the County prior to acquiring a site or developing any well or facilities for public water supplies in the unincorporated area and request a determination of consistency with the Sonoma County General Plan.

Policy WR-3m: Encourage public water suppliers that are developing or have adopted groundwater management plans to monitor and report groundwater levels, yields and other information on groundwater conditions.

Policy WR-3n: Encourage public water suppliers who currently utilize water from the SCWA system to balance their use of surface water and groundwater so that environmental impacts and impacts on other legal water users are minimized.

Policy WR-3o: Encourage public water suppliers to avoid or minimize significant adverse impacts on the environment resulting from water supply, storage and transmission facilities, including impacts on other water users.

Policy WR-3p: Involve public water suppliers in any development of area studies, groundwater management plans and general plans in order to assure full compliance by suppliers with the groundwater management plans and mitigation measures.

Policy WR-3q: Support cooperative inter-regional planning efforts by the public water suppliers, their contractors, other existing water users and Sonoma County to consider future demand projections concurrently with the availability of sustainable water supplies.

Policy WR-3r: Work with the SCWA in the following ways to provide an adequate water supply for its contractors consistent with this element:

(1) Support SCWA participation in proceedings of the Federal Energy Regulatory Commission, California Public Utilities Commission, and State Water Resources Control Board involving the Potter Valley Project to ensure that the interests of all water users in Mendocino, Sonoma, and Marin Counties receive consideration and that decisions on the use of Eel River water are made on a sound scientific basis.
(2) Encourage SCWA to work cooperatively with Mendocino County interests to resolve water resource issues, including assessment of water resource projects, water supply alternatives, and use of recycled water.
(3) Work with all water users along the Russian River and its tributaries to encourage development of water supply alternatives for existing water users.

Policy WR-3s: Cooperate with public water suppliers in the planning, development and construction of the storage and transmission facilities needed to serve projected demand consistent with adopted general plans.

Sonoma County Code

Pursuant to Government Code section 65591 et seq., Chapter 7D3 of the County Code adopts the California Department of Water Resources' Model Water Efficient Landscape Ordinance as the Sonoma County Water Efficient Landscape Regulations. The intent of the Water Efficient Landscape Regulations ordinance is to:

(1) promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;
(2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects;
(3) establish provisions for water management practices and water waste prevention for existing landscapes;
(4) use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount;
(5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies;
(6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and
(7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on the environment associated with Utilities if it will:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-2: Implementation of the Project would not require or result in the relocation of new or expanded water facilities, and would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (Less than Significant)

Implementation of the Project would result in increased population and employment growth within the Plan area, and a corresponding increase in the demand for additional water supplies. A WSA was prepared to determine the Project's water demand and to address the adequacy of the Water District's water supply to serve the Project. The Project's projected water demand is based on its proposed land uses, as summarized in Table 3.14-6.

TABLE 3.14-6: PROJECT WATER DEMAND (AFY)

LAND USE CATEGORY	*CONNECTION FACTOR*	*WATER DEMAND PER CONNECTION (AFY)*	*NET NEW DEVELOPMENT*	*PROJECTED CONNECTIONS*	*NET WATER DEMAND INCREASE*
Single Family Units	1 per unit	0.26681	88 units	88	23.5
Multifamily Units	1 per 10 units	1.13296	461units	46	52.2
Work/Live & Mixed Use Units	1 per 12 units	1.13296	157 units	13	14.8
Commercial Square Feet	1 per 4,000 s.f.	1.14525	168,029 sf	42	48.1
Office Square Feet	1 per 3,500 s.f.	1.14525	82,226 sf	23	26.9
Hotel Rooms	1 per 0.525 rooms	0.26681	120 rooms	63	16.8
Recreation Square Feet	1 per 4,450 s.f.	1.6258	26,648 sf	6	9.6
Mixed Use Irrigation	3 total	1.6258	-	3	4.9
Commercial Irrigation	6 total	1.4898	-	6	8.9
TOTAL DEMAND					**205.8**

SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019; DE NOVO PLANNING GROUP, 2021

Complete buildout of the Plan area under the Project is estimated to be developed according to the following approximate schedule:

- 25 percent between 2020 and 2025;
- 25 percent between 2025 and 2030;
- 25 percent between 2030 and 2035;
- 25 percent between 2035 and 2040.

The complete buildout of the Plan area is estimated to require approximately 205.8 AFY of additional water demand. Development is expected to occur gradually over the next 20 years. Table 3.14-7 shows the total projected annual additional demand generated from future buildout of the Plan area.

TABLE 3.14-7: ANNUAL ADDITIONAL FUTURE WATER DEMANDS FROM PROJECT (AFY)

	2020	*2025*	*2030*	*2035*	*2040*
Project Future Water Demand	-	51.2	102.4	154.6	205.8

NOTE: THIS IS THE TOTAL NET INCREASE IN DEMAND DUE TO THE PROJECT. THE REMOVAL OF THREE EXISTING SINGLE-FAMILY UNITS IS INCLUDED IN THIS ESTIMATE

SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

Table 3.14-8 shows the total system demand projected for the District including the demand from the Project. The total system demand is calculated by adding the net demand generated from the Project from Table 3.14-7 to the system demand projections.

TABLE 3.14-8: TOTAL SYSTEM DEMAND WITH ADDED PROJECT, NO DROUGHT

	2015[1]	*2020*	*2025*	*2030*	*2035*	*2040*
Demand Projection for District with Passive and Active Conservation (AFY)	2,528	2,937	2,905	2,850	2,846	2,850
Net Demand from Additional Project (AFY)	N/A	-	51.2	102.4	154.6	205.8
Total System Demand (AFY)	2,528	2,937	2,956.2	2,952.4	3,000.6	3,055.8
Supply Assurance (AFY)	2,528	3,650	3,527	3,432	3,300	3,300
Estimated Remaining Supply (AFY)	N/A	713	570.8	479.6	299.4	244.2

	2015[1]	*2020*	*2025*	*2030*	*2035*	*2040*
Est. Remaining Supply Reliability (%)	N/A	20%	16%	14%	9%	7%

NOTE: 2015 DATA IS BASED ON ACTUAL NUMBERS FROM THE DISTRICT'S 2015 UWMP.
SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

COMPARISON OF SUPPLY VERSUS DEMAND

Table 3.14-9 shows a comparison of the supply allocations from Table 3.14-4 and projected total system demands from Table 3.14-8, through the 20-year planning horizon as required by SB 610.

As discussed previously (Table 3.14-4), the Water District anticipates receiving between 91 and 100 percent of its total projected water supply in single dry years over the forecast timeframe. Furthermore, no SCWA supply reductions and no groundwater supply reductions are projected to occur during multiple dry years over the forecast timeframe. To meet the reductions in a single dry year, the Water District will have to cut back its consumption in kind by implementing the WSCP based on the severity of the drought. The Water District's WSCP describes the triggering levels and actions to be considered for each stage of demand reduction. The plan has four stages with each stage set to respond to increasingly severe conditions.

As shown in Table 3.14-9, there will continue to be sufficient supplies to meet all projected demand, including the additional demand generated from the Project, in the future condition scenarios. This conclusion is dependent on the Water District implementing the mandatory demand reductions as outlined in the District's WSCP and in the WSA.

In the event of drought conditions, the Water District would implement the WSCP, which would result in reduced water demand of up to 50 percent within the service area. The WSCP would ensure an adequate water supply within the Water District service area if SCWA reduces water deliveries by up to 10 percent (as could occur during a single drought year). For instance, a two percent reduction in water demand would reduce the overall demand during a single dry year to approximately 2,998 AFY in 2040, with the new projects built out, as shown in Table 3.14-9. The anticipated supply that year, considering the reduction in water supplies from SCWA, would be 3,008 AFY, as shown in Table 3.14-4. Thus, even under a single dry year scenario starting in 2040, the District would be estimated to provide adequate water to all existing and anticipated development and maintain a small estimated water surplus of 10 AFY. However, as stated, no such SCWA or groundwater supply reductions are projected to occur during multiple dry years over the forecast timeframe.

TABLE 3.14-9: ANNUAL SUPPLY ALLOCATION VS. MULTIPLE DRY YEARS DEMAND INCLUDING DEMAND REDUCTIONS

YEAR		NORMAL YEAR (AFY)	SINGLE DRY YEAR (AFY)	MULTIPLE DRY YEARS (AFY)				
				YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
			DEMAND REDUCTION (%)					
			2%	0%	0%	0%	0%	0%
2020	Supply Assurance	3,650	3,650	3,650	3,650	3,650	3,650	3,650
	Demand (NOT including Project)	2,937	2,879	2,937	2,937	2,937	2,937	2,937
	Demand (including Project)	2,937	2,879	2,937	2,937	2,937	2,937	2,937
	Excess (NOT including Project)	713	771	713	713	713	713	713
	Excess (including Project)	*713*	*771*	*713*	*713*	*713*	*713*	*713*
2025	Supply Assurance	3,527	3,235	3,527	3,650	3,650	3,650	3,650
	Demand (NOT including Project)	2,905	2,847	2,905	2,905	2,905	2,905	2,905
	Demand (including Project)	2,957	2,898	2,957	2,957	2,957	2,957	2,957
	Excess (NOT including Project)	622	388	622	745	745	745	745
	Excess (including Project)	*570*	*337*	*570*	*693*	*693*	*693*	*693*
2030	Supply Assurance	3,432	3,140	3,432	3,432	3,432	3,432	3,432
	Demand (NOT including Project)	2,850	2,793	2,850	2,850	2,850	2,850	2,850
	Demand (including Project)	2,955	2,896	2,955	2,955	2,955	2,955	2,955
	Excess (NOT including Project)	582	347	582	582	582	582	582
	Excess (including Project)	*477*	*244*	*477*	*477*	*477*	*477*	*477*
2035	Supply Assurance	3,300	3,008	3,300	3,300	3,300	3,300	3,300
	Demand (NOT including Project)	2,846	2,789	2,846	2,846	2,846	2,846	2,846
	Demand (including Project)	3,002	2,942	3,002	3,002	3,002	3,002	3,002
	Excess (NOT including Project)	454	219	454	454	454	454	454
	Excess (including Project)	*298*	*66*	*298*	*298*	*298*	*298*	*298*
2040	Supply Assurance	3,300	3,008	3,300	3,300	3,300	3,300	3,300
	Demand (NOT including Project)	2,850	2,793	2,850	2,850	2,850	2,850	2,850
	Demand (including Project)	3,059	2,998	3,059	3,059	3,059	3,059	3,059
	Excess (NOT including Project)	450	215	450	450	450	450	450
	Excess (including Project)	*241*	*10*	*241*	*241*	*241*	*241*	*241*

SOURCE: MADDAUS WATER MANAGEMENT, 2019; EBA ENGINEERING, 2019.

SUPPLY AND DEMAND CONCLUSION

The WSA demonstrates that the water demand associated with the Project could be accommodated during a single dry year through implementation of the mandatory demand reductions as outlined in the District's WSCP. The WSCP allows for up to 50 percent demand reduction. After year 2035, in a single dry year, the projected water demand, including existing customers, forecasted development, and the Project, may require a two percent reduction in use by Water District customers to balance supply and demand. In order to achieve a two percent reduction in use during a single dry year, the District will have to implement the WSCP to reduce demand. The District WSCP describes the triggering levels and actions to be considered for each stage of demand reduction.

The Project's water demand would be within the anticipated supply range for the Water District and would not lead to insufficient water supplies in existing entitlements and resources or require new or expanded entitlements.

WATER FACILITIES AND INFRASTRUCTURE

The Water District's water utility infrastructure generally appears adequate to support the increased density of the Plan area over the next 20 years. The Water District has evaluated their water system, identified recommended capital improvement projects, and produced cost estimates on a project-by-project basis in their 2019 Water Master Plan for the district as a whole. It is noted that these improvements would address projected water supply for the Water District, including existing needs and projected development within the entire Water District including its service area outside of the Plan area. The recommended Capital Improvement Projects relevant to the Plan area are summarized in the Utility Infrastructure Needs Report prepared for the Project (Appendix G of this Draft EIR) based on the data in the 2019 Water Master Plan and include Boyes Boulevard Bridge Pipeline Replacement, Steel Pipe Replacement (replacement of steel water main and conversion of steel pipe laterals at three locations), East Thomson Commercial Fire Flow Improvement (replace existing 4-inch steel water mains with new 8-inch PVC water mains and replace one existing fire hydrant), Arroyo Road Commercial Fire Flow Improvement (install new 8-inch water main between Highway 12 and Madera Road along Arroyo Road), Hooker Avenue Fire Flow Improvement (install new 8-inch water main between Highway 12 and Hooker Ave), Lomita Avenue Commercial Fire Flow Improvement (replace existing 6-inch water main with new 12-inch water main along Lomita Avenue, replace two service connections, and replace one hydrant). In general, water system facilities will be designed in accordance with accepted engineering principles and will conform to the Water Districts' Standard Plans and Specifications.

Table 2-3 of the Utility Infrastructure Needs Report summarizes further recommendations and notes where existing infrastructure is adequate or where new infrastructure should be considered to adequately service the Project. Future water infrastructure to serve the Plan area is anticipated to include replacement of existing mains, replacement of connections, and provision of new connections to complete the grid distribution system. As development occurs throughout the Plan area, each future project will need to be analyzed on a project-by-project basis to determine the extent of specific water infrastructure upgrades needed. Water infrastructure for future projects may include: connection to existing infrastructure, replacement of aging water pipes in the vicinity serving the future project, and increasing pipe sizes of water pipes in the vicinity serving the future project. The following factors will be used to inform the type and extent of improvements required for new projects through the review of building permits for new development:

- The type and size of the project;

- Any known pressure issues associated with the greater area where a project is proposed;
- The location of the project in relation to the existing infrastructure; and
- The capacity of the existing infrastructure to account for the planned development.

CONCLUSION

As noted above, the Project water demand (205.8 AFY) would be within the anticipated supply range for the District and would not lead to insufficient water supplies in existing entitlements and resources or require new or expanded entitlements.

Future development in the Plan area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the County's existing water infrastructure network. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time, as the Project does not propose any specific development projects or include details on any future development projects. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, or involve water infrastructure within existing road rights-of-way, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the Project. These impacts are described in the relevant chapters (Chapters 3.1 through 3.14, and 4.0) of this Draft EIR.

Additionally, the County's General Plan includes a range of objectives and policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Policy PF-1d requires discretionary development projects to obtain written certification that either existing services are available or needed improvements will be made prior to occupancy. Additionally, Policy WR-3s encourages cooperation with public water suppliers in the planning, development and construction of the storage and transmission facilities needed to serve projected demand consistent with adopted general plans. Further, Policy WR-3q supports the inter-regional planning efforts by the public water suppliers, their contractors, other existing water users and Sonoma County to consider future demand projections concurrently with the availability of sustainable water supplies. Subsequent development projects proposed within the Plan area would be subject to all applicable General Plan objectives and policies that reduce impacts related to water supplies.

Further, the proposed Specific Plan includes infrastructure and public services policies aimed to support the private development and public improvements which would result from implementation of the Project. For example, Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Additionally, Policy CF-1e requires development projects to install off-site infrastructure or pay appropriate in-lieu fees when appropriate. Subsequent development projects proposed within the Plan area would be subject to these policies.

Because the Project would not lead to insufficient water supplies in existing entitlements and resources or require new or expanded entitlements, and future projects would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates, impacts associated with water supplies are **less than**

significant. The policies listed below would further assist in ensuring that adequate water supplies are available to serve new growth projected under the Project.

SPECIFIC PLAN POLICIES THAT REDUCE THE POTENTIAL FOR IMPACTS

Policy CF-1b: Review updates to the Valley of the Moon Water District plans to ensure that water lines meet current design standards and adequate levels of service are maintained under existing and buildout conditions.

Policy CF-1c: Require development, infrastructure, and long-term planning projects to be consistent with all applicable County and service provider infrastructure master plans.

Policy CF-1d: Require development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development.

Policy CF-1e: Require development projects to install off-site infrastructure or pay in-lieu fees to ensure adequate infrastructure capacity to serve the project.

Policy CF-1f: Require new utilities in the Plan area to be installed underground.

3.14.3 SOLID WASTE

ACRONYMS

CalRecycle	California Department of Resources Recycling and Recovery
PPD	pounds per day

ENVIRONMENTAL SETTING

Various entities have jurisdictional responsibility for solid waste management in Sonoma County. The Sonoma County Waste Management Agency (also known as Zero Waste Sonoma) was formed by a joint powers agreement between the County of Sonoma and the nine cities in order to implement waste diversion programs as required by State law. The Waste Management Agency currently provides waste diversion programs, household hazardous waste disposal, education and outreach, and planning and reporting.

The County owns the Sonoma County Central Disposal site which includes the active landfill in addition to facilities for recycling, material reuse, and natural gas and electrical generation. It also owns five transfer stations, oversees the regulation of two commercial hauling companies, and maintains closed landfills.

Republic Services of Sonoma County, Inc. operates the County's Central Disposal Site as well as four transfer stations located in Annapolis, Guerneville, Healdsburg, and Sonoma under a Master Operations Agreement with the County, which the Department of Transportation and Public Works oversees. Solid waste collection within the Plan area is currently provided by Redwood Empire Disposal.

Solid Waste Generation Rates and Volumes

CalRecycle has established a per resident disposal target rate of 7.1 PPD and a per employee disposal rate of 18.3 PPD for the Waste Management Agency. The Waste Management Agency has met and exceeded these targets in recent years, achieving a disposal rate of 3.6 PPD per resident and 9.4 PPD per employee in 2014.

In 2014, the Waste Management Agency completed a study to characterize the municipal solid waste disposed by single-family residential, commercial (including multifamily) and self-hauled sources. Since the Agency's last waste characterization study in 2007, the composition of the waste stream has changed, including a 30 percent decrease in the quantity of material disposed. Currently, of the approximate 262,500 tons disposed of in Sonoma County annually, approximately two-thirds (66%), can be classified as divertible, potentially divertible, or compostable. The most prevalent waste from both residential and commercial sources is organics.

In the overall waste stream, plastic has increased substantially in relative proportion of the waste stream since 2006/07, almost doubling from 7.4 percent to 14.8 percent. All plastic material categories have increased, with the greatest increase in durable plastic items and recyclable plastic film. Organics have decreased mainly due to a significant decrease in food (from 21.4 percent to 17.3 percent). Most Construction and Demolition materials have decreased with the exception of clean gypsum board and rock/soil/fines.

Waste Collection Services

Redwood Empire Disposal offers weekly garbage service to residential and commercial customers in the Plan area. Included in the residential fee for garbage service is a weekly curbside recycling program and yard waste/compost service. Residents may choose from 20, 32, 68, or 95-gallon rolling garbage carts, which are collected once per week. The cost of the service is based on the size of the garbage cart. Redwood Empire Disposal offers several options for commercial accounts. Recycling is a free service for commercial refuse accounts. Depending on the area, commercial accounts may choose from one and one-half, two, three, four, six cubic yard bins. Commercial collection services are offered up to five times a week. Small commercial generators may subscribe to weekly cart service.

Waste Disposal Facilities

On April 1, 2015, Sonoma County Department of Transportation and Public Works transferred Central Disposal Site and Transfer Station operations to Republic Services. Republic Services is the second largest provider of waste management services nationwide.

CENTRAL DISPOSAL SITE

According to the Waste Management Agency, the Central Disposal Site has a permitted capacity of 32.65 million cubic yards, and permitted daily capacity of 2,500 tons. The area permitted for disposal is approximately 172.8 acres. Average daily tonnage for the Central Disposal Site is 1,250 tons. The Amended Joint Technical Document for the Sonoma Central Disposal Site identifies that the landfill has a remaining capacity of approximately 9.18 million cubic yards, which equates to 7.53 million tons based on a 0.82 tons/cubic yard conversion factor.

DIVERSION FACILITIES

Sonoma County's Central Disposal Site features a full spectrum of waste management programs to serve the 494,285 residents and thousands of businesses in Sonoma County. The 398.5-acre Central Disposal Site integrates reuse & recycling, household hazardous waste management services, solid waste disposal, along with production of electrical energy and vehicle fuel from landfill gas in a coordinated system at a single location. Recyclables such as scrap metal, cardboard, glass, metal and plastic containers, and newspaper can be unloaded at the Reuse & Recycling Center at the Central Disposal Site. Recyclable materials are also accepted at the Annapolis, Guerneville, Healdsburg, and Sonoma transfer stations. Yard debris and food waste is currently being trucked outside the County for composting.

REGULATORY SETTING

AB 939: California's Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the California Integrated Waste Management Board to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

California Green Building Standards Code (CALGreen)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

Sonoma County General Plan

The Sonoma County General Plan includes the following goals, objectives, and policies related to solid waste:

PUBLIC FACILITIES AND SERVICES ELEMENT

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 CoIWMP, 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.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact on the environment associated with Utilities if it will:

- 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; and/or

- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-3: The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (Less than Significant)

Development under the Project may increase the population within the Plan area by approximately 1,977 residents. Implementation of the Project would result in an increase in solid waste generation.

CalRecycle provides an average per-capita solid waste disposal rate for residents. For the Sonoma County Waste Management Agency, CalRecycle estimates a solid waste disposal rate of 13.6 pounds per person per day. Using this rate, the Project would generate approximately 26,084.8 pounds (4.8 tons) per day of solid waste, or 1,760.5 tons per year.

The additional solid waste generated under buildout of the Project (i.e., 1,760.5 tons per year) would not exceed the capacity of the Central Disposal Site, nor would it result in exceedance of the capacity prior to the estimated cease operation date. As previously described, the Central Disposal Site has a permitted capacity of 32.65 million cubic yards, and remaining capacity of the 7.53 million tons. While the estimated cease operation date is January 2034, the Amended Joint Technical Document for the Sonoma Central Disposal Site identifies that the landfill has a remaining site life of 24.5 years. The addition of the volume of 1,760.5 tons per year (or 4.8 tons per day) of solid waste generated by the Project to the Central Disposal Site would not exceed the landfill's remaining capacity or result in exceedance of the capacity prior to the estimated cease operation date. Should the Central Disposal Site cease operations in 24.5 years, the County will need to secure a new location of disposal of all solid waste generated in the County when the Central Disposal Site is ultimately closed. There are several options that the County may consider for solid waste disposal, such as expansion of existing landfill facilities, development of new landfill facilities, or agreements with existing facilities with capacity, at that time.

The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. This is a **less than significant** impact.

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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 3.4, Cultural Resources. Information in this section is derived primarily from the Cultural Resource Assessment for the Springs Specific Plan, Sonoma County, California (Peak & Associates, Inc., 2016).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.15.1 SETTING

ACRONYMS

AB	Assembly Bill
CHRIS	California Historical Resources Information System
CRHR	California Register of Historic Resources
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
SB	Senate Bill
TCR	Tribal Cultural Resource
USGS	U.S. Geological Survey

PREHISTORY

Four primary prehistorical patterns are generally recognized in the North Coast Ranges. The earliest pattern is the Borax Lake Pattern; the millingstone (i.e. metate) and mano are common in this period and sites from this period are often located above 5000 feet. The Mendocino Aspect began no earlier than 3000 B.C. and was characterized by Concave Base and Willits Side Notch projectile points, manos and metates, and also the mortar and pestle. Sites generally occur in low elevation. The late Borax Lake Aspect, which continued to occupy the northern end of the lake, was characterized by Wide Stem and Concave Base points and manos and metates, with no mortar and pestle. Around 1 B.C., on the east side of the lake basin, the Mendocino Aspect is replaced or assimilated by the Houx Aspect of the Berkeley Pattern, which emanated from the shores of San Francisco Bay to the south. The Houx Aspect completely replaced the Mendocino Aspect, identified by Meighan in 1955, in southern Sonoma County. However, within northern Sonoma County there is a mixture of Houx Aspect and Mendocino Aspect traits. The characteristic artifacts of the Houx Aspect of the Berkeley Pattern are the Excelsior point series, Houx Wide Stems, "burinated flakes," and the heavy use of the bowl mortar and pestle. The Houx Aspect endured until the beginning of the Emergent Period -- circa A.D. 500. The Emergent Period was characterized by changes consisting of relative, if not absolute, population increase due to influxes of new peoples and a reduced resource base. The adaptational strategy changed from "foraging" to "collecting." The Emergent Period is characterized by the appearance of small comer-notched, side-notched, and triangular projectile points; the hopper mortar and pestles; clam shell disc beads; and smoking pipes -- all traits of the Augustine Pattern.

ETHNOLOGY

The Coast Miwok at time of contact by Europeans had a territory that extended from modern day Marin County north into southern Sonoma County, including the Springs Specific Plan area (Plan area). Ethnographic studies conducted in the early part of the 20th century identified a number of named village sites including one within The Springs Study Area, *huchi*, and two others, *wuki liwa* and *temblek,* in the immediate vicinity.

There is extensive coastline in this territory and resources from the sea and salt marshes were important in Coast Miwok subsistence, however, the resources available in the interior of their territory were by no means ignored. Sea mammals were not part of the diet but various species of fish were taken with nets, seines, weirs, spears and line-with-gorge technologies, as appropriate. Even more important in the diet were clams and some species of mussel, resulting in the characteristic coastal shell middens familiar through archeology.

Villages were situated so as to be handy to food resources at various times of year. The Coast Miwok moved among residences on the coast, around salt or freshwater marshes and on interior streams so that they would be close to the most abundant food supply available at a particular season. Dwellings were conical brush-on-frame structures capable of sheltering up to ten individuals. Other structures included semi-subterranean sweathouses which served as something of a men's club, and--at major villages--a dancehouse for religious ceremonies. The dancehouse was basically the same construction as the sweathouse only larger. An excavation about two feet deep and fifteen in diameter formed the floor and a timber framework supported a brush dome capped with earth.

Archeology has provided an extensive collection of the stone tools that were used, but it is clear from ethnology that basketry and cordage were used for the majority of utilitarian objects. These materials do not preserve well, so they are uncommon in archeological sites. Basket making was a highly developed skill and baskets were woven tightly enough to hold water and cooking of acorn mush was accomplished by dropping hot rocks into baskets containing the mush. Cordage was used for the variety of nets used in taking fish, birds and small mammals.

In terms of socio-political organization, the term Coast Miwok is primarily a convenience for anthropologists, denoting a group speaking the same language and occupying a contiguous territory. In fact, there was no overall political control of this group and the real basis of social organization was the main village. Within the village group, close ties were maintained through the extensive religious/ceremonial life and through kinship ties.

Through much of aboriginal California, shell beads served as a form of currency. As a coastal people, the Coast Miwok had access to the raw material and bead manufacture was an important industry because it provided currency to trade for goods from neighboring groups. The Coast Miwok used imported obsidian in making arrowheads and other edged tools and chert to form more utilitarian edged implements.

NATIVE AMERICAN CONSULTATION

The CEQA Guidelines defines “tribal cultural resources” as either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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 Section 5024.1.

In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Pursuant to SB 18 and AB 52, initial consultation began with a check of the Sacred Lands files, requested from the NAHC by Peak & Associates in early May 2016. The NAHC responded on May 13, 2016 and noted that the Sacred Lands files search provided negative results. The response letter also included a list of Tribes with traditional lands or cultural places located within the boundaries of the Plan area. The list included the following Tribes: the Cloverdale Rancheria of Pomo Indians, the Kashia Band of Pomo Indians of the Stewarts Point Rancheria, the Lytton Rancheria Band of Pomo Indians, the Federated Indians of Graton Rancheria, the Middletown Rancheria of Pomo Indians, the Mishewal-Wappo Tribe of Alexander Valley, and the Dry Creek Rancheria of Pomo Indians.

As discussed in Section 3.14.2, Regulatory Setting, Senate Bill (SB) 18 outlies tribal consultation requirements for local governments. Specifically, prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to places, features, and objects located on enumerated tribally-affiliated lands within the local government's jurisdiction that are affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).

Additionally, Assembly Bill (AB) 52, adopted in September 2014, creates a formal role for California Native American Tribes in the CEQA process by creating a formal consultation process and establishing that a substantial adverse change to a TCR has a significant effect on the environment.

Pursuant to SB 18 and AB 52, tribal consultation letters were sent to the listed tribes on October 19, 2018. As of the writing of this EIR, two Native American tribal representatives have provided responses: the Lytton Rancheria of California (November 14, 2018), and the Federated Indians of Graton Rancheria (November 19, 2018). The Lytton Rancheria of California noted that the Tribe does not have specific information for inclusion in the EIR. However, the Lytton Rancheria of California response letter did note that the Plan area falls within traditional Pomo territory and there is a potential to find TCR on-site. The letter concludes that the Tribe will further consult on the project with the appropriate lead agency and will get a copy of any surveys once they are completed. The Federated Indians of Graton Rancheria noted that the Plan area is within the Tribe's Ancestral Territory. No further consultation was requested.

On March 3, 2021, tribal consultation letters were again sent to the listed tribes to provide an additional opportunity to consult on the project. A response was received from the Stewarts Point Rancheria, declining consultation. A response was received from the Federated Indians of Graton Rancheria, requesting further consultation. Staff met with representatives of the Tribe on March 23, 2021. No specific issues were raised with the draft Cultural Resources and Tribal Resources discussing in the EIR but it was requested that consultation remain open until release of the public draft EIR.

3.15.2 REGULATORY SETTING

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines Section 15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration in an adverse manner of a historical resource, including archaeological sites, is generally considered a significant impact.

CEQA also provides for the protection of Native American human remains (CEQA Guidelines Section 15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001, et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, it may nonetheless be classified a "unique archaeological resource" as outlined in Public Resources Code Section 21083.2(g), if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- it has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- it is directly associated with a scientifically recognized important prehistoric or historic event or person.

If the lead agency determines that a project may have a significant effect on a unique archaeological resource, the environmental impact report prepared for the project must address the issue of that resource, per Public Resources Code Section 21083.2(a).

Assembly Bill 978

In 2001, AB 978 was passed to apply the state's repatriation policy consistently with the provisions of the federal Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation under state law.

Senate Bill 18

The California Government Code establishes responsibilities for local governments to contact, provide notice to, refer plans to, and consult with tribes. The following list briefly identifies the contact and notification responsibilities of local governments, in sequential order of their occurrence.

Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to places, features, and objects located on enumerated tribally-affiliated lands within the local government's jurisdiction that are affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).

Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.

Local governments must send notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Assembly Bill 52

AB 52, adopted in September 2014, creates a formal role for California Native American Tribes in the CEQA process by creating a formal consultation process and establishing that a substantial adverse change to a TCR has a significant effect on the environment. Tribal cultural resources are defined as:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   A) Included or determined to be eligible for inclusion in the CRHR
   B) Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c). In applying the criteria set forth in Public Resources Code Section 5024.1(c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in Public Resources Code Section 21084.1, a unique archaeological resource as defined in Public Resources Code Section 21083.2(g), or a "non-unique archaeological resource" as defined in Public Resources Code Section 21083.2(h) may also be a TCR if it conforms to the above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area

that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

LOCAL

Sonoma County General Plan

The existing Sonoma County General Plan identifies the following goals, objectives, and policies related to cultural and tribal resources:

OPEN SPACE & RESOURCE CONSERVATION ELEMENT

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-19.3: 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.

Objective OSRC-19-6: Develop and employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archaeological resources and Native American cultural resources, sacred sites, places, features, or objects.

Policy OSRC-19a: Designate the County Landmarks Commission to review projects within designated historic districts.

Policy OSRC-19b: Refer proposals for County Landmark status and rezonings to the Historic Combining District to the County Landmarks Commission.

Policy OSRC-19c: The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.

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, and
(3) Educational materials for the building industry and the general public on the identification and protection of such resources.

Policy OSRC-19k: Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a

site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.

Policy OSRC-19l: If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area**.**

Policy OSRC-19m: Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.

Policy OSRC-19n: Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Sonoma County Code Section 11.14.050

Section 11.14.050, Protection of human remains and archaeological resources, outlines steps to follow should human remains of archaeological resources be discovered during construction, grading, or drainage activities. Specifically, the codes states:

"Where human remains or archaeological resources are discovered during construction grading and drainage, all work shall be halted in the vicinity of the find, the director shall be notified, and the following shall occur before work may be resumed:

A. Human remains. If human remains or suspected human remains are discovered, the permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code section 7050.5 and Public Resources Code section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains.
B. Archaeological resources. If archaeological resources or suspected archaeological resources are discovered, the director shall notify the State Historic Preservation Officer and the Northwest Information Center at Sonoma State University, and the permittee shall retain a qualified archeologist to evaluate the find to ensure proper disposition of the archaeological resources or suspected archaeological resources. All costs associated with the evaluation and mitigation of the find shall be the responsibility of the permittee. The director shall provide notice of the find to any tribes that have been identified as having cultural ties and affiliation with the geographic area in which the archaeological resources or suspected archaeological resources were discovered, if the tribe or tribes have requested notice and provided a contact person and current address to which the notice is to be sent. The director may consult with and solicit comments from notified tribes to aid in the evaluation, protection, and proper disposition of the archaeological resources or suspected archaeological resources. The need for confidentiality of information concerning the archaeological resources or suspected archaeological resources shall be recognized by all parties. For the purposes of this section, archaeological resources include historic or prehistoric ruins, burial grounds, pottery, arrowheads, midden, or culturally modified soil deposits. Artifacts associated with prehistoric ruins include humanly modified stone, shell, bone, or other cultural materials such as charcoal, ash, and burned rock indicative of food

procurement or processing activities. Prehistoric domestic features include hearths, fire pits, or floor depressions; mortuary features are typically represented by human skeletal remains."

3.15.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:
    - 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), or
    - a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the criteria in Public Resources Code Section5024.1(c), and considering the significance of the resource to a California Native American Tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: Implementation of the Project has the potential to cause a substantial adverse change to a tribal cultural resource as defined in CEQA Guidelines 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), or to a resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. (Less than Significant)

Seventeen cultural resources have been identified within the Plan area, according to files maintained by the Northwest Information Center (Information Center) of the CHRIS. The CHRIS records search identifies buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to the Information Center. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of Eligibility list. In addition, none are listed on the CRHR or the NRHP. The results of Sacred Land files search were negative.

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance or discovery of an archaeological, historic, or tribal cultural resource.

The Sonoma County General Plan includes policies that would reduce impacts to these resources, as well as policies for the conservation of cultural, historic, and archaeological resources. These relevant policies are listed above under Section 3.4.2, Regulatory Setting.

General Plan Objective OSRC-19.5 encourages 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.

General Plan Policies OSRC-19j, OSRC-19l, OSRC-19m, and ORSC-19n encourage the protection and preservation of cultural and historic resources and consultation with Native American tribal representatives to identify and appropriately address cultural resources and sacred sites during the development review process. Objective OSRC-19.5 encourages 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. Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan policies and objectives that provide protections for cultural, historical, and tribal resources.

The General Plan policies and objectives, described above and listed in the Regulatory Setting subsection, provide a robust framework for ensuring that effects on significant historic, archaeological and tribal cultural resources are reduced. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 (see above) of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

The Specific Plan includes measures TCR-A, B, and C which require resources consultation and coordination for all discretionary projects and avoidance of known resources. Measures Cult-C and Cult-D are protocol for if cultural resources are identified in the project area. These measures are consistent with CEQA Guidelines Section 15064.5 which requires a site-specific cultural or archaeological survey to be performed for all ground-disturbing projects located on sites within the Plan area where a known cultural, archaeological, or cultural resource is located or where the site is sensitive for such resources. With implementation of Measures Cult-A, Cult-B, Cult-C, Cult-D and Cult-E, this impact would be **less than significant**.

SPECIFIC PLAN COMPONENTS THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Measure TCR-A*: Tribal Cultural Resources Coordination and Consultation. If during the implementation of Measure CUL-A, 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 Measure CUL-B. Throughout the implementation of Measures CUL-C through CUL-I, 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 Measures CUL-C through CUL-I, 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.*

Measure TCR-B*: 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).

***Measure TCR-C**: Tribal Cultural Resources 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-A and/or by the qualified archaeologist during the implementation of CUL-C through CUL-I. 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 Measures CUL-D, CUL-F, CUL-G, or CUL-H. 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.*

***Measure TCR-D**: 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-A and/or identified as sensitive for cultural resources of Native American origin by the qualified archaeologist during the implementation of CUL-C through CUL-I, 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 Measure TCR-C. In the event of a discovery of tribal cultural resources, the steps identified in the tribal cultural resources plan prepared under Measure TCR-3 shall be implemented.*

***Measure TCR-E:** 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-A 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 Measure TCR-B). Any requirements for the use of a canine forensics team shall be documented in the tribal cultural resources treatment plan prepared under Measure TCR-C. 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.*

The purpose of this section is to disclose and analyze the potential impacts associated with wildfire risk related to the Plan area and general vicinity. The requirement to evaluate wildfire hazards was added to the California Environmental Quality Act (CEQA) Guidelines in late 2018.

3.16.1 ENVIRONMENTAL SETTING

ACRONYMS

CALFIRE	California Department of Forestry and Fire Protection
CCR	California Code of Regulations
FHSZ	Fire Hazard Severity Zones
SRA	State Responsibility Area
WUI	Wildland Urban Interface Zone

SETTING

Overview

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, and other wooded areas that can 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 (Sonoma County 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 during wildfires, 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. Large

portions of 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.

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). 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. The Springs Plan Area is characterized by low slopes and primarily western aspects. Slopes in the broader vicinity generally share these characteristics, with some increased slopes of greater than 25 degrees east of the plan area along the upper reaches of Agua Caliente Creek on Lomita Drive and between Donald Street and Michael Drive.

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 Plan Area is generally characterized by existing urban development and hardscape. Most sites contain minimal vegetation, with the exception of scattered trees and landscaping.

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 the Plan Area, 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 and spring months are becoming more common. Prevailing winds in Sonoma are generally from the northwest to the southeast, though in the autumn, hot, dry easterly wind events can be particularly intense and are often associated with heightened wildfire risk (National Oceanic and Atmospheric Administration 2020).

3.16.2 REGULATORY SETTING

STATE

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is a fire department of the California Natural Resources Agency in California, responsible for fire protection on approximately 31 million acres of designated areas of state responsibility. In addition CAL FIRE is responsible for administration of forests on public and private lands, as well as the provision of emergency services beyond firefighting in certain jurisdictions. CAL FIRE programs also include the application of fire prevention, engineering, training, education and enforcement regarding wildfire prevention and protection measures. The CAL FIRE unit responsible for state responsibility areas in the County of Sonoma is part of the regional unit containing portions of Lake and Napa Counties as well.

California Board of Forestry

The Board of Forestry and Fire Protection is a government-appointed body within the Department of Forestry and Fire Protection. It is responsible for developing the general forest policy of the state and determining the guidance policies of the Department, including fire safe road regulations, which are codified 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.

State Responsibility Areas

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, specifically the California Department of Forestry and Fire Protection (CAL FIRE), is responsible for prevention and suppression of wildfire in designated "state responsibility areas" (SRAs). (Pub. Resources Code, § 4102.) Lands included within SRAs include lands wholly or partly covered by forests or by trees producing or capable of producing forest products; lands covered wholly or partly by timber, brush, undergrowth, or grass, which protect the soil from excessive erosion, retard runoff of water or accelerate water percolation, if such lands are sources of water for irrigation or domestic or industrial use; and lands in areas contiguous to these areas which are which are principally used or useful for range or forage purposes. (Pub. Resources Code, § 4126.) Incorporated areas and unincorporated areas that do not fall into one of the categories included in SRAs are classified as Local Responsibility Areas (LRA).

Fire Hazard Severity Zone

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 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 into zones, referred to as Fire Hazard Severity Zones (FHSZs). CAL FIRE maps three zones: 1) Moderate FHSZs; 2) High FHSZs; and 3) Very High FHSZs. Only Very High FHSZs are also mapped for LRAs. 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. Figure 3.7-1 provides the FHSZ designation and distance to the nearest Very High FHSZ for the Plan Area. As shown in Figure 3.7-1, portions of land located at the southeast and northeast sections of the Plan area are located in a "Moderate" and “High” FHSZ respectively. There are no Very High FHSZs within the Plan area.

Local Responsibility Areas

The responsibility for preventing and suppressing wildland fires in the County is shared between local fire protection agencies and the State. Local fire protection agencies have primary responsibility for the prevention and suppression of wildland fire in Local Responsibility Areas. Local Responsibility Areas are generally concentrated in and around the more densely populated areas of Sonoma County. Most of the Plan area is within a Local Responsibility Area and is served by the Sonoma Valley Fire District (SVFD). The District is a newly formed special district created when the Valley of the Moon Fire District, Glen Ellen Fire Protection District and the Mayacamas Volunteer Fire Company joined on July 1, 2020. This new district also provides fire and emergency medical services under contract to the incorporated City of Sonoma. SVFD is governed by a Board of Directors made up of seven elected board members, a president, vice president, treasurer and four directors. See Figure 3.7-1.

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.

Within the Fire Code, 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. Standards vary based on whether the area is considered a Wildland Interface Zone, or Wildland Urban Intermix Zone. Wildland Interface Zones are those which are developed areas that have sparse or no wildland vegetation, but are within close proximity of a large patch of wildland. In contrast, Wildland Intermix Zones, are those areas where houses and wildland vegetation directly intermingle.

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.

Governor's Office of Emergency Services

The Governor's Office of Emergency Services (Cal OES) is responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities within the state of California. Cal OES 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 Disaster Mitigation Act of 2000 requires a State hazard mitigation plan as a condition of federal 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. 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 of 2012

Senate Bill (SB) 1241 of 2012 amended Government Code sections 65302 and 65302.5 to require 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. (California Office of Administrative Law 2018)

LOCAL

Sonoma County General Plan

The Sonoma County General Plan contains the following goals, objectives, and policies that are relevant to wildfire related impacts:

PUBLIC SAFETY ELEMENT

GOAL PS-3. Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.

Objective PS-3.1: Continue to use complete data on wildland and urban fire hazards.

Objective PS-3.2: Regulate new development to reduce the risks of damage and injury from known fire hazards to acceptable levels.

Objective PS-3.3: Use the Sonoma County Hazard Mitigation Plan to help reduce damages from wildland fire hazards.

Policy PS-3b: Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with the Public Safety Element in the review of projects.

Policy PS-3c: Continue to adopt revisions to the Uniform Fire and Building Codes and other standards which address fire safety as they are approved by inspection organizations and the State of California. Review, revise, and/or adopt existing or new local codes, ordinances, and Fire Safe Standards to reflect contemporary fire safe practices.

Policy PS-3e: The County Department of Fire and Emergency Services shall offer assistance to local agencies in adoption and enforcement of fire safety regulations and shall work with local agencies to develop proposed improvements to County codes and standards.

Policy PS-3g: Encourage continued operation of California Department of Forestry and Fire Protection (CalFire) programs for fuel breaks, brush management, controlled burning, re-vegetation, and fire roads.

Policy PS-3i: Encourage and promote fire safe practices and the distribution of fire safe educational materials to the general public, permit applicants, and local planning agencies.

Policy PS-3m: Consider additional impact or mitigation fees, or a benefit assessment, to offset the impact of new development on fire services.

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-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, or other project design measures will reduce the potential fire related impacts of new development to insignificant levels.

The General Plan Public Safety Element states that the types and intensities of land uses permitted in the County should be limited based on environmental factors, to reduce the risk of fire impacts to people and property. 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 Hazard Mitigation Plan

Hazard mitigation is the use of long and short term policies, programs, projects and other activities to reduce the death, injury, and property damage that can result from a disaster. The federal Disaster Mitigation Act (DMA) of 2000 requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. The County prepared a hazard mitigation plan in 2006 in compliance with the DMA and has updated the document every five years since then. The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan Update 2021 (MJHMP) was adopted by the Sonoma County

Board of Supervisors on December 7, 2021. Previously, the 2016 Sonoma County Hazard Mitigation Plan was approved on April 25, 2017.

The newly adopted MJHMP was developed as Multi-Jurisdictional plan that will serve multiple cities and fire districts, including the City of Sonoma and the Sonoma Valley Fire District that encompasses the Springs Specific Plan Area. The MJHMP serves multiple purposes, including:

- Protect people and minimize loss of life, injury, and social impacts
- Minimize potential for loss of property, economic and social impacts, and displacement due to hazards
- Minimize potential for environmental impacts and consider a broad-range of mitigation solutions including nature-based solutions
- Communicate natural hazard risk to the whole community within Sonoma County
- Support and inform the development of relevant mitigation policies and programs
- Promote an adaptive and resilient Sonoma County that proactively anticipates the future impact of hazards within the county
- Pursue the development and implementation of long-term, cost-effective, and environmentally sound mitigation projects

Enhance the capability/capacity of the Sonoma County planning area to prepare, respond and recovery from the impact of natural hazards.

Community Wildfire Protection Plan

A CWPP is not a regulatory document, but provides wildfire hazard and risk assessments, community descriptions, options for addressing issues of structural vulnerability to wildfire (e.g. home hardening), and provides a prioritized list of projects which, if implemented, can serve to reduce wildfire hazards, reduce risk of loss of life, property loss, and environmental damage. The goal of a Community Wildfire Protection Plan (CWPP) is to enhance efforts to protect communities, watersheds and other at-risk lands from catastrophic wildfire. The County adopted a CWPP in 2016 and is currently working to develop a new document through a collaborative process to prioritize fuel reduction projects and identify recommendations for reducing risk to structures.

Sonoma County Code

Sonoma County Code Chapter 13, Sonoma County Fire Safety Ordinance, outlines the County Fire Code and Fire Safe Standards. The Fire Safe Standards, included as Article V of Chapter 13 of the Code, establishes minimum fire safe standards for development within the unincorporated area of the County located in the LRA; California Department of Forestry and Fire Protection Fire Safety Regulations govern the SRA (California Code of Regulations Title 14, Division 1.5). In addition, local amendments to the California Fire Code are in Sonoma County Code Chapter 13 and apply to both the State Responsibility Area and the Local Responsibility Area when authorized by Sonoma County Fire Code as amended, when not subject to other regulated building standards.

Sonoma County Emergency Operations Plan

The Sonoma County Operational Area 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 Operational Area is the entire county. The Emergency Operations Plan is intended to facilitate coordination between agencies and jurisdictions within Sonoma County while ensuring the protection of life, property, and the environment during disasters. This plan provides the framework for a coordinated effort among local community, county, city, special district, private sectors, regional, state, tribal, and federal partners. Annexes and contingency plans in support of the Emergency Operations Plan provide additional information relevant to a specific threat or response action, including the following: Evacuation Annex, Public Safety Power Shutoff Incidents Annex, Community Alert And Warning Annex, and Wildfire Burn Scar Debris Flow Response Contingency Plan. For purposes of this analysis, the Emergency Operations Plan and its Annexes and Contingency Plans are collectively referred to as the EOP.

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. It develops and maintains the EOP; supervises and maintains the county/operational area emergency operations center; coordinates disaster preparedness, response, recovery and mitigation; serves as the coordination link between the local government level, the regional, state and federal level, and as liaison between the operational area jurisdictions/agencies, the California Governor's Offices of Emergency Services and Homeland Security, FEMA, and the Federal Department of Homeland Security (DHS); provides training, exercises, and educational outreach to agencies within the operational area; and coordinates resource and information management, public information/warning systems, mutual aid, and damage assessment information.

Sonoma County Fire Prevention Division

The Permit Sonoma Fire Prevention and Hazardous Materials Division is responsible for programs, procedures, and projects for preventing the outbreak of fires within the unincorporated areas of the county. (The Hazardous Materials Unit is discussed in 3.7, Hazards.) The goal of the 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, and review of new development permit applications.

3.16.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

For purposes of this Program EIR, development facilitated by the project may have a significant adverse impact if the Plan area is in or near an SRA or Very High FHSZ 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

As discussed above, portions of the Plan area are located in an SRA, and the entire Plan area is located near an SRA. There are no Very High Fire Hazard Severity Zones within the Plan area. The northern end of the Plan area is located approximately .60 miles from the nearest Very High FHSZ.

IMPACTS AND MITIGATION MEASURES

Impact 3.16-1: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

(*Note: The following discussion is associated with potential impacts of the proposed Project on implementation of emergency response plans and/or evacuation plans. Proposed emergency vehicle access to and from the future developments within the Plan area is addressed in Chapter 3.13, Transportation and Circulation.*)

As described in the Background section above, the County has an Emergency Operations Plan, Hazard Mitigation Plan, and Community Wildfire Protection Plan. Each of these plans is summarized briefly below, along with the county department responsible for their preparation and dates of planned updates.

> Emergency Operations Plan (Sonoma County Department of Emergency Management): an emergency support function based plan that directs emergency response actions countywide. The EOP is an all-hazard plan. Annexes to the EOP provide additional information relevant to a specific threat or response action, when needed. An Evacuation Annex, prepared by the Department of Emergency Management and published in August 2021, outlines the strategies, procedures, and organizational structures to be used in managing coordinated, large-scale evacuations in the Sonoma County Operational Area (countywide).
>
> Sonoma County Multi-Jurisdictional Hazard Mitigation Plan (Permit Sonoma): enhance public awareness, aid in decision-making to address vulnerabilities to future disasters, support eligibility for state and federal grant programs, support coordination of hazard mitigation policies across local jurisdictions. An MJHMP was adopted by the Board of Supervisors on December 7, 2021. The MJHMP is not a regulatory plan and is not intended as an emergency response or emergency evacuation plan.
>
> Community Wildfire Protection Plan (Permit Sonoma): provides wildfire hazard and risk assessments, community descriptions, options for addressing issues of structural vulnerability to wildfire (e.g. home hardening), and provides a prioritized list of projects which, if implemented, can serve to reduce wildfire hazards, reduce risk of loss of life, property loss, and environmental

damage. The Fire Prevention Division of Permit Sonoma began an update process for this plan in 2021. Similar to the MJHMP, the CWPP is not regulatory and is not intended as an emergency response or emergency evacuation plan.

The EOP and its Annexes are not a formally "adopted" plan. However, the EOP functions as the emergency response plan and emergency evacuation plan for the unincorporated County, including for the Plan area. For the reasons discussed below, the Project would not impair implementation of or physically interfere with the EOP.

According to the EOP Evacuation Annex, the County has primary responsibility for emergency evacuation in unincorporated areas, such as the Springs. Any new development in the Plan area, facilitated by this plan, would be accessed by preexisting roadways. No new roads are provided for or contemplated in the Plan. The Specific Plan would not create physical impediments or interfere with the use of the roadways for evacuation or response during an emergency. All future development in the Plan area would be required to meet the most current applicable fire safety and emergency access and egress standards, including those regarding roadway width, turnarounds, and other necessary capacities.

As described in Section 3.12, Public Services, all new construction within the Plan Area would be subject to a Fire Impact Fee, adopted on March 23, 2021. The purpose of the fire impact fee is to fund the cost of fire protection and emergency response facilities, apparatus, and equipment attirubtable to new residential and nonresidential development in the District. The fire impact fee will ensure that new development will not burden existing development with the cost of expanded facilities, apparatus, and equipment required to accommodate growth as it occurs within the District. (Sonoma Valley, 2022).

The EOP's Evacuation Annex discusses evacuation methods, routes, and assets. The primary mode of evacuation is assumed to be various forms of ground transport (personal vehicle, bicycle, rail, bus, etc.) for most persons in an evacuation area. Because evacuation routes are situation-specific, the Evacuation Annex does not identify specific routes but states that routes may include interstate, state and surface roads, and will be chosen based on the relative safety of roadway infrastructure and current traffic conditions. Evacuation routes will be selected by law enforcement officials, approved by the Incident Commander at the time of the evacuation decision, then communicated to the EOC.

The Evacuation Annex assumes that the majority of residents can self-evacuate using personal vehicles, and acknowledges that transit-dependent populations (such as those with disabilities and with access and/or functional needs and households without a vehicle) may require public transportation to evacuate. In those cases, Transportation Assembly Points (TAPs) would be used to transport persons who require evacuation assistance to temporary evacuation points and/or shelters in safe areas. The Annex acknowledges that evacuees may arrive at TAPs by foot, bicycle, public transit, paratransit, or private vehicles, and identifies public and private transportation assets (public and private buses) that would be used for evacuation from TAPs. As with evacuation routes, the location of TAPs in a particular emergency will be selected and activated depending on the immediate circumstances.

The Project is proposed in an existing urbanized area. Implementation of the Project would support improvements to transportation systems throughout the Plan area. The Plan identifies future improvements including addition of new crosswalks, bulb-outs and flashing beacons to improve pedestrian visibility at crossings. Sidwalks would be added along portions of Donald Street, Harley Street and smaller segments throughout the Plan area. Furthermore, the plan's emphasis on improved pedestrian and bicycle infrastructure is intended to support reduced congestion and improved circulation, and may facilitate evacuation, especially for those without access to vehicles who will need to make their

way to the designated TAP for their area in the event of an evacuation. Development facilitated by the Project will use existing roadways. Accordingly, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, nor would it reduce existing levels of emergency response service as discussed above. Implementation of the Project would have a **less than significant** impact with regard to this issue.

Impact 3.16-2: Implementation of the Project has the potential to:

a) 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) 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; or

c) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Less than Significant)

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), weather (winds, temperatures, humidity levels and fuel moisture content) and topography (degree of slope). The California Department of Forestry and Fire Protection (CalFIRE) uses these factors to quantify fire hazards and categorizes them as Fire Hazard Severity Zones (FHSZ). Areas are designated as Moderate, High or Very High FHSZ, with areas of significant risk being Very High FHSZ. These areas are fully mapped in State Responsibility Areas, and areas within local jurisdiction (LRAs) are also mapped if they are Very High FHSZ.

Wildland fire hazard and associated risk of loss, injury or death cannot be eliminated entirely but they can be minimized in-part through the planning process. This can be achieved primarily by limiting the presence of people and structures in areas with elevated potential for wildland fire and secondarily by establishing risk reduction measures to reduce risks for existing and proposed development within or adjacent to these areas. This Plan mitigates exposure to wildland fire through both of these approaches.

As noted above, all of the Plan area is near an SRA, and small portions of the Plan area are located within an SRA. A majority of the Plan area is urbanized and located in a Local Responsibility Area (LRA) that is not mapped by CalFIRE as a Very High FHSZ. Small portions of the plan area are in a Moderate or High FHSV, but none of the Plan area is within or adjacent to a Very High FHSZ. (See Figure 3.7-1) The Project does not propose development in or adjacent to Very High FHSZ, which is approximately .6 miles from the northern end of the Plan area at its closest point. Limiting development in Very High FHSZ limits exposure of people or structures to the areas of greatest fire hazard. A majority of the Plan area is in areas of existing urban development with minimal slope, where wildland fuels are low and wildfire hazards are limited. As shown in Figure 3.7-1, a portion of the southeast Plan area is in a Moderate Fire Hazard Zone (15 parcels or approximately 17 acres) and a portion of the northeast plan area is in a High Fire Hazard Zone (46 parcels or approximately 13 acres).

All future projects allowed under the Project would be required to comply with all applicable provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the County, each project would be evaluated for consistency with all applicable building and safety code sections that reduce fire risk. Compliance with these State and Local regulations would ensure that potential wildland fire hazards are mitigated through requirements for home hardening, automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, and ensuring adequate fire protection services.

As discussed in Section 3.7-5 and as required by Specific Plan Policies Wildfire-1 and Wildfire-2, future projects would be subject to the applicable State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. These policies would ensure that future development does not exacerbate fire risk, and that risks to structures in the case of a wildland fire are reduced compared to those subject to less stringent requirements. In addition, because the Plan area encompasses properties with minimal vegetation, in an urbanized setting, projects built within the Plan area do not represent a new encroachment into wildland areas. As a result, the Plan would not introduce new sources of ignition to areas of very high wildfire hazard.

The Project does not propose to install any major new infrastructure that may exacerbate fire risk. Future infrastructure improvements in the Plan area would include the maintenance of existing water, sewer and roadways associated with new development which are typically underground and not located in wildland areas. Specifically, Policy CF-1f of the Plan requires new utilities in the Plan area to be installed underground. As discussed in Section 3.16-1 above, the circulation and road improvements would increase connectivity and may have a beneficial impact on emergency response, and it is expected that improvements to water infrastructure supported by future development would support firefighting capacity as well. The construction of these improvements would comply with State and local fire standards. Thus, the installation and maintenance of the proposed infrastructure would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

As discussed in the Geology and Soils Section (3.5), hillsides in the County have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the planning area's relatively level slopes, landslide potential is very low for all but a small portion of land located between Fetters and Central Avenue. Landslide potential increases in the foothills and mountains to the east of the Planning Area where wildland fire hazard potential also increases. In addition, development in the Plan area would be set back from watercourses that could channel post-wildfire debris flow.

Severe wildfires can 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 Plan Area is located downslope from hillside areas, or contains some landslide-susceptible areas, and vegetative wildfire fuels, as described above. If a severe wildfire were to occur adjacent to the Plan Area, structures within the area may be at risk of landslides and could 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 developed conditions.

Though the Plan area is downslope from areas with elevated landslide or fire hazards, the Plan area is consistent with the pattern of development countywide and due to its predominantly level topography

and surrounding pattern of urbanization and soil cover would not expose people or structures to elevated post-fire risks such as downslope or downstream flooding or landslides.

Future development projects in the Plan area would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the site and does not result in downstream flooding or major drainage changes. Future development projects located within the area covered by the storm water permit boundary would be subject to the Guidelines for the Standard Urban Storm Water Mitigation Plan. Some of the treatment controls in the Guidelines can be used to provide flood control by including additional flood detention storage.

Because existing codes and regulations cannot fully prevent wildfires from damaging structures or occupants, the Project could increase the exposure of new residential development to risk of loss or damage from wildfire. The Specific Plan includes Policy Wildfire-1 to reduce the risk of wildfire for future development associated with the Project. Specific Plan Policies Wildfire-1 and Wildfire-2 would reduce construction wildfire risk and include project siting considerations for future development.

Overall, with implementation of the two proposed Specific Plan policies below, impacts associated with exacerbating wildfire risks, infrastructure that may exacerbate fire risk, and significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be **less than significant.**

SPECIFIC PLAN POLICIES THAT MINIMIZE THE POTENTIAL FOR IMPACTS

Policy Wildfire-1: In order to reduce fire risk, all projects shall comply with the applicable State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. All homeowners shall be responsible for clearing out flammable materials, such as brush or vegetation, around their buildings to 100 feet (or the property line) to create a defensible space buffer.

Policy Wildfire-2: New buildings located in the Plan area shall comply with the Wildland-Urban Interface Fire Area Building Standards and Sonoma County Code Chapter 13, which establish minimum standards for materials and provide a reasonable level of exterior wildland fire exposure protection. The standards require the use of ignition resistant materials and design to resist the intrusion of flame or burning embers from a vegetation fire into buildings.

Policy CF-1d: Development projects shall offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development.

Policy CF-1f: New utilities in the Plan area shall be installed underground.

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents discussion of CEQA-mandated analysis for cumulative impacts and irreversible impacts associated with the Project. As described below, this section also includes an analysis of the Project's growth inducing impacts.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> …the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

   (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

   (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative analysis for this EIR is based on the Sonoma County General Plan and associated EIR. The General Plan EIR (see Exhibit 4.1-4) anticipated an increase of 1,539 housing units and 4,631,994 square feet of non-residential uses in the Sonoma Valley Planning Area (a General Plan defined area), which includes the Project and its Plan area.

In addition to the cumulative growth projections and corresponding analysis provided by the Sonoma County General Plan and General Plan EIR, the cumulative traffic analysis also assumed the following:

- Future Conditions – Future increases in traffic volumes within the study area and along the Highway 12 corridor were obtained through use of the Sonoma County Transportation Authority's (SCTA) travel demand model, which includes a horizon year of 2040. A special "run" of the model was conducted in which the existing land uses within the Plan area were assumed to remain unchanged, while regional growth continues to occur. The resulting traffic volumes were used to establish estimates of the future traffic operation in the area without implementation of the Project. By comparing this No Project scenario (General Plan buildout) to the Plus Project scenario, a clear understanding of the Project's contribution to potential future transportation impacts may be established for CEQA purposes.

The cumulative traffic scenarios and assumptions are described in greater detail in Section 3.13. Cumulative Project impacts are addressed and summarized below.

CUMULATIVE EFFECTS OF THE PROJECT

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Consistent with state CEQA Guidelines §15130(a), the discussion of cumulative impacts in this Draft EIR focuses on significant and potentially significant cumulative impacts. According to §15130(b) of the State CEQA Guidelines, in part, "[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

The goal of analysis of cumulative impacts is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant; and second, to determine whether the Project itself would cause a "cumulatively considerable" (and thus significant) incremental contribution to any such cumulatively significant impacts. (See state CEQA Guidelines §§15130[a]-[b], §15355[b], §15064[h], §15065[c]; *Communities for a Better Environment v. California Resources Agency* [2002] 103 Cal.App.4th 98, 120.) In other words, the required analysis first creates a broad context in which to assess the project's incremental contribution to anticipated cumulative impacts, viewed on a geographic scale well beyond the Plan area itself, and then determines whether the Project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable").

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify and assess potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the Sonoma County General Plan.

Project Assumptions

The Project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Project. See Chapter 2.0, Project Description, for a complete description of the Project.

Cumulative Impacts

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, noise and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the Project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

Impact 4.1: Project implementation may contribute to the cumulative degradation of the existing visual character of the region (Cumulatively Considerable and Significant and Unavoidable)

The cumulative setting for aesthetics is the Sonoma Valley Planning Area, as defined in the Sonoma County General Plan. Under cumulative conditions, buildout of the Sonoma County General Plan would result in changes to the visual character of the Sonoma Valley Planning Area and result in impacts to localized views as new development occurs within the County and the Planning Area.

As described in Section 3.1, Aesthetics and Visual Resources, there are no officially designated Scenic Highways in the Plan area. Because the Plan area is not located within a state scenic highway, implementation of the Project would not result in substantial damage to scenic resources within a state scenic highway.

While the Plan area is largely developed, existing scenic views of the Sonoma Valley may be diminished following buildout of the Project. As discussed in Chapter 3.1 under Impact 3.1-1, the Plan area is of High

visual sensitivity and the Project would result in development and improvements that are generally Co-Dominant with the surrounding visual environment. The implementation of the Project, including policies in the Specific Plan Land Use Chapter and the Design Guidelines, the goals, policies, and objectives of the General Plan (listed in Section 3.1.2, Regulatory Setting, of Section 3.1), and the County's Zoning Code requirements (summarized in Section 3.1.2, Regulatory Setting, of Section 3.1), would ensure that impacts are reduced to the greatest extent feasible. Specifically, the Land Use Chapter of the Specific Plan includes Policies SLU-1b, SLU-1c, SLU-1m, SLU-3e, SLU-3j, and SLU-3k, which generally require and/or encourage that future development be compatible with the character of the Springs, include open space or other public spaces, and integrate with the surrounding environment. Additionally, the Design Guidelines include provisions related to building scale and design, surrounding land uses, public spaces, landscaping, and fences. These proposed policies and guidelines would ensure that future development and redevelopment projects would integrate into the surrounding environment.

The design requirements ensure future development is visually compatible with the Springs area, including design of buildings to reduce bulk, use of color consistent with the community, and use of high quality materials. Measure AES-1, further requires development projects to limit the extent of site disturbance, reduce building envelopes, make building colors and textures consistent with the surrounding environment, require screen vegetation and landscape plans prior to design review, require exterior lighting plans to be subject to design review, reduce the impact from exterior lighting, and provide for energy efficient lighting. Further, the County General Plan objectives and policies encourage preservation of open space areas, retention of rural character, and preservation of roadside landscapes. These objectives and policies are further strengthened and implemented through the various Zoning Code requirements, including the Local Area Development Guidelines. The Local Area Development Guidelines for Highway 12 established by Section 26-90-110 do not establish enforceable standards, but rather are permissive in nature providing a series of recommendations for the Plan area. In the Plan area, the Local Area Development Guidelines would be superseded by the Specific Plan, which includes enforceable policies and design standards. Future development would be reviewed to ensure that future projects comply with the Specific Plan, including the Design Guidelines, the County Zoning Code, and the County General Plan.

While the Plan area is largely urbanized and developed, the Project would allow for an increase in intensity and density of the existing land uses. Development would occur on either vacant, infill parcels, or on parcels where redevelopment potential exists. As described above, future development and design review processes would ensure that future uses are pedestrian scale, blend with the existing built environment, and connect to existing and future open space and public space. However, the Project has the potential to modify views along the scenic corridor and introduce dominant and co-dominant features into an area with a High visual sensitivity.

Further, the Specific Plan includes Design Guidelines for exterior lighting that would reduce potential adverse impacts associated with light and glare. The exterior lighting guidelines require the use of light shielding fixtures. The building character guidelines prohibit the use of reflective or mirrored glass in order to reduce glare. Future development within the Plan area is also subject to design review and approval. Implementation of the Design Guidelines in the Specific Plan would ensure that future project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements, and the subsequent design review of future projects within the Plan area, would ensure that excessively reflective building materials are not used, and that the Project would not result in significant impacts related to daytime glare. As such, through

implementation of the Specific Plan's Design Guidelines, the County can ensure that adverse impacts associated with daytime glare and nighttime lighting are less than cumulatively considerable.

However, future development would result in densification of urban uses along the Highway 12 corridor and in the Donald/Verano neighborhood, including increased building heights and building mass. Use of conspicuous colors would be allowed that have the potential to focus a viewers' attention on Plan area development and divert the focus from views of the existing development, landscape, and background views of the Sonoma Valley. The Project has also the potential to modify views along the scenic corridor and introduce dominant and co-dominant features into an area with a High visual sensitivity. Therefore, cumulative impacts related to the existing visual character of the region and changes to scenic views would be **cumulatively considerable** and **significant and unavoidable**.

AIR QUALITY

Impact 4.2: Project implementation may contribute to cumulative impacts on the region's air quality (Less than Cumulatively Considerable)

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. The Bay Area Air Quality Management District's most current plan is the 2017 Clean Air Plan. The primary goals of the 2017 Clean Air Plan are to protect public health and the climate. The 2017 Clean Air Plan contains 85 individual control measures that describe specific actions to reduce emissions of air and climate pollutants from the full range of emission sources. The control measures are categorized based upon the economic sector framework used by the Air Resources Board for the AB 32 Scoping Plan Update.

As discussed under Impact 3.2-1 in Section 3.2, Air Quality, the Project is consistent with the 2017 Clean Air Plan and includes goals and policies that are consistent with and support components of the 2017 Clean Air Plan's integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors, and greenhouse gases, including Specific Plan goals, policies, and planned circulation infrastructure in support of transit, bicycling, walking, electric vehicles, and energy efficiency. The Project would also comply with the latest state legislation relating to water and waste management, which ensures that the Project would not conflict with the key elements of the 2017 Clean Air Plan relating to the water and waste management sectors. Separately, the Project does not include new stationary sources (i.e., industrial facilities, landfills, wastewater treatments plants, etc.), and therefore would not conflict with the key elements of the 2017 Clean Air Plan relating to stationary sources. Moreover, the Project does not propose agricultural land uses, or land uses that would use "super-GHGs', such as methane, black carbon, or fluorinated gases, which can have very large greenhouse gas effects.

If approval of the Project would cause the disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be inconsistent with the 2017 Clean Air Plan. The Project does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 Clean Air Plan. Additionally, the Project is consistent with the existing Sonoma County General Plan policies related to air quality. The existing Sonoma County General Plan Open Space and Resource Conservation Element includes an extensive list of objectives and policies that are specifically aimed at improving air quality. The Project is consistent with these objectives and policies, which are presented under the Regulatory Setting in Section 4.2, by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations.

The BAAQMD's May 2017 CEQA Guidelines also identify thresholds of significance for criteria air pollutants and precursors for planning-level documents. As described in Section 2.7.1 of the 2017 CEQA Guidelines, proposed plans (except regional plans) must show the following over the planning period of the plan to result in a less than significant impact:

- Consistency with current air quality plan control measures.
- A proposed plan's projected vehicle miles traveled (VMT) or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.

The analysis provided under Impact 3.2-1 in Section 3.2, Air Quality, demonstrates that the Project would be consistent with the current air quality plan control measures.

The following discussion describes VMT and population increases associated with implementation of the Project.

The Project is intended to foster a vibrant, attractive, multimodal community with increased opportunities for housing and improved circulation for pedestrians, bicyclists, and transit. The Project will accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. In order to analyze the proposed Plan's consistency with the BAAQMD thresholds listed above, this analysis looks at population growth when analyzing relative increases in local VMT.

According to the Sonoma County Transportation Authority travel model, future daily VMT in Sonoma County (under regional buildout) would be 28,570,046 miles (W-Trans, 2021). The "Project-only" daily VMT under regional buildout would be 51,459 miles. Sonoma County has an existing population of 504,217 (U.S. Census, 2017). Full buildout of the Springs Specific Plan is expected to generate approximately 1,977 residents (consistent with the scenario modelled by W-Trans).

Implementation of the Project would result in an approximately 0.18% increase in County-wide VMT, compared to a 0.39% increase in County-wide population. Therefore, the VMT increase associated with the Project is lower than the population growth associated with the General Plan. The Project would not result in VMT increases that would exceed the adopted thresholds.

The Project would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with VMT, increase opportunities for transit ridership, and improve circulation for pedestrians and bicyclists in the Plan area and the surrounding areas.

Moreover, the implementation of the relevant Sonoma County General Plan objectives and policies, and implementation of Specific Plan Measures Air-B and Air-C (as identified in Section 3.2: Air Quality), would ensure that TAC impacts associated with the Specific Plan are minimized to the maximum extent feasible. Separately, the Specific Plan area does not propose any land uses within the vicinity of any potential source of objectionable odors and does not include uses that are anticipated to result in significant levels of objectionable odors or other emissions not previously analyzed. Individual developments with the Plan Area that have the potential to generate objectionable odors, such as restaurants, would be required to comply with all State and local regulations associated with cooking equipment and controls Therefore, implementation of the Project would have a **less than cumulatively considerable** impact relative to this topic.

BIOLOGICAL RESOURCES

Impact 4.3: Project implementation may contribute to the cumulative loss of biological resources including habitats and special status species (Less than Cumulatively Considerable)

The cumulative setting for biological resources includes the Plan area and the greater Sonoma County region. Implementation of the Project, including the Zoning Map, would allow future development in the Plan area at densities and intensities greater than currently allowed, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors. Implementation of regional, State and federal regulations, such as the Endangered Species Act would minimize risks to sensitive populations and reduce cumulative impacts throughout the region.

As described in Section 3.3, Biological Resources, future development within the Plan area has the potential to result in impacts to special-status species. Occurrences of special-status species have been documented in the Plan area. As described in Section 3.3, subsequent development projects will be required to comply with the County's General Plan and adopted Federal, State, and local regulations for the protection of special-status plants and animals, including habitat. The Sonoma County General Plan includes numerous objectives and policies intended to protect special-status plants and animals, including habitat, from adverse effects associated with future development and improvement projects. The Specific Plan Design Guidelines Chapter includes Measure Bio-A, which requires plant surveys prior to construction in areas along the Agua Caliente Creek corridor and the Pequeno Creek corridor. Measure Bio-B requires avoidance and minimization measures (such as preconstruction surveys, corrective measures, and construction personnel training) for amphibian and reptile species. Measure Bio-C requires avoidance and minimization measures (such as measures should instream construction be required) for steelhead – Central Valley DPS. Measure Bio-D requires preconstruction surveys and appropriate buffers for bird species. Measure Bio-E requires surveys and buffers for bat maternity roosts if removal of roosting areas would occur during the bat pupping season.

While future development of the Plan area has the potential to result in significant impacts related to biological resources, the implementation of the mitigation measures summarized above, as well as Federal and State regulations, would reduce impacts to these resources. This is considered a **less than cumulatively considerable** impact.

CULTURAL AND TRIBAL RESOURCES

Impact 4.4: Project implementation may contribute to cumulative impacts on known and undiscovered cultural resources (Less than Cumulatively Considerable)

The cumulative setting for cultural resources includes the Plan area and the surrounding areas of Sonoma County. Cumulative development anticipated in the Plan area and the greater Sonoma County area, including growth projected by adopted general plans, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.4, Cultural Resources, and Section 3.15, Tribal Cultural Resources, the Plan area is located in an area known to have historical and tribal cultural resources. The results of Sacred Land files search were negative. Seventeen cultural resources have been identified within Plan area, according to files maintained by the Northwest Information Center (Information Center) of the California Historical Resources Information System (CHRIS). The CHRIS records search identifies buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to

the Information Center, but does not indicate the potential significance of the resources. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of Eligibility list. In addition, none are listed on the California Register of Historic Resources or the National Register of Historic Places.

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance of an archaeological, historic, or tribal cultural resource or the discovery of a previously unknown archaeological, historical, and/or tribal cultural resource.

The Sonoma County General Plan policies and objectives provide a robust framework for ensuring that effects on significant historic, archaeological and tribal cultural resources are reduced. Additionally, Section 11.14.050 of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

As discussed in Section 3.4, the Specific Plan includes Measure Cult-A, which requires additional site-specific measures and sensitivity training for future projects within the Plan area. This measure is consistent with CEQA Guidelines Section 15064.5. Measure Cult-B requires a site-specific cultural or archaeological survey to be performed for all project sites within the Plan area where a known cultural, archaeological, or cultural resource is located or where the site is sensitive for such resources. The Specific Plan includes measures TCR-A, B, and C which require resources consultation and coordination for all discretionary projects and avoidance of known resources. Measures TRC-C and TRC-D are protocol for if cultural resources are identified in the project area. These measures are consistent with CEQA Guidelines Section 15064.5 which requires a site-specific cultural or archaeological survey to be performed for all ground-disturbing projects located on sites within the Plan area where a known cultural, archaeological, or cultural resource is located or where the site is sensitive for such resources. Implementation of Specific Plan Measures Cult-A and Cult-B and TCR-A through TCR-E, in addition to General Plan policies and objectives, would ensure that this potential cumulative impact to cultural resources and tribal cultural resources is **less than cumulatively considerable**.

GEOLOGY AND SOILS

Impact 4.5: Project implementation may contribute to cumulative impacts on geologic and soils characteristics (Less than Cumulatively Considerable)

The cumulative setting area for geology and soils includes the Plan area. As discussed in Section 3.5, Geology and Soils, implementation of the Project would not result in any significant impacts related to this environmental topic. Geologic and soil impacts tend to be site-specific and project-specific. Implementation of the Project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. This is considered to be a **less than cumulatively considerable** impact, and no further mitigation is required.

GREENHOUSE GASES AND ENERGY

Impact 4.6: Project implementation may contribute to cumulative impacts on greenhouse gases and climate change (Cumulatively Considerable and Significant and Unavoidable)

The cumulative setting for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

The analysis of GHGs and climate change included in Section 3.6 was conducted at the cumulative level, since the potential impacts associated with GHGs (i.e. climate change) are global in nature. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. The proposed Specific Plan would establish land use designations to allow development in an area that currently contains residential, commercial, office, and public uses. Future development of the Specific Plan area would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to such future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as CH_4 and N_2O, from mobile sources and utility usage.

As described in Section 3.6, the Project would comply with all relevant goals, policies, and actions as provided with the Sonoma County General Plan, the Sonoma County Climate Change Action Resolution, and Plan Bay Area 2050. Moreover, the Project would be consistent the applicable GHG emissions efficiency thresholds as promulgated by the BAAQMD. However, although the Project would achieve the year 2030 per service population efficiency target in year 2030, it would not achieve the year 2050 per service population efficiency target in year 2050, as provided in the CARB 2017 Climate Change Scoping Plan. Therefore, the Project would not be in full compliance with all relevant federal, state, and local strategies to help reduce GHG emissions. This is considered to be a ***significant and unavoidable*** and ***cumulatively considerable*** impact.

HAZARDS AND HAZARDOUS MATERIALS

Impact 4.7: Project implementation may contribute to cumulative impacts related to hazards and hazardous materials (Less than Cumulatively Considerable)

The cumulative setting area for hazards and hazardous materials is the Sonoma Valley Planning Area. As discussed in Section 3.7, Hazards and Hazardous Materials, implementation of the Project would not result in any significant impacts related to hazards, including wildfire risks, and hazardous materials. Impacts related to exposure to hazardous materials impacts tend to be site-specific and project-specific. As discussed in Sections 3.7 and 3.16, the Project is not located within or adjacent to a Very High Fire Hazards Severity Zone and does have areas identified as Moderate and High Fire Hazard Severity Zones. As discussed in Section 3.7-4, the Project would not impair implementation with or physically interfere with an adopted emergency response or emergency evacuation area. Implementation of the Project would not result in increased risks of hazards in the cumulative setting area, nor would it result in any

considerable off-site or indirect impacts. As discussed in Section 3.7, federal, state, and local regulations address potential impacts with exposure to hazardous materials. As discussed in Section 3.16, Specific Plan Policies Wildfire-1 and Wildfire-2 ensure that future projects comply with applicable State and local fire safety regulations associated with wildland-urban interface, fire-safe building standards, and defensible space requirements. Subsequent development projects proposed within the Plan area would be subject to all relevant federal, state, and local requirements, including General Plan, County Code, and Specific Plan policies and actions that reduce impacts associated with hazards, including wildland fire hazards, and hazardous materials. This is considered to be a **less than cumulatively considerable** impact, and no mitigation is required.

HYDROLOGY AND WATER QUALITY

Impact 4.8: Project implementation may contribute to cumulative increases in peak stormwater runoff flows from the Plan area (Less than Cumulatively Considerable)

Subsequent development projects proposed within the Plan area, such as residential, commercial, office, and recreational projects, would result in new impervious surfaces and could reduce stormwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potentials; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff. The amount of new pavement and the extent to which it affects infiltration depends on the site-specific soil type. Projects located in urban areas would have less of an impact than projects converting open lands and spaces. The County must evaluate individual projects as they are proposed to ensure that they would not result in a significant interference with recharge.

Construction of storm drainage improvements would occur as part of an overall development project and is considered in the environmental impacts associated with project construction and implementation as addressed throughout this EIR.

Based upon the plan level analysis for this Project, development of detailed, site-specific information related to changes in stormwater runoff at the parcel- or development project-level is not feasible. As previously discussed, a future project applicant would be required to obtain permits from the U.S. Army Corps of Engineers and the Department of Fish and Wildlife if any work is performed within a regulated waterway, such as Aqua Caliente Creek. Each future development projects or projects requiring grading permits must also include detailed project-specific grading and drainage analysis that assess the drainage characteristics so that appropriate storm drainage features are included to control storm water runoff, both during and after construction. These future projects will ultimately include project specific best management measures in their plans that are designed to allow for natural recharge and infiltration of stormwater. Construction of storm drainage improvements would occur as part of an overall development project and is considered in the environmental impacts associated with project construction and implementation as addressed throughout this EIR.

The County of Sonoma has developed the proposed Specific Plan to include goals and policies that, when implemented, will reduce flooding from new development, reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. As discussed under Impacts 3.8-1 through 3.8-5, the Sonoma County General Plan also contains a number of policies that would reduce the potential for implementation of

the Project to result in increased flooding or result in water quality impacts associated with increased runoff, siltation, or erosion.

Overall, a **less than cumulatively considerable** impact would result from implementation of the Project, following the implementation of the General Plan objectives and policies and Specific Plan policies included in Section 3.8.

Impact 4.9: Project implementation may contribute to cumulative impacts related to degradation of water quality (Less than Cumulatively Considerable)

Future development projects within the Plan area could contribute to a cumulative increase in urban pollutant loading, which would adversely affect water quality. Cumulative development in the Plan area, including development accommodated by the Project, could also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The General Plan and Specific Plan policies for the project-specific impacts identified in Section 3.9 would reduce the pollutants in the stormwater from the Project to a level lower than in the runoff from most developed areas within the Plan area, because most of these areas were constructed before stormwater quality best management practices (BMPs) were required. Additionally, future development projects or projects requiring grading permits would be required to implement BMPs comparable to the BMPs identified in for the Project. Compliance with the applicable local, state, and federal regulations pertaining to water quality would ensure that the project results in a **less than cumulatively considerable** impact to surface water quality.

LAND USE

Impact 4.10: Project implementation may contribute to cumulative impacts on communities and local land uses (Less than Cumulatively Considerable)

The cumulative setting for land use and planning impacts includes the Sonoma Valley General Plan Planning Area. Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. Subsequent projects allowed by the Project may result in site specific land use conflicts; however, these effects are not anticipated to be cumulatively considerable. As part of the Project, the County would rezone the Plan area to be consistent with the Specific Plan zoning map. The Project would require modifications to the County's Zoning Ordinance to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Sonoma County Code that were adopted to mitigate an environmental effect. The Project would also require amendments to the adopted General Plan land use map for the Plan area. The environmental impacts associated with development allowed under the proposed zoning and land use designations are discussed in Sections 3.1 through 3.14 of this EIR and in the cumulative discussion provided in this chapter. Once the requested amendment is approved, the Project would be consistent with the County's General Plan.

Land use conflicts are site-specific and would not result in a cumulative impact. Incompatibility issues are generally addressed and mitigated on a project-by-project basis. The Project has been designed to be consistent with applicable aspects of the County's General Plan, and as described in this EIR, the Project would not be incompatible with any of the surrounding land uses. The Plan's contribution to cumulative land use impacts is **less than cumulatively considerable**, and no mitigation is required.

NOISE

Impact 4.11: Project implementation may contribute to the cumulative exposure of existing and future noise-sensitive land uses or to increased noise resulting from cumulative development (Cumulatively Considerable and Significant and Unavoidable)

The cumulative context for noise impacts associated with the Project consists of the existing and future noise sources that could affect the Project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total construction noise impact of the Project would not be a substantial increase to the existing future noise environment.

As discussed in Impact 3.10-1 in Section 3.10, Noise, some of the existing noise sensitive receptors located along the Plan area roadways are currently exposed to exterior traffic noise levels exceeding the Sonoma County 60 decibel (dB) day/night average sound level (L_{DN}) exterior noise level standard for residential uses. These receptors will continue to experience elevated exterior noise levels upon future development of the Project. As discussed under Impact 3.10-1, the Project's contribution to an increase in ambient traffic levels was evaluated under two thresholds: 1) would the Project cause an increase in noise in excess of the 60 Ldn standard (Policy NE-1a), and 2) for those segments already in excess of the 60 Ldn standard, would the Project cause a considerable increase in ambient noise levels based on the thresholds presented in Table 3.10-7.

As shown in Table 3.10-9, the Project would cause one roadway segment to exceed the 60 Ldn threshold for roadway noise under cumulative plus Project conditions, with noise levels increasing on Donald Street east of Robinson Road from 59 to 61 dB Ldn. Further, as shown in Table 3.10-9, some of the existing noise sensitive receptors located along 13 of the Plan area roadway segments are currently exposed to exterior traffic noise levels exceeding the Sonoma County 60 dB L_{DN} exterior noise level standard for residential uses. The modeled noise levels represent the worst-case scenario anticipating full buildout of the Specific Plan and no intervening noise barriers or topography.

The contribution to traffic noise increases resulting from future development accommodated by the Project for most roadway segments that exceed 60 dB Ldn under existing conditions is predicted to be between 0 dBA and 2 dBA L_{DN}. However, Robinson Road from Donald Street to East Verano Street will experience a 6 dB L_{DN} increase under both the Existing Plus Project and the Cumulative Plus Project scenarios and Donald Street east of Robinson Road will exceed the County's 60 dB standard under cumulative conditions. These are the only roadway segments that would experience a significant increase in traffic noise.

It should be noted that the Cumulative Plus Project traffic noise level at the nearest residences along Robinson Road is predicted to be 54 dB L_{DN}, and would not exceed the County outdoor activity area standard of 60 dB L_{DN}.

The use of rubberized asphalt or open gap asphalt can provide a 5 dBA to 6 dBA decrease in traffic noise. If economically feasible, this roadway segment could be paved with these alternative pavements in order to reduce the resulting traffic noise levels. With implementation of Mitigation Measure Noise-C, the traffic noise resulting from the segment of Robinson Road from Donald Street to East Verano Street and the section of Donald Street east of Robinson Road would be reduced to an acceptable level.

Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that alleviate noise impacts. Future development projects would address construction noise, traffic noise, stationary noise, and operational noise through implementation of Specific Plan Measures Noise-A through Noise-C. Measure Noise A requires projects to comply with the County's interior noise requirements, to ensure that outdoor activity areas along Highway 12, Donald Street east of Robinson, and along Verano Avenue from Arnold to Highway 12 are designed to meet the County's exterior noise standards, and to conduct a noise study for future residential and other noise-sensitive uses and to implement project-specific mitigation measures to meet County standards. Measure Boise-B ensures that construction activities associated with future development are analyzed pursuant to the County's Guidelines for Preparation of Noise Analysis and implement mitigation measures to ensure construction noise levels are reduced to less than significant, and to ensure that future projects adhere to the County's best management practices for construction noise to reduce noise impacts. Implementation of the objectives and policies of the General Plan would reduce noise and land use compatibility impacts from vehicular traffic noise sources and would ensure that new development is designed to include noise-attenuating features.

Implementation of Measure NOISE-C ensures that Project-related development will fund its fair-share of costs to implement and maintain the rubberized asphalt necessary to reduce noise. . As trucks and automobiles travel over these roadway segments, the rubberized asphalt would wear down. However, existing traffic and development from outside the Project area also contributes to the degradation of roadway surfaces and there is no existing funding mechanism to ensure that costs beyond the Project's fair-share are funded. Therefore, it may not be economically feasible to implement and maintain rubberized asphalt As such, the noise reduction properties of rubberized asphalt degrades over time. Because long-term sound reductions cannot be guaranteed, out of an abundance of caution, this impact would be **cumulatively considerable** and **significant and unavoidable**.

POPULATION AND HOUSING

Impact 4.12: Project implementation may contribute to cumulative impacts on population growth and displace substantial numbers of people or existing housing (Less than Cumulatively Considerable)

As described in Section 3.11, the Project accommodates future growth in the Plan area, including new businesses and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. While no specific development projects are proposed as part of the Project, the Project will accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. As described in Chapter 2.0, Project Description, buildout of the Project could yield up to 685 dwelling units, up to 120 hotel rooms, and up to 275,903 square feet of non-residential uses.

Given the historical and current population, housing, and employment trends, growth in the County, as well as the entire state, is inevitable. The primary factors that account for population growth are natural

increase and net migration. According to the California Department of Finance, Demographic Research Unit, the average annual birth rate for California is expected to be 10 births per 1,000 population. Additionally, according to the Public Policy Institute of California, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation.

Plan Bay Area 2040 states that by 2040 the Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year. From 2010 through 2040, Plan Bay Area 2040 anticipates 33,200 new households in Sonoma County, including 3,000 households in the unincorporated area. During this same period, the California Department of Finance projected that Sonoma County's population would increase by 99,976 persons countywide. While the 2040 Plan Bay Area does not include community-specific growth projections, the 2013 Plan Bay Area projected that The Springs would grow by 1,150 households. Overall, the growth associated with the Project is within the level of growth planned for the County and Bay Area.

Additionally, as described in Section 3.11, implementation of the Project would not displace substantial numbers of people or existing housing. There are approximately 557 existing residences (approximately 347 single-family units and 210 multi-family units) located within the Plan area. As buildout of the Plan area progresses, it is likely that some of the existing housing units would be remodeled, renovated, expanded on, demolished, or otherwise removed or replaced with new development. However, the Project does not require the removal of any housing. New development allowed under the Project would significantly increase the available housing stock in the County. Therefore, Project implementation would not displace substantial numbers of people or housing units. The Project would have a **less than cumulatively considerable** impact to this topic.

PUBLIC SERVICES AND RECREATION

Impact 4.13: Project implementation may contribute to cumulative impacts on public services and recreation (Less than Cumulatively Considerable)

Implementation of the Project would contribute to an increased demand for public services and facilities within the County. As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the city.

Development of the Plan area for urban uses (including residential, commercial, office, etc.) was analyzed in the County's General Plan EIR. The County's General Plan EIR analyzed impacts to public services which may occur as a result of buildout of the Plan area. The Project is consistent with the overriding considerations that were adopted for the General Plan. As such, implementation of the Project would not create new impacts over and above those identified in the General Plan Final EIR, nor significantly change previously identified impacts.

Overall, the Project's cumulative contribution to the City's public service and facility needs would be **less than cumulatively considerable**. Furthermore, other future development projects would be required by the County to pay their fair share fees toward the expansion and creation of public services and facilities. Therefore, cumulative impacts associated with public services and facilities would be considered less-than-significant.

TRANSPORTATION AND CIRCULATION

Impact 4.14: Under Future plus Project conditions, implementation of the Project would conflict with transportation and circulation thresholds (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.14, Transportation and Circulation, the Project would not conflict with applicable plans, policies, and regulations related to bicycle, pedestrian, and transit circulation and would not result in increased hazards due to design features, incompatible uses, or inadequate emergency access.

However, VMT modeling results produced by the SCTM\15 travel demand model indicate that residential uses in the Springs area would on average generate 22.4 VMT per capita with implementation of the Plan, which is a decrease from the existing average of 24.2 VMT per capita. The VMT per capita associated solely with the incremental increase in residents would be 14.7. While these shifts reflect improvement in residential VMT per capita compared to existing development, they would still fall short of the applied 12.8 VMT per capita threshold corresponding to a level of 15 percent below the regional average. As discussed in Section 3.13, the Project includes measures to promote bicycle and pedestrian travel and to ensure future projects manage transportation demand, through implementation of a Transportation Demand Management plan or comparable measures. However, uncertainty remains, however, as to whether implementation of measures to manage transportation demand and vehicle use can achieve the 12.0 percent reduction in residential VMT per capita required to reduce impacts to a less than considerable contribution to cumulative increases in vehicle travel and VMT. Continuation of subsidized rides on Route 32 in perpetuity would require a substantial funding commitment from the County of Sonoma or private development that may not realistically be achievable all years. Beyond the subsidized transit, the ability for residential development to achieve an additional 8.0 percent reduction in VMT per capita may also be infeasible, as the effectiveness of TDM can be limited outside of major urbanized areas, and some projects (particularly smaller developments) may be unable to fund offsite improvements to non-auto networks. Further, while regional strategies such as VMT mitigation fees, exchanges, and banks hold much promise, they have yet to be implemented and their structures and resulting effectiveness remain uncertain. Therefore, the resulting impact would be **significant and unavoidable** and **cumulatively considerable**.

UTILITIES

Impact 4.15: Project implementation may contribute to cumulative impacts on utilities (Less than Cumulatively Considerable)

Wastewater: The Sonoma Valley County Sanitation District (SVCSD) is operated by the Sonoma County Water Agency (SCWA). The SVCSD's treatment plant provides tertiary treatment for a permitted average daily dry weather flow capacity of 3.0 million gallons per day (mgd). The SVCSD's treatment plant currently treats approximately 2.7 mgd during dry weather conditions and an average 11 mgd wintertime maximum treatment, with winter flows peaking at 22 mgd.

As the Plan area develops in the future, there will be an increased need for water and wastewater services, including a reliable source of recycled water. These needs have been addressed in the SCWA's and SVCSD's master plans and will require that the water agency and district continue to implement phased improvements to some pump stations, sewer mains, and the wastewater treatment plant when triggered by growth.

According to EBA Engineering (see Appendix G), the total wastewater flow increase generated by the Project would be up to 166,665 gpd, or 0.16 mgd. See Table 3.14-1 for a breakdown of the net new development and associated wastewater flow increase resulting from buildout of the Plan area. An increase of 0.17 mgd would not result in exceedance of the SVCSD's treatment plant capacity of 3.0 mgd.

According to the 2016 SVCSD Master Plan Final Report, no deficiencies were identified within the system under peak dry weather flow conditions, and several recommended Capital Improvement Projects were proposed to correct capacity deficiencies identified under peak wet weather flow conditions. Of the recommended Capital Improvement Projects identified, #'s 1, 3, 4, 5, and 14, are within the vicinity of the Plan area. See Table 3-3 of the Utility Infrastructure Needs Report (Appendix G of this Draft EIR) prepared for the Project for the detailed list of Capital Improvement Projects.

As development occurs throughout the Plan area, each project will need to be analyzed on a project-by-project basis to determine the extents of the localized sanitary sewer infrastructure upgrades needed, as discussed in Section 3.14. In general, sewer system conveyance shall be designed in accordance with accepted engineering principles and shall conform to the SVCSD's Standard Plans and specifications. Overall, this is a **less than cumulatively considerable** impact.

Water: Implementation of the Project would result in increased population and employment growth within the Plan area, and a corresponding increase in the demand for additional water supplies. The complete buildout of the Plan area is estimated to require approximately 206 AFY of additional water demand. Development is expected to occur gradually over the next 20 years. As shown in Table 3.14-8 in Section 3.14, there will continue to be sufficient supplies to meet all projected demand, including the additional demand generated from the Project, in all conditions until year 2040. This conclusion is dependent on the District implementing the mandatory demand reductions as outlined in the District's Water Shortage Contingency Plan.

The Valley of the Moon Water District has evaluated their water system, identified recommended capital improvement projects, and produced cost estimates on a project-by-project basis in their 2019 Water Master Plan for the district as a whole. The recommended project data for Capital Improvement Projects relevant to the Plan area are summarized in the Utility Infrastructure Needs Report prepared for the Project (Appendix G of this Draft EIR) based on the data in the 2019 Water Master Plan.

As development occurs throughout the Plan area, each future project will need to be analyzed on a project-by-project basis to determine the extents of water infrastructure upgrades needed, as discussed in Section 3.14.

Given that the Project would not lead to insufficient water supplies in existing entitlements and resources or require new or expanded entitlements, and future projects would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates, impacts associated with water supplies are **less than cumulatively considerable.**

Solid Waste: As described in Section 3.14, the Project would generate approximately 26,084.8 pounds per day of solid waste, or 1,760.5 tons per year. The additional solid waste generated under buildout of the Project would not exceed the capacity of the Central Disposal Site. The Central Disposal Site has a permitted capacity of 32.65 million cubic yards, and remaining capacity of the 7.53 million tons. While the estimated cease operation date is January 2034, the Amended Joint Technical Document for the Sonoma Central Disposal Site identifies that the landfill has a remaining site life of 24.5 years. The addition of the

solid waste generated by the Project to the Central Landfill would not exceed the landfill's remaining capacity, as discussed under Impact 3.14-3 in Section 3.14, Utilities.

The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. This is a **less than cumulatively considerable** impact.

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action, directing:

> *Discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

The Project would result in the construction of additional housing and employment opportunities within the County of Sonoma. As discussed in Section 3.11, Population and Housing, at full buildout, the Project could yield up to 685 dwelling units, up to 120 hotel rooms, and up to 275,903 square feet of non-residential uses. Full buildout of the Project is expected to generate approximately 1,918 residents. The Project would foster economic and population growth through the construction of additional housing and employment opportunities for a variety of income levels.

Additionally, as discussed in Section 3.13, Public Services and Recreation, the Project would increase demand for other public facilities within the County. Development of the Plan area for urban uses (including residential, commercial, office, etc.) was analyzed in the County's General Plan EIR. The County's General Plan EIR analyzed impacts to public services which may occur as a result of buildout of the Plan area. While the Project would require minor off-site improvements to ensure adequate capacity in the wastewater pipes that convey sewer to the WWTP, as discussed in Section 3.14, the Project does not involve new construction or expansion of water treatment, storage, wastewater treatment, or solid waste disposal facilities. As such, implementation of the Project would not create new impacts over and above those identified in the General Plan Final EIR, nor significantly change previously identified impacts.

As future development with the Plan area proceeds, community facilities would be constructed. For example, the proposed land use designations would allow development of recreation and visitor serving commercial uses, public facility uses, retail restaurants, entertainment and hospitality-related uses, personal services, and other uses. With adherence to the existing General Plan objectives and policies intended to guide growth to appropriate areas and provide services necessary to accommodate growth,

development of the land uses allowed under the Project and the infrastructure anticipated to accommodate such development would not induce growth beyond that associated with the Project nor outside of the Plan area that would exceed adopted thresholds, or exceed the overall buildout projections analyzed in the General Plan EIR.

As demonstrated throughout this Draft EIR, the Project would not encourage or facilitate other activities that could significantly affect the majority of the environmental topics discussed in this Draft EIR, either individually or cumulatively. It is noted that significant and unavoidable impacts would occur related to aesthetics, noise, and transportation, and circulation, as discussed under Section 4.4 below.

4.3 SIGNIFICANT IRREVERSIBLE EFFECTS

Legal Considerations

CEQA Guidelines Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

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

Determining whether the Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the Project would facilitate the future development of urban uses, including residential (single family and multifamily), mixed use or live work, commercial, hotel, office, and recreation, to an area that is currently designated for urban uses by the Sonoma County General Plan. Future development of the Plan area would implement the long-term commitment to residential, commercial, and other urban uses in the Plan area. It is unlikely that circumstances would arise that would justify the return of the land to its prior condition.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction of future projects, infrastructure installation, and its continued maintenance. Construction of future projects within the Plan area would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the Project. The introduction of new residential, commercial, light industrial, and other uses to the site will result in

an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the Project will increase consumption of available supplies, including gasoline and diesel fuel, and natural gas. These energy resource demands relate to initial project construction, project operation and site maintenance and the transport of people and goods to and from the Plan area. Additional information the estimated energy usage of the Project can be found under Impact 3.6-3 of Section 3.6, Greenhouse Gases and Energy. The discussion and analysis in Section 3.6 shows that Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the Project are discussed in Sections 3.1 through 3.14 (project-level) and previously in this chapter (cumulative-level).

- Impact 3.1-1: Project implementation would result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings;
- Impact 3.6-1: Implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs;
- Impact 3.6-2: Implementation of the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- Impact 3.10-1: Implementation of the Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable standards;
- Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT);
- Impact 4.1: Project implementation may contribute to the cumulative degradation of the existing visual character of the region;
- Impact 4.6: Project implementation may contribute to cumulative impacts on greenhouse gases and climate change;
- Impact 4.11: Under Future Plus Project conditions, implementation of the Project would contribute to the cumulative exposure of existing and future noise-sensitive land uses or to increased noise resulting from cumulative development; and
- Impact 4.14: Under Future plus Project conditions, implementation of the Project would conflict with transportation and circulation thresholds.

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5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6(f)). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must "set forth only those alternatives necessary to permit a reasoned choice" (CEQA Guidelines, Section 15126.6(f)). The CEQA Guidelines provide a definition for a "range of reasonable alternatives" and, thus limit the number and type of alternatives that need to be evaluated in an EIR.

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, "feasible" is defined as:

> *… capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors* (CEQA Guidelines 15364).

The inclusion of an alternative in an EIR is not evidence that it is feasible as a matter of law, but rather reflects the judgment of lead agency staff that the alternative is potentially feasible. The final determination of feasibility will be made by the lead agency decision-making body through the adoption of CEQA Findings at the time of action on the Project. The following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6 (f) (1)).

Equally important to attaining the project objectives is the reduction of some or all significant impacts. The following significant and unavoidable impacts of the Project are discussed in Sections 3.6, 3.10, and 3.13 (project-level) and Chapter 4.0 (cumulative-level):

- Impact 3.1-1: Project implementation would result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings;
- Impact 3.6-1: Implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs;
- Impact 3.6-2: Implementation of the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- Impact 3.10-1: Implementation of the Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable standards;
- Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT);
- Impact 4.1: Project implementation may contribute to the cumulative degradation of the existing visual character of the region;

- Impact 4.6: Project implementation may contribute to cumulative impacts on greenhouse gases and climate change;
- Impact 4.11: Under Future Plus Project conditions, implementation of the Project would contribute to the cumulative exposure of existing and future noise-sensitive land uses or to increased noise resulting from cumulative development; and
- Impact 4.14: Under Future plus Project conditions, implementation of the Project would conflict with transportation and circulation thresholds.

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the Project. No comments were received during the Notice of Preparation review period related to potential alternatives to the Project to be addressed in the EIR.

PROJECT OBJECTIVES

The alternatives to the Project selected for analysis in the EIR were developed to minimize significant environmental impacts while fulfilling the basic objectives of the project. As described in Chapter 2.0, Project Description, the overall purpose of the Project is to foster a vibrant, attractive, multimodal community with increased opportunities for housing and improved circulation for pedestrians, bicyclists, and transit, consistent with the community's vision for the Plan area. The Springs Specific Plan contains development standards, design guidelines, distribution of uses, infrastructure requirements, and goals and policies for the development of a specific geographic area. These land use distributions, development standards, policies, and regulations are critical components of a specific plan, since it is through these standards, policies, and guidelines that the goals of the Project are fulfilled.

The following objectives are identified for the Project:

1. ***Recognize and Promote the Springs Commercial Corridor as a Mixed-Use "Downtown" Serving the Larger Springs Community.*** *The Springs Specific Plan encompasses the primary commercial district that serves as the "downtown" area of the larger Springs community. New commercial development along the Highway 12 corridor will increase the variety of retail shops and neighborhood services. New mixed-use development will help meet the housing needs of the community while providing pedestrian-oriented retail and restaurants. Wider sidewalks enhanced with pedestrian- and bike-friendly features will make it easier and more pleasant for residents to access local stores and services.*

2. ***Develop a Centrally-Located Community Plaza.*** *Provide a central gathering place where farmers markets, concerts, and other community events can take place to enhance the vitality of the Springs area. The Community Plaza should be designed to reflect the multi-cultural character of the community.*

3. ***Celebrate the Unique, Multi-Cultural Identity of the Springs.*** *Recognize that the Springs is a diverse, multi-cultural community with significant historic resources and character. Ensure that new development respects the area's treasured past.*

4. ***Increase Affordable, Workforce, and Mixed Use Housing.*** *Create new infill opportunities for higher density housing, while also expanding the variety of housing choices on vacant parcels in the Plan area.*

5. ***Improve the Pedestrian, Bicycle, and Transit Network.*** *Provide bicycle, pedestrian, and transit facilities throughout the Springs that are safe, well-lit, shaded, comfortable, well-connected, and accessible. This improved multimodal network will provide greater incentive for people to choose non-vehicular travel for their daily trips to reduce Vehicle Miles Traveled and support local climate goals. The Springs mobility network should recognize that non-vehicular travel is the primary travel mode for some residents.*

6. ***Ensure an Adequate Parking Supply.*** *Provide parking garages and/or surface parking lots adjacent to Highway 12, particularly in areas where there are existing parking shortages and near the area planned for the community plaza.*

7. ***Address Community Safety.*** *Create a safe environment for residents and employees by providing attractive, well-lit, and well-maintained public and community facilities that encourage regular use.*

8. ***Create and Connect to More Parks and Open Space.*** *Create new public and semi-public spaces, such as plazas, pocket parks, parklets, and green space, to create a desirable system of parks and community gathering areas.*

9. ***Regional Planning.*** *Assist the County in meeting its Regional Housing Needs Allocation by designating and zoning sites for higher densities and maintain consistency with the Priority Development Area designation by the Association of Bay Area Governments.*

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

The alternatives analyzed in this EIR include the following three alternatives in addition to the Project:

- Alternative 1 – No Project
- Alternative 2 – Reduced Growth
- Alternative 3 – Low Growth

Following the description of each alternative, Table 5.0-4 summarizes the increase in housing units, square footage of non-residential uses, and number of hotel rooms that may occur under each of the alternatives, as well as the Project.

ALTERNATIVE 1 – NO PROJECT

The CEQA Guidelines (Section 15126.6(e)) require consideration of a No Project Alternative that represents the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved. For purposes of this analysis, Alternative 1, the No Project Alternative, assumes that the Plan area maintains the existing General Plan land use designations and the existing zoning. As shown in Figure 2.0-6, the Plan area is currently designated General Commercial/Limited Commercial, Public/Quasi-Public, Recreation/Visitor-Serving Commercial, and Urban Residential by the Sonoma County General Plan Land Use Map.

As shown in Figure 5.0-1, the Plan area is currently zoned Low Density Residential (R1), Medium Density Residential (R2), Retail Business and Services (C2), Limited Commercial – Traffic Sensitive Combining (LC-TS), Administrative and Professional Office (CO), Administrative and Professional Office – Traffic Sensitive Combining (CO-TS), Planned Community (PC), Public Facilities (PF), and Recreation and Visitor-Serving Commercial (K). Table 5.0-1 summarizes the zoning districts by acreage for the Plan area.

TABLE 5.0-1: EXISTING ZONING DESIGNATION ACREAGES

EXISTING ZONING DISTRICT	*ACRES*
Low Density Residential (R1)	82.88
Medium Density Residential (R2)	22.29
Retail Business and Services (C2)	8.43
Limited Commercial – Traffic Sensitive Combining (LC-TS)	24.73
Administrative and Professional Office (CO)	0.32
Administrative and Professional Office – Traffic Sensitive Combining (CO)	2.41
Planned Community (PC)	7.80
Public Facilities (PF)	1.28
Recreation and Visitor-Serving Commercial (K)	4.39

Under Alternative 1, new development under buildout of the Plan area would result in approximately:

- 147 dwelling units, including:
    - 94 single family dwelling units;
    - 13 multifamily dwelling units; and
    - 40 mixed use or work/live units; and
- 119,156 square feet of non-residential uses, including:
    - 108,796 square feet of commercial uses;
    - 2,712 square feet of office uses; and
    - 7,648 square feet of recreation uses, and
- 120 hotel rooms

Under this alternative, the Project, including the Springs Specific Plan, associated rezoning, and associated General Plan amendment, would not be adopted. Future development within the Plan area would be subject to the existing General Plan goals, policies, and actions, as well as the County's existing zoning.

ALTERNATIVE 2 – REDUCED GROWTH

Alternative 2 provides for reduced growth in comparison to the Project. This alternative was designed to reduce the project's contribution to significant impacts that would occur with project implementation, particularly impacts related to traffic noise levels at existing receptors and traffic performance measures (such as total VMT).

Figure 5.0-2 depicts the zoning map proposed for Alternative 2. Alternative 2 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, with the exception of the following modifications:

- Reduce densities in the Donald/Verano neighborhood to reflect predominantly Low Density Residential zoning (R1 2 through R1 6), with one area designated for Medium Density Residential (R2 12);
- Replace the Recreation district located north of Old Maple Avenue with High Density Residential zoning (R3 15), removing the potential for a hotel;
- Reduce the High Density Residential zoning north of Old Maple Avenue from R3 16 to R3 15;
- Reduce the High Density Residential zoning (R3 12) to Medium Density Residential zoning (R2 12) on the east side of Highway 12 from Agua Caliente Road to the parcels south of Sunnyside Avenue and on the parcel located south of Vailetti Drive at the western edge of the Plan area;

- Revise development standards to reduce allowed development densities and intensities for the Mixed Use district to 15 dwelling units per acre for the residential component and a maximum floor area ratio of 1.6 for the non-residential component; and
- Revise development standards to reduce the allowed floor area ratio for the Recreation district (located adjacent to the existing Larson Park) to 0.25.

Table 5.0-2 summarizes the acreage by zoning district for Alternative 2.

TABLE 5.0-2: ALTERNATIVE 2 ZONING DISTRICT ACREAGES

ZONING DISTRICT	*ACRES*
Low Density Residential – 2 units per acre (R1 2)	17.20
Low Density Residential – 5 units per acre (R1 5)	0.63
Low Density Residential – 6 units per acre (R1 6)	21.33
Low Density Residential – B7 Overlay (R1 B7)	2.56
Low Density Residential – B8 Overlay (R1 B8)	7.63
Medium Density Residential – 6 units per acre (R2 6)	6.31
Medium Density Residential – 8 units per acre (R2 8)	14.71
Medium Density Residential – 9 units per acre (R2 9)	4.67
Medium Density Residential – 10 units per acre (R2 10)	0.74
Medium Density Residential – 11 units per acre (R2 11)	5.31
Medium Density Residential – 12 units per acre (R2 12)	11.89
High Density Residential – 12 units per acre (R3 12)	1.28
High Density Residential – 15 units per acre (R3 15)	8.64
Mixed Use (CM)	21.04
Neighborhood Commercial (C1)	6.50
Retail Business and Services (C2)	10.49
Planned Community (PC)	6.21
Public Facilities (PF)	3.72
Recreation and Visitor-Serving Commercial (K)	3.18

Under Alternative 2, new development under buildout of the Plan area would result in approximately:

- 519 dwelling units, including:
  - 41 single family dwelling units;
  - 398 multifamily dwelling units; and
  - 80 mixed use or work/live units; and
- 218,489 square feet of non-residential uses, including:
  - 137,904 square feet of commercial uses;
  - 62,136 square feet of office uses; and
  - 18,450 square feet of recreation uses.

ALTERNATIVE 3- LOW GROWTH

Alternative 3 provides for reduced growth in comparison to the Project. This alternative would reduce the residential and non-residential development potential to a greater extent than Alternative 2. For example, Alternative 3 would result in 120 fewer dwelling units and a reduction of the non-residential development uses by 20,475 square feet. This alternative was designed to reduce the project's contribution to significant impacts that would occur with project implementation, particularly Impacts related to traffic noise levels at existing receptors and traffic performance measures (such as total VMT).

Figure 5.0-3 depicts the zoning map proposed for Alternative 3. Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, with the exception of the following modifications to the zoning map and development standards:

- Reduce densities in the Donald/Verano neighborhood to reflect predominantly Low Density Residential zoning (R1 2 through R1 6).
- Replace the Recreation district located north of Old Maple Avenue with High Density Residential zoning (R3 15), removing the potential for a hotel;
- Reduce the High Density Residential zoning north of Old Maple Avenue from R3 16 to R3 14;
- Reduce the High Density Residential zoning (R3 12) to Medium Density Residential zoning (R2 12) on the east side of Highway 12 from Agua Caliente Road to the parcels south of Sunnyside Avenue and on the parcel located south of Vailetti Drive at the western edge of the Plan area;
- Revise development standards to reduce allowed development densities and intensities for the Mixed Use district to 15 dwelling units per acre for the residential component and a maximum floor area ratio of 1.6 for the non-residential component; and
- Revise development standards to reduce the allowed floor area ratio for the Recreation district to 0.25.

Table 5.0-3 summarizes the acreage by zoning district for Alternative 3.

TABLE 5.0-3: ALTERNATIVE 3 ZONING DISTRICT ACREAGES

ZONING DISTRICT	*ACRES*
Low Density Residential – 2 units per acre (R1 2)	11.06
Low Density Residential – 5 units per acre (R1 5)	0.63
Low Density Residential – 6 units per acre (R1 6)	27.56
Low Density Residential – B7 Overlay (R1 B7)	2.56
Low Density Residential – B8 Overlay (R1 B8)	11.15
Medium Density Residential – 6 units per acre (R2 6)	6.31
Medium Density Residential – 8 units per acre (R2 8)	14.71
Medium Density Residential – 9 units per acre (R2 9)	4.67
Medium Density Residential – 10 units per acre (R2 10)	0.74
Medium Density Residential – 11 units per acre (R2 11)	5.31
Medium Density Residential – 12 units per acre (R2 12)	5.66
High Density Residential – 12 units per acre (R3 12)	1.28
High Density Residential – 14 units per acre (R3 14)	5.42
High Density Residential – 15 units per acre (R3 15)	3.22
Mixed Use (CM)	21.04
Neighborhood Commercial (C1)	6.50
Retail Business and Services (C2)	10.49
Planned Community (PC)	6.21
Public Facilities (PF)	3.72
Recreation and Visitor-Serving Commercial (K)	3.18

Under Alternative 3, new development under buildout of the Plan area would result in approximately:

- 413 dwelling units, including:
    - 63 single family dwelling units;
    - 270 multifamily dwelling units; and
    - 80 mixed use or work/live units; and

- 198,015 square feet of non-residential uses, including:
  - 125,617 square feet of commercial uses;
  - 53,948 square feet of office uses; and
  - 18,450 square feet of recreation uses.

COMPARATIVE GROWTH PROJECTIONS

The three alternatives would accommodate differing levels of residential and employment growth. Table 5.0-4 summarizes the increase in housing units, square footage of non-residential uses, and number of hotel rooms that may occur under each of the alternatives, as well as the Project.

TABLE 5.0-4: COMPARATIVE GROWTH PROJECTIONS

	SINGLE FAMILY DWELLING UNITS	*MULTIFAMILY DWELLING UNITS*	*MIXED USE DWELLING UNITS*	*COMMERCIAL (SQUARE FEET)*	*COMMERCIAL - HOTEL ROOMS*	*OFFICE (SQUARE FEET)*	*RECREATION (SQUARE FEET)*
Proposed Project	88	461	157	168,029	120	82,226	26,648
Alternative 1	94	13	40	108,796	120	2,712	7,648
Alternative 2	41	398	80	137,904	-	62,136	18,450
Alternative 3	63	270	80	125,617	-	53,948	18,450

SOURCE: DE NOVO PLANNING GROUP, 2021.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental impacts analyzed in this EIR. Following the analysis of each alternative, Table 5.0-15 summarizes the comparative effects of each alternative.

ALTERNATIVE 1

Aesthetics and Visual Resources

Impact 3.1-1: Project implementation could result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings

As discussed in Section 3.1 under Impact 3.1-1, development allowed under the Project would result in increased development along the Highway 12 corridor which is identified as being a County designated Scenic Corridor. The hillside and open agricultural lands west and east of the Plan area are the most prominent visual feature visible from the Plan area and Highway 12. As described in Section 3.1, the Plan area is considered to be of High visual sensitivity and Project features would be Co-dominant with the existing visual environment While new development within the Plan area has the potential to interrupt views of the surrounding naturalized foothills and hillsides (from Highway 12, local roads, and other public viewpoints within and adjoining the Plan area), the Plan area is urbanized. The Design Guidelines chapter (Chapter 4) of the Specific Plan establishes the aesthetic vision for future developments' architecture, building character, land massing, site design, streetscape, lighting, signage, and landscape standards and would reduce the potential of the project to result in substantial adverse effects on a scenic vista or substantially degrade the visual character of the area. Impacts associated with the Project were determined to be significant and unavoidable and cumulatively considerable.

As discussed above, under Alternative 1, buildout of the Plan area would result in approximately 147 dwelling units and 119,156 square feet of non-residential uses. This is a reduction of 559 dwelling units and 157,747 square feet of non-residential uses. The reduced development potential under this alternative would likely result in decreased building heights, fewer structures, and decreased intensity of development. Because Alternative 1 would not result in adoption of the Specific Plan, the Design Guidelines chapter (Chapter 4) of the Specific Plan that establish the aesthetic vision for future developments' architecture, building character, land massing, site design, streetscape, lighting, signage, and landscape standards within the Plan area would not be adopted. While the 1994 Highway 12 Design Guidelines would apply to future development in the Plan area under this alternative, these existing guidelines provide recommendation and do not establish standards that are required of development projects. The County's design review requirements established under Chapter 26-82 of the County Code, including standards addressing orientation of building sites related to natural topography, the design of buildings in harmony with site characteristics, and the design of streets to preserve vistas, would apply to development under Alternative 1.

The Plan area is largely urbanized and developed. The Project and Alternative 1 would allow for an increase in intensity and density of the land uses than the current level. However, as noted above, this alternative would likely result in a decrease in development intensity compared to the Project, including a decrease in building heights, building mass, and structures in the Plan area. Alternative 1 would continue to allow future development that results in new urban uses along the Highway 12 corridor and low density residential uses in the Donald/Verano area. This impact is considered to be less than significant. Because the reduced development potential under this alternative would likely result in decreased building heights and decreased intensity in the Plan area, this impact would be reduced compared to the Project.

Impact 3.1-2: Project implementation could result in substantial damage to scenic resources within a state scenic highway

As discussed in Section 3.1 under Impact 3.1-2, because the Plan area is not located within a state scenic highway, implementation of the Project would not result in substantial damage to scenic resources within a state scenic highway. Impacts under Alternative 1 would also be less than significant, similar to the Project.

Impact 3.1-3: Project implementation could result in the creation of new sources of nighttime lighting and daytime glare

As discussed in Section 3.1 under Impact 3.1-2, implementation of the Project would have a less than significant impact associated with the potential to result in impacts related to nighttime lighting and daytime glare. Implementation of Alternative 1 would introduce new sources of daytime glare and nighttime lighting into previously undeveloped areas of the Plan area.

As noted above, because Alternative 1 would not result in adoption of the Specific Plan, the Design Guidelines chapter (Chapter 4) of the Specific Plan that establish the lighting standards within the Plan area would not be adopted. However, future development within the Plan area under Alternative 1 would be subject to the current design review and approval process, including review for conformance with County Code Section 26-82-030, which has established development standards to address lighting and glare.

Adherence to the current design requirements, and the subsequent design review of future projects within the Plan area, would ensure that excessively reflective building materials are not used, and that

this alternative would not result in significant impacts related to daytime glare. As such, through the design review process, the County can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a less than significant level under Alternative 1, similar to the Project.

Air Quality

Impact 3.2-1: Implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants

As discussed under Impact 3.2-1 in Section 3.2, implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants.

CONSISTENCY WITH THE 2017 CLEAN AIR PLAN

Similar to the Project, Alternative 1 would result in the future development of new residential and non-residential buildings that would comply with or exceed the latest version of the California Title 24 building energy efficiency standards, and would thereby be consistent with the key elements of the 2017 Clean Air Plan relating to buildings and energy. This alternative would also comply with the latest state legislation relating to water and waste management, which ensures that the alternative would not conflict with the key elements of the 2017 Clean Air Plan relating to the water and waste management sectors. Separately, Alternative 1 does not include new stationary sources (i.e. industrial facilities, landfills, wastewater treatments plants, etc.), and therefore would not conflict with the key elements of the 2017 Clean Air Plan relating to stationary sources. Moreover, Alternative 1 does not include agricultural land uses, or land uses that would use "super-GHGs', such as methane, black carbon, or fluorinated gases, which can have very large greenhouse gas effects.

Alternative 1 does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 Clean Air Plan. For the above-specified reasons, Alternative 1 would be consistent with the 2017 Clean Air Plan as promulgated by the BAAQMD, and implementation of this alternative would have a less than significant impact relative to this topic, similar to the Project.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

Similar to the Project, Alternative 1 is consistent with the objectives and policies contained in the Sonoma County General Plan, by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations. Implementation Alternative 1, which is consistent with all applicable Sonoma County General Plan objectives and policies, would have a less than significant impact relative to this topic, similar to the Project.

THRESHOLDS OF SIGNIFICANCE

Because Alternative 1 would implement the existing General Plan land use designations, this alternative would be consistent with the current air quality plan control measures. Similarly, this alternative would result in a population increase that is consistent with the existing General Plan projections. Under Alternative 1, VMT would increase by 21,268 and population would increase by 412 persons (W-trans, 2021). This results in a population increase of 0.08% compared to the existing County population of 504,217 and a VMT increase of 0.07% compared to the baseline VMT of 28,570,046. As such, VMT would not increase more than its projected population increase.

CONSISTENCY WITH THE PLAN BAY AREA 2040

The Plan Bay Area 2040 is the most recently adopted Regional Transportation Plan prepared by the Metropolitan Transportation Commission (MTC) for the San Francisco Bay Area region. The MTC calculated employment and household projections for Plan Bay Area 2040.

The Plan Bay Area 2040 forecast is based on the County's existing General Plan employment and population projections calculated using the land use plan. Because Alternative 1 would implement the existing General Plan land use designations, this alternative would result in a population increase that is consistent with the existing General Plan projections. Therefore, this alternative would be consistent with the Plan Bay Area forecasts for the Plan area.

CONCLUSION

Alternative 1 would be consistent with the 2017 Clean Air Plan, the Sonoma County General Plan, the BAAQMD Thresholds of Significance, and the Plan Bay Area 2040. Therefore, this alternative would not conflict with or obstruct implementation of the applicable air quality, cause a violation of an air quality standard or contribute to an air quality violation, or result in a cumulatively considerable net increase in criteria pollutants. There would be a less than significant impact, similar to the Project.

Impact 3.2-2: Implementation of the Project would not cause health risks associated with toxic air contaminants

The BAAQMD has also promulgated a *Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* document in May 2016, to address the issue of healthy infill development. This document includes important information for local governments, developers, and the general public, including the location of communities and places throughout the region that are estimated to have elevated levels of fine particulates and/or toxic air contaminants, as well as best practices that may be implemented by local governments and developers to reduce health risks from air pollution in these locations that experience elevated air pollution levels. The purpose of this guidance document is to encourage local governments to address and minimize potential local air pollution issues early in the land-use planning process, and to provide technical tools to assist them in doing so.

Highway 12 in Sonoma County, which includes the segment of Highway 12 within the Plan Area, is identified in the Planning Healthy Places document as heaving relatively elevated levels of air pollution,[1] due to its traffic volume exceeding 10,000 vehicles per day. For such areas, the Air District recommends implementing all of their "best practices to reduce exposure" that are feasible and applicable to a project or plan in these locations. The proposed project would implement these best practices to reduce exposure, where determined to be appropriate by the developers of individual projects within the Plan Area.

Additionally, the BAAQMD has also identified a number of areas within the Bay Area where additional analysis (i.e. further study) is recommended to assess the local concentrations of TACs and fine PM, and therefore the health risks from air pollution. These areas are provided by the Air District's mapping tool.[2] The Air District recommends using caution when considering sensitive land uses in these areas. There are two such areas identified by the Air District within the Plan Area (i.e. two gasoline stations). Specifically,

[1] See Figure 2, on page 10 of the Planning Healthy Places document.

[2] https://www.baaqmd.gov/plans-and-climate/planning-healthy-places

the gasoline stations are a Valero Station, located at 18605 Sonoma Highway, and a Sonoma Beacon station, located at 18618 Sonoma Highway. To help clarify and standardize analysis and decision-making in the environmental review process for development that would occur in the vicinity of these gas stations, future projects would be required to implement Measure Air-B, which would minimize risks associated with any new sensitive receptors located within 1,000 feet of Highway 12 or within 300 feet of the gas stations.

Separately, the BAAQMD CEQA Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The existing Sonoma County General Plan includes policies that are intended to minimize exposure of TACs to sensitive receptors (listed in the Regulatory Setting). These policies help to protect sensitive receptors, and otherwise limit air pollution during construction and operation activities. These objectives and policies are consistent with the BAAQMD recommendations that are intended to reduce health risks associated with TACs. Specifically, General Plan Policy OSRC-16i requires that any proposed new sources of toxic air contaminants provide adequate buffers to protect sensitive receptors and comply with applicable health standards. In addition, there are several policies that relate to reducing diesel particulate matter (DPM), which is a common TAC emitted from heavy-duty long-haul vehicles, as well as wood-burning fireplaces (see Policy OSRC-16l and Policy OSRC-16g).

However, unliked the project, this alternative would not include specific plan components that would minimize the potential for impacts, including Measure Air-B and Measure Air-C. Nevertheless, this alternative's contribution to TACs along Highway 12 would be reduced compared to the Project, since there would be much less development under this alternative compared to the project.

Impact 3.2-3: Implementation of the proposed Specific Plan would not create objectionable odors or other emissions that would adversely impact a substantial number of people s

Alternative 1 does not include uses that are anticipated to result in significant levels of objectionable odors. Future development projects under this alternative would address waste and potential odors in the same manner as the Project. Implementation of this alternative would have a less than significant impact relative to this topic, similar to the Project, as discussed under Impact 3.2-3 in Section 3.2.

Biological Resources

Impact 3.3-1: Implementation of the Project could have a substantial adverse effect, either directly or through habitat modifications, on a 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

As discussed under Impact 3.3-1 in Section 3.3, the Project would result in a less than significant impact associated with the potential to have a substantial adverse effect, either directly or through habitat modifications, on a 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. The area of disturbance, potential for tree removal, and loss of habitat associated with future development projects under Alternative 1 could result in the direct and indirect loss or indirect disturbance of special-status plant or wildlife, similar to the Project. However, Alternative 1 would allow less development and lower development intensities, which would result in less land disturbance than the Project.

The Project includes components that mitigate potential impacts to special-status species. Alternative 1 would not include these components since the Project would not be adopted under this alternative.

Future development within the Plan area under Alternative 1 would be subject to the existing State, federal, and local requirements, such as the existing County General Plan goals, policies, and actions, as well as the County's existing zoning. Because the overall area of disturbance (Plan area), potential for tree removal, and loss of habitat associated with future development projects under Alternative 1 would be comparable to the Project, this alternative would result in potentially significant impacts, similar to the Project. However, because this alternative does not include the policies in the Specific Plan related to biological resources, including Specific Plan Measures Bio-A through Bio-E, this impact would potentially be greater than the Project.

Impact 3.3-2: Implementation of the Project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

As noted in Section 3.3, the Plan area is located in an urban area and the majority of the project site is built out. The only aquatic resources in the Plan area are Agua Caliente Creek and Pequeno Creek. Scattered riparian habitat exists along both creeks. Other known wetlands or other waters are not found. Under Alternative 1, Medium Density Residential and High Density Residential uses are zoned within the Plan area adjacent to Aqua Caliente Creek, and Mixed Use and Recreation uses are proposed within the Plan area adjacent to Pequeno Creek. The future construction and operation of these uses will be required to comply with all applicable laws and regulations, so as not to disturb existing creek habitat.

Similar to the Project, as discussed under Impact 3.3-2 in Section 3.3, there is a chance that water features could be impacted throughout the buildout of the individual projects allowed under Alternative 1. Similar to the Project, the implementation of an individual project under Alternative 1 would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Similar to the Project, subsequent development projects allowed under this alternative will be required to comply with the County General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The Sonoma County General Plan includes numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, compliance with existing Federal and State regulations would reduce impacts to these resources. Therefore, similar to the Project, this impact is less than significant.

Impact 3.3-3: Implementation of the Project may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

The segments of Agua Caliente and Pequeno Creek that traverse the Plan area are designated with the Riparian Corridor Combining Zone, which generally prohibits ground-disturbing activities, with certain exceptions. The Riparian Corridor Combining Zone designation, which generally prohibits ground-disturbing activities within the riparian corridor with certain exceptions where vegetation removal is minimized, minor activities associated with an existing structure are involved, where it is determined that

the area has no substantial value for riparian functions, or if a conservation plan is adopted that provides for protection of the riparian functions, would be maintained under Alternative 1, as it would be under the Project (see discussion of Impact 3.3-6 in Section 3.3).

Similar to the Project, subsequent development projects allowed under this alternative will be required to comply with the County's General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. While future development allowed under both the Project and Alternative 1 has the potential to affect protected habitats, this impact is less than significant with compliance with adopted regulations and requirements, similar to the Project.

Impact 3.3-4: Implementation of the Project may result in interference 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

The only movement corridors for wildlife through the Plan area are for aquatic species along creeks and drainages, as discussed under Impact 3.3-4 in Section 3.4. As noted previously, the Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Future development in these areas allowed under both the Project and Alternative 1 would include appropriate buffers/setbacks and preserve the habitat along the creeks as required by the Riparian Corridor Combining zone. The implementation of an individual project adjacent to the creeks would require a detailed and site-specific review of the site to determine any impact on the movement habitat along Agua Caliente Creek or Pequeno Creek and would be required to be consistent with the Riparian Corridor Combining Zone standards.

Subsequent development projects allowed under the Project and this alternative would be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. Future development projects have the potential to result in impacts to protected movement corridors and because no Specific Plan requirements or comparable mitigation measures would be adopted with Alternative 1, this impact would be greater than the Project.

Impact 3.3-5: Implementation of the Project may result in conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

As discussed in Section 3.3 under Impact 3.3-5, adoption of the Project would not conflict with local policies or ordinances protecting biological resources. The Specific Plan itself does not conflict with the policies contained in the County's General Plan. Alternative 1 would also not conflict with local policies or ordinances protecting biological resources. This alternative would not involve any modifications to adopted codes, ordinances, or the General Plan. Subsequent development projects allowed under both the Project and this alternative would be required to comply with the General Plan policies, as well as the County Code. Similar to the Project, this is a less than significant impact.

Impact 3.3-6: Implementation of the Project may result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

As discussed under Impact 3.3-6 in Section 3.6, the Plan area is not subject to an adopted habitat conservation plan or natural community conservation plan. Therefore, implementation of Alterative 1 would have no impact relative to this topic, similar to the Project.

Cultural Resources

Impact 3.4-1: Implementation of the Project has the potential to cause a substantial adverse change to a historical resource, as defined in CEQA Guidelines Section 15064.5

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance of an archaeological, historic, or tribal cultural resource or the discovery of a previously unknown archaeological, historical, or tribal cultural resource under both the Project, as discussed under Impact 3.4-1 in Section 3.4, and Alternative 1. The Sonoma County General Plan includes policies that would reduce impacts to cultural, historic, and archaeological resources, as well as policies for the conservation of cultural, historic, and archaeological resources. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 (see above) of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

The Project includes components that mitigate potential impacts to cultural resources. Alternative 1 would not include these components since the Specific Plan would not be adopted under this alternative. Both the Project and this alternative would be subject to the aforementioned State and local requirements. While the area of disturbance associated with future development projects under Alternative 1 would be less than the Project, this alternative would result in potentially significant impacts associated with potential ground-disturbing activities, similar to the Project. Mitigation would be required to reduce this impact to a less than significant level. However, as no Specific Plan requirements or comparable mitigation measures would be adopted with Alternative 1, this impact would be greater than the Project.

Impact 3.4-2: Implementation of 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 resources, including those that qualify as historical resources.

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, though this potential is expected to be low based on evaluation the Cultural Resource Assessment for the Springs Specific Plan, Sonoma County, California (Peak & Associates, Inc., 2016).

The Project includes components that mitigate potential impacts to cultural resources. Alternative 1 would not include these components since the Specific Plan would not be adopted under this alternative. While the area of disturbance associated with future development projects under Alternative 1 would be less than the Project, this alternative would result in potentially significant impacts associated with potential ground-disturbing activities, similar to the Project. Mitigation would be required to reduce this impact to a less than significant level. However, as no Specific Plan requirements or comparable mitigation measures would be adopted with Alternative 1, this impact would be greater than the Project.

Impact 3.4-3: Implementation of the Project has the potential to disturb human remains, including those interred outside of dedicated cemeteries

The area of disturbance associated with future development projects under Alternative 1 could result in the direct and indirect disturbance to human remains, similar to the Project as discussed under Impact 3.4-3 in Section 3.4. The Project includes one component that mitigates potential impacts to human remains by ensuring that steps would be taken in the event that they are discovered during construction. Alternative 1 would not include this component since the Specific Plan would not be adopted under this alternative. The area of disturbance associated with future development projects under Alternative 1 could result in the disturbance of human remains, similar to the Project. As discussed under Section 3.4-3, State law establishes how to address the inadvertent discovery of human remains. Compliance with existing requirements would ensure that this impact would be similar to the Project.

Geology and Soils

Impact 3.5-1: Project implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides

Alternative 1 would result in future development of the Plan area consistent with the existing General Plan land use designations and existing zoning. This alternative would not result in development of land outside the Plan area. As such, the geologic and seismic-related conditions and potential impacts are consistent with those identified for the Project under Impact 3.5-1 in Section 3.5. Under both Alternative 1 and the Project, all future projects within the Plan area will be required to comply with the provisions of the California Building Standards Code (CBSC), which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the County, each project would be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. With the implementation of the policies and actions required by the Sonoma County General Plan, as well as applicable State and County codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be less than significant, similar to the Project.

Impact 3.5-2: Project implementation has the potential to result in substantial soil erosion or the loss of topsoil

As discussed under Impact 3.5-2, the Project would have a less than significant impact related to the potential for substantial soil erosion or the loss of topsoil. Future development allowed under the Project and Alternative 1 would be evaluated for conformance with the state and local requirements. For example, future projects would be subject to the County's Construction Grading and Drainage Ordinance, which outlines the construction grading permit requirements, as well as the County's erosion prevention and sediment control best management practices guide. A construction drainage permit will be required prior to commencing any construction drainage involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance (except where exempted from permit requirements by Subsection C of Chapter 11 of the Code). Future projects allowed under the Project and Alternative 1 would also be required to implement Low Impact Development strategies, as well as best management practices. In addition to compliance with County standards and policies, the Regional Water Quality Control Board (RWQCB) will require a project-specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area of one acre or larger. The SWPPP will include project specific best management practices

that are designed to control drainage and erosion. With the implementation of the applicable State and County requirements, potential impacts associated with erosion and loss of topsoil would be less than significant, similar to the Project.

Impact 3.5-3: Project implementation has the potential to result in development 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, lateral spreading, subsidence, liquefaction or collapse

As noted above, Alternative 1 would result in future development of the Plan area consistent with the existing General Plan land use designations and existing zoning. This alternative would not result in development of land outside the Plan area. As such, the geologic and seismic-related conditions are consistent with those associated with the Project, as discussed under Impact 3.5-3 in Section 3.5. Under both Alternative 1 and the Project, each future project in the Plan area would be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Future development and improvement projects would be required to have a geotechnical study prepared and incorporated into the improvement design, consistent with State and County requirements. With the implementation of applicable County requirements, including the policies and actions in the General Plan and County Code provisions, as well as applicable State requirements, potential impacts associated with ground instability or failure would be less than significant, similar to the Project.

Impact 3.5-4: Project implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

As discussed under Impact 3.5-4 in Section 3.5, the linear extensibility of the soils within the Plan area ranges from Low to Moderate. Figure 3.5-4 illustrates the shrink-swell potential of soils in the Plan area. Moderate expansive soils will require special design considerations due to shrink-swell potential. Design criteria and specifications set forth in the design-level geotechnical investigation (required by the County General Plan and CBSC) would ensure impacts from problematic soils are minimized. Therefore, this impact is considered less than significant, similar to the Project.

Impact 3.5-5: Project implementation has the potential to result in development on soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems

As discussed under Impact 3.5-5 in Section 3.5, the Plan area is located in an Urban Service Area and is served by municipal sewer and water. Alternative 1 would not require the use of septic tanks or alternative waste water disposal systems for the disposal of waste water. Implementation of the this alternative result in no impact relative to this topic, similar to the Project.

Impact 3.5-6: Implementation of the Project has the potential to directly or indirectly destroy a unique paleontological resource

As discussed under Impact 3.4-2 in Section 3.4, the Plan area is not expected to contain subsurface paleontological resources, although it is possible. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. The Project includes one component that mitigates potential impacts to paleontological resources by ensuring that steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. Alternative 1 would not include this component since the Specific Plan would not be

adopted under this alternative. The area of disturbance associated with future development projects under Alternative 1 could result in the direct and indirect loss or indirect destruction of a unique paleontological resources, similar to the Project. However, as no Specific Plan requirements or comparable mitigation measures would be adopted with Alternative 1, this impact would potentially be greater than the Project.

Greenhouse Gases and Energy

Alternative 1 could result in up to 94 single family dwelling units, 13 multifamily dwelling units, 40 mixed use dwelling units, 108,796 square feet of commercial uses, 2,712 square feet of office uses, and 7,648 square feet of recreation uses. This alternative would accommodate up to approximately 412 new residents (compared to 1,977 residents under the Project) and up to 271 new employees (compared to 632 employees under the Project). Impacts associated with air quality are discussed in the following section.

Impact 3.6-1: Implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

As discussed under Impact 3.6-1 in Section 3.6, implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

CONSISTENCY WITH THE CARB'S 2017 CLIMATE CHANGE SCOPING PLAN

The Specific Plan includes a number of goals and policies to decrease vehicle trips. Under Alternative 1, the Project, including the Springs Specific Plan, associated rezoning, and associated General Plan amendment, would not be adopted. Future development within the Plan area would be subject to the existing General Plan goals, policies, and actions, as well as the County's existing zoning.

The new buildings constructed and operated within the Plan area under the Project and this alternative would be subject to the current CalGreen energy efficiency standards, resulting in development that is significantly more energy efficient than the current buildings in the surrounding area, many of which were constructed under previous versions of the Title 24 energy code. The Project and this alternative would also need to operate in accordance with the goals of AB 341 that requires a 75 percent diversion rate of waste from landfills. Overall, emissions from this alternative would continue to decline beyond the buildout year due to regulations that would indirectly affect project emissions.

As discussed in Section 3.2, although buildout of the Project would be below the CARB's 2017 Climate Change Scoping Plan threshold for specific plans of 6 MT CO_2e per capita for year 2040, the project would not be below the 2 MT CO_2e per capita for year 2050, and therefore would not be considered to be fully consistent with the CARB's 2017 Climate Change Scoping Plan. Alternative 1 would have a much higher VMT per service population as compared to the Project (31.14 for this alternative compared to 19.72 for the Project). Moreover, this alternative does not provide a variety of housing types and pedestrian/bicycle/transit measures and facilities to promote non-automobile travel modes. Therefore, this No Project Alternative is also not considered to be consistent with the CARB's 2017 Climate Change Scoping Plan for year 2050.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The General Plan provides goals, policies, and actions that reduce air pollutants and GHG emissions. This alternative would be consistent with and rely on these goals, objectives, and policies. Therefore, this alternative would help to reduce air pollutants and GHG emissions, consistent with the goals, objectives, and policies contained within the General Plan.

CONSISTENCY WITH THE SONOMA COUNTY CLIMATE CHANGE ACTION RESOLUTION

The Sonoma County Climate Change Action Resolution contains local goals to reduce GHG emissions. This alternative would be consistent with all applicable GHG reduction goals identified within the Sonoma County Climate Change Action Resolution. Similar to the Project, this alternative would not conflict with the local goals included in the Sonoma County Climate Change Action Resolution.

CONSISTENCY WITH BAAQMD GUIDANCE

As discussed in Section 3.2, buildout of the Project would be below the BAAQMD Plan-level threshold for specific plans (for operational emissions) of 4.6 MT CO_2e/service population/year for specific plans.

The above-referenced BAAQMD threshold was designed to meet the AB 32 goal of achieving 1990 emission levels by year 2020. However, given that year 2020 has passed, it is important to consider the SB 32 goal for year 2030 of achieving a 40% reduction in emissions levels from 1990 by year 2030. When taking into account a 40% reduction to the BAAQMD threshold contained in the BAAQMD CEQA Guidelines, the threshold would be 2.8 CO_2e/SP/year for a specific plan, for projects post-2020.

Because this alternative would substantially reduce the development potential of the Plan area, and would reduce the associated service population, this No Project Alternative would also be below the BAAQMD operational threshold. However, as previously described, this alternative would have a much higher VMT per service population as compared to the Project (31.14 for this alternative compared to 19.72 for the Project), which is an important metric when determining the impact of a project.

Separately, the BAAQMD recommends Basic Construction Mitigation Measures for all projects, whether or not construction-related emissions exceed the thresholds of significance. The BAAQMD also encourages lead agencies to incorporate best management practices to reduce GHG emissions during construction, as applicable. Compliance with the BAAQMD construction-related mitigation requirements are considered to reduce GHG impacts at both the local and basin-wide levels. Development within the Plan area under both the Project and this alternative would implement the BAAQMD Basic Mitigation Measures, as applicable, as required by the BAAQMD.

CONCLUSION

Impacts associated with GHG plans, policies, and regulations would be significant and unavoidable under Alternative 1 and would be worse than the Project.

Impact 3.6-2: Implementation of the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

Under this alternative, future development within the Plan area would be subject to the existing General Plan goals, policies, and actions, as well as the County's existing zoning. Due to the reduction in development potential and associated energy use (including reduced fossil fuel use resulting from the

reduction in automobile trips, and reduced natural gas and electricity use resulting from the reduction in residential and non-residential development) that would occur under this alternative, the associated GHG emissions resulting from this alternative would be substantially reduced compared to the Project.

The Project would comply with all relevant goals, policies, and actions as provided with the Sonoma County General Plan, as well as all relevant GHG reduction goals contained within the Sonoma County Climate Change Action Resolution. However, the No Project Alternative is anticipated to have higher per capita GHG emissions than the Project, as the No Project Alternative would have 58% higher VMT per service population (31.14 VMT per service population for the No Project Alternative compared to 19.72 VMT per service population for the Project as shown in Table 5.0-5). Therefore, implementation of this alternative would generate GHGs that would have a significant and unavoidable impact on the environment and would have a worse impact than the Project.

Impact 3.6-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources

This alternative includes residential and non-residential land uses. The amount of energy used within the Plan area would directly correlate to the number and size of the residential units, the energy consumption of associated unit appliances, outdoor lighting, and the energy use associated with non-residential Plan area buildings and activities. Other major sources of energy consumption include fuel used by vehicle trips generated during construction and operation activities, and fuel used by off-road construction vehicles during construction.

As noted previously, this alternative would result in a large reduction in development potential for the Plan area. This would result in an associated reduction in energy use (including reduced fossil fuel use resulting from the reduction in automobile trips, and reduced natural gas and electricity use resulting from the reduction in residential and non-residential development). As such, the associated energy resources required for development and operation of this alternative would be substantially reduced compared to the Project. However, as previously noted, this alternative would have a much higher VMT per service population as compared to the Project (31.14 for this alternative compared to 19.72 for the Project), which would increase the per capita energy use associated with transportation for this alternative compared to the Project.

Overall, this alternative would not result in any significant adverse impacts related to energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of building of this alternative, including construction, operations, maintenance, and/or removal. The electricity and natural gas provider to the Plan area maintains sufficient capacity to serve the Plan area. This alternative would comply with all existing energy standards, including those established by Sonoma County, and would not result in significant adverse impacts on energy resources. This alternative would be linked closely with existing transportation networks that, in large part, are sufficient for most residents of the Plan area and the Plan area as a whole. Due to the reduced amount of energy resulting from this alternative compared to the Project, this impact would be reduced.

Hazards and Hazardous Materials

Impact 3.7-1: Implementation of the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

Future development, infrastructure, and other projects allowed under the Project and Alternative 1 may involve the transportation, use, and/or disposal of hazardous materials. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, either associated with previous activities on a site or naturally occurring hazards such as asbestos.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, Certified Unified Program Agencies (CUPAs), the State Division of Occupational Safety and Health, and the Department of Toxic Substances Control consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police Department and Fire District) would respond. All future projects allowed under the Project and Alternative 1 would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. Compliance with federal, state and local regulations in addition to General Plan Policies PA-4a through PS-4o would ensure that this potential impact is less than significant, similar to the Project.

Impact 3.7-2: Implementation of the Project has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5

As noted in Section 3.7, there are three sites in Sonoma County on the Cortese database, located in Windsor, Santa Rosa, and Bodega Bay. None of these sites are located in the Plan area. Therefore, this is considered a less than significant impact, similar to the Project.

Impact 3.7-3: Implementation of the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

Alternative 1, similar to the Project, has limited potential for the routine transport, use, or disposal of hazardous materials as discussed above (Impact 3.7-1). One school, Sonoma Charter School, is located within the Plan area. Flowery Elementary school is located immediately west of the Plan area. Additionally, one other school is located within one-quarter mile of the Plan Area: El Verano Elementary School. The area within ¼-mile of these three schools is mostly developed, but some potential for additional development exists in the area.

Similar to the Project, Alternative 1 does not propose actual businesses, industries, or development projects. As such, it is currently not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste are the Retail Business and Service and Neighborhood Commercial designations.

The Sonoma Charter School, which is located within the Plan area, is surrounded by existing residential development, and the school site is designated Public Facility by the existing zoning map. The zoning map for Alternative 1 identifies areas of Low Density Residential to the west and east of the Sonoma Charter School site, Medium Density Residential to the north of the school site, and Planned Community to the

south of the school site. These designations are not anticipated to have uses that would emit hazardous emissions or handle significant amounts of hazardous materials, substances, or waste.

All hazardous materials would be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the BAAQMD, RWQCB, Department of Toxic Substances Control, and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan policies that reduce impacts associated with hazardous materials.

Implementation of General Plan policies would ensure that this potential impact is less than significant, similar to the Project.

Impact 3.7-4: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Similar to the Project, future development under Alternative 1 (i.e., existing land use and zoning) would allow a variety of new development, including residential, commercial, mixed use, recreation, and public facility projects, which would result in increased jobs and population in the Plan area. Road and infrastructure improvements would occur to accommodate the new growth. Future projects are not anticipated to remove or impede evacuation routes. Subsequent development projects in the Plan area allowed under Alternative 1 would be subject to the County's General Plan policies which were designed to ensure that an emergency response plan is prepared and maintained. Similar to the Project, this impact would be less than significant.

Impact 3.7-5: Implementation of the Project has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

Similar to the Project, development allowed under Alternative 1 would place people and structures in areas located within the Wildland-Urban Interface. The northeastern portion of the Plan area is in a High fire hazard zone, and the southeastern portion of the Plan area is in a Moderate fire hazard zone. The remainder of the Plan area is designated as a Local Responsibility Zone. No portion of the Plan area is in a Very High fire hazard zone.

Because the entire Plan area is located within the Wildland-Urban Interface, all existing and future properties in the area are required to be built in accordance to specific codes. Future development of the Plan area under Alternative 1 and the Project would be subject to all relevant General Plan objectives and policies that provide protections from wildland fires. Compliance with the County's General Plan objectives and policies and building codes would ensure that potential wildland fire hazards are mitigated through requirements for automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, ensuring adequate fire protection services, and ensuring public awareness regarding fire safety. Implementation of Alternative 1 would have a less than significant impact with regard to this issue, similar to the Project.

Impact 3.7-6: Implementation of the Project has the potential to result in a safety hazard or excessive noise for people residing or working in the project are due to proximity to a private airstrip or public airport

As discussed in Section 3.7, the Sonoma Valley Airport is located approximately 5.7 miles south of the Plan area and there are no private airstrips in the vicinity of the Plan area. The Plan area is not located within the airport's referral area or safety zones. Implementation of Alternative 1 would have a less than significant impact with regards to this environmental issue, similar to the Project.

Hydrology and Water Quality

Impact 3.8-1: Implementation of the Project could result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality

As discussed under Impact 3.8-1 in Section 3.8, while the Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies, Sonoma Creek, which is located west of the Plan area, is listed on the Section 303(d) list of impaired water bodies for sediment, pathogens, and nutrients. The Total Maximum Daily Load (TMDL) for each of these categories provides actions to reduce sediment, pathogens, and nutrients to the Sonoma Creek watershed. The potential construction and operational water quality impacts associated with Alternative 1 are discussed below.

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

As required under the Project, future development projects under this alternative are required to comply with construction grading requirements, consistent with County Code Section 11.04.010 and projects that disturb one acre or more require project-specific. Based upon the wide scope of this alternative, development of detailed, site-specific information on this impact is not feasible. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction consistent with County and State requirements.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development under this alternative would introduce constituents into the storm water that are typically associated with urban runoff. The amount and type of runoff generated by the various future projects would be greater than under existing conditions, due to increases in impervious surfaces. There would be a corresponding increase in urban runoff pollutants and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. While these constituents would potentially result in water quality impacts to onsite and offsite drainage flows to area waterways, projects are required to comply with State and County requirements to address water quality, as discussed under Impact 3.8-1 in Section 3.8.

CONCLUSION

Under this alternative, the development potential of the Plan area would be decreased over the project and the anticipated amount of future ground disturbance would be less than the Project. Future projects under both the Project and this alternative would be subject to applicable water quality and runoff related regulations and policies. As previously described, future development projects within the Plan area are required to comply with General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality

features. The General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts, as well as comply with the CWA and regulations enforced by the RWQCB that address water quality. The implementation of these General Plan policies, combined with compliance with Federal and State regulations, would ensure that Implementation of the alternative would have a less than significant impact from these issues, similar to the Project.

Impact 3.8-2: Implementation of the Project could result in decreased groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin

Subsequent development projects proposed within the Plan area, such as residential, commercial, office, and recreational projects, under both the Project and this alternative would result in new impervious surfaces and could reduce stormwater infiltration and groundwater recharge.

Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. Development would be required to be consistent with all applicable County and service provider in infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. Additionally, future projects within the Plan area under both the Project and this alternative would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration) and use of drought tolerant plants per the County Water Efficiency Landscape Ordinance (which would minimize groundwater demand for landscaping). Further, the County's General Plan includes objectives and policies which address groundwater quality and groundwater recharge. For example, General Plan Policy WR-2f requires that discretionary projects maintain the site's pre-development recharge of groundwater to the maximum extent practicable. Implementation of the relevant General Plan objectives and policies would ensure that this alternative would have a less than significant impact relative to this topic, similar to the Project.

Impact 3.8-3: Implementation of the Project could alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation, increase the rate or amount of runoff which would result in flooding, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows

Individual future projects developed within the Plan area under both the Project and this alternative would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. The amount of impervious surfaces under this alternative would be comparable to the Project.

Alternative 1 would be subject to all existing County General Plan policies and other applicable County development regulations. The Sonoma County General Plan contains numerous policies that would reduce the potential for Implementation of the Project to result in increased flooding or result in water quality impacts associated with increased runoff, siltation, or erosion. Further, the County Flood Damage Prevention Ordinance outlines the flood prevention standards. Such measures apply to all structures or land constructed, located, extended, converted, or altered within special flood hazard areas in the county, as identified on the FEMA floodplain maps. Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the

County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits. Projects involving grading activities may also require submittal of a drainage plan, especially where alterations to natural drainage ways are proposed or where the project is in a flood prone area. Drainage plans include supporting hydrologic and hydraulic calculations. Implementation of the General Plan policies and County Code requirements would ensure that this alternative would have a less than significant impact relative to this topic, similar to the Project.

Impact 3.8-4: Implementation of the Project could result in flood hazards due to 100-year flood hazard, tsunami, or seiche zones

The majority of the Plan area and surrounding area is designated by FEMA as Zone X which is an area determined to be outside the 500-year floodplain. However, small portions of the Plan area are subject to flooding along the natural creeks and drainages that traverse the southern portion of the Plan area. The 100-year flood plain extends across Highway 12 between Encinas Lane and Meadowbrook Avenue along Agua Caliente Creek.

Subsequent development, infrastructure, and planning projects would be subject to the General Plan and County Code requirements. The policies contained in the General Plan combined with the County Code standards for floodplain development represent a comprehensive approach by Sonoma County to reduce the risks of flooding to city residents and properties. Furthermore, as described in the regulatory setting section of Section 3.8, numerous Federal, State, and local agencies are responsible for maintaining flood protection features in the County, including the U.S. Army Corps of Engineers, DWR, and Department of Fish and Wildlife at the Federal and State level. The implementation of these policies and regulations would ensure that implementation of this alternative would have a less than significant impact related to these issues, similar to the Project.

Impact 3.8-5: Implementation of the Project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

The San Francisco Basin Water Quality Control Plan and the Sonoma Valley Groundwater Management Plan are the two guiding documents for water quality and sustainable groundwater management in the Plan area. Consistency with the two plans are discussed below.

SAN FRANCISCO BASIN WATER QUALITY CONTROL PLAN

As discussed in Impact 3.8-1, impacts related to water quality during construction and operation would be less-than-significant with implementation of a project-specific drainage study and, when applicable, a SWPPP and compliance with relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The County General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

Further, Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and

consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits. This Chapter of the Code applies to projects regardless of the site size. Future projects in the Plan area under both the Project and Alternative 1 would be subject to the requirements included in Chapter 11A.

SONOMA VALLEY GROUNDWATER MANAGEMENT PLAN

Similar to the Project as discussed in Impact 3.8-2, this alternative would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the alternative may impede sustainable groundwater management of the basin. Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. The Plan area is largely built out and developed. Development of vacant parcels would result in an increase in impervious surfaces within the Plan area under both the Project and this alternative. However, development would be required to be consistent with all applicable County and service provider in infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. Additionally, future projects within the Plan area under this alternative would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (which would provide opportunities for groundwater infiltration in areas which would typically be paved with impermeable surfaces).

CONCLUSION

Overall, implementation of this alternative would have a less than significant impact related to conflicts with the San Francisco Basin Water Quality Control Plan and Sonoma Valley Groundwater Management Plan, similar to the Project.

Land Use

Impact 3.9-1: Implementation of the Project would not physically divide an established community

The land uses allowed under Alternative 1 (i.e., the existing land use and zoning designations) provide opportunities for cohesive new growth within existing urbanized areas of the County, as well as new infill growth adjacent to existing urbanized areas, but would not create physical division within the community. This alternative does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. Alternative 1 would have a less than significant impact associated with the physical division of an established community, similar to the Project.

Impact 3.9-2: Implementation of the Project may conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect

The State would continue to have authority over any State-owned lands in the vicinity of the Plan area, such as Highway 12, and Alternative 1 would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

The Sonoma County General Plan 2020 is the overarching policy document that guides land use, housing, transportation, infrastructure, community services, and other policy decisions. The Land Use Element of the General Plan establishes land uses for the Plan area. The land uses allowed under Alternative 1 are consistent with the General Plan, since Alternative 1 would not change the land uses in the Plan area. Alternative 1 would not remove or conflict with County plans, policies, or regulations adopted for environmental protection. Therefore, Alternative 1 would be consistent with the County's General Plan.

This alternative would not modify or change any land use plans, policies, or regulations and does not involve any entitlements. This alternative would continue to implement the Sonoma County General Plan land use requirements, County Zoning Code requirements, and other applicable land use requirements in the Plan area and would, therefore, have a less than significant impact relative to land use and planning, similar to the Project.

Impact 3.9-3: Implementation of the Project may conflict with an applicable habitat conservation plan or natural community conservation plan

As discussed under Impact 3.9-3 in Chapter 3.9, no natural community conservation plans or habitat conservation plans have been adopted in Sonoma County. Alternative 1 would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Implementation of this alternative would have no impact relative to this topic, similar to the Project.

Noise

Alternative 1 could result in up to 94 single family dwelling units, 13 multifamily dwelling units, 40 mixed use dwelling units, 108,796 square feet of commercial uses, 2,712 square feet of office uses, and 7,648 square feet of recreation uses. This alternative would accommodate up to approximately 412 new residents (compared to 1,977 residents under the Project) and up to 271 new employees (compared to 632 employees under the Project). Impacts associated with noise are discussed in the following section.

Impact 3.10-1: Implementation of the Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable standards

TRAFFIC NOISE – EXISTING RECEPTORS

Table 3.10-9 in Section 3.10 shows the predicted traffic noise level increases on the local roadway network for Existing No Project, Existing + Project, Cumulative, and Cumulative + Project conditions as a result of the Project. As shown in Table 5.0-5 (see Transportation and Circulation discussion below), Alternative 1 would result in a substantial reduction of automobile trips compared to the Project. This reduction in trips would correspond to a reduction in predicted traffic noise levels compared to the Project.

Some of the existing noise sensitive receptors located along the Plan area roadways are currently exposed to exterior traffic noise levels exceeding the Sonoma County 60 decibels (dB) day/night average sound level (LDN) exterior noise level standard in outdoor activity areas set in the General Plan Noise Element. These areas would continue to experience elevated exterior noise levels upon future development of the Project and this alternative. Under the Project, Robinson Road from Donald Street to East Verano Street will experience a 6 dB LDN increase under both the Existing Plus Project and the Cumulative Plus Project scenarios and Donald Street east of Robinson Road will exceed the County's 60 dB standard under Cumulative plus Project conditions. These are the only roadway segments which experience a significant

increase in traffic noise. Additionally, although there would be an significant increase in the ambient noise levels, the Cumulative Plus Project traffic noise level at the nearest residences along Robinson Road is predicted to be 54 dB LDN, and would not exceed the County standard of 60 dB LDN.

Under Alternative 1, the increased traffic noise at the study roadway segments, including the Robinson Road from Donald Street to East Verano Street and Donald Street east of Robinson Road roadway segments, would be reduced compared to the Project and would have less of an impact.

TRAFFIC NOISE – NEW SENSITIVE RECEPTORS

As described in Section 3.10, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan and Specific Plan policies that alleviate noise impacts. Implementation of General Plan Policies NE-1a, NE-1b, NE-1c, and NE-1g, and the Specific Plan Environmental Measures related to noise, would ensure that this potential impact is less than significant for the Project. Since Alternative 1 would generate less traffic than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

STATIONARY AND OPERATIONAL NOISE

As described in Section 3.10, the County's General Plan and the proposed Specific Plan include policies that are intended to reduce operational noise associated with point sources. Specifically, General Plan Policies NE-1a, NE-1c, NE-1d, NE-1e, NE-1f, and NE-1h, and Specific Plan Environmental Measures related to noise, would reduce noise associated with point or operational sources. Implementation of proposed Specific Plan policies, would ensure that this impact is less than significant for the proposed Project. Since Alternative 1 would generate less stationary and operational noise due to the reduction in potential development in comparison to the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

CONSTRUCTION NOISE

During construction of subsequent development projects proposed within the Plan area, including roads, water and sewer lines, and related infrastructure, construction noise would add to the noise environment in the vicinity of the Plan area. Construction-related noise would also be generated by increased truck traffic on area roadways. A significant noise source resulting from construction of subsequent development projects in the Plan area would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. These future noise increases would be of short duration, and would likely occur primarily during daytime hours. As provided in Section 3.10, implementation of Specific Plan Noise Measure B would ensure that this impact for the proposed Project is less than significant. Since Alternative 1 would generate less construction than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

Impact 3.10-2: Implementation of the Project has the potential to generate excessive groundborne vibrations or groundborne noise

The primary vibration- and groundborne noise- generating activities associated with implementation of the Project would occur during construction when activities such as grading, utilities placement, and road construction occur. Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage. Construction vibration levels anticipated for future development projects within the Plan area are less than the 0.1 in/sec criteria

(for human annoyance) at distances of 50 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of this alternative would have a less than significant impact, similar to the Project.

Population and Housing

Impact 3.11-1: Implementation of the Project would not induce substantial population growth

Alternative 1 accommodates future growth in the Plan area allowed under the existing County land use designations. While no specific development projects are proposed as part of the Project or Alternative 1, Alternative 1 would accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development as envisioned by the General Plan. As shown in Table 5.0-4, Alternative 1 could result in up to 94 single family dwelling units, 13 multifamily dwelling units, 40 mixed use dwelling units, 108,796 square feet of commercial uses, 2,712 square feet of office uses, and 7,648 square feet of recreation uses. This alternative would accommodate up to approximately 412 new residents (compared to 1,977 residents under the Project) and up to 272 new employees (compared to 632 employees under the Project).

With adherence to the existing General Plan goals, objectives, and policies intended to guide growth to appropriate areas and provide services necessary to accommodate growth, development of the land uses allowed under Alternative 1 and the infrastructure anticipated to accommodate such development would be consistent with the long-range growth planned for the County and Bay Area and would not induce growth that would be considered substantial. Because Alternative 1 would increase population substantially less than the Project at full buildout, this alternative would have reduced impacts associated with population growth.

Impact 3.11-2: Implementation of the Project would not displace substantial numbers of people or existing housing

There are approximately 557 existing residences (approximately 347 single-family units and 210 multi-family units) located within the Plan area. As buildout of the Plan area progresses under both the Project and Alternative 1, it is likely that some of the existing housing units would be remodeled, renovated, expanded on, demolished, or otherwise removed or replaced with new development. However, Alternative 1 does not require the removal of any housing. Alternative 1 would accommodate up to 147 new housing units. New development allowed under Alternative 1 would significantly increase the available housing stock in the County, but the number of units would be significantly reduced from 706 to 147 units. Therefore, Alternative 1 would not displace substantial numbers of people or housing units. Therefore, impacts associated with displacement would be less than significant, similar to the Project.

Public Services and Recreation

Impact 3.12-1: Implementation of the Project could result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services

As shown in Table 5.0-4, Alternative 1 could result in up to 94 single family dwelling units, 13 multifamily dwelling units, 40 mixed use dwelling units, 119,156 square feet of commercial uses, 2,712 square feet of office uses, and 7,648 square feet of recreation uses. Development and growth facilitated by the County General Plan (i.e., Alternative 1) would result in increased demand for public services, including fire

protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the County.

As future development and infrastructure projects (including potential new public facilities) within the Plan area are considered by the County, each project will be evaluated for conformance with the Specific Plan, Sonoma County General Plan, Sonoma County Municipal Code, and other applicable regulations. The Sonoma County General Plan includes a range of objectives and policies to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the County and appropriate service agency, and that new development funds its fair share of services. Therefore, this impact is considered less than significant and no additional mitigation is necessary. Alternative 1 would significantly reduce the development potential in the Plan area, which would decrease demand on governmental facilities compared to the Project. Therefore, impacts related to governmental facilities and the provision of public services would be reduced compared to the Project.

Impact 3.12-2: Implementation of the Project may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities

Growth accommodated under Alternative 1 would include a range of uses that would increase the population of the county and also attract additional workers and tourists to the county. This growth would result in increased demand for parks and recreation facilities. The provision of new park and recreational facilities is required by Sonoma County General Plan Policy PS-2g. The additional demand on existing parks and recreational facilities, particularly regional facilities, would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown. This alternative would significantly reduce the development potential in the Plan area. Therefore, impacts related to demand for and use of parks and recreation facilities would be reduced compared to the Project.

Overall, this impact is considered less than significant and no mitigation is necessary, similar to the Project. As noted previously, Alternative 1 would significantly reduce the development potential in the Plan area, which would decrease demand on park and recreation facilities compared to the Project. Therefore, impacts related to existing park and recreation facilities would be reduced compared to the Project.

Impact 3.12-3: Implementation of the Project may increase demand for schools and result in the need to construct new schools

Implementation of Alternative 1 would indirectly lead to new population growth within the county, which would increase the demand for schools and school facilities. Subsequent development projects within the Plan Area would be subject to the applicable school facility impact fees. Additionally, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that provide provisions related to schools. For these reasons, implementation of Alternative 1 would have a less than significant impact related to school facilities. Because the residential development would be significantly reduced from 706 units under the Project to 147 units under Alternative 1, the resulting student generation would be significantly reduced compared to the Project. Therefore, impacts related to school facilities would be reduced compared to the Project.

Transportation and Circulation

An evaluation of the potential transportation and circulation impacts associated with buildout of Alternative 1 is presented below, including a quantitative analysis of potential traffic impacts. A comparison is also provided of impacts and mitigation measures identified for Alternative 1 versus the Project.

Table 5.0-5 summarizes total VMT, daily VMT, population, and daily trips associated with the Project and Alternative 1, based on information provided by W-trans in 2019 and 2021. It is noted that the trip generation analysis was prepared based on an estimated 685 units, 275,903 non-residential square feet, and 120 hotel rooms for the Project and 87 units, 123,970 non-residential square feet, and 120 hotel rooms for Alternative 1. While the projected units and non-residential development have changed for the Project and Alternative 1, the daily trip analysis remains useful for comparative purposes.

TABLE 5.0-5: VEHICLE MILES TRAVELED, DAILY VMT, POPULATION, AND DAILY TRIPS – PROJECT AND ALTERNATIVE 1

	BASELINE	*PROJECT*	*ALTERNATIVE 1*
VEHICLE MILES TRAVELED			
Daily VMT (Baseline + Project)[1]	28,570,046	28,621,505	28,591,314
Scenario Daily VMT less Baseline[2]	-	51,459	21,268
Increase over Baseline	-	0.18%	0.07%
Scenario Annual VMT[1]	-	18,319,304	7,571,383
HOME-BASED AND EMPLOYEE BASED DAILY VMT			
Home-based Daily VMT[2]	-	29,062	3,168
Employee-based Daily VMT[2]	-	9,988	5,700
Home-based Daily VMT (per capita)[2]	12.8 Regional Threshold	14.7	7.7
Employee-based Daily VMT (per capita)[2]	18.5 Regional Threshold	15.8	21.0
POPULATION			
Residential Population[1,2]	504,217	1,977	412
Residential Population Increase	-	0.39%	0.08%
Employees[2]	-	632	271
Service Population	-	2,609	683
VMT per Service Population	-	19.72	31.14
DAILY VEHICLE TRIPS			
Northern Plan Area[3]	-	6,524	3,364
Southern Plan Area[3]	-	3,934	1,496
Total[3]	-	10,458	4,860

SOURCE: 1 W-TRANS, 2021B

2 W-TRANS, 2021A

3 W-TRANS, 2019

Each impact is discussed qualitatively in the following section.

Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT)

As shown in Table 5.0-5, the VMT modeling results produced by the SCTM\15 travel demand model indicate that the increase in residential uses under Alternative 1 would result in 7.7 home-based VMT per capita, which is less than the home-based daily VMT threshold of 12.8 and less than the Project's residential VMT of 14.7. Under Alternative 1, employee-based VMT associated with the increase in non-residential uses would be 21.0 VMT, which exceeds the threshold of 18.5 VMT and exceeds the Project's employee-based VMT of 15.8. While Alternative 1 would not result in a significant impact associated with the home-based VMT, Alternative 1 would result in a significant impact associated with employee-based VMT. Further, overall VMT per service population would be 31.14 under Alternative 1, which is worse than the Project's VMT per service population of 19.72.

As discussed in Section 3.13 under Impact 3.13-1, while regional strategies such as VMT mitigation fees, exchanges, and banks hold much promise, they have yet to be implemented and their structures and resulting effectiveness remain uncertain. Further, under Alternative 1, the Specific Plan policies and programs that would improve bicycle and pedestrian facilities and use in the Plan area and promote transit service to the Plan area would not be implemented. Therefore, the impact would be significant and unavoidable under Alternative 1 and the impact would be worse than the Project.

Impact 3.13-2: Implementation of the Project would not substantially increase hazards due to a geometric design feature or incompatible uses

As discussed under Impact 3.13-2 of Section 3.13, the Project would have a less than significant impact associated with the potential to substantially increase hazards due to a design feature. While Alternative 1 would reduce land use densities and intensities, it would not result in any significant changes to design features associated with the Specific Plan or subsequent development in comparison to the Project. Therefore, the same evaluation of design hazards completed under Impact 3.13-2 in Section 3.13 for the Project also applies to Alternative 1. Impacts associated with Alternative 1 would remain less than significant, similar to the Project.

Impact 3.13-3: Implementation of the Project would not result in impacts related to emergency access

As discussed under Impact 3.13-3 of Section 3.13, the Project would have a less than significant impact associated with impacts related to emergency access. Alternative 1 would not change any features of the circulation plan or result in any changes that would affect emergency access. Therefore, the assessment of the Plan's potential impacts to emergency access is the same for both the Project and Alternative 1, as is the list of Specific Plan policies anticipated to mitigate potential impacts. Emergency access impacts associated with Alternative 1 would be less than significant, similar to the Project.

Impact 3.13-4: Implementation of the Project would not conflict with a program, plans, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities

As discussed under Impact 3.13-4 of Section 3.13, the Project would have a less than significant impact associated with impacts related to potential conflicts with multi-modal circulation policies, plans, or programs or the potential to decrease performance or safety of public transit, bicycle, or pedestrian facilities. As with the Project, Alternative 1 is consistent with and expands upon the pedestrian and bicycle

network identified in the Sonoma County Bicycle and Pedestrian Plan. The Project and Alternative 1 also support existing policies regarding non-motorized transportation, including SCTA's Moving Forward 2040 and Sonoma County's General Plan 2020.

Alternative 1 does not include the same set of recommended pedestrian improvements as the Project including sidewalk gap filling, establishing new path segments, and identification of locations on the Highway 12 corridor where new crosswalks and pedestrian enhancements would be installed. Alternative 1 also does not include the same bicycle network as depicted on the Bicycle Circulation Plan (Figure 6 in the Springs Specific Plan) including modification of existing bicycle lanes on Highway 12 to include a striped buffer between the bike lane and vehicle lanes. Future development under this alternative would be required to develop pedestrian, bike, and transit facilities consistent with the Sonoma County Bicycle and Pedestrian Plan, SCTA's Moving Forward 2040, and Sonoma County's General Plan 2020.

Alternative 1 would generate slightly less vehicular and bicycle traffic to side streets in the Plan area, and the potential for any individual side street to be so impacted by traffic as to create a hazard to bicyclists is limited. Alternative 1 is expected to increase population and employment within the Plan area, adding to the demand for transit service provided by Sonoma County Transit, albeit at lower levels than the Project since the intensity of new development would be lower.

In summary, while buildout of Alternative 1 would be expected to generate slightly lower levels of pedestrians, bicyclists, and transit riders than the Project, the assessment of the Plan's potential impacts to multi-modal circulation would essentially be the same. As a result, the potential impacts to multi-modal circulation associated with Alternative 1 would remain less than significant, similar to the Project.

Utilities

Impact 3.14-1: Implementation of the Project would not 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 providers existing commitments, or require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects

WASTEWATER GENERATION AND CAPACITY

As discussed under Impact 3.14-1 in Section 3.14, the Project would have a less than significant impact related to the potential to exceed wastewater treatment capacity or the requirements of the RWQCB. While the Project would generate 166,654.8 gallons per day (gpd), or 0.17 mgd of wastewater, Alternative 1 would generate 48,157 gpd, or 0.05 mgd as shown in Table 5.0-6. Alternative 1 would generate 29 percent of the wastewater generated by the Project.

TABLE 5.0-6: ALTERNATIVE 1 WASTEWATER GENERATION

LAND USE CATEGORY	*WASTEWATER FLOW RATE*	*WASTEWATER FLOW INCREASE (GPD)*
Single Family Units	200 per unit	18,800.0
Multifamily Units	160 per unit	2,080.0
Work/Live and Mixed Use Units	160 per unit	6,400.0
Commercial Square Feet	0.19 per square foot	20,671.3
Office Square Feet	0.076 per square foot	206.1
Hotel Rooms	100 per room	-
Recreation Square Feet	0	-
TOTAL	--	48,157.4

SOURCE: EBA, 2019; DE NOVO PLANNING GROUP, 2021.

The Sonoma County General Plan includes objectives and policies that would reduce impacts related to wastewater treatment.

It is noted that the Specific Plan includes infrastructure policies aimed to support the private development and public improvements which would result from Implementation of the Project. Because this alternative would not include adoption of the Specific Plan and associated policies, subsequent development projects under this alternative would not be subject to these policies and would not include a comprehensive approach to funding wastewater improvements.

Buildout of the Plan area under this alternative would increase wastewater treatment demand; however, due to the substantial decrease in development potential under this alternative, the associated demand on utilities, including wastewater treatment, would also decrease. While full buildout of the Project and Alternative 1 would slightly increase the existing treatment demands of the treatment plant when combined with future growth throughout other areas of the County, the County's General Plan includes provisions to ensure that new development cannot be approved until it can be demonstrated that adequate capacity is available to serve it. As described above, the Wastewater District must also periodically review and update their master plan, and as growth continues to occur within the Plan area, the district will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that the General Plan includes a comprehensive set of objectives and policies to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are less than significant. Because the amount of wastewater generated by this alternative would be substantially reduced, this impact would also be reduced when compared to the Project.

WASTEWATER FACILITIES AND INFRASTRUCTURE

Similar to the Project, the majority of the required wastewater conveyance infrastructure would be primarily be constructed on-site in conjunction with development and redevelopment of individual parcels within the Plan area. Wastewater conveyance infrastructure would be located underground, within the right-of-way footprint of future roadways in the Plan area, and must be constructed to meet the requirements contained in the Sonoma Valley County Sanitation District Sanitation Codes and Standards. Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. As future development and infrastructure projects are considered by the County, each project would be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations.

The County's General Plan includes objectives and policies designed to ensure adequate wastewater treatment capacity is available to serve development, to minimize the potential adverse effects of wastewater treatment, and to ensure that development does not move forward until adequate wastewater capacity exists. Policy PF-1d requires all development projects to obtain written certification that either existing services are available or needed improvements will be made prior to occupancy. Subsequent development projects proposed within the Plan area would be subject to these policies. This is a less than significant impact, similar to the Project.

Impact 3.14-2: Implementation of the Project would not require or result in the relocation of new or expanded water facilities, and would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years

Implementation of this alternative would result in increased population and employment growth within the Plan area, and a corresponding increase in the demand for additional water supplies. As discussed in Section 3.14, the Project would have a less than significant impact related to the demand for water supply. The Project's water demand would be 206 acre-feet per year (AFY) while the water demand for this alternative would be approximately 79 AFY, as shown in Table 5.0-7. This is 38 percent of the wastewater generated by the Project.

TABLE 5.0-7: ALTERNATIVE 1 WATER DEMAND

LAND USE CATEGORY	*CONNECTION FACTOR*	*WATER DEMAND PER CONNECTION (AFY)*	*WATER DEMAND (AFY)*
Single Family Units	1 connection per unit	0.26681	25.1
Multifamily Units	1 connection per 10 units	1.13296	1.5
Work/Live and Mixed Use Units	1 connection per 12 units	1.13296	3.8
Commercial Square Feet	1 connection per 4,000 SF	1.14525	31.1
Office Square Feet	1 connection per 3,500 SF	1.14525	0.9
Hotel Rooms	0.525 rooms per connection	0.26681	0.0
Recreation Square Feet	1 connection per 4,450 SF	1.6258	2.8
Mixed Use Irrigation	3 new connection equivalent total assumed for irrigation for mixed use projects	1.6258	4.9
Commercial Irrigation	6 new connection equivalent total assumed for irrigation for commercial projects	1.4898	8.9
TOTAL	--	--	78.9

NOTE: SF = SQUARE FEET
SOURCE: DE NOVO PLANNING GROUP, 2021

The County's General Plan includes a range of objectives and policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Subsequent development projects under this alternative would be subject to all relevant General Plan objectives and policies that reduce impacts related to water supply.

Given that the General Plan includes a comprehensive set of goals, objectives, and policies to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are less than significant. Because this alternative would substantially reduce the water demand compared to the Project, this impact would be reduced under this alternative.

WATER FACILITIES AND INFRASTRUCTURE

Development and growth in the Plan area under this alternative would result in increased demand for water supplies, including water conveyance and treatment infrastructure. As described under Impact 3.14-2 in Section 3.14, the projected 2040 water supplies are adequate to meet demand that would be generated by buildout of the Project. As noted previously, due to the substantial decrease in development potential under this alternative, the associated demand on utilities, including water demand, would also decrease. As such, implementation and buildout of this alternative would not result in the need to construct or expand water supply and treatment facilities that have not already been described and accounted for in the SCWA's 2015 UWMP.

Future development in the Plan area under both the Project and this alternative would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the County's existing water infrastructure network. Any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under this alternative.

This impact is considered less than significant. Because the water demand generated by this alternative would be substantially reduced, this impact would also be reduced when compared to the Project.

Impact 3.14-3: The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals

As shown in Table 5.0-4, Alternative 1 could result in up to 94 single family dwelling units, 13 multifamily dwelling units, 40 mixed use dwelling units, 108,796 square feet of commercial uses, 2,712 square feet of office uses, and 7,648 square feet of recreation uses. This alternative would accommodate up to approximately 412 new residents (compared to 1,977 residents under the Project) and up to 271 new employees (compared to 632 employees under the Project). Implementation of this alternative would result in an increase in solid waste generation. Compared to the Project, the amount of solid waste would be substantially reduced due to the reduction in development potential and associated population.

While there is adequate permitted landfill capacity to accommodate future growth, the County's General Plan includes policies to further reduce the project's impact on solid waste services. Implementation of this alternative would not exceed the permitted capacity of the landfill serving the County. Therefore, through compliance with the General Plan policies, impacts to solid waste are less than significant. Because the amount of solid waste generated by this alternative would be substantially reduced, this impact would also be reduced when compared to the Project.

Tribal Cultural Resources

Impact 3.15-1: Implementation of the Project has the potential to cause a substantial adverse change to a tribal cultural resource as defined in CEQA Guidelines 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), or to a resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Seventeen cultural resources have been identified within the Plan area, according to files maintained by the Northwest Information Center (Information Center) of the CHRIS. The CHRIS records search identifies buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to the Information Center. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of Eligibility list. In addition, none are listed on the CRHR or the NRHP. The results of Sacred Land files search were negative.

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance or discovery of an archaeological, historic, or tribal cultural resource.

The General Plan policies and objectives, listed in the Regulatory Setting subsection provided in Section 3.15: Tribal Cultural Resources, provide a robust framework for ensuring that effects on significant historic, archaeological and tribal cultural resources are reduced. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

The Project includes components that mitigate potential impacts to cultural and tribal resources. Alternative 1 would not include these components since the Specific Plan would not be adopted under this alternative. Both the Project and this alternative would be subject to the aforementioned State and local requirements. While the area of disturbance associated with future development projects under Alternative 1 would be less than the Project, this alternative would result in potentially significant impacts associated with potential ground-disturbing activities, similar to the Project. Mitigation would be required to reduce this impact to a less than significant level. However, as no Specific Plan requirements or comparable mitigation measures would be adopted with Alternative 1, this impact would be greater than the Project.

Wildfire

Impact 3.16-1: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The County has an Emergency Operations Plan, Hazard Mitigation Plan, and Community Wildfire Protection Plan. The EOP and its Annexes are not a formally "adopted" plan. However, the EOP functions as the emergency response plan and emergency evacuation plan for the unincorporated County, including for the Plan area. For the reasons discussed below, the Project would not impair implementation of or physically interfere with the EOP.

According to the EOP Evacuation Annex, the County has primary responsibility for emergency evacuation in unincorporated areas, such as the Springs. Any new development in the Plan area, facilitated by this plan, would be accessed by preexisting roadways. No new roads are provided for or contemplated in the Plan. The Specific Plan would not create physical impediments or interfere with the use of the roadways for evacuation or response during an emergency. All future development in the Plan area would be required to meet the most current applicable fire safety and emergency access and egress standards, including those regarding roadway width, turnarounds, and other necessary capacities.

As described in Section 3.12, Public Services, all new construction within the Plan Area would be subject to a Fire Impact Fee, adopted on March 23, 2021. The purpose of the fire impact fee is to fund the cost of fire protection and emergency response facilities, apparatus, and equipment attirubtable to new residential and nonresidential development in the District. The fire impact fee will ensure that new development will not burden existing development with the cost of expanded facilities, apparatus, and equipment required to accommodate growth as it occurs within the District. (Sonoma Valley, 2022).

The EOP's Evacuation Annex discusses evacuation methods, routes, and assets. The primary mode of evacuation is assumed to be various forms of ground transport (personal vehicle, bicycle, rail, bus, etc.)

for most persons in an evacuation area. Because evacuation routes are situation-specific, the Evacuation Annex does not identify specific routes but states that routes may include interstate, state and surface roads, and will be chosen based on the relative safety of roadway infrastructure and current traffic conditions. Evacuation routes will be selected by law enforcement officials, approved by the Incident Commander at the time of the evacuation decision, then communicated to the EOC.

The Evacuation Annex assumes that the majority of residents can self-evacuate using personal vehicles, and acknowledges that transit-dependent populations (such as those with disabilities and with access and/or functional needs and households without a vehicle) may require public transportation to evacuate. In those cases, Transportation Assembly Points (TAPs) would be used to transport persons who require evacuation assistance to temporary evacuation points and/or shelters in safe areas. The Annex acknowledges that evacuees may arrive at TAPs by foot, bicycle, public transit, paratransit, or private vehicles, and identifies public and private transportation assets (public and private buses) that would be used for evacuation from TAPs. As with evacuation routes, the location of TAPs in a particular emergency will be selected and activated depending on the immediate circumstances.

The Project is proposed in an existing urbanized area. Implementation of the Project would support improvements to transportation systems throughout the Plan area. The Plan identifies future improvements including addition of new crosswalks, bulb-outs and flashing beacons to improve pedestrian visibility at crossings. Sidewalks would be added along portions of Donald Street, Harley Street and smaller segments throughout the Plan area. Furthermore, the plan's emphasis on improved pedestrian and bicycle infrastructure is intended to support reduced congestion and improved circulation, and may facilitate evacuation, especially for those without access to vehicles who will need to make their way to the designated TAP for their area in the event of an evacuation. Development facilitated by the Project will use existing roadways. Accordingly, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, nor would it reduce existing levels of emergency response service as discussed above. While the area of disturbance associated with future development projects under Alternative 1 would be less than the Project, the impacts to this topic would be similar to the Project with regard to this issue.

Impact 3.16-2: Implementation of the Project has the potential to:

> ***a) 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) 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; or***
>
> ***c) 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***

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), weather (winds, temperatures, humidity levels and fuel moisture content) and topography (degree of slope). The California Department of Forestry and Fire Protection (CalFIRE) uses these factors to quantify fire hazards

and categorizes them as Fire Hazard Severity Zones (FHSZ). Areas are designated as Moderate, High or Very High FHSZ, with areas of significant risk being Very High FHSZ. These areas are fully mapped in State Responsibility Areas, and areas within local jurisdiction (LRAs) are also mapped if they are Very High FHSZ.

All of the Plan area is near an SRA, and small portions of the Plan area are located within an SRA. A majority of the Plan area is urbanized and located in a Local Responsibility Area (LRA) that is not mapped by CalFIRE as a Very High FHSZ. Small portions of the plan area are in a Moderate or High FHSV, but none of the Plan area is within or adjacent to a Very High FHSZ. (See Figure 3.7-1) The Project does not propose development in or adjacent to Very High FHSZ, which is approximately 0.6 miles from the northern end of the Plan area at its closest point. Limiting development in Very High FHSZ limits exposure of people or structures to the areas of greatest fire hazard. A majority of the Plan area is in areas of existing urban development with minimal slope, where wildland fuels are low and wildfire hazards are limited. As shown in Figure 3.7-1, a portion of the southeast Plan area is in a Moderate Fire Hazard Zone (15 parcels or approximately 17 acres) and a portion of the northeast plan area is in a High Fire Hazard Zone (47 parcels or approximately 11 acres).

All future projects allowed under the Project would be required to comply with all applicable provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the County, each project would be evaluated for consistency with all applicable building and safety code sections that reduce fire risk. Compliance with these State and Local regulations would ensure that potential wildland fire hazards are mitigated through requirements for home hardening, automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, and ensuring adequate fire protection services.

As discussed in Section 3.7-5 and as required by Specific Plan Policies Wildfire-1 and Wildfire-2, future projects would be subject to the applicable State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. These policies would ensure that future development does not exacerbate fire risk, and that risks to structures in the case of a wildland fire are reduced compared to those subject to less stringent requirements. In addition, because the Plan area encompasses properties with minimal vegetation, in an urbanized setting, projects built within the Plan area do not represent a new encroachment into wildland areas. As a result, the Plan would not introduce new sources of ignition to areas of very high wildfire hazard.

The Project does not propose to install any major new infrastructure that may exacerbate fire risk. Future infrastructure improvements in the Plan area would include the maintenance of existing water, sewer and roadways associated with new development which are typically underground and not located in wildland areas. Specifically, Policy CF-1f of the Specific Plan requires new utilities in the Plan area to be installed underground. As discussed in Section 3.16-1 above, the circulation and road improvements would increase connectivity and may have a beneficial impact on emergency response, and it is expected that improvements to water infrastructure supported by future development would support firefighting capacity as well. The construction of these improvements would comply with State and local fire standards. Thus, the installation and maintenance of the proposed infrastructure would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

As discussed in the Geology and Soils Section (3.5), hillsides in the County have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the planning area's relatively

level slopes, landslide potential is very low for all but a small portion of land located between Fetters and Central Avenue. Landslide potential increases in the foothills and mountains to the east of the Planning Area where wildland fire hazard potential also increases. In addition, development in the Plan area would be set back from watercourses that could channel post-wildfire debris flow.

Severe wildfires can 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 Plan Area is located downslope from hillside areas, or contains some landslide-susceptible areas, and vegetative wildfire fuels, as described above. If a severe wildfire were to occur adjacent to the Plan Area, structures within the area may be at risk of landslides and could 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 developed conditions.

Though the Plan area is downslope from areas with elevated landslide or fire hazards, the Plan area is consistent with the pattern of development countywide and due to its predominantly level topography and surrounding pattern of urbanization and soil cover would not expose people or structures to elevated post-fire risks such as downslope or downstream flooding or landslides.

Future development projects in the Plan area would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the site and does not result in downstream flooding or major drainage changes. Future development projects located within the area covered by the storm water permit boundary would be subject to the Guidelines for the Standard Urban Storm Water Mitigation Plan. Some of the treatment controls in the Guidelines can be used to provide flood control by including additional flood detention storage.

Because existing codes and regulations cannot fully prevent wildfires from damaging structures or occupants, the Project could increase the exposure of new residential development to risk of loss or damage from wildfire. The Specific Plan includes Policy Wildfire-1 to reduce the risk of wildfire for future development associated with the Project. Specific Plan Policies Wildfire-1 and Wildfire-2 would reduce construction wildfire risk and include project siting considerations for future development.

Overall, while the area of disturbance associated with future development projects under Alternative 1 would be less than the Project, this alternative would result in potentially significant impacts associated with potential ground-disturbing activities, similar to the Project. Mitigation would be required to reduce this impact to a less than significant level. However, as no Specific Plan requirements or comparable mitigation measures would be adopted with Alternative 1, this impact would be greater than the Project.

ALTERNATIVE 2 – REDUCED GROWTH

Alternative 2 provides for reduced growth in comparison to the Project. This alternative was designed to reduce the project's contribution to significant impacts that would occur with project implementation, particularly impacts related to traffic noise levels at existing receptors and traffic performance measures (such as total VMT).

Under Alternative 2, buildout of the Plan area would result in approximately:

- 519 dwelling units, including:
    - 41 single family dwelling units;

  - 398 multifamily dwelling units; and
  - 80 mixed use or work/live units; and
- 218,490 square feet of non-residential uses, including:
  - 137,904 square feet of commercial uses;
  - 62,136 square feet of office uses; and
  - 18,450 square feet of recreation uses.

Aesthetics and Visual Resources

Impact 3.1-1: Project implementation could result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings

As discussed in Section 3.1 under Impact 3.1-1, development allowed under the Project would result in increased development along the Highway 12 corridor which is identified as being a County designated Scenic Corridor. The hillside and open agricultural lands west and east of the Plan area are the most prominent visual feature visible from the Plan area and Highway 12. As described in Section 3.1, the Plan area is considered to be of High visual sensitivity. Project features would be Co-dominant with the existing visual environment. While new development within the Plan area has the potential to interrupt views of the surrounding naturalized foothills and hillsides from Highway 12, local roads, and other public viewpoints within and adjoining the Plan area, the Plan area is mostly urbanized. The Design Guidelines chapter (Chapter 4) of the Specific Plan establishes the aesthetic vision for future developments' architecture, building character, land massing, site design, streetscape, lighting, signage, and landscape standards and would reduce the potential of the project to result in substantial adverse effects on a scenic vista or substantially degrade the visual character of the area. Impacts associated with the Project were determined to be less than significant.

Alternative 2 would result in adoption of the Specific Plan, including the goals, policies, and Design Guidelines. Future development allowed under Alternative 2 would be subject to these Guidelines. As discussed above, under Alternative 2, buildout of the Plan area would result in approximately 519 dwelling units and 218,490 square feet of non-residential uses. This is a reduction of 187 dwelling units and 58,413 square feet of non-residential uses. The Project and Alternative 2 would allow for an increase in intensity and density of the existing land uses than currently allowed. However, as noted above, this alternative would likely result in a decrease in development intensity, including decreased building mass, reduced building heights, and decreased densities in the Plan area in comparison to the Project. Development would occur on either vacant, infill parcels, or on parcels where redevelopment potential exists. Future development would result in densification of urban uses along the Highway 12 corridor and would result in increased residential intensities in the Donald/Verano neighborhood. Future development and design review processes would ensure that future uses are pedestrian scale, blend with the existing built environment, and connect to existing and future open space and public space. This impact is considered to be less than significant. Because the reduced development potential under this alternative could result in decreased building heights and/or decreased densities in the Plan area, this impact would be slightly reduced compared to the Project.

Impact 3.1-2: Project implementation could result in substantial damage to scenic resources within a state scenic highway

As discussed in Section 3.1 under Impact 3.1-2, because the Plan area is not located within a state scenic highway, implementation of this alternative would not result in substantial damage to scenic resources within a state scenic highway. Therefore, this impact is less than significant, similar to the Project.

Impact 3.1-3: Project implementation could result in the creation of new sources of nighttime lighting and daytime glare

As discussed in Section 3.1 under Impact 3.1-2, implementation of the Project would have a less than significant impact associated with the potential to result in impacts related to nighttime lighting and daytime glare. Implementation of this alternative would introduce new sources of daytime glare and nighttime lighting into previously undeveloped areas of the Plan area.

The Specific Plan, which would be adopted as part of this alternative, includes Design Guidelines for exterior lighting that would reduce potential adverse impacts associated with light and glare. The exterior lighting guidelines require the use of light shielding fixtures. The building character guidelines prohibit the use of reflective or mirrored glass in order to reduce glare. Future development within the Plan area under this alternative would also be subject to design review and approval.

Implementation of the Design Guidelines in the Specific Plan would ensure that project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements, and the subsequent design review of future projects within the Plan area, would ensure that excessively reflective building materials are not used, and that the Project would not result in significant impacts related to daytime glare. As such, through implementation of the Specific Plan's Design Guidelines, and the design review process, the County can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a less than significant level, similar to the Project.

Air Quality

Impact 3.2-1: Implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants

As discussed under Impact 3.2-1 in Section 3.2, implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants.

CONSISTENCY WITH THE 2017 CLEAN AIR PLAN

The 2017 Clean Air Plan defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors, and greenhouse gases. One of the key elements in the control strategy is to reduce motor vehicle travel by promoting transit, bicycling, walking, and ridesharing, and to direct new development to areas that are well-served by transit, and conducive to bicycling and walking. This is consistent with the Specific Plan, which aims to improve the pedestrian, bicycle, and transit network within the Plan area and provides policies in support of these travel modes. This alternative would include the goals and policies of the Specific Plan discussed under Impact 3.2-1 in Section 3.2 that support the pedestrian, bicycle, and transit modes of travel.

Another key element of the 2017 Clean Air Plan is to accelerate the widespread adoption of electric vehicles. Policy SC-4j of the Specific Plan, which would be adopted by this alternative, encourages the installation of electric charging stations on both public property and in private development. This

alternative would be consistent with all of the key elements of the 2017 Clean Air Plan relating to transportation.

Alternative 2 would develop new residential and non-residential buildings that would comply with or exceed the latest version of the California Title 24 building energy efficiency standards, and would thereby be consistent with the key elements of the 2017 Clean Air Plan relating to buildings and energy. This alternative would also comply with the latest state legislation relating to water and waste management, which ensures that this alternative would not conflict with the key elements of the 2017 Clean Air Plan relating to the water and waste management sectors. Separately, similar to the Project, this alternative would not include new stationary sources (i.e. industrial facilities, landfills, wastewater treatments plants, etc.), and therefore would not conflict with the key elements of the 2017 Clean Air Plan relating to stationary sources. Moreover, similar to the Project, this alternative does not propose agricultural land uses, or land uses that would use "super-GHGs', such as methane, black carbon, or fluorinated gases, which can have very large greenhouse gas effects.

Alternative 2 does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 Clean Air Plan. For the above-specified reasons, Alternative 2 would be consistent with the 2017 Clean Air Plan as promulgated by the BAAQMD, and implementation of this alternative would have a less than significant impact relative to this topic, similar to the Project.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The existing Sonoma County General Plan Open Space and Resource Conservation Element includes an extensive list of objectives and policies that are specifically aimed at improving air quality. This alternative is consistent with these objectives and policies by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations.

Additionally, the Circulation and Transit Element of the Sonoma County General Plan includes a wide range of objectives and policies that would effectively reduce vehicle miles travelled throughout the Plan area, through the use of improved circulation for pedestrians, bicyclists, and transit systems. Alternative 2 is consistent with these objectives and policies and includes the Specific Plan goals and policies discussed under Impact 3.2-1 in Section 3.2. Because this alternative includes adoption of these policies, this alternative would be consistent with the County General Plan. All future development and infrastructure projects within the Plan area would be subject to all relevant General Plan emissions and air quality goals, objectives, and policies, which were adopted in order to reduce emissions and air quality impacts.

Implementation of this alternative and the Project which are both consistent with all applicable Sonoma County General Plan objectives and policies, would have a less than significant impact relative to this topic, similar to the Project.

THRESHOLDS OF SIGNIFICANCE

The analysis provided above demonstrates that this alternative would be consistent with the current air quality plan control measures.

The following describes VMT and population increases associated with implementation of Alternative 2.

The Springs Specific Plan is intended to foster a vibrant, attractive, multimodal community with increased opportunities for housing and improved circulation for pedestrians, bicyclists, and transit. Alternative 2

would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The alternative will accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. In order to analyze this alternative's consistency with the BAAQMD thresholds listed above, this analysis looks at population growth when analyzing relative increases in local VMT.

According to the Sonoma County Transportation Authority travel model, future daily VMT in Sonoma County (under regional buildout) would be 28,570,046 miles (W-Trans, 2021). The "Alternative-only" daily VMT under regional buildout would be 37,640 miles, as shown in Table 5.0-8. Sonoma County has an existing population of 504,217 (U.S. Census, 2017). Full buildout of Alternative 2 is expected to generate approximately 1,453 residents, which results in a population increase of 0.29% compared to the existing County population of 504,217. The VMT increase represents a 0.13% increase compared to the baseline VMT of 28,570,046.

Based on the data shown in Table 5.0-8 (see Transportation and Circulation discussion below), implementation of Alternative 2 would result in an approximately 0.13% increase in County-wide VMT (0.18% under the Project), compared to a 0.29% increase in County-wide population. Therefore, the VMT increase associated with the Alternative 2 is lower than the population growth associated with Alternative 2. This alternative would not result in a VMT increase that would exceed the projected population increase, and would also be consistent with all BAAQMD current air quality plan control measures. Therefore, this alternative is consistent with the adopted BAAQMD thresholds.

Alternative 2 would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled, and would increase opportunities for transit ridership, and improved circulation for pedestrians and bicyclists in the Springs and the surrounding areas. For these reasons, this impact is considered less than significant. Because VMT would reduce under this alternative compared to the project, this impact would also be reduced.

CONSISTENCY WITH THE PLAN BAY AREA 2040

The Plan Bay Area 2040 is the most recently adopted Regional Transportation Plan prepared by the MTC for the San Francisco Bay Area region. The MTC calculated employment and household projections for Plan Bay Area 2040.

The adopted Plan Bay Area does not include population projections at the local level, but rather presents regional projections. Plan Bay Area 2040 states that by 2040 the San Francisco Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year.

While no specific development projects are proposed as part of this alternative, this alternative would accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential uses. As shown in Table 5.0-4, full buildout of this alternative area would result in a maximum of 519 residential units. This would represent a maximum residential population of up to approximately 1,453 persons, which is well within the projections of Plan Bay Area 2040. In addition, the projected employment increase associated with the non-residential development within the Plan area would be relatively modest and would be consistent with the Bay Area's overall employment and housing growth projections. Development of this alternative would also assist Sonoma County in providing additional housing opportunities and accommodating the County's Regional Housing Needs Allocation.

This alternative, including its anticipated population growth, does not conflict with the latest adopted and conforming Regional Transportation Plan. This is a less than significant impact, similar to the Project.

CONCLUSION

Alternative 2 would be consistent with the 2017 Clean Air Plan, the Sonoma County General Plan, the BAAQMD Thresholds of Significance, and the Plan Bay Area 2040. Therefore, this alternative would not conflict with or obstruct implementation of the applicable air quality, cause a violation of an air quality standard or contribute to an air quality violation, or result in a cumulatively considerable net increase in criteria pollutants. There would be a less than significant impact, similar to the Project.

Impact 3.2-2: Implementation of the Project would not cause health risks associated with toxic air contaminants

The BAAQMD has also promulgated a *Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* document in May 2016, to address the issue of healthy infill development. This document includes important information for local governments, developers, and the general public, including the location of communities and places throughout the region that are estimated to have elevated levels of fine particulates and/or toxic air contaminants, as well as best practices that may be implemented by local governments and developers to reduce health risks from air pollution in these locations that experience elevated air pollution levels. The purpose of this guidance document is to encourage local governments to address and minimize potential local air pollution issues early in the land-use planning process, and to provide technical tools to assist them in doing so.

Highway 12 in Sonoma County, which includes the segment of Highway 12 within the Plan Area, is identified in the Planning Healthy Places document as heaving relatively elevated levels of air pollution,[3] due to its traffic volume exceeding 10,000 vehicles per day. For such areas, the Air District recommends implementing all of their "best practices to reduce exposure" that are feasible and applicable to a project or plan in these locations. The proposed project would implement these best practices to reduce exposure, where determined to be appropriate by the developers of individual projects within the Plan Area.

Additionally, the BAAQMD has also identified a number of areas within the Bay Area where additional analysis (i.e. further study) is recommended to assess the local concentrations of TACs and fine PM, and therefore the health risks from air pollution. These areas are provided by the Air District's mapping tool.[4] The Air District recommends using caution when considering sensitive land uses in these areas. There are two such areas identified by the Air District within the Plan Area (i.e. two gasoline stations). Specifically, the gasoline stations are a Valero Station, located at 18605 Sonoma Highway, and a Sonoma Beacon station, located at 18618 Sonoma Highway. To help clarify and standardize analysis and decision-making in the environmental review process for development that would occur in the vicinity of these gas stations, future projects would be required to implement Measure Air-B, which would minimize risks associated with any new sensitive receptors located within 1,000 feet of Highway 12 or within 300 feet of the gas stations.

[3] See Figure 2, on page 10 of the Planning Healthy Places document.

[4] https://www.baaqmd.gov/plans-and-climate/planning-healthy-places

Separately, the BAAQMD CEQA Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The existing Sonoma County General Plan includes policies that are intended to minimize exposure of TACs to sensitive receptors (listed in the Regulatory Setting). These policies help to protect sensitive receptors, and otherwise limit air pollution during construction and operation activities. These objectives and policies are consistent with the BAAQMD recommendations that are intended to reduce health risks associated with TACs. Specifically, General Plan Policy OSRC-16i requires that any proposed new sources of toxic air contaminants provide adequate buffers to protect sensitive receptors and comply with applicable health standards. In addition, there are several policies that relate to reducing diesel particulate matter (DPM), which is a common TAC emitted from heavy-duty long-haul vehicles, as well as wood-burning fireplaces (see Policy OSRC-16l and Policy OSRC-16g). The implementation of these Sonoma County General Plan objectives and policies that are intended to mitigate TACs impacts would ensure that impacts associated with this alternative are reduced to a less than significant level, similar to the Project.

Impact 3.2-3: Implementation of the proposed Specific Plan would not create objectionable odors or other emissions that would adversely impact a substantial number of people

Future development projects under this alternative which would result in biological materials or other odorous waste would provide waste receptacles and would utilize outdoor trash dumpsters with lids, which would be picked up regularly during normal solid waste collection operating hours within the area. The dumpster lids are intended to contain odors emanating from the dumpsters. The dumpsters would be stored in screened areas for further protection from potential objectionable odors. The garbage collected on-site and stored in the outdoor dumpsters would not be on-site long enough to cause substantial odors. Thus, the outdoor, enclosed, and covered trash dumpsters that would be picked up regularly would provide proper containment and handling of the trash generated on-site.

Alternative 2 does not include uses that are anticipated to result in significant levels of objectionable odors or other emissions that would adversely impact a substantial number of people. Implementation of this alternative would have a less than significant impact relative to this topic, similar to the Project.

Biological Resources

Impact 3.3-1: Implementation of the Project could have a substantial adverse effect, either directly or through habitat modifications, on a 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

Alternative 2 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The area of disturbance under this alternative would be similar to the Project. The area of disturbance, potential for tree removal, and loss of habitat associated with future development projects under Alternative 2 could result in the direct and indirect loss or indirect disturbance of special-status plant or wildlife, similar to the Project.

The Project includes components that mitigate potential impacts to special-status species, specifically Measures Bio-A through Bio-E as discussed under Impact 3.3-1 in Section 3.1. Alternative 2 would also include these components since the Specific Plan would be adopted under this alternative. The implementation of Specific Plan Measures Bio-A through Bio-E, as well as Federal and State regulations, would reduce impacts to these resources to a less than significant level, similar to the Project.

Impact 3.3-2: Implementation of the Project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

As noted in Section 3.3, the Plan area is located in an urban area and the majority of the project site is built out. The only aquatic resources in the Plan area are Agua Caliente Creek and Pequeno Creek. Other known wetlands or other waters are not found in the Plan area. The Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Agua Caliente Creek crosses the southern portion of the Plan area north of Maxwell Farms. Pequeno Creek crosses the northern portion of the Plan area near Larson Park. Scattered riparian habitat exists along both creeks. Under Alternative 2, Medium Density Residential and High Density Residential uses are zoned within the Plan area adjacent to Aqua Caliente Creek, and Mixed Use and Recreation uses are proposed within the Plan area adjacent to Pequeno Creek. The future construction and operation of these uses will be required to comply with all applicable laws and regulations, so as not to disturb existing creek habitat.

Similar to the Project, there is a chance that water features could be impacted throughout the buildout of the individual projects allowed under Alternative 2. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Similar to the Project, subsequent development projects allowed under this alternative will be required to comply with the County General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The Sonoma County General Plan includes numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, compliance with existing Federal and State regulations would reduce impacts to these resources. Therefore, similar to the Project, this impact is less than significant.

Impact 3.3-3: Implementation of the Project may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

The segments of Agua Caliente and Pequeno Creek that traverse the Plan area are designated with the Riparian Corridor Combining Zone, which generally prohibits ground-disturbing activities, with certain exceptions. Under Alternative 2, the Riparian Corridor Combining Zone designation would be maintained, which generally prohibits ground-disturbing activities within the riparian corridor, with certain exceptions where vegetation removal is minimized, minor activities associated with an existing structure are involved, where it is determined that the area has no substantial value for riparian functions, or if a conservation plan is adopted that provides for protection of the riparian functions. Additionally, the Specific Plan Design Guidelines and policies require development to incorporate, preserve, and enhance natural creek habitats within the Plan area. This alternative would be subject to the Specific Plan Design Guidelines and policies.

Similar to the Project, subsequent development projects allowed under this alternative will be required to comply with the County's General Plan and adopted Federal, State, and local regulations for the

protection of sensitive natural communities, including riparian habitat. While future development allowed under both the Project and Alternative 2 has the potential to result in significant impacts to protected habitats, this impact is less than significant, similar to the Project.

Impact 3.3-4: Implementation of the Project may result in interference 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

The only movement corridors for wildlife through the Plan area are for aquatic species along creeks and drainages. As noted previously, the Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Future development in these areas allowed under both the Project and Alternative 2 would include appropriate buffers/setbacks and preserve the habitat along the creeks. The implementation of an individual project adjacent to the creeks would require a detailed and site-specific review of the site to determine any impact on the movement habitat along Agua Caliente Creek or Pequeno Creek and would be required to be consistent with the Riparian Corridor Combining Zone standards.

Subsequent development projects allowed under the Project and this alternative would be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. While future development projects have the potential to result in significant impacts to protected movement corridors, the implementation of the Specific Plan Design Guidelines, as well as Federal, State, and local regulations, would ensure impacts to these resources to a less than significant level, similar to the Project.

Impact 3.3-5: Implementation of the Project may result in conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

As discussed in Section 3.3, adoption of the Project would not conflict with local policies or ordinances protecting biological resources. The Specific Plan itself does not conflict with the policies contained in the County's General Plan. Alternative 2 would also not conflict with local policies or ordinances protecting biological resources. Subsequent development projects allowed under both the Project and this alternative would be required to comply with the General Plan policies, as well as the Municipal Code. Similar to the Project, this is a less than significant impact.

Impact 3.3-6: Implementation of the Project may result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

The Plan area is not subject to an adopted Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, implementation of the Project and Alterative 2 would have no impact relative to this topic.

Cultural Resources

Impact 3.4-1: Implementation of the Project has the potential to cause a substantial adverse change to a significant archaeological or historical resource, as defined in CEQA Guidelines Section 15064.5, or a significant tribal cultural resource, as defined in Public Resources Code Section 21074

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance of an archaeological, historic, or tribal cultural resource or the discovery of a previously

unknown archaeological, historical, or tribal cultural resource under both the Project and Alternative 2. The Sonoma County General Plan includes policies that would reduce impacts to cultural, historic, and archaeological resources, as well as policies for the conservation of cultural, historic, and archaeological resources. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 (see above) of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

Alternative 2 would result in a similar development pattern and impact areas as the Project. The Specific Plan includes Measure Cult-A through Cult-D as discussed under Impact 3.4-1 in Section 3.4. This alternative would be subject to the same measures. With implementation of Measures Cult-A, Cult-B, Cult-C, and Cult-D, this potential impact would be less than significant, similar to the Project.

Impact 3.4-2: Implementation of 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 resources, including those that qualify as historical resources.

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, though this potential is expected to be low based on evaluation the Cultural Resource Assessment for the Springs Specific Plan, Sonoma County, California (Peak & Associates, Inc., 2016). Alternative 2 would result in a similar development pattern and impact areas as the Project. The Specific Plan includes Measure Cult-A through Cult-D as discussed under Impact 3.4-1 in Section 3.4. This alternative would be subject to the same measures. With implementation of Measures Cult-A, Cult-B, Cult-C, and Cult-D, this potential impact would be less than significant, similar to the Project.

Impact 3.4-3: Implementation of the Project has the potential to disturb human remains, including those interred outside of dedicated cemeteries

The area of disturbance associated with future development projects under Alternative 2 could result in the direct and indirect loss or indirect destruction of a human remains, similar to the Project. Implementation of Mitigation Measure Cult-F would ensure that all construction activities that inadvertently discover human remains implement state required consultation methods to determine the disposition and historical significance of any discovered human remains. Implementation of Mitigation Measure Cult-F, in conjunction with County regulations and General Plan policies and objectives, would reduce this impact to a less than significant level, similar to the Project.

Geology and Soils

Impact 3.5-1: Project implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides

Alternative 2 would result in future development of the Plan area consistent with the existing General Plan land use designations and existing zoning. This alternative would not result in development of land outside the Plan area. As such, the geologic and seismic-related conditions are identical to the Project.

Under both Alternative 2 and the Project, all future projects within the Plan area will be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the County, each project would be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Additionally, the Sonoma County General Plan goals, objectives, and policies require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction, and expansive soils. All development and construction proposals must be reviewed by the County to ensure conformance with applicable General Plan requirements and CBSC building standards.

All future projects within the Plan area would be required to prepare geotechnical soils investigations to address seismic safety issues and provide adequate mitigation for potential hazards identified, as required by Policy PS-1f and the CBSC. With the implementation of the policies and actions required by the Sonoma County General Plan, as well as applicable State and County codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be less than significant, similar to the Project.

Impact 3.5-2: Project implementation has the potential to result in substantial soil erosion or the loss of topsoil

Future development allowed under the Project and Alternative 2 would be evaluated for conformance with state and local requirements. For example, future projects would be subject to the County's Construction Grading and Drainage Ordinance, which outlines the construction grading permit requirements, as well as the County's erosion prevention and sediment control best management practices guide. A construction drainage permit will be required prior to commencing any construction drainage involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance (except where exempted from permit requirements by Subsection C of Chapter 11 of the Code). Future discretionary projects involving ground-disturbance allowed under the Project and Alternative 2 would also be required to implement Low Impact Development strategies, as well as best management practices, as required under Chapter 11 of the County Code. In addition to compliance with County standards and policies, the RWQCB will require a project specific SWPPP to be prepared for each project that disturbs an area of one acre or larger. The SWPPP will include project specific best management practices that are designed to control drainage and erosion.

With the implementation of the applicable State and County requirements, potential impacts associated with erosion and loss of topsoil would be less than significant, similar to the Project.

Impact 3.5-3: Project implementation has the potential to result in development 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, lateral spreading, subsidence, liquefaction or collapse

As discussed in Section 3.5, the potential for lateral spreading is generally low. The greatest potential for lateral spreading in the Plan area is in sloped areas. The Plan area is not within an area where subsidence is likely occur. Liquefaction potential in the Plan area is categorized as "Very Low" to "Very High." The area designated as having a "Very High" potential for liquefaction is located along the southern portion of the

Plan area, and is generally associated with the channelized Agua Caliente Creek running along Meadowbrook Avenue. The area between Depot and Northside Avenue is designated as having a "Moderate" potential for liquefaction, as is the area surrounding Agua Caliente Creek. However, the remainder of the Planning Area is designated as having a "Very Low" susceptibility for liquefaction. Liquefaction poses a hazard to structures and infrastructure. Additionally, according to the Sonoma County General Plan Draft EIR, weak or collapsing soils that compress under a load or when wet can be found in the County.

As noted above, Alternative 2 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. This alternative would not result in development of land outside the Plan area. As such, the geologic and seismic-related conditions are identical to the Project. Under both Alternative 2 and the Project, each future project in the Plan area would be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Future development and improvement projects would be required to have a geotechnical study prepared and incorporated into the improvement design, consistent with State and County requirements.

With the implementation of applicable State and County requirements, including the policies and actions in the General Plan and County Code provisions, potential impacts associated with ground instability or failure would be less than significant, similar to the Project.

Impact 3.5-4: Project implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

The linear extensibility of the soils within the Plan area ranges from Low to Moderate. Figure 3.5-4 illustrates the shrink-swell potential of soils in the Plan area. Moderate expansive soils will require special design considerations due to shrink-swell potential. Design criteria and specifications set forth in the design-level geotechnical investigation (required by the County General Plan and CBSC) would ensure impacts from problematic soils are minimized. Therefore, this impact is considered less than significant, similar to the Project.

Impact 3.5-5: Project implementation has the potential to result in development on soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems

The Plan area is located in an Urban Service Area and is served by municipal sewer and water. Alternative 2 would not require the use of septic tanks or alternative waste water disposal systems for the disposal of waste water. Implementation of the this alternative result in no impact relative to this topic, similar to the Project.

Impact 3.5-6: Implementation of the Project has the potential to directly or indirectly destroy a unique paleontological resource

The Plan area is not expected to contain subsurface paleontological resources, although it is possible. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. The Project includes one component that mitigates potential impacts to paleontological resources by ensuring that steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. Alternative 2 would not include this component since the Specific Plan would not be adopted under this alternative. Under

Alternative 2, including the Springs Specific Plan, associated rezoning, and associated General Plan amendment, would be adopted. The area of disturbance associated with future development projects under Alternative 2 could result in the direct and indirect loss or indirect destruction of a unique paleontological resources, similar to the Project. Implementation of Specific Plan Measure Paleo-A would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. With this measure, this impact would be reduced to a less than significant level, similar to the Project.

Greenhouse Gases and Energy

Alternative 2 could result in up to 41 single family dwelling units, 398 multifamily dwelling units, 80 mixed use dwelling units, 137,904 square feet of commercial uses, 62,136 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,453 new residents (compared to 1,977 residents under the Project) and up to 429 new employees (compared to 632 employees under the Project). Impacts associated with air quality are discussed in the following section.

Impact 3.6-1: Implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

As discussed under Impact 3.6-1 in Section 3.6, implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

CONSISTENCY WITH THE CARB'S 2017 CLIMATE CHANGE SCOPING PLAN

The Specific Plan includes a number of goals and policies to decrease vehicle trips. These goals and policies would apply to this alternative. Alternative 2 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The revised densities and standards would result in a reduction of 187 dwelling units and 58,413 square feet of non-residential uses. The reduced development potential under this alternative could reduce vehicle trips slightly compared to the Project.

The new buildings constructed and operated within the Plan area under the Project and this alternative would be subject to the current CalGreen energy efficiency standards, resulting in development that is significantly more energy efficient than the current buildings in the surrounding area, many of which were constructed under previous versions of the Title 24 energy code. The Project and this alternative would also need to operate in accordance with the goals of AB 341 that requires a 75 percent diversion rate of waste from landfills. Overall, emissions from this alternative would continue to decline beyond the buildout year due to regulations that would indirectly affect project emissions.

Additionally, as discussed in Section 3.2, although buildout of the Project would be below the CARB's 2017 Climate Change Scoping Plan threshold for specific plans of 6 MT CO_2e per capita for year 2040, the project would not be below the 2 MT CO_2e per capita for year 2050 and therefore would not be considered to be fully consistent with the CARB's 2017 Climate Change Scoping Plan. This alternative would have a slightly higher VMT per service population as compared to the Project (20.00 for this alternative compared to 19.72 for the Project as shown in Table 5.0-8). Therefore, this No Project Alternative is also not considered to be consistent with the CARB's 2017 Climate Change Scoping Plan for year 2050.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The existing Sonoma County General Plan provides goals, policies, and actions that reduce air pollutants and GHG emissions. This alternative would be consistent with and rely on these goals, objectives, and policies. Therefore, this alternative would help to reduce air pollutants and GHG emissions, consistent with the goals, objectives, and policies contained within the Sonoma County General Plan.

CONSISTENCY WITH THE SONOMA COUNTY CLIMATE CHANGE ACTION RESOLUTION

The Sonoma County Climate Change Action Resolution contains local goals to reduce GHG emissions. This alternative would be consistent with all applicable GHG reduction goals identified within the Sonoma County Climate Change Action Resolution. Similar to the Project, this alternative would not conflict with the local goals included in the Sonoma County Climate Change Action Resolution.

CONSISTENCY WITH BAAQMD GUIDANCE

As discussed in Section 3.2, buildout of the Project would be below the BAAQMD Plan-level threshold for specific plans (for operational emissions) of 4.6 MT CO_2e/service population/year for specific plans.

The above-referenced BAAQMD threshold was designed to meet the AB 32 goal of achieving 1990 emission levels by year 2020. However, given that year 2020 has passed, it is important to consider the SB 32 goal for year 2030 of achieving a 40% reduction in emissions levels from 1990 by year 2030. When taking into account a 40% reduction to the BAAQMD threshold contained in the BAAQMD CEQA Guidelines, the threshold would be 2.8 CO_2e/SP/year for a specific plan, for projects post-2020.

Because this alternative would reduce the development potential of the Plan area, and would reduce the associated service population, this alternative would also be below the BAAQMD operational threshold. However, as previously described, this alternative would have a higher VMT per service population as compared to the Project (20.00 for this alternative compared to 19.72 for the Project).

Separately, the BAAQMD recommends Basic Construction Mitigation Measures for all projects, whether or not construction-related emissions exceed the thresholds of significance. The BAAQMD also encourages lead agencies to incorporate best management practices to reduce GHG emissions during construction, as applicable. Compliance with the BAAQMD construction-related mitigation requirements are considered to reduce GHG impacts at both the local and basin-wide levels. Development within the Plan area under both the Project and this alternative would implement the BAAQMD Basic Mitigation Measures, as applicable, as required by the BAAQMD.

CONCLUSION

Impacts associated with GHG plans, policies, and regulations would be significant and unavoidable under Alternative 2, similar to the Project.

Impact 3.6-2: Implementation of the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

Under this alternative, future development within the Plan area would be subject to the existing General Plan goals, policies, and actions, as well as the County's existing zoning. Due to the reduction in development potential and associated energy use (including reduced fossil fuel use resulting from the reduction in automobile trips, and reduced natural gas and electricity use resulting from the reduction in

residential and non-residential development) that would occur under this alternative, the associated GHG emissions resulting from this alternative would be substantially reduced compared to the Project. However, as previously noted, this alternative would have a similar VMT per service population as compared to the Project (20.00 for this alternative compared to 19.72 for the Project), which would slightly increase the per capita energy use associated with transportation for this alternative compared to the Project.

Overall, the Project would comply with all relevant goals, policies, and actions as provided with the Sonoma County General Plan, as well as all relevant GHG reduction goals contained within the Sonoma County Climate Change Action Resolution. The Project would comply with BAAQMD thresholds for GHG emissions. However, while the Project would meet the State's GHG reduction goals for 2040, the Project would exceed the State's per capita GHG goals for 2050. Alternative 2 is anticipated to have similar per capita GHG emissions as the Project, as development under Alternative 2 would be subject to the same building code and design requirements as the Project. This alternative would have similar (1% higher) VMT per service population, with 20.00 VMT per service population for Alternative 2 compared to 19.72 VMT per service population for the Project). Therefore, implementation of this alternative would generate GHGs that would have a significant and unavoidable impact on the environment and would have similar impact to the Project.

Impact 3.6-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources

This alternative includes residential and non-residential land uses. The amount of energy used within the Plan area would directly correlate to the number and size of the residential units, the energy consumption of associated unit appliances, outdoor lighting, and the energy use associated with non-residential Plan area buildings and activities. Other major sources of energy consumption include fuel used by vehicle trips generated during construction and operation activities, and fuel used by off-road construction vehicles during construction.

As noted previously, this alternative would result in a large reduction in development potential for the Plan area. This would result in an associated reduction in energy use (including reduced fossil fuel use resulting from the reduction in automobile trips, and reduced natural gas and electricity use resulting from the reduction in residential and non-residential development). As such, the associated energy resources required for development and operation of this alternative would be substantially reduced compared to the Project.

As a result, this alternative would not result in any significant adverse impacts related to energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of building of this alternative, including construction, operations, maintenance, and/or removal. The electricity and natural gas provider to the Plan area maintains sufficient capacity to serve the Plan area. This alternative would comply with all existing energy standards, including those established by Sonoma County, and would not result in significant adverse impacts on energy resources. This alternative would be linked closely with existing transportation networks that, in large part, are sufficient for most residents of the Plan area and the Plan area as a whole. Due to the reduced amount of energy resulting from this alternative compared to the Project, this impact would be reduced.

Hazards and Hazardous Materials

Impact 3.7-1: Implementation of the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

Future development, infrastructure, and other projects allowed under the Project and Alternative 2 may involve the transportation, use, and/or disposal of hazardous materials. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, either associated with previous activities on a site or naturally occurring hazards such as asbestos.

No future activities or uses within the Plan area would be at risk due to the former Heon's Dry Cleaner site.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the State Division of Occupational Safety and Health, and the Department of Toxic Substances Control consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police Department and Fire District) would respond. All future projects allowed under the Project and Alternative 2 would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. Compliance with federal, state and local regulations in addition to General Plan Policies PA-4a through PS-4o would ensure that this potential impact is less than significant, similar to the Project.

Impact 3.7-2: Implementation of the Project has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5

As noted in Section 3.7, there are three sites in Sonoma County on the Cortese database, located in Windsor, Santa Rosa, and Bodega Bay. None of these sites are located in the Plan area. Therefore, this is considered a less than significant impact, similar to the Project.

Impact 3.7-3: Implementation of the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

Alternative 2, similar to the Project, has limited potential for the routine transport, use, or disposal of hazardous materials as discussed above (Impact 3.7-1). One school, Sonoma Charter School, is located within the Plan area. Flowery Elementary school is located immediately west of the Plan area. Additionally, one other school is located within one-quarter mile of the Plan Area: El Verano Elementary School. The area within ¼-mile of these three schools is mostly developed, but some development potential exists in the area.

Similar to the Project, Alternative 2 does not propose actual businesses. As such, it is currently not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous

materials, substances, or waste are the Retail Business and Service and Neighborhood Commercial designations.

The Sonoma Charter School, which is located within the Plan area, is surrounded by existing residential development, and the school site is designated Public Facility by the existing zoning map. The zoning map for this alternative identifies areas of Medium Density Residential to the north, west and east of the Sonoma Charter School site and Planned Community to the south of the school site. These designations are not anticipated to have uses that would emit hazardous emissions or handle significant amounts of hazardous materials, substances, or waste.

Additionally, there are no known existing commercial, industrial, or agricultural businesses that are known to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school.

All hazardous materials would be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the BAAQMD, RWQCB, Department of Toxic Substances Control, and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan policies that reduce impacts associated with hazardous materials.

Implementation of General Plan policies would ensure that this potential impact is less than significant, similar to the Project.

Impact 3.7-4: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Future development under Alternative 2 would allow a variety of new development, including residential, commercial, mixed use, recreation, and public facility projects, which would result in increased jobs and population in the Plan area. Road and infrastructure improvements would occur to accommodate the new growth. Future projects are not anticipated to remove or impede evacuation routes. Subsequent development projects in the Plan area allowed under Alternative 2 would be subject to the County's General Plan policies which were designed to ensure that an emergency response plan is prepared and maintained. Similar to the Project, this impact would be less than significant.

Impact 3.7-5: Implementation of the Project has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

Development allowed under Alternative 2 and the Project would place people and structures in areas located within the Wildland-Urban Interface. The northeastern portion of the Plan area is in a High fire hazard zone, and the southeastern portion of the Plan area is in a Moderate fire hazard zone. The remainder of the Plan area is designated as a Local Responsibility Zone. No portion of the Plan area is in a Very High fire hazard zone.

Because the entire Plan area is located within the Wildland-Urban Interface, all existing and future properties in the area are required to be built in accordance to specific codes. Future development of the Plan area under Alternative 2 and the Project would be subject to all relevant General Plan objectives and policies that provide protections from wildland fires. Compliance with the County's General Plan objectives and policies would ensure that potential wildland fire hazards are mitigated through requirements for automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, ensuring adequate fire protection services, and ensuring public awareness regarding fire safety. Implementation of Alternative 2 would have a less than significant impact with regard to this issue, similar to the Project.

Impact 3.7-6: Implementation of the Project has the potential to result in a safety hazard for people residing or working in the project are due to proximity to a private airstrip or public airport

The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport. The nearest airport to the Plan area is the Sonoma Valley Airport. The Sonoma Valley Airport is located approximately 5.7 miles south of the project site. There are no private airstrips in the Vicinity of the Plan area. The Plan area is not located within the airport's referral area or safety zones. Additionally, the Plan area is located adjacent to urban uses on all sides. Implementation of Alternative 2 would have a less than significant impact with regards to this environmental issue, similar to the Project.

Hydrology and Water Quality

Impact 3.8-1: Implementation of the Project could result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality

As discussed under Impact 3.8-1 in Section 3.8, while the Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies, Sonoma Creek, which is located west of the Plan area, is listed on the Section 303(d) list of impaired water bodies for sediment, pathogens, and nutrients. The Total Maximum Daily Load (TMDL) for each of these categories provides actions to reduce sediment, pathogens, and nutrients to the Sonoma Creek watershed. The potential construction and operational water quality impacts of Alternative 2 are discussed below.

CONCLUSION

Under this alternative, the amount of future ground disturbance would be comparable to the Project. Although the development potential would be decreased, future projects under both the Project and this alternative would be subject to applicable water quality and runoff related regulations and policies. As previously described, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all

applicable laws and regulations. The implementation of these General Plan policies, combined with compliance with Federal and State regulations, would ensure that Implementation of the Alternative would have a less than significant impact from these issues, similar to the Project.

Impact 3.8-2: Implementation of the Project could result in decreased groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin

Subsequent development projects proposed within the Plan area, such as residential, commercial, office, and recreational projects, under both the Project and this alternative would result in new impervious surfaces and could reduce stormwater infiltration and groundwater recharge.

Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. Development would be required to be consistent with all applicable County and service provider in infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. For example, the Groundwater Sustainability Plan, which was adopted in 2021, establishes a standard for "sustainability" of groundwater management and use, and determines how the basin will achieve this standard. The Plan includes sustainable management criteria, establishes a groundwater monitoring network, and includes management actions and plan implementation measures to address groundwater recharge. While this plan initially emphasizes voluntary actions, future implementation may include new development requirements for future projects in the plan area in order to maintain sustainable groundwater levels. Irrespective of those potential measures, under adoption of the Project future projects within the Plan area would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (compared to impermeable concrete, permeable pavers would provide opportunities for groundwater infiltration in areas used which would typically be paved with impermeable surfaces). The sustainability measures incorporated would vary based on the project size, project location, and project type.

Additionally, the County's General Plan includes objectives and policies which address groundwater quality and groundwater recharge. For example, General Plan Policy WR-2f requires that discretionary projects maintain the site's pre-development recharge of groundwater to the maximum extent practicable. For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs. These BMPs and Water Quality Management Plan details would control storm water runoff while also maintaining opportunities for recharge, as applicable. Implementation of the relevant General Plan objectives and policies would ensure that this alternative would have a less than significant impact relative to this topic, similar to the Project.

Impact 3.8-3: Implementation of the Project could alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation, increase the rate or amount of runoff which would result in flooding, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows

Individual future projects developed within the Plan area under both the Project and this alternative would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff

during storm events. The amount of impervious surfaces under this alternative would be comparable to the Project.

The County of Sonoma has developed the Specific Plan to include goals and policies that, when implemented, will reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. This alternative would include adoption of the Specific Plan goals and policies. The Sonoma County General Plan also contains numerous policies that would reduce the potential for implementation of this alternative to result in increased flooding or result in water quality impacts associated with increased runoff, siltation, or erosion. Further, Chapter 7B, Flood Damage Prevention, of the County Code outlines the flood prevention standards. Such measures apply to all structures or land constructed, located, extended, converted, or altered within special flood hazard areas in the county, as identified on the FEMA floodplain maps. Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits. Implementation of the General Plan policies, Specific Plan policies, and County Code requirements would ensure that the alternative would have a less than significant impact relative to this topic, similar to the Project.

Impact 3.8-4: Implementation of the Project could result in flood hazards due to 100-year flood hazard, tsunami, or seiche zones

The majority of the Plan area and surrounding area is designated by FEMA as Zone X (unshaded) which is an area determined to be outside the 500-year floodplain. However, small portions of the Plan area are subject to flooding along the natural creeks and drainages that traverse the southern portion of the Plan area. The 100-year flood plain extends across Highway 12 between Encinas Lane and Meadowbrook Avenue along Agua Caliente Creek.

Subsequent development, infrastructure, and planning projects would be subject to the General Plan and County Code requirements. The policies contained in the General Plan combined with the County Code standards for floodplain development represent a comprehensive and holistic approach by Sonoma County to reduce the risks of flooding to city residents and properties. Furthermore, as described in the regulatory setting section, numerous Federal, State, and local agencies are responsible for maintaining flood protection features in the County, including the U.S. Army Corps of Engineers, DWR, and Department of Fish and Wildlife at the Federal and State level.

The implementation of these policies and regulations would ensure that implementation of this alternative would have a less than significant impact related to these issues, similar to the Project.

Impact 3.8-5: Implementation of the Project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

The Water Quality Control Plan for the San Francisco Bay Region and the Sonoma Valley Groundwater Management Plan are the two guiding documents for water quality and sustainable groundwater management in the Plan area. Consistency with the two plans are discussed below.

SAN FRANCISCO BAY BASIN WATER QUALITY CONTROL PLAN

As discussed in Impact 3.8-1, impacts related to water quality during construction and operation would be less-than-significant with implementation of a project-specific drainage study and, when applicable, a

SWPPP and compliance with relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The County General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

SONOMA VALLEY GROUNDWATER MANAGEMENT PLAN

As discussed in Impact 3.8-2, this alternative would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the alternative may impede sustainable groundwater management of the basin. Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. The Plan area is largely built out and developed. Development of the 15.6 acres of vacant parcels would result in an increase in impervious surfaces within the Plan area under both the Project and this alternative. However, development would be required to be consistent with all applicable County and service provider in infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. Additionally, future projects within the Plan area under this alternative would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (which would provide opportunities for groundwater infiltration in areas which would typically be paved with impermeable surfaces). The sustainability measures incorporated would vary based on the project size, project location, and project type. For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs. These BMPs and Water Quality Management Plan details would control storm water runoff while also maintaining opportunities for recharge, as applicable.

CONCLUSION

Overall, implementation of this alternative would have a less than significant impact related to conflicts with the Basin Plan and Sonoma Valley Groundwater Management Plan, similar to the Project.

Land Use

Impact 3.9-1: Implementation of the Project would not physically divide an established community

The land uses allowed under Alternative 2 provide opportunities for cohesive new growth within existing urbanized areas of the County, as well as new infill growth adjacent to existing urbanized areas, but would not create physical division within the community. This alternative does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. Alternative 2 would have a less than significant impact associated with the physical division of an established community, similar to the Project.

Impact 3.9-2: Implementation of the Project may conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect

STATE PLANS

As noted above, Alternative 2 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The Specific Plan was prepared in conformance with State laws and regulations associated with the preparation of specific plans. Discussion of the Specific Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. Highway 12, which traverses the Plan area, is a State-owned highway facility. The State would continue to have authority over any State-owned lands in the vicinity of the Plan area, such as Highway 12, and the Project would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

COUNTY PLANS

In September 2008, Sonoma County completed and adopted a comprehensive update to the General Plan. The Sonoma County General Plan 2020 is the overarching policy document that guides land use, housing, transportation, infrastructure, community services, and other policy decisions. The Land Use Element of the General Plan establishes land uses for the Plan area. As shown in Figure 2.0-6 in Chapter 2.0, the Plan area is currently designated General Commercial/Limited Commercial, Public/Quasi-Public, Recreation/Visitor-Serving Commercial, and Urban Residential by the Sonoma County General Plan Land Use Map.

The land uses as proposed by Alternative 2 are not consistent with the General Plan. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. Similar to the Project, this alternative would require amendments to the General Plan land use map and to land use policies to create consistency with the document. Similar to the Project, the land uses for the Plan area under Alternative 2 would include Urban Residential, General Commercial, Public/Quasi-Public, and Recreation & Visitor-Serving Commercial. Although an amendment would be required to change the General Plan land uses in the area, the location and type of uses are similar to the existing uses. For example, the core of the Highway 12 corridor is currently designated for General Commercial/Limited Commercial, Public/Quasi-Public, and Urban Residential land uses, while the proposed Highway 12 core would be designated for General Commercial, Public/Quasi-Public, and Urban Residential land uses. Additionally, the southeastern portion of the Plan area (off Donald Street) is currently designated for Urban Residential land uses, and the proposed land use designation for this area is also Urban Residential. The change in land use designations would allow for increased land use intensities and increased residential densities over the existing condition; however, the development potential would be reduced compared to the Project due to revised densities and development standards. The zoning districts under this alternative would establish permitted uses and standards for each zone. Upon approval of the requested General Plan amendment, the Plan would be consistent with the County General Plan.

The Specific Plan contains detailed development standards, design guidelines, distribution of uses, infrastructure requirements, and goals and policies for the development of a specific geographic area.

The Specific Plan carries forward and enhances policies and measures from the County's existing General Plan that were intended for environmental protection and would not remove or conflict with County plans, policies, or regulations adopted for environmental protection.

Similar to the Project, Alternative 2 would require modifications to the County's Zoning Ordinance to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Sonoma County Code that were adopted to mitigate an environmental effect. This alternative would also require amendments to the adopted General Plan land use map. Once the requested amendment is approved, this alternative would be consistent with the County's General Plan.

CONCLUSION

Subsequent development projects within the Plan area would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the County as well as those adopted by agencies with jurisdiction over components of future development projects. Approval of the General Plan amendment would ensure that this alternative would be substantially consistent with the Sonoma County General Plan land use requirements and would have a less than significant impact relative to land use and planning, similar to the Project.

Impact 3.9-3: Implementation of the Project may conflict with an applicable habitat conservation plan or natural community conservation plan

No natural community conservation plans or habitat conservation plans have been adopted in Sonoma County. Alternative 2 would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Implementation of this alternative would have no impact relative to this topic, similar to the Project.

Noise

Alternative 2 could result in up to 41 single family dwelling units, 398 multifamily dwelling units, 80 mixed use dwelling units, 137,904 square feet of commercial uses, 62,136 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,453 new residents (compared to 1,977 residents under the Project) and up to 429 new employees (compared to 632 employees under the Project). Impacts associated with noise are discussed in the following section.

Impact 3.10-1: Implementation of the Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable standards

TRAFFIC NOISE – EXISTING RECEPTORS

Table 3.10-9 in Section 3.10 shows the predicted traffic noise level increases on the local roadway network for Existing No Project, Existing + Project, Cumulative, and Cumulative + Project conditions as a result of the Project. As shown in Table 5.0-15, Alternative 2 would result in a substantial reduction of automobile trips compared to the Project. This reduction in trips would correspond to a reduction in predicted traffic noise levels compared to the Project.

Some of the existing noise sensitive receptors located along the Plan area roadways are currently exposed to exterior traffic noise levels exceeding the Sonoma County 60 decibels (dB) day/night average sound

level (LDN) exterior noise level standard in outdoor activity areas set in the General Plan Noise Element. These areas would continue to experience elevated exterior noise levels upon future development of the Project and this alternative. Under the Project, Robinson Road from Donald Street to East Verano Street will experience a 6 dB LDN increase under both the Existing Plus Project and the Cumulative Plus Project scenarios and Donald Street east of Robinson Road will exceed the County's 60 dB standard under Cumulative plus Project conditions. These are the only roadway segments which experience a significant increase in traffic noise (although the resulting noise level would not exceed the 60 dB threshold). Additionally, the Cumulative Plus Project traffic noise level at the nearest residences along Robinson Road is predicted to be 54 dB LDN, and, although there would be an significant increase in the ambient noise levels, would not exceed the County standard of 60 dB LDN.

Under Alternative 2, the increased traffic noise at the study roadway segments, including the Robinson Road from Donald Street to East Verano Street and Donald Street east of Robinson Road roadway segments, would be reduced compared to the Project and would have less of an impact.

TRAFFIC NOISE – NEW SENSITIVE RECEPTORS

As described in Section 3.10, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan and Specific Plan policies that alleviate noise impacts. Implementation of General Plan Policies NE-1a, NE-1b, NE-1c, and NE-1g, and the Specific Plan Environmental Measures related to noise, would ensure that this potential impact is less than significant for the Project. Since Alternative 1 would generate less traffic than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

STATIONARY AND OPERATIONAL NOISE

As described in Section 3.10, the County's General Plan and the proposed Specific Plan include policies that are intended to reduce operational noise associated with point sources. Specifically, General Plan Policies NE-1a, NE-1c, NE-1d, NE-1e, NE-1f, and NE-1h, and Specific Plan Environmental Measures related to noise, would reduce noise associated with point or operational sources. Implementation of proposed Specific Plan policies, would ensure that this impact is less than significant for the proposed Project. Since Alternative 2 would generate less stationary and operational noise than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

CONSTRUCTION NOISE

During construction of subsequent development projects proposed within the Plan area, including roads, water and sewer lines, and related infrastructure, construction noise would add to the noise environment in the vicinity of the Plan area. Construction-related noise would also be generated by increased truck traffic on area roadways. A significant noise source resulting from construction of subsequent development projects in the Plan area would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. These future noise increases would be of short duration, and would likely occur primarily during daytime hours. As provided in Section 3.10, implementation of Specific Plan Noise Measure B would ensure that this impact for the proposed Project is less than significant. Since Alternative 1 would generate less construction than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

Impact 3.10-2: Implementation of the Project has the potential to expose persons to or generate excessive groundborne vibrations or groundborne noise

The primary vibration- and groundborne noise- generating activities associated with implementation of the Project would occur during construction when activities such as grading, utilities placement, and road construction occur. Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage. Construction vibration levels anticipated for future development projects within the Plan area are less than the 0.1 in/sec criteria at distances of 50 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of this alternative would have a less than significant impact, similar to the Project.

Population and Housing

Impact 3.11-1: Implementation of the Project would not induce substantial population growth

Alternative 2 accommodates future growth in the Plan area, including new businesses and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. While no specific development projects are proposed as part of the Project or this alternative, both would accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. Under Alternative 2, buildout of the Plan area would result in approximately 519 dwelling units and 218,489 square feet of non-residential uses.

Given the historical and current population, housing, and employment trends, growth in the County, as well as the entire state, is inevitable. Plan Bay Area 2040 states that by 2040 the Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year. From 2010 through 2040, Plan Bay Area 2040 anticipates 33,200 new households in Sonoma County, including 3,000 households in the unincorporated area, and 40,900 new employees, including 10,100 employees in the unincorporated area. During this same period, the California Department of Finance projected that Sonoma County's population would increase by 99,976 persons countywide. While the 2040 Plan Bay Area does not include community-specific growth projections, the 2013 Plan Bay Area projected that The Springs would grow by 1,150 households and 480 jobs. This alternative would accommodate up to 519 new households (up to approximately 1,453 new residents) and up to 429 new employees. Overall, the growth associated with this alternative is within the level of growth planned for the County and Bay Area.

Future development under this alternative is anticipated to be primarily infill development as well as redevelopment and intensification of existing uses, since the Plan area is substantially built-out. In order to accommodate the planned growth, surrounding infrastructure (i.e., water, sewer, and storm drainage facilities) would be extended to vacant infill sites from nearby and/or adjacent roadways or developments. Additionally, some internal access roadways may be required for future infill development. This alternative would not extend infrastructure to areas outside of the Plan area that are not currently served by infrastructure and does not increase capacity of infrastructure beyond that necessary to accommodate the growth anticipated for this alternative. Growth under this alternative is anticipated to remain within the general growth levels projected statewide, as well as locally, and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. This alternative is intended to assist in accommodating the County's fair share of statewide housing needs, which are allocated by the Association of Bay Area Governments, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

With adherence to the existing General Plan goals, objectives, and policies intended to guide growth to appropriate areas and provide services necessary to accommodate growth, development of the land uses allowed under Alternative 2 and the infrastructure anticipated to accommodate such development would be consistent with the long-range growth planned for the County and Bay Area and would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with Alternative 2 would result a less than significant impact. Because Alternative 2 would reduce the population of the Plan area at full buildout compared to the Project, this alternative would have reduced impacts associated with population growth.

Impact 3.11-2: Implementation of the Project would not displace substantial numbers of people or existing housing

There are approximately 557 existing residences (approximately 347 single-family units and 210 multi-family units) located within the Plan area. As buildout of the Plan area progresses under both the Project and Alternative 2, it is likely that some of the existing housing units would be remodeled, renovated, expanded on, demolished, or otherwise removed or replaced with new development. However, Alternative 2 does not require the removal of any housing. Alternative 2 would accommodate up to 519 new housing units. New development allowed under Alternative 2 would significantly increase the available housing stock in the County, but the number of units would be reduced from 706 to 519 units. Therefore, Alternative 2 would not displace substantial numbers of people or housing units. Therefore, impacts associated with displacement would be less than significant, similar to the Project.

Public Services and Recreation

Impact 3.12-1: Implementation of the Project could result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services

As shown in Table 5.0-4, Alternative 2 could result in up to 41 single family dwelling units, 398 multifamily dwelling units, 80 mixed use dwelling units, 137,904 square feet of commercial uses, 62,136 square feet of office uses, and 18,450 square feet of recreation uses. Development and growth facilitated by Alternative 2 would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the County.

As future development and infrastructure projects (including potential new public facilities) within the Plan area are considered by the County, each project will be evaluated for conformance with the Specific Plan, Sonoma County General Plan, Sonoma County Municipal Code, and other applicable regulations. The Sonoma County General Plan includes a range of objectives and policies to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the County and appropriate service agency, and that new development funds its fair share of services. Therefore, this impact is considered less than significant and no additional mitigation is necessary. Alternative 2 would reduce the development potential in the Plan area, which would slightly decrease demand on governmental facilities compared to the Project. Therefore, impacts related to governmental facilities and the provision of public services would be slightly reduced compared to the Project.

Impact 3.12-2: Implementation of the Project may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities

Growth accommodated under Alternative 2 would include a range of uses that would increase the population of the county and also attract additional workers and tourists to the county. This growth would result in increased demand for parks and recreation facilities. The provision of new park and recreational facilities is required by Sonoma County General Plan Policy PS-2g. The additional demand on existing parks and recreational facilities, particularly regional facilities, would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown. This alternative would significantly reduce the development potential in the Plan area. Therefore, impacts related to parks and recreation facilities would be reduced compared to the Project.

Overall, this impact is considered less than significant and no mitigation is necessary, similar to the Project.

Impact 3.12-3: Implementation of the Project may increase demand for schools and result in the need to construct new schools

Implementation of Alternative 2 would indirectly lead to new population growth within the county, which would increase the demand for schools and school facilities. Subsequent development projects within the Plan Area would be subject to the applicable school facility impact fees. Additionally, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that provide provisions related to schools. For these reasons, implementation of Alternative 2 would have a less than significant impact related to school facilities. Because the number of units would be reduced from 705 under the Project to 519 units under Alternative 2, the resulting student generation would be slightly reduced compared to the Project. Therefore, impacts related to school facilities would be slightly reduced compared to the Project.

Transportation and Circulation

An evaluation of the potential transportation and circulation impacts associated with buildout of Alternative 2 is presented below, including a quantitative analysis of potential traffic impacts. A comparison is also provided of impacts and mitigation measures identified for Alternative 2 versus the Project.

Table 5.0-8 summarizes total VMT, daily VMT, population, and daily trips associated with the Project and Alternative 2, based on information provided by W-trans in 2019 and 2021. The trip generation was estimated using rates from the 2017 publication *Trip Generation Manual*, 10th Edition, Institute of Transportation Engineers (ITE)It is noted that the trip generation analysis was prepared based on an estimated 685 units, 275,903 non-residential square feet, and 120 hotel rooms for the Project and 476 units, 218,489 non-residential square feet, and 120 hotel rooms for Alternative 2. While the projected units and non-residential development have slightly changed for the Project and Alternative 2, the daily trip analysis remains useful for comparative purposes.

TABLE 5.0-8: VEHICLE MILES TRAVELED, DAILY VMT, POPULATION, AND DAILY TRIPS – PROJECT AND ALTERNATIVE 2

	BASELINE	*PROJECT*	*ALTERNATIVE 2*
VEHICLE MILES TRAVELED			
Daily VMT (Baseline + Project)[1]	28,570,046	28,621,505	28,607,686

Scenario Daily VMT less Baseline[2]	-	51,459	37,640
Increase over Baseline	-	0.18%	0.13%
Scenario Annual VMT[1]	-	18,319,304	13,399,925
HOME-BASED AND EMPLOYEE BASED DAILY VMT			
Home-based Daily VMT[2]	-	29,062	20,735
Employee-based Daily VMT[2]	-	9,988	7,396
Home-based Daily VMT (per capita)[2]	12.8 Regional Threshold	14.7	14.3
Employee-based Daily VMT (per capita)[2]	18.5 Regional Threshold	15.8	17.2
POPULATION			
Residential Population[1,2]	504,217	1,977	1,453
Residential Population Increase	-	0.39%	0.29%
Employees[2]	-	632	429
Service Population	-	2,609	1,882
VMT per Service Population	-	19.72	20.00
DAILY VEHICLE TRIPS			
Northern Plan Area[3]	-	6,524	
Southern Plan Area[3]	-	3,934	
Total[3]	-	10,458	0

SOURCE: 1 W-TRANS, 2021B
2 W-TRANS, 2021A
3 W-TRANS, 2019

IMPACTS AND COMPARISON TO THE PROJECT

Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT)

As shown in Table 5.0-8, the VMT modeling results produced by the SCTM\15 travel demand model indicate that the increase in residential uses under Alternative 2 would result in 14.3 home-based VMT per capita, which exceeds the home-based daily VMT threshold of 12.8 but is slightly less than the Project's residential VMT of 14.7. Under Alternative 2, employee-based VMT associated with the increase in non-residential uses would be 17.2 VMT, which is less than the threshold of 18.5 VMT and exceeds the Project's employee-based VMT of 15.8. Alternative 2 would result in a significant impact associated with the home-based VMT. Alternative 2 would not result in a significant impact associated with employee-based VMT. Overall, Alternative 2 would have a slightly higher VMT per service population (20.0) than the Project (19.72) .

As discussed in Section 3.13 under Impact 3.13-1, while regional strategies such as VMT mitigation fees, exchanges, and banks hold much promise, they have yet to be implemented and their s effectiveness in reducing impacts below the threshold remain uncertain. Therefore, the impact would be significant and unavoidable under Alternative 2 and the impact would be better than Alternatives 1 and 3 and slightly worse than the Project.

Impact 3.13-2: Implementation of the Project would not substantially increase hazards due to a geometric design feature or incompatible uses

As discussed under Impact 3.13-2 of Section 3.13, the Project would have a less than significant impact associated with the potential to substantially increase hazards due to a design feature. While Alternative 2 would reduce land use densities and intensities, it would not result in any significant changes to design features associated with the Project or subsequent development in comparison to the Project. Therefore, the same evaluation of design hazards completed under Impact 3.13-2 in Section 3.13 for the Project also applies to Alternative 2. Impacts associated with Alternative 2 would remain less than significant, similar to the Project.

Impact 3.13-3: Implementation of the Project would not result in impacts related to emergency access

As discussed under Impact 3.13-3 of Section 3.13, the Project would have a less than significant impact associated with impacts related to emergency access. Alternative 2 would not change any features of the circulation plan or result in any changes that would affect emergency access. Therefore, the assessment of the Plan's potential impacts to emergency access is the same for both the Project and Alternative 2, as is the list of Specific Plan policies anticipated to mitigate potential impacts. Emergency access impacts associated with Alternative 2 would remain less than significant, similar to the Project.

Impact 3.13-4: Implementation of the Project would not conflict with a program, plans, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities

As discussed under Impact 3.13-4 of Section 3.13, the Project would have a less than significant impact associated with impacts related to potential conflicts with multi-modal circulation policies, plans, or programs or the potential to decrease performance or safety of public transit, bicycle, or pedestrian facilities. As with the Project, Alternative 2 is consistent with and expands upon the pedestrian and bicycle network identified in the Sonoma County Bicycle and Pedestrian Plan. The Project and Alternative 2 also support existing policies regarding non-motorized transportation, including SCTA's Moving Forward 2040 and Sonoma County's General Plan 2020.

Alternative 2 includes the same set of recommended pedestrian improvements as the Project including sidewalk gap filling, establishing new path segments, and identification of locations on the Highway 12 corridor where new crosswalks and pedestrian enhancements would be installed. It is noted that in areas where Alternative 2 has lower densities than the Project and therefore lower levels of pedestrian activity would occur, some of the Highway 12 crosswalks identified in the Specific Plan would not be needed until a later timeframe, or potentially not at all. Ultimately, the determination of when a particular crosswalk is needed to support pedestrian connectivity would be dependent on the actual types, locations, and timing of individual projects constructed in the future within the Plan area.

Alternative 2 also includes the same proposed bicycle network as depicted on the Bicycle Circulation Plan (Figure 6 in the Springs Specific Plan) including modification of existing bicycle lanes on Highway 12 to include a striped buffer between the bike lane and vehicle lanes. Alternative 2 would generate slightly less vehicular and bicyclist traffic to side streets in the Plan area, and the potential for any individual side street to be so impacted by traffic as to create a hazard to bicyclists is limited. The Specific Plan identifies new bicycle facilities to increase bicyclist comfort and safety.

Alternative 2 is expected to increase population and employment within the Plan area, adding to the demand for transit service provided by Sonoma County Transit, albeit at slightly lower levels than the

Project since the intensity of new development would be lower. Alternative 2 would retain a transit orientation, reducing reliance on travel by single-occupant vehicles and helping to further a travel mode shift from autos to transit.

In summary, while buildout of Alternative 2 would be expected to generate slightly lower levels of pedestrians, bicyclists, and transit riders than the Project, the assessment of the Plan's potential impacts to multi-modal circulation would essentially be the same. The list of Specific Plan policies anticipated to mitigate potential impacts would also remain unchanged. As a result, the potential impacts to multi-modal circulation associated with Alternative 2 would remain less than significant, similar to the Project.

Utilities

Alternative 2 could result in up to 41 single family dwelling units, 398 multifamily dwelling units, 80 mixed use dwelling units, 137,904 square feet of commercial uses, 62,136 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,453 new residents (compared to 1,977 residents under the Project) and up to 429 new employees (compared to 632 employees under the Project). Impacts associated with air quality are discussed in the following section.

Impact 3.14-1: Implementation of the Project would not 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 providers existing commitments, or require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects

WASTEWATER GENERATION AND CAPACITY

The Project would generate 166,654.8 gallons per day (gpd), or 0.17 mgd. The amount of wastewater generated by this alternative is shown in Table 5.0-9. As shown, Alternative 2 would generate 115,414 gpd, or 0.12 mgd. This is 69 percent of the wastewater generated by the Project.

TABLE 5.0-9: ALTERNATIVE 2 WASTEWATER GENERATION

LAND USE CATEGORY	*WASTEWATER FLOW RATE*	*WASTEWATER FLOW INCREASE (GPD)*
Single Family Units	200 per unit	8,200.0
Multifamily Units	160 per unit	63,680.0
Work/Live and Mixed Use Units	160 per unit	12,800.0
Commercial Square Feet	0.19 per square foot	26,011.8
Office Square Feet	0.076 per square foot	4,722.3
Hotel Rooms	100 per room	-
Recreation Square Feet	0	-
TOTAL	--	115,414.1

SOURCE: EBA, 2019; DE NOVO PLANNING GROUP, 2021.

The Sonoma County General Plan includes objectives and policies that would reduce impacts related to wastewater treatment. Additionally, the Specific Plan includes infrastructure policies aimed to support the private development and public improvements which would result from implementation of this alternative. Because this alternative would adopt the Specific Plan polices, subsequent development projects under this alternative would be subject to these policies.

Buildout of the Plan area under this alternative would increase wastewater treatment demand; however, due to the decrease in development potential under this alternative, the associated demand on utilities, including wastewater treatment, would slightly decrease. While full buildout of the Project and Alternative 2 would slightly increase the existing treatment capacity of the treatment plant when combined with future growth throughout other areas of the County, the County's General Plan includes provisions to ensure that new development cannot be approved until it can be demonstrated that adequate capacity is available to serve it. As described above, the district must also periodically review and update their master plan, and as growth continues to occur within the Plan area, the district will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that the General Plan includes a comprehensive set of objectives and policies to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are less than significant. Because the amount of wastewater generated by this alternative would be slightly reduced, this impact would also be slightly reduced when compared to the Project.

WASTEWATER FACILITIES AND INFRASTRUCTURE

Similar to the Project, the majority of the required wastewater conveyance infrastructure would be constructed on-site in conjunction with development and redevelopment of individual parcels within the Plan area. Wastewater conveyance infrastructure would be located underground, within the right-of-way footprint of future roadways in the Plan area, and must be constructed to meet the requirements contained in the Sonoma Valley County Sanitation District Sanitation Codes and Standards. Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. As future development and infrastructure projects are considered by the County, each project would be evaluated for conformance with the General Plan, Zoning Code, and other applicable regulations.

The County's General Plan includes objectives and policies designed to ensure adequate wastewater treatment capacity is available to serve development, to minimize the potential adverse effects of wastewater treatment, and to ensure that development does not move forward until adequate wastewater capacity exists. Policy PF-1d requires all development projects to obtain written certification that either existing services are available or needed improvements will be made prior to occupancy.

Additionally, the Project includes infrastructure and public services policies aimed to support the private development and public improvements which would result from Implementation of the Project. For example, Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Subsequent development projects proposed within the Plan area would be subject to these policies. This is a less than significant impact, similar to the Project.

Impact 3.14-2: Implementation of the Project would not require or result in the relocation of new or expanded water facilities, and would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years

Implementation of this alternative would result in increased population and employment growth within the Plan area, and a corresponding increase in the demand for additional water supplies.

The Project's water demand would be 206 AFY while this alternative would have a demand of 144 AFY as shown in Table 5.0-10. This is 70 percent of the wastewater generated by the Project.

TABLE 5.0-10: ALTERNATIVE 2 WATER DEMAND

LAND USE CATEGORY	*CONNECTION FACTOR*	*WATER DEMAND PER CONNECTION (AFY)*	*WATER DEMAND (AFY)*
Single Family Units	1 connection per unit	0.26681	10.9
Multifamily Units	1 connection per 10 units	1.13296	45.1
Work/Live and Mixed Use Units	1 connection per 12 units	1.13296	7.6
Commercial Square Feet	1 connection per 4,000 SF	1.14525	39.2
Office Square Feet	1 connection per 3,500 SF	1.14525	20.3
Hotel Rooms	0.525 rooms per connection	0.26681	0.0
Recreation Square Feet	1 connection per 4,450 SF	1.6258	6.7
Mixed Use Irrigation	3 new connection equivalent total assumed for irrigation for mixed use projects	1.6258	4.9
Commercial Irrigation	6 new connection equivalent total assumed for irrigation for commercial projects	1.4898	8.9
TOTAL	--	--	143.6

NOTE: SF = SQUARE FEET

SOURCE: EBA, 2019; DE NOVO PLANNING GROUP, 2021.

The County's General Plan includes a range of objectives and policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Subsequent development projects under this alternative would be subject to all relevant General Plan objectives and policies that reduce impacts related to water supply.

Additionally, the Specific Plan includes infrastructure and public services policies aimed to support the private development and public improvements which would result from Implementation of the Project. For example, Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Additionally, Policy CF-1e requires development projects to install off-site infrastructure or pay appropriate in-lieu fees when appropriate. Subsequent development projects proposed under this alternative would be subject to these policies.

Given that the General Plan includes a comprehensive set of goals, objectives, and policies to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are less than significant. Because this alternative would slightly reduce the water demand compared to the Project, this impact would be slightly reduced under this alternative.

WATER FACILITIES AND INFRASTRUCTURE

Development and growth in the Plan area under this alternative would result in increased demand for water supplies, including water conveyance and treatment infrastructure. As described under Impact 3.14-2 in Section 3.14, the projected 2040 water supplies are adequate to meet demand that would be generated by buildout of the Project. As noted previously, due to the decrease in development potential under this alternative, the associated demand on utilities, including water demand, would also decrease. As such, implementation and buildout of this alternative would not result in the need to construct or expand water supply and treatment facilities that have not already been described and accounted for in the SCWA's 2015 UWMP.

Future development in the Plan area under both the Project and this alternative would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to

implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the County's existing water infrastructure network. Any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under this alternative.

This Draft EIR addresses the potential impacts of development that may occur under this alternative, including residential, commercial, public facilities, and a range of other uses. Where potentially significant or significant impacts are identified, this EIR identifies mitigation measures to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels. There are no additional environmental impacts, apart from those disclosed in the relevant chapters of this EIR, which are anticipated to occur. Therefore, this impact is considered less than significant and no additional mitigation is necessary. Because the water demand generated by this alternative would be slightly reduced, this impact would also be slightly reduced when compared to the Project.

Impact 3.14-3: The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals

As shown in Table 5.0-4, Alternative 2 could result in up to 519 dwelling units and 218,490 square feet of non-residential uses. This alternative would accommodate up to approximately 1,453 new residents (compared to 1,977 residents under the Project) and up to 429 new employees (compared to 632 employees under the Project). Implementation of this alternative would result in an increase in solid waste generation. Compared to the Project, the amount of solid waste would be reduced due to the reduction in development potential and associated population.

While there is adequate permitted landfill capacity to accommodate future growth, the County's General Plan includes policies to further reduce the project's impact on solid waste services. Implementation of this alternative would not exceed the permitted capacity of the landfill serving the County. Therefore, through compliance with the General Plan policies, impacts to solid waste are less than significant. Because the amount of solid waste generated by this alternative would be slightly reduced, this impact would also be slightly reduced when compared to the Project.

Tribal Cultural Resources

Impact 3.15-1: Implementation of the Project has the potential to cause a substantial adverse change to a tribal cultural resource as defined in CEQA Guidelines 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), or to a resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Seventeen cultural resources have been identified within the Plan area, according to files maintained by the Northwest Information Center (Information Center) of the CHRIS. The CHRIS records search identifies buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to the Information Center. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of

Eligibility list. In addition, none are listed on the CRHR or the NRHP. The results of Sacred Land files search were negative.

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance or discovery of an archaeological, historic, or tribal cultural resource.

The General Plan policies and objectives, listed in the Regulatory Setting subsection provided in Section 3.15: Tribal Cultural Resources, provide a robust framework for ensuring that effects on significant historic, archaeological and tribal cultural resources are reduced. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

Alternative 2 would result in a similar development pattern and impact areas as the Project. The Specific Plan includes Measure Cult-A through Cult-D as discussed under Impact 3.4-1 in Section 3.4, as well as measures TCR-A, B, and C, in Chapter 3.15, which require resources consultation and coordination for all discretionary projects and avoidance of known resources. Measures Cult-C and Cult-D are protocol for if cultural resources are identified in the project area. These measures are consistent with CEQA Guidelines Section 15064.5 which requires a site-specific cultural or archaeological survey to be performed for all ground-disturbing projects located on sites within the Plan area where a known cultural, archaeological, or cultural resource is located or where the site is sensitive for such resources. With implementation of Measures Cult-A, Cult-B, Cult-C, Cult-D and Cult-E, this impact would be less than significant, similar to the Project.

Wildfire

Impact 3.16-1: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The County has an Emergency Operations Plan, Hazard Mitigation Plan, and Community Wildfire Protection Plan. The EOP and its Annexes are not a formally "adopted" plan. However, the EOP functions as the emergency response plan and emergency evacuation plan for the unincorporated County, including for the Plan area. For the reasons discussed below, the Project would not impair implementation of or physically interfere with the EOP.

According to the EOP Evacuation Annex, the County has primary responsibility for emergency evacuation in unincorporated areas, such as the Springs. Any new development in the Plan area, facilitated by this plan, would be accessed by preexisting roadways. No new roads are provided for or contemplated in the Plan. The Specific Plan would not create physical impediments or interfere with the use of the roadways for evacuation or response during an emergency. All future development in the Plan area would be required to meet the most current applicable fire safety and emergency access and egress standards, including those regarding roadway width, turnarounds, and other necessary capacities.

As described in Section 3.12, Public Services, all new construction within the Plan Area would be subject to a Fire Impact Fee, adopted on March 23, 2021. The purpose of the fire impact fee is to fund the cost of fire protection and emergency response facilities, apparatus, and equipment attributable to new residential and nonresidential development in the District. The fire impact fee will ensure that new

development will not burden existing development with the cost of expanded facilities, apparatus, and equipment required to accommodate growth as it occurs within the District. (Sonoma Valley, 2022).

The EOP's Evacuation Annex discusses evacuation methods, routes, and assets. The primary mode of evacuation is assumed to be various forms of ground transport (personal vehicle, bicycle, rail, bus, etc.) for most persons in an evacuation area. Because evacuation routes are situation-specific, the Evacuation Annex does not identify specific routes but states that routes may include interstate, state and surface roads, and will be chosen based on the relative safety of roadway infrastructure and current traffic conditions. Evacuation routes will be selected by law enforcement officials, approved by the Incident Commander at the time of the evacuation decision, then communicated to the EOC.

The Evacuation Annex assumes that the majority of residents can self-evacuate using personal vehicles, and acknowledges that transit-dependent populations (such as those with disabilities and with access and/or functional needs and households without a vehicle) may require public transportation to evacuate. In those cases, Transportation Assembly Points (TAPs) would be used to transport persons who require evacuation assistance to temporary evacuation points and/or shelters in safe areas. The Annex acknowledges that evacuees may arrive at TAPs by foot, bicycle, public transit, paratransit, or private vehicles, and identifies public and private transportation assets (public and private buses) that would be used for evacuation from TAPs. As with evacuation routes, the location of TAPs in a particular emergency will be selected and activated depending on the immediate circumstances.

The Project is proposed in an existing urbanized area. Implementation of the Project would support improvements to transportation systems throughout the Plan area. The Plan identifies future improvements including addition of new crosswalks, bulb-outs and flashing beacons to improve pedestrian visibility at crossings. Sidewalks would be added along portions of Donald Street, Harley Street and smaller segments throughout the Plan area. Furthermore, the plan's emphasis on improved pedestrian and bicycle infrastructure is intended to support reduced congestion and improved circulation, and may facilitate evacuation, especially for those without access to vehicles who will need to make their way to the designated TAP for their area in the event of an evacuation. Development facilitated by the Project will use existing roadways. Accordingly, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, nor would it reduce existing levels of emergency response service as discussed above. While the area of disturbance associated with future development projects under Alternative 2 would be less than the Project, the impacts to this topic would be similar to the Project with regard to this issue.

Impact 3.16-2: Implementation of the Project has the potential to:

> ***a) 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) 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; or

c) 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

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), weather (winds, temperatures, humidity levels and fuel moisture content) and topography (degree of slope). The California Department of Forestry and Fire Protection (CalFIRE) uses these factors to quantify fire hazards and categorizes them as Fire Hazard Severity Zones (FHSZ). Areas are designated as Moderate, High or Very High FHSZ, with areas of significant risk being Very High FHSZ. These areas are fully mapped in State Responsibility Areas, and areas within local jurisdiction (LRAs) are also mapped if they are Very High FHSZ.

All of the Plan area is near an SRA, and small portions of the Plan area are located within an SRA. A majority of the Plan area is urbanized and located in a Local Responsibility Area (LRA) that is not mapped by CalFIRE as a Very High FHSZ. Small portions of the plan area are in a Moderate or High FHSV, but none of the Plan area is within or adjacent to a Very High FHSZ. (See Figure 3.7-1) The Project does not propose development in or adjacent to Very High FHSZ, which is approximately 0.6 miles from the northern end of the Plan area at its closest point. Limiting development in Very High FHSZ limits exposure of people or structures to the areas of greatest fire hazard. A majority of the Plan area is in areas of existing urban development with minimal slope, where wildland fuels are low and wildfire hazards are limited. As shown in Figure 3.7-1, a portion of the southeast Plan area is in a Moderate Fire Hazard Zone (15 parcels or approximately 17 acres) and a portion of the northeast plan area is in a High Fire Hazard Zone (47 parcels or approximately 11 acres).

All future projects allowed under the Project would be required to comply with all applicable provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the County, each project would be evaluated for consistency with all applicable building and safety code sections that reduce fire risk. Compliance with these State and Local regulations would ensure that potential wildland fire hazards are mitigated through requirements for home hardening, automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, and ensuring adequate fire protection services.

As discussed in Section 3.7-5 and as required by Specific Plan Policies Wildfire-1 and Wildfire-2, future projects would be subject to the applicable State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. These policies would ensure that future development does not exacerbate fire risk, and that risks to structures in the case of a wildland fire are reduced compared to those subject to less stringent requirements. In addition, because the Plan area encompasses properties with minimal vegetation, in an urbanized setting, projects built within the Plan area do not represent a new encroachment into wildland areas. As a result, the Plan would not introduce new sources of ignition to areas of very high wildfire hazard.

The Project does not propose to install any major new infrastructure that may exacerbate fire risk. Future infrastructure improvements in the Plan area would include the maintenance of existing water, sewer and roadways associated with new development which are typically underground and not located in wildland areas. Specifically, Policy CF-1f of the Specific Plan requires new utilities in the Plan area to be installed

underground. As discussed in Section 3.16-1 above, the circulation and road improvements would increase connectivity and may have a beneficial impact on emergency response, and it is expected that improvements to water infrastructure supported by future development would support firefighting capacity as well. The construction of these improvements would comply with State and local fire standards. Thus, the installation and maintenance of the proposed infrastructure would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

As discussed in the Geology and Soils Section (3.5), hillsides in the County have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the planning area's relatively level slopes, landslide potential is very low for all but a small portion of land located between Fetters and Central Avenue. Landslide potential increases in the foothills and mountains to the east of the Planning Area where wildland fire hazard potential also increases. In addition, development in the Plan area would be set back from watercourses that could channel post-wildfire debris flow.

Severe wildfires can 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 Plan Area is located downslope from hillside areas, or contains some landslide-susceptible areas, and vegetative wildfire fuels, as described above. If a severe wildfire were to occur adjacent to the Plan Area, structures within the area may be at risk of landslides and could 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 developed conditions.

Though the Plan area is downslope from areas with elevated landslide or fire hazards, the Plan area is consistent with the pattern of development countywide and due to its predominantly level topography and surrounding pattern of urbanization and soil cover would not expose people or structures to elevated post-fire risks such as downslope or downstream flooding or landslides.

Future development projects in the Plan area would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the site and does not result in downstream flooding or major drainage changes. Future development projects located within the area covered by the storm water permit boundary would be subject to the Guidelines for the Standard Urban Storm Water Mitigation Plan. Some of the treatment controls in the Guidelines can be used to provide flood control by including additional flood detention storage.

Because existing codes and regulations cannot fully prevent wildfires from damaging structures or occupants, the Project could increase the exposure of new residential development to risk of loss or damage from wildfire. The Specific Plan includes Policy Wildfire-1 to reduce the risk of wildfire for future development associated with the Project. Specific Plan Policies Wildfire-1 and Wildfire-2 would reduce construction wildfire risk and include project siting considerations for future development.

Overall, while the area of disturbance associated with future development projects under Alternative 2 would be less than the Project, this alternative would result in potentially significant impacts associated with potential ground-disturbing activities, similar to the Project. Mitigation would be required to reduce this impact to a less than significant level. Therefore, this impact would be similar to the Project.

ALTERNATIVE 3 – LOW GROWTH

Alternative 3 provides for reduced growth in comparison to the Project. This alternative would reduce the residential and non-residential development potential to a greater extent than Alternative 2. For example, Alternative 3 would result in 120 fewer dwelling units and a reduction of the non-residential development uses by 20,475 square feet. This alternative was designed to reduce the project's contribution to significant impacts that would occur with project implementation, particularly Impacts related to traffic noise levels at existing receptors and traffic performance measures (such as total VMT).

Under Alternative 3, buildout of the Plan area would result in approximately:

- 413 dwelling units, including:
  - 63 single family dwelling units;
  - 270 multifamily dwelling units; and
  - 80 mixed use or work/live units; and
- 198,015 square feet of non-residential uses, including:
  - 125,617 square feet of commercial uses;
  - 53,948 square feet of office uses; and
  - 18,450 square feet of recreation uses.

Aesthetics and Visual Resources

Impact 3.1-1: Project implementation could result in a substantial adverse effect on a scenic vista, or could substantially degrade the existing visual character of the site and its surroundings

As discussed in Section 3.1 under Impact 3.1-1, development allowed under the Project would result in increased development along the Highway 12 corridor which is identified as being a County designated Scenic Corridor. The hillside and open agricultural lands west and east of the Plan area are the most prominent visual feature visible from the Plan area and Highway 12. As described in Section 3.1 under Impact 3.1-1, the Plan area is considered to be of High visual sensitivity and Project features would be Co-dominant with the existing visual environment. While new development within the Plan area has the potential to interrupt views of the surrounding naturalized foothills and hillsides from Highway 12, local roads, and other public viewpoints within and adjoining the Plan area, the Plan area is urbanized. The Design Guidelines chapter (Chapter 4) of the Specific Plan establishes the aesthetic vision for future developments' architecture, building character, land massing, site design, streetscape, lighting, signage, and landscape standards and would reduce the potential of the project to result in substantial adverse effects on a scenic vista or substantially degrade the visual character of the area. Impacts associated with the Project were determined to be less than significant.

The Specific Plan includes Design Guidelines chapters (Chapter 4) that establish the aesthetic vision for future developments' architecture, building character, land massing, site design, streetscape, lighting, signage, and landscape standards within the Plan area. The purpose of the Guidelines is to ensure consistency of design across a wide range of uses within the Plan area. Furthermore, development standards included within the Specific Plan regulate building intensity and separation, façade design, massing, height, and setback requirements. Design Guidelines included within the Specific Plan provide guidance for the development of well-designed projects that are compatible with adjacent land uses, while continuing to advance the residential opportunities, economic vitality and job growth in the County.

Alternative 3 would result in adoption of the Specific Plan, including the goals, policies, and Design Guidelines. Future development allowed under Alternative 3 would be subject to these Guidelines.

As discussed above, under Alternative 3, buildout of the Plan area would result in approximately 413 dwelling units and 198,015 square feet of non-residential uses. This is a reduction of 293 dwelling units and 78,888 square feet of non-residential uses. The reduced development potential under this alternative could result in decreased building heights and/or decreased densities in the Plan area.

The Plan area is largely urbanized and developed. The Project and Alternative 3 would allow for an increase in intensity and density of the existing land uses than currently allowed. Under this alternative, future development would result in densification of urban uses along the Highway 12 corridor. However, this alternative would likely result in decreased building scale and heights due to the decrease in residential densities and mixed use intensities allowed in the Plan area, compared to the Project. Development would occur on either vacant, infill parcels, or on parcels where redevelopment potential exists. Under this alternative, there would be no high or medium density residential development in the Donald/Verano neighborhood; low density residential development would be allowed in the Donald/Verano neighborhood. Future development and design review processes would ensure that future uses are pedestrian scale, blend with the existing built environment, and connect to existing and future open space and public space. This impact is considered to be less than significant. Because the reduced development potential under this alternative could result in decreased building heights and decreased densities in the Plan area, this impact would be slightly reduced compared to the Project.

Impact 3.1-2: Project implementation could result in substantial damage to scenic resources within a state scenic highway

Because the Plan area is not located within a state scenic highway, implementation of this alternative would not result in substantial damage to scenic resources within a state scenic highway. Therefore, this impact is less than significant, similar to the Project.

Impact 3.1-3: Project implementation could result in the creation of new sources of nighttime lighting and daytime glare

Implementation of this alternative would introduce new sources of daytime glare and nighttime lighting into previously undeveloped areas of the Plan area.

The Specific Plan, which would be adopted as part of this alternative, includes Design Guidelines for exterior lighting that would reduce potential adverse impacts associated with light and glare. The exterior lighting guidelines require the use of light shielding fixtures. The building character guidelines prohibit the use of reflective or mirrored glass in order to reduce glare. Future development within the Plan area under this alternative would also be subject to design review and approval.

Implementation of the Design Guidelines in the Specific Plan would ensure that project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the design requirements, and the subsequent design review of future projects within the Plan area, would ensure that excessively reflective building materials are not used, and that the Project would not result in significant impacts related to daytime glare. As such, through implementation of the Specific Plan's Design Guidelines, and the design review process, the County can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a less than significant level, similar to the Project.

Air Quality

Alternative 3 could result in up to 63 single family dwelling units, 270 multifamily dwelling units, 80 mixed use dwelling units, 125,617 square feet of commercial uses, 53,948 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,156 new residents (compared to 1,977 residents under the Project) and up to 382 new employees (compared to 632 employees under the Project).

Impact 3.2-1: Implementation of the Project would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants

CONSISTENCY WITH THE 2017 CLEAN AIR PLAN

The 2017 Clean Air Plan defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors, and greenhouse gases. One of the key elements in the control strategy is to reduce motor vehicle travel by promoting transit, bicycling, walking, and ridesharing, and to direct new development to areas that are well-served by transit, and conducive to bicycling and walking. This is consistent with the Specific Plan, which aims to improve the pedestrian, bicycle, and transit network within the Plan area and provides policies in support of these travel modes. This alternative would include the goals and policies of the Specific Plan discussed under Impact 3.2-1 in Section 3.2 that support the pedestrian, bicycle, and transit modes of travel. These policies and goals, which would be adopted as part of this alternative, support the Clean Air Plan strategies to reduce emissions.

Another key element of the 2017 Clean Air Plan is to accelerate the widespread adoption of electric vehicles. Policy SC-4j of the Specific Plan, which would be adopted by this alternative, encourages the installation of electric charging stations on both public property and in private development. This alternative would be consistent with all of the key elements of the 2017 Clean Air Plan relating to transportation.

Alternative 3 would develop new residential and non-residential buildings that would comply with or exceed the latest version of the California Title 24 building energy efficiency standards, and would thereby be consistent with the key elements of the 2017 Clean Air Plan relating to buildings and energy. This alternative would also comply with the latest state legislation relating to water and waste management, which ensures that this alternative would not conflict with the key elements of the 2017 Clean Air Plan relating to the water and waste management sectors. Separately, similar to the Project, this alternative would not include new stationary sources (i.e. industrial facilities, landfills, wastewater treatments plants, etc.), and therefore would not conflict with the key elements of the 2017 Clean Air Plan relating to stationary sources. Moreover, similar to the Project, this alternative does not propose agricultural land uses, or land uses that would use “super-GHGs’, such as methane, black carbon, or fluorinated gases, which can have very large greenhouse gas effects.

Alternative 3 does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 Clean Air Plan. For the above-specified reasons, Alternative 3 would be consistent with the 2017 Clean Air Plan as promulgated by the BAAQMD, and implementation of this alternative would have a less than significant impact relative to this topic, similar to the Project.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The existing Sonoma County General Plan Open Space and Resource Conservation Element includes an extensive list of objectives and policies that are specifically aimed at improving air quality. This alternative is consistent with these objectives and policies by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations.

Additionally, the Circulation and Transit Element of the Sonoma County General Plan includes a wide range of objectives and policies that would effectively reduce vehicle miles travelled throughout the Plan area, through the use of improved circulation for pedestrians, bicyclists, and transit systems. Alternative 3 is consistent with these objectives and policies and includes the Specific Plan goals and policies discussed under Impact 3.2-1 in Section 3.2. Because this alternative includes adoption of these policies, this alternative would be consistent with the County General Plan. All future development and infrastructure projects within the Plan area would be subject to all relevant General Plan emissions and air quality goals, objectives, and policies, which were adopted in order to reduce emissions and air quality impacts.

Implementation of this alternative and the Project which are both consistent with all applicable Sonoma County General Plan objectives and policies, would have a less than significant impact relative to this topic, similar to the Project.

THRESHOLDS OF SIGNIFICANCE

The analysis provided above demonstrates that this alternative would be consistent with the current air quality plan control measures.

Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The revised densities and standards would result in a reduction of 293 dwelling units and 78,888 square feet of non-residential uses. The reduced development potential under this alternative could reduce VMT slightly compared to the Project.

As discussed in Section 3.2, the Project would not result a VMT increase that would exceed the projected population increase, and would also be consistent with all BAAQMD current air quality plan control measures. Under Alternative 3, VMT would increase by 41,052 and population would increase by 1,156 persons. This results in a population increase of 0.23% compared to the existing County population of 504,217 and a VMT increase of 0.14% compared to the baseline VMT of 28,570,046 (see Table 5.0-12). Therefore, Alternative 3 would also not result in a VMT increase that would exceed the projected population increase. Therefore, both the Project and this alternative area consistent with the adopted BAAQMD thresholds. For these reasons, this impact is considered less than significant, similar to the Project.

CONSISTENCY WITH THE PLAN BAY AREA 2040

The Plan Bay Area 2040 is the most recently adopted Regional Transportation Plan prepared by the MTC for the San Francisco Bay Area region. The MTC calculated employment and household projections for Plan Bay Area 2040.

The adopted Plan Bay Area does not include population projections at the local level, but rather presents regional projections. Plan Bay Area 2040 states that by 2040 the San Francisco Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year.

While no specific development projects are proposed as part of this alternative, this alternative would accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential uses. As shown in Table 5.0-4, full buildout of this alternative area would result in a maximum of 419 residential units. This would represent a maximum residential population of up to approximately 1,156 persons, which is well within the projections of Plan Bay Area 2040. In addition, the projected employment increase associated with the non-residential development within the Plan area would be relatively modest and would be consistent with the Bay Area's overall employment and housing growth projections. Development of this alternative would also assist Sonoma County in providing additional housing opportunities and accommodating the County's Regional Housing Needs Allocation. This alternative, including its anticipated population growth, does not conflict with the latest adopted and conforming Regional Transportation Plan. This is a less than significant impact, similar to the Project.

CONCLUSION

Alternative 3 would be consistent with the 2017 Clean Air Plan, the Sonoma County General Plan, the BAAQMD Thresholds of Significance, and the Plan Bay Area 2040. Therefore, this alternative would not conflict with or obstruct implementation of the applicable air quality, cause a violation of an air quality standard or contribute to an air quality violation, or result in a cumulatively considerable net increase in criteria pollutants. There would be a less than significant impact, similar to the Project.

Impact 3.2-2: Implementation of the Project would not cause health risks associated with toxic air contaminants

The BAAQMD has also promulgated a *Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* document in May 2016, to address the issue of healthy infill development. This document includes important information for local governments, developers, and the general public, including the location of communities and places throughout the region that are estimated to have elevated levels of fine particulates and/or toxic air contaminants, as well as best practices that may be implemented by local governments and developers to reduce health risks from air pollution in these locations that experience elevated air pollution levels. The purpose of this guidance document is to encourage local governments to address and minimize potential local air pollution issues early in the land-use planning process, and to provide technical tools to assist them in doing so.

Highway 12 in Sonoma County, which includes the segment of Highway 12 within the Plan Area, is identified in the Planning Healthy Places document as heaving relatively elevated levels of air pollution,[5] due to its traffic volume exceeding 10,000 vehicles per day. For such areas, the Air District recommends implementing all of their "best practices to reduce exposure" that are feasible and applicable to a project or plan in these locations. The proposed project would implement these best practices to reduce exposure, where determined to be appropriate by the developers of individual projects within the Plan Area.

Additionally, the BAAQMD has also identified a number of areas within the Bay Area where additional analysis (i.e. further study) is recommended to assess the local concentrations of TACs and fine PM, and therefore the health risks from air pollution. These areas are provided by the Air District's mapping tool.[6] The Air District recommends using caution when considering sensitive land uses in these areas. There are

[5] See Figure 2, on page 10 of the Planning Healthy Places document.

[6] https://www.baaqmd.gov/plans-and-climate/planning-healthy-places

two such areas identified by the Air District within the Plan Area (i.e. two gasoline stations). Specifically, the gasoline stations are a Valero Station, located at 18605 Sonoma Highway, and a Sonoma Beacon station, located at 18618 Sonoma Highway. To help clarify and standardize analysis and decision-making in the environmental review process for development that would occur in the vicinity of these gas stations, future projects would be required to implement Measure Air-B, which would minimize risks associated with any new sensitive receptors located within 1,000 feet of Highway 12 or within 300 feet of the gas stations.

Separately, the BAAQMD CEQA Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The existing Sonoma County General Plan includes policies that are intended to minimize exposure of TACs to sensitive receptors (listed in the Regulatory Setting). These policies help to protect sensitive receptors, and otherwise limit air pollution during construction and operation activities. These objectives and policies are consistent with the BAAQMD recommendations that are intended to reduce health risks associated with TACs. Specifically, General Plan Policy OSRC-16i requires that any proposed new sources of toxic air contaminants provide adequate buffers to protect sensitive receptors and comply with applicable health standards. In addition, there are several policies that relate to reducing diesel particulate matter (DPM), which is a common TAC emitted from heavy-duty long-haul vehicles, as well as wood-burning fireplaces (see Policy OSRC-16l and Policy OSRC-16g). The implementation of these Sonoma County General Plan objectives and policies that are intended to mitigate TACs impacts would ensure that impacts associated with this alternative are reduced to a less than significant level, similar to the Project.

Impact 3.2-3: Implementation of the proposed Specific Plan would not create objectionable odors or other emissions that would adversely impact a substantial number of people

Future development projects under this alternative which would result in biological materials or other odorous waste would provide waste receptacles and would utilize outdoor trash dumpsters with lids, which would be picked up regularly during normal solid waste collection operating hours within the area. The dumpster lids are intended to contain odors emanating from the dumpsters. The dumpsters would be stored in screened areas for further protection from potential objectionable odors. The garbage collected on-site and stored in the outdoor dumpsters would not be on-site long enough to cause substantial odors. Thus, the outdoor, enclosed, and covered trash dumpsters that would be picked up regularly would provide proper containment and handling of the trash generated on-site.

As with the Project, Alternative 3 does not include uses that are anticipated to result in significant levels of objectionable odors or other emissions that would adversely impact a substantial number of people. Implementation of this alternative would have a less than significant impact relative to this topic, similar to the Project.

Biological Resources

Impact 3.3-1: Implementation of the Project could have a substantial adverse effect, either directly or through habitat modifications, on a 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

Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The area of disturbance under this alternative would be similar to the Project. The area of

disturbance, potential for tree removal, and loss of habitat associated with future development projects under Alternative 3 could result in the direct and indirect loss or indirect disturbance of special-status plant or wildlife, similar to the Project.

The Project includes components that mitigate potential impacts to special-status species, specifically Measures Bio-A through Bio-E as discussed under Impact 3.3-1 in Section 3.1. Alternative 3 would also include these components since the Specific Plan would be adopted under this alternative. The implementation of Specific Plan Measures Bio-A through Bio-E, as well as Federal and State regulations, would reduce impacts to these resources to a less than significant level, similar to the Project.

Impact 3.3-2: Implementation of the Project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

As noted in Section 3.3, the Plan area is located in an urban area and the majority of the project site is built out. The only aquatic resources in the Plan area are Agua Caliente Creek and Pequeno Creek. Other known wetlands or other waters are not found. The Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Agua Caliente Creek crosses the southern portion of the Plan area north of Maxwell Farms. Pequeno Creek crosses the northern portion of the Plan area near Larson Park. Scattered riparian habitat exists along both creeks. Under Alternative 3, Medium Density Residential and High Density Residential uses are zoned within the Plan area adjacent to Aqua Caliente Creek, and Mixed Use and Recreation uses are proposed within the Plan area adjacent to Pequeno Creek. The future construction and operation of these uses will be required to comply with all applicable laws and regulations, so as not to disturb existing creek habitat.

Similar to the Project, there is a chance that water features could be impacted throughout the buildout of the individual projects allowed under Alternative 3. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Similar to the Project, subsequent development projects allowed under this alternative will be required to comply with the County General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The Sonoma County General Plan includes numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, compliance with existing Federal and State regulations would reduce impacts to these resources. Therefore, similar to the Project, this impact is less than significant.

Impact 3.3-3: Implementation of the Project may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

The segments of Agua Caliente and Pequeno Creek that traverse the Plan area are designated with the Riparian Corridor Combining Zone, which generally prohibits ground-disturbing activities, with certain exceptions. Under Alternative 3, the Riparian Corridor Combining Zone designation would be maintained,

which generally prohibits ground-disturbing activities within the riparian corridor, with certain exceptions where vegetation removal is minimized, minor activities associated with an existing structure are involved, where it is determined that the area has no substantial value for riparian functions, or if a conservation plan is adopted that provides for protection of the riparian functions. Additionally, the Specific Plan Design Guidelines and policies require development to incorporate, preserve, and enhance natural creek habitats within the Plan area. This alternative would be subject to the Specific Plan Design Guidelines and policies.

Similar to the Project, subsequent development projects allowed under this alternative will be required to comply with the County's General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. While future development allowed under both the Project and Alternative 3 has the potential to result in significant impacts to protected habitats, this impact is less than significant, similar to the Project.

Impact 3.3-4: Implementation of the Project may result in interference 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

The only movement corridors for wildlife through the Plan area are for aquatic species along creeks and drainages. As noted previously, the Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek. Future development in these areas allowed under both the Project and Alternative 3 would include appropriate buffers/setbacks and preserve the habitat along the creeks. The implementation of an individual project adjacent to the creeks would require a detailed and site-specific review of the site to determine any impact on the movement habitat along Agua Caliente Creek or Pequeno Creek and would be required to be consistent with the Riparian Corridor Combining Zone standards.

Subsequent development projects allowed under the Project and this alternative would be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. While future development projects have the potential to result in significant impacts to protected movement corridors, the implementation of the Specific Plan Design Guidelines and policies, as well as Federal, State, and local regulations, would ensure impacts to these resources to a less than significant level, similar to the Project.

Impact 3.3-5: Implementation of the Project may result in conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

As discussed in Section 3.3, adoption of the Project would not conflict with local policies or ordinances protecting biological resources. The Specific Plan itself does not conflict with the policies contained in the County's General Plan. Alternative 3 would also not conflict with local policies or ordinances protecting biological resources. Subsequent development projects allowed under both the Project and this alternative would be required to comply with the General Plan policies, as well as the Zoning Code. Similar to the Project, this is a less than significant impact.

Impact 3.3-6: Implementation of the Project may result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

The Plan area is not subject to an adopted habitat conservation plan or natural community conservation plan. Therefore, implementation of the Project and Alterative 2 would have no impact relative to this topic.

Cultural Resources

Impact 3.4-1: Implementation of the Project has the potential to cause a substantial adverse change to a significant archaeological or historical resource, as defined in CEQA Guidelines Section 15064.5, or a significant tribal cultural resource, as defined in Public Resources Code Section 21074

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance of an archaeological, historic, or tribal cultural resource or the discovery of a previously unknown archaeological, historical, or tribal cultural resource under both the Project and Alternative 3. The Sonoma County General Plan includes policies that would reduce impacts to cultural, historic, and archaeological resources, as well as policies for the conservation of cultural, historic, and archaeological resources. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 (see above) of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

Alternative 3 would result in a similar development pattern and impact areas as the Project. The Specific Plan includes Measure Cult-A through Cult-D as discussed under Impact 3.4-1 in Section 3.4. This alternative would be subject to the same measures. With implementation of Measures Cult-A, Cult-B, Cult-C, and Cult-D, this potential impact would be less than significant, similar to the Project.

Impact 3.4-2: Implementation of 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 resources, including those that qualify as historical resources.

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, though this potential is expected to be low based on evaluation the Cultural Resource Assessment for the Springs Specific Plan, Sonoma County, California (Peak & Associates, Inc., 2016). Alternative 3 would result in a similar development pattern and impact areas as the Project. The Specific Plan includes Measure Cult-A through Cult-D as discussed under Impact 3.4-1 in Section 3.4. This alternative would be subject to the same measures. With implementation of Measures Cult-A, Cult-B, Cult-C, and Cult-D, this potential impact would be less than significant, similar to the Project.

Impact 3.4-3: Implementation of the Project has the potential to disturb human remains, including those interred outside of dedicated cemeteries

The area of disturbance associated with future development projects under Alternative 3 could result in the direct and indirect loss or indirect destruction of human remains, similar to the Project. Implementation of Mitigation Measure Cult-F would ensure that all construction activities that inadvertently discover human remains implement state required consultation methods to determine the disposition and historical significance of any discovered human remains. Implementation of Mitigation Measure Cult-F, in conjunction with County regulations and General Plan policies and objectives, would reduce this impact to a less than significant level, similar to the Project.

Geology and Soils

Impact 3.5-1: Project implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides

Alternative 3 would result in future development of the Plan area consistent with the existing General Plan land use designations and existing zoning. This alternative would not result in development of land outside the Plan area. As such, the geologic and seismic-related conditions are identical to the Project. Under both Alternative 3 and the Project, all future projects within the Plan area will be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the County, each project would be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Additionally, the Sonoma County General Plan goals, objectives, and policies require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction, and expansive soils. All development and construction proposals must be reviewed by the County to ensure conformance with applicable General Plan requirements and CBSC building standards.

All future projects within the Plan area would be required to prepare geotechnical soils investigations to address seismic safety issues and provide adequate mitigation for potential hazards identified, as required by Policy PS-1f and the CBSC. With the implementation of the policies and actions required by the Sonoma County General Plan, as well as applicable State and County codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be less than significant, similar to the Project.

Impact 3.5-2: Project implementation has the potential to result in substantial soil erosion or the loss of topsoil

Future development allowed under the Project and Alternative 3 would be evaluated for conformance with the state and local requirements. For example, future projects would be subject to the County's Construction Grading and Drainage Ordinance, which outlines the construction grading permit requirements, as well as the County's erosion prevention and sediment control best management practices guide. A construction drainage permit will be required prior to commencing any construction drainage involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance (except where exempted from permit requirements by Subsection C of Chapter 11 of the Code). Future projects allowed under the Project and Alternative 3 would also be required to implement Low Impact Development strategies, as well as best management practices. In addition to compliance with County standards and policies, the RWQCB will require a project specific SWPPP to be prepared for each project that disturbs an area of one acre or larger. The SWPPP will include project specific best management practices that are designed to control drainage and erosion.

With the implementation of the applicable State and County requirements, potential impacts associated with erosion and loss of topsoil would be less than significant, similar to the Project.

Impact 3.5-3: Project implementation has the potential to result in development 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, lateral spreading, subsidence, liquefaction or collapse

As noted above, Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. This alternative would not result in development of land outside the Plan area. As such, the geologic and seismic-related conditions are identical to the Project. Under both Alternative 3 and the Project, each future project in the Plan area would be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Future development and improvement projects would be required to have a geotechnical study prepared and incorporated into the improvement design, consistent with State and County requirements.

With the implementation of applicable County requirements, including the policies and actions in the General Plan and County Code provisions, as well as applicable State requirements, potential impacts associated with ground instability or failure would be less than significant, similar to the Project.

Impact 3.5-4: Project implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

The linear extensibility of the soils within the Plan area ranges from Low to Moderate. Figure 3.5-4 illustrates the shrink-swell potential of soils in the Plan area. Moderate expansive soils will require special design considerations due to shrink-swell potential. Design criteria and specifications set forth in the design-level geotechnical investigation (required by the County General Plan and CBSC) would ensure impacts from problematic soils are minimized. Therefore, this impact is considered less than significant, similar to the Project.

Impact 3.5-5: Project implementation has the potential to result in development on soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems

The Plan area is located in an Urban Service Area and is served by municipal sewer and water. Alternative 3 would not require the use of septic tanks or alternative waste water disposal systems for the disposal of waste water. Implementation of the this alternative result in no impact relative to this topic, similar to the Project.

Impact 3.5-6: Implementation of the Project has the potential to directly or indirectly destroy a unique paleontological resource

The Plan area is not expected to contain subsurface paleontological resources, although it is possible. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. The Project includes one component that mitigates potential impacts to paleontological resources by ensuring that steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. Alternative 3 would not include this component since the Specific Plan would not be adopted under this alternative. Under Alternative 3, including the Springs Specific Plan, associated rezoning, and associated General Plan amendment, would be adopted. The area of disturbance associated with future development projects under Alternative 3 could result in the direct and indirect loss or indirect destruction of a unique

paleontological resources, similar to the Project. Implementation of Specific Plan Measure Paleo-A would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. With this measure, this impact would be reduced to a less than significant level, similar to the Project.

Greenhouse Gases and Energy

Alternative 3 could result in up to 63 single family dwelling units, 270 multifamily dwelling units, 80 mixed use dwelling units, 125,617 square feet of commercial uses, 53,948 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,156 new residents (compared to 1,977 residents under the Project) and up to 382 new employees (compared to 632 employees under the Project). Impacts associated with air quality are discussed in the following section.

Impact 3.6-1: Implementation of the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

CONSISTENCY WITH THE CARB'S 2017 CLIMATE CHANGE SCOPING PLAN

The Specific Plan includes a number of goals and policies to decrease vehicle trips. These goals and policies would apply to this alternative. Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The revised densities and standards would result in a reduction of 293 dwelling units and 78,888 square feet of non-residential uses. The reduced development potential under this alternative could reduce vehicle trips slightly compared to the Project.

The new buildings constructed and operated within the Plan area under the Project and this alternative would be subject to the current CalGreen energy efficiency standards, resulting in development that is significantly more energy efficient than the current buildings in the surrounding area, many of which were constructed under previous versions of the Title 24 energy code. The Project and this alternative would also need to operate in accordance with the goals of AB 341 that requires a 75 percent diversion rate of waste from landfills. Overall, emissions from this alternative would continue to decline beyond the buildout year due to regulations that would indirectly affect project emissions.

As discussed in Section 3.2, although buildout of the Project would be below the CARB's 2017 Climate Change Scoping Plan threshold for specific plans (for operational emissions) of 6 MT CO_2e per capita for year 2040 with 4.98 MT CO_2e per capita under the unmitigated scenario and 3.65 MT CO_2e per capita under the mitigated scenario. The Project would not be below the 2 MT CO_2e per capita for year 2050, generating 4.87 MT CO_2e per capita under the unmitigated scenario, and 3.57 MT CO_2e per capita under the mitigated scenario, and therefore would not be considered to be fully consistent with the CARB's 2017 Climate Change Scoping Plan.

Table 5.0-11, below, provides the CalEEMod modeling results for Alternative 3. As shown in Table 5.0-11, Alternative 3 is estimated to generate in 2040 approximately 7,756.1 MT CO_2e under the unmitigated scenario and 5,618.6 MT CO_2e under the mitigated scenario, and in 2050 of approximately 7,575.3 MT CO_2e in the unmitigated scenario and 5,495.4 MT CO_2e under the mitigated scenario. Alternative 3 would generate approximately 1,156 new residents by Project buildout. Therefore, in 2040, Alternative 3 would generate approximately 6.71 MT CO_2e per capita under the unmitigated scenario, and 4.86 MT CO_2e per capita under the mitigated scenario. By 2050, Alternative 3 would generate approximately 6.55 MT CO_2e

per capita under the unmitigated scenario, and 4.75 MT CO_2e per capita under the mitigated scenario. Both of the scenarios for year 2040 would not exceed the CARB threshold of 6 $MTCO_2e$ per capita for year 2030. However, both scenarios for year 2040 would exceed the interpolated CARB threshold of 4 $MTCO_2e$ per capita for year 2040. Additionally, both the unmitigated and mitigated scenarios for year 2050 exceed the CARB threshold of 2 $MTCO_2e$ per capita for year 2050. However, Alternative 3 would have less $MTCO_2e$ per capita than the Project under the mitigated and unmitigated 2040 and 2050 scenarios.

TABLE 5.0-11: OPERATIONAL GHG EMISSIONS UNDER BUILDOUT OF ALTERNATIVE 3 (YEARS 2040 AND 2050)

EMISSIONS CATEGORY	*EMISSIONS CATEGORY (DETAIL)*	*UNMITIGATED CO_2E (METRIC TONS/YEAR)*	*MITIGATED CO_2E (METRIC TONS/YEAR)*
Year 2040			
Area	Energy to fuel landscaping equipment	39.0	5.1
Energy	Electricity and natural gas	1,230.3	1,100.5
Mobile	Energy for vehicle travel	6,088.2	4,133.7
Waste	Off-gassing from landfilled solid waste	295.6	295.6
Water	Energy for transport of water to consumer	102.9	83.7
Total Annual		**7,756.1**	**5,618.6**
Year 2050			
Area	Energy to fuel landscaping equipment	39.0	5.1
Energy	Electricity and natural gas	1,230.3	1,100.5
Mobile	Energy for vehicle travel	5,907.4	4,010.5
Waste	Off-gassing from landfilled solid waste	295.6	295.6
Water	Energy for transport of water to consumer	102.9	83.7
Total Annual		**7,575.3**	**5,495.4**

SOURCES: CALEEMOD (V.2020.4.0)
NOTE: EMISSIONS MAY NOT ADD UP DUE TO ROUNDING.

CONSISTENCY WITH THE SONOMA COUNTY GENERAL PLAN

The existing Sonoma County General Plan provides goals, policies, and actions that reduce air pollutants and GHG emissions. This alternative would be consistent with and rely on these goals, objectives, and policies. Therefore, this alternative would help to reduce air pollutants and GHG emissions, consistent with the goals, objectives, and policies contained within the Sonoma County General Plan.

CONSISTENCY WITH THE SONOMA COUNTY CLIMATE CHANGE ACTION RESOLUTION

The Sonoma County Climate Change Action Resolution contains local goals to reduce GHG emissions. This alternative would be consistent with all applicable GHG reduction goals identified within the Sonoma County Climate Change Action Resolution. Similar to the Project, this alternative would not conflict with the local goals included in the Sonoma County Climate Change Action Resolution.

CONSISTENCY WITH BAAQMD GUIDANCE

As discussed in Section 3.2, buildout of the Project would be below the BAAQMD Plan-level threshold for specific plans (for operational emissions) of 4.6 MT CO_2e/service population/year for specific plans. Separately, to account for the year 2030 goals contained in SB 32, the project-level threshold of 2.8 CO_2e/SP/year is also used. Because this alternative would substantially reduce the development potential of the Plan area, and would reduce the associated service population, this alternative would also likely be below the BAAQMD operational threshold. Based on the CalEEMod modeling provided in Table 5.0-11, Alternative 3 would generate approximately 2.97 MT CO_2e/service population/year in 2040 under the unmitigated scenario, and 2.15 MT CO_2e/service population/year in 2040 under the mitigated scenario. Therefore, Alternative 3 would be below the BAAQMD Plan-level threshold for specific plans (for

operational emissions) for both scenarios, and the mitigated scenario would be below the 2.8 CO_2e/SP/year for a specific plan (calculated to account for the 2030 goals contained in SB 32).

Separately, the BAAQMD recommends Basic Construction Mitigation Measures for all projects, whether or not construction-related emissions exceed the thresholds of significance. The BAAQMD also encourages lead agencies to incorporate best management practices to reduce GHG emissions during construction, as applicable. Compliance with the BAAQMD construction-related mitigation requirements are considered to reduce GHG impacts at both the local and basin-wide levels. Development within the Plan area under both the Project and this alternative would implement the BAAQMD Basic Mitigation Measures, as applicable, as required by the BAAQMD.

CONCLUSION

Impacts associated with GHG plans, policies, and regulations would be significant and unavoidable under Alternative 3, similar to the Project. Alternative 3 would have lower MT CO_2e/service population/year than the Project and this impact would be better under Alternative 3 than the Project.

Impact 3.6-2: Implementation of the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The revised densities and standards would result in a reduction of 293 dwelling units and 78,888 square feet of non-residential uses. The reduced development potential under this alternative could reduce vehicle trips, electricity and natural gas usage, and associated GHG emissions compared to the Project.

This alternative would comply with all relevant goals, policies, and actions as provided with the Springs Specific Plan, Sonoma County General Plan, as well as all relevant GHG reduction goals contained within the Sonoma County Climate Change Action Resolution. Additionally, this alternative would be consistent with AB 32, SB 375, and SB 32, and all other relevant federal, state, and local strategies to help reduce GHG emissions.

Overall, this alternative has taken a progressive and proactive approach to the reduction of GHG emissions. Alternative 3 is designed to be walkable, provides convenient access to nearby transit options, provides higher density housing, and includes infill development. New high density and mixed-use housing would bring new housing opportunities to the Springs and would be located within walking distance of transit, shops, restaurants, and other amenities. In addition, a centrally-located community plaza would be developed, which would serve as a gathering place for farmer's markets, concerts, and other community events. This alternative has been designed to provide alternative modes of transportation, beyond automobile travel, which acts as the largest single source of GHG emissions in the County.

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of this alternative. Long-term operational emissions associated with this alternative are not expected to be greater than the emissions expected as compared with the land uses allowed under current land uses (as included within the County General Plan). Alternative 3 would comply with all relevant goals, policies, and actions as provided with the Sonoma County General Plan, as well as all relevant GHG reduction goals contained within the Sonoma County Climate Change Action Resolution. As previously discussed, while Alternative 3 would meet the State's GHG reduction goals for 2040, Alternative 3 would exceed the State's per capita GHG goals for

2050. Alternative 3 would have lower per capita GHG emissions than the Project under the 2030 and 2050 scenarios, as discussed previously. Therefore, implementation of this alternative would generate GHGs that would have a significant and unavoidable impact on the environment but would be better than the Project.

Impact 3.6-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources

This alternative includes residential and non-residential land uses. The amount of energy used within the Plan area would directly correlate to the number and size of the residential units, the energy consumption of associated unit appliances, outdoor lighting, and the energy use associated with non-residential Plan area buildings and activities. Buildout of this alternative would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel), and from off-road construction activities associated with buildout of this alternative (e.g. diesel fuel). Each of these activities would require the use of energy resources. The project applicant(s)/developer(s) responsible for buildout of all or part of this alternative would be responsible for conserving energy, to the extent feasible. This includes an emphasis on reducing per capita energy consumption, including through Statewide and local measures.

As noted previously, this alternative would result in a slight reduction in development potential for the Plan area compared to the Project. This would result in an associated reduction in energy use (including reduced fossil fuel use resulting from the reduction in automobile trips, and reduced natural gas and electricity use resulting from the reduction in residential and non-residential development). As such, the associated energy resources required for development and operation of this alternative would be slightly reduced compared to the Project.

As a result, this alternative would not result in any significant adverse impacts related to energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of building of this alternative, including construction, operations, maintenance, and/or removal. The electricity and natural gas provider to the Plan area maintains sufficient capacity to serve the Plan area. This alternative would comply with all existing energy standards, including those established by Sonoma County, and would not result in significant adverse impacts on energy resources. This alternative would be linked closely with existing transportation networks that, in large part, are sufficient for most residents of the Plan area and the Plan area as a whole.

Development within the Plan area would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E is expected to achieve at least a 33 percent mix of renewable energy resources by 2020, and 60 percent by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), are expected to continue to improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

As a result, this alternative would not result in any significant adverse impacts related to energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of building of this alternative, including construction, operations, maintenance, and/or

removal. The electricity and natural gas provider to the Plan area maintains sufficient capacity to serve the Plan area. This alternative would comply with all existing energy standards, including those established by Sonoma County, and would not result in significant adverse impacts on energy resources. Furthermore, existing connections exist between the Plan area and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. This alternative would be linked closely with existing networks that, in large part, are sufficient for most residents of the Plan area and the Springs area as a whole. Due to the reduced amount of energy resulting from this alternative compared to the Project, this impact would be reduced.

Hazards and Hazardous Materials

Impact 3.7-1: Implementation of the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

Future development, infrastructure, and other projects allowed under the Project and Alternative 3 may involve the transportation, use, and/or disposal of hazardous materials. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, either associated with previous activities on a site or naturally occurring hazards such as asbestos.

No future activities or uses within the Plan area would be at risk due to the Former Heon's Dry Cleaner site.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the State Division of Occupational Safety and Health, and the Department of Toxic Substances Control consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police Department and Fire District) would respond. All future projects allowed under the Project and Alternative 3 would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. Compliance with federal, state and local regulations in addition to General Plan Policies PA-4a through PS-4o would ensure that this potential impact is less than significant, similar to the Project.

Impact 3.7-2: Implementation of the Project has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5

As noted in Section 3.7, there are three sites in Sonoma County on the Cortese database, located in Windsor, Santa Rosa, and Bodega Bay. None of these sites are located in the Plan area. Therefore, this is considered a less than significant impact, similar to the Project.

Impact 3.7-3: Implementation of the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

Alternative 3, similar to the Project, has limited potential for the routine transport, use, or disposal of hazardous materials as discussed above (Impact 3.7-1). One school, Sonoma Charter School, is located

within the Plan area. Flowery Elementary school is located immediately west of the Plan area. Additionally, one other school is located within one-quarter mile of the Plan Area: El Verano Elementary School. The area within ¼-mile of these three schools is mostly developed, but some development potential exists in the area.

Similar to the Project, Alternative 3 does not propose actual businesses. As such, it is currently not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste are the Retail Business and Service and Neighborhood Commercial designations.

The Sonoma Charter School, which is located within the Plan area, is surrounded by existing residential development, and the school site is designated Public Facility by the existing zoning map. The zoning map for this alternative identifies areas of Medium Density Residential to the north, west and east of the Sonoma Charter School site and Planned Community to the south of the school site. These designations are not anticipated to have uses that would emit hazardous emissions or handle significant amounts of hazardous materials, substances, or waste.

Additionally, there are no known existing commercial, industrial, or agricultural businesses that are known to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school.

All hazardous materials would be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the BAAQMD, RWQCB, Department of Toxic Substances Control, and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan policies that reduce impacts associated with hazardous materials.

Implementation of General Plan policies would ensure that this potential impact is less than significant, similar to the Project.

Impact 3.7-4: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Future development under Alternative 3 would allow a variety of new development, including residential, commercial, mixed use, recreation, and public facility projects, which would result in increased jobs and population in the Plan area. Road and infrastructure improvements would occur to accommodate the new growth. Future projects are not anticipated to remove or impede evacuation routes. Subsequent development projects in the Plan area allowed under Alternative 3 would be subject to the County's General Plan policies which were designed to ensure that an emergency response plan is prepared and maintained. Similar to the Project, this impact would be less than significant.

Impact 3.7-5: Implementation of the Project has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where

wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

Development allowed under Alternative 3 and the Project would place people and structures in areas located within the Wildland-Urban Interface. The northeastern portion of the Plan area is in a High fire hazard zone, and the southeastern portion of the Plan area is in a Moderate fire hazard zone. The remainder of the Plan area is designated as a Local Responsibility Zone. No portion of the Plan area is in a Very High fire hazard zone.

Because the entire Plan area is located within the Wildland-Urban Interface, all existing and future properties in the area are required to be built in accordance to specific codes. Future development of the Plan area under Alternative 3 and the Project would be subject to all relevant General Plan objectives and policies that provide protections from wildland fires. Compliance with the County's General Plan objectives and policies would ensure that potential wildland fire hazards are mitigated through requirements for automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, ensuring adequate fire protection services, and ensuring public awareness regarding fire safety. Implementation of Alternative 3 would have a less than significant impact with regard to this issue, similar to the Project.

Impact 3.7-6: Implementation of the Project has the potential to result in a safety hazard for people residing or working in the project are due to proximity to a private airstrip or public airport

The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport. The nearest airport to the Plan area is the Sonoma Valley Airport. The Sonoma Valley Airport is located approximately 5.7 miles south of the project site. There are no private airstrips in the Vicinity of the Plan area. The Plan area is not located within the airport's referral area or safety zones. Additionally, the Plan area is located adjacent to urban uses on all sides. Implementation of Alternative 3 would have a less than significant impact with regards to this environmental issue, similar to the Project.

Hydrology and Water Quality

Impact 3.8-1: Implementation of the Project could result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality

The Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. However, Sonoma Creek, which is located west of the Plan area, is listed on the Section 303(d) list of impaired water bodies. The listing for sediment in Sonoma Creek originated from fine sediment impacts to spawning and rearing habitat as noted in the Total Maximum Daily Load (TMDL). The TMDL provides actions to reduce fine sediment input to the non-tidal portions of the main stems and all freshwater tributaries.

The potential construction and operational water quality impacts are discussed below.

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

Future development project applicants within the Plan area under both the Project and Alternative 3 may be required to submit the SWPPP with a Notice of Intent to the RWQCB to obtain a General Permit. The

RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the California CWA). For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs.

Based upon the wide scope of this alternative, development of detailed, site-specific information on this impact is not feasible. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The RWQCB will require a project specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development under this alternative would introduce constituents into the storm water that are typically associated with urban runoff. The amount and type of runoff generated by the various future projects would be greater than under existing conditions, due to increases in impervious surfaces. There would be a corresponding increase in urban runoff pollutants and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents would result in water quality impacts to onsite and offsite drainage flows to area waterways.

CONCLUSION

Under this alternative, the amount of future ground disturbance would be comparable to the Project. Although the development potential would be decreased, future projects under both the Project and this alternative would be subject to applicable water quality and runoff related regulations and policies.

Each future development project within the Plan area is required to prepare a detailed project specific drainage plan and a SWPPP that will control storm water runoff and erosion, both during and after construction. If the project involves the discharge of dewatering into surface waters, the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the RWQCB. Subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The General Plan policies include numerous requirements that would reduce the potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations. The implementation of these General Plan policies, combined with compliance with Federal and State regulations, would ensure that Implementation of the Alternative would have a less than significant impact from these issues, similar to the Project.

Impact 3.8-2: Implementation of the Project could result in decreased groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin

Subsequent development projects proposed within the Plan area, such as residential, commercial, office, and recreational projects, under both the Project and this alternative would result in new impervious surfaces and could reduce stormwater infiltration and groundwater recharge.

Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. Development would be required to be consistent with all applicable County and service provider in infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. For example, the Groundwater Sustainability Plan, which was adopted in 2021, establishes a standard for "sustainability" of groundwater management and use, and determines how the basin will achieve this standard. The Plan includes sustainable management criteria, establishes a groundwater monitoring network, and includes management actions and plan implementation measures to address groundwater recharge. While this plan initially emphasizes voluntary actions, future implementation may include new development requirements for future projects in the plan area in order to maintain sustainable groundwater levels. Irrespective of those potential measures, under adoption of the Project future projects within the Plan area would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (compared to impermeable concrete, permeable pavers would provide opportunities for groundwater infiltration in areas used which would typically be paved with impermeable surfaces). The sustainability measures incorporated would vary based on the project size, project location, and project type.

Additionally, the County's General Plan includes objectives and policies which address groundwater quality and groundwater recharge. For example, General Plan Policy WR-2f requires that discretionary projects maintain the site's pre-development recharge of groundwater to the maximum extent practicable. For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs. These BMPs and Water Quality Management Plan details would control storm water runoff while also maintaining opportunities for recharge, as applicable. Implementation of the relevant General Plan objectives and policies would ensure that this alternative would have a less than significant impact relative to this topic, similar to the Project.

Impact 3.8-3: Implementation of the Project could alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation, increase the rate or amount of runoff which would result in flooding, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows

Individual future projects developed within the Plan area under both the Project and this alternative would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. The amount of impervious surfaces under this alternative would be comparable to the Project.

The County of Sonoma has developed the Specific Plan to include goals and policies that, when implemented, will reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. This alternative would include adoption of the Specific Plan goals and policies. The Sonoma County General Plan also contains numerous policies that would reduce the potential for implementation of this alternative to result in increased flooding or result in water quality impacts associated with increased runoff, siltation, or erosion. Further, Chapter 7B, Flood Damage Prevention, of the County Code outlines the flood prevention standards. Such measures apply to all structures or land constructed, located, extended, converted, or altered within special flood hazard areas in the county, as identified on the FEMA floodplain maps. Chapter 11A of the County Code outlines the County's stormwater regulations. The purpose of the chapter is to protect and enhance the water quality of the County's watercourses pursuant to and consistent with the Federal CWA and amendments thereto and to assure compliance with the conditions set forth by the NPDES as requirements of stormwater discharge permits. Implementation of the General Plan policies, Specific Plan policies, and County Code requirements would ensure that the alternative would have a less than significant impact relative to this topic, similar to the Project.

Impact 3.8-4: Implementation of the Project could result in flood hazards due to 100-year flood hazard, tsunami, or seiche zones

The majority of the Plan area and surrounding area is designated by FEMA as Zone X (unshaded) which is an area determined to be outside the 500-year floodplain. However, small portions of the Plan area are subject to flooding along the natural creeks and drainages that traverse the southern portion of the Plan area. The 100-year flood plain extends across Highway 12 between Encinas Lane and Meadowbrook Avenue along Agua Caliente Creek.

Subsequent development, infrastructure, and planning projects would be subject to the aforementioned General Plan and County Code requirements. The policies contained in the General Plan combined with the County Code standards for floodplain development represent a comprehensive and holistic approach by Sonoma County to reduce the risks of flooding to city residents and properties. Furthermore, as described in the regulatory setting section, numerous Federal, State, and local agencies are responsible for maintaining flood protection features in the County, including the U.S. Army Corps of Engineers, DWR, and Department of Fish and Wildlife at the Federal and State level.

The implementation of these policies and regulations would ensure that implementation of this alternative would have a less than significant impact related to these issues, similar to the Project.

Impact 3.8-5: Implementation of the Project may conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

The San Francisco Bay Basin Water Quality Control Plan and the Sonoma Valley Groundwater Management Plan are the two guiding documents for water quality and sustainable groundwater management in the Plan area. Consistency with the two plans are discussed below.

WATER QUALITY CONTROL PLAN

As discussed in Impact 3.8-1, impacts related to water quality during construction and operation would be less-than-significant with implementation of a project specific drainage study and SWPPP and compliance with relevant General Plan objectives and policies that aim to reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The County General Plan policies include numerous requirements that would reduce the

potential for implementation of the Project to result in increased water quality impacts. For example, General Plan Policy WR-1h requires grading plans to include measures to avoid soil erosion and requires the consideration of upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

SONOMA VALLEY GROUNDWATER MANAGEMENT PLAN

As discussed in Impact 3.8-2, this alternative would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the alternative may impede sustainable groundwater management of the basin. Projects located in urban areas, such as the uses along the developed Highway 12 corridor, would have less of an impact than projects located on undeveloped or underutilized parcels. The Plan area is largely built out and developed. Development of the 15.6 acres of vacant parcels would result in an increase in impervious surfaces within the Plan area under both the Project and this alternative. However, development would be required to be consistent with all applicable County and service provider in infrastructure master plans and regulations pertaining to storm water quality and groundwater recharge. Additionally, future projects within the Plan area under this alternative would be required to develop and incorporate sustainability measures, such as creek and sensitive habitat setbacks (which would allow for groundwater infiltration), use of drought tolerant plants (which would minimize groundwater demand for landscaping), or permeable concrete of pavers (which would provide opportunities for groundwater infiltration in areas which would typically be paved with impermeable surfaces). The sustainability measures incorporated would vary based on the project size, project location, and project type. For ministerial projects, applicants will typically submit a grading or building permit application consisting of a Water Quality Management Plan and construction plans that incorporate BMPs. These BMPs and Water Quality Management Plan details would control storm water runoff while also maintaining opportunities for recharge, as applicable.

CONCLUSION

Overall, implementation of this alternative would have a less than significant impact related to conflicts with the Basin Plan and Sonoma Valley Groundwater Management Plan, similar to the Project.

Land Use

Impact 3.9-1: Implementation of the Project would not physically divide an established community

The land uses allowed under Alternative 3 provide opportunities for cohesive new growth within existing urbanized areas of the County, as well as new infill growth adjacent to existing urbanized areas, but would not create physical division within the community. This alternative does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. Alternative 3 would have a less than significant impact associated with the physical division of an established community, similar to the Project.

Impact 3.9-2: Implementation of the Project may conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect

STATE PLANS

As noted above, Alternative 3 would maintain the Springs Specific Plan goals, policies, design guidelines, and land uses as the Project, but the development potential would be reduced due to revised densities and development standards. The Specific Plan was prepared in conformance with State laws and regulations associated with the preparation of specific plans. Discussion of the Specific Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. Highway 12, which traverses the Plan area, is a State-owned highway facility. The State would continue to have authority over any State-owned lands in the vicinity of the Plan area, such as Highway 12, and the Project would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

COUNTY PLANS

In September 2008, Sonoma County completed and adopted a comprehensive update to the General Plan. The Sonoma County General Plan 2020 is the overarching policy document that guides land use, housing, transportation, infrastructure, community services, and other policy decisions. The Land Use Element of the General Plan establishes land uses for the Plan area. As shown in Figure 2.0-6 in Chapter 2.0, the Plan area is currently designated General Commercial/Limited Commercial, Public/Quasi-Public, Recreation/Visitor-Serving Commercial, and Urban Residential by the Sonoma County General Plan Land Use Map.

The land uses as proposed by Alternative 3 are not consistent with the General Plan. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. Similar to the Project, this alternative would require amendments to the General Plan land use map and to land use policies to create consistency with the document. Similar to the Project, the land uses for the Plan area under Alternative 3 would include Urban Residential, General Commercial, Public/Quasi-Public, and Recreation & Visitor-Serving Commercial. Although an amendment would be required to change the General Plan land uses in the area, the location and type of uses are similar to the existing uses. For example, the core of the Highway 12 corridor is currently designated for General Commercial/Limited Commercial, Public/Quasi-Public, and Urban Residential land uses, while the proposed Highway 12 core would be designated for General Commercial, Public/Quasi-Public, and Urban Residential land uses. Additionally, the southeastern portion of the Plan area (off Donald Street) is currently designated for Urban Residential land uses, and the proposed land use designation for this area is also Urban Residential. The change in land use designations would allow for increased land use intensities and increased residential densities over the existing condition; however, the development potential would be reduced compared to the Project due to revised densities and development standards. The zoning districts under this alternative would establish permitted uses and standards for each zone. Upon approval of the requested General Plan amendment, the Plan would be consistent with the County General Plan.

The Specific Plan contains detailed development standards, design guidelines, distribution of uses, infrastructure requirements, and goals and policies for the development of a specific geographic area. The Specific Plan carries forward and enhances policies and measures from the County's existing General Plan that were intended for environmental protection and would not remove or conflict with County plans, policies, or regulations adopted for environmental protection.

Similar to the Project, Alternative 3 would require modifications to the County's Zoning Ordinance to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Sonoma County Code that were adopted to mitigate an environmental effect. This alternative would also require amendments to the adopted General Plan land use map. Once the requested amendment is approved, this alternative would be consistent with the County's General Plan.

CONCLUSION

Subsequent development projects within the Plan area would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the County as well as those adopted by agencies with jurisdiction over components of future development projects. Approval of the General Plan amendment would ensure that this alternative would be substantially consistent with the Sonoma County General Plan land use requirements and would have a less than significant impact relative to land use and planning, similar to the Project.

Impact 3.9-3: Implementation of the Project may conflict with an applicable habitat conservation plan or natural community conservation plan

No natural community conservation plans or habitat conservation plans have been adopted in Sonoma County. Alternative 3 would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Implementation of this alternative would have no impact relative to this topic, similar to the Project.

Noise

Alternative 3 could result in up to 63 single family dwelling units, 270 multifamily dwelling units, 80 mixed use dwelling units, 125,617 square feet of commercial uses, 53,948 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,156 new residents (compared to 1,977 residents under the Project) and up to 382 new employees (compared to 632 employees under the Project).

Impact 3.10-1: Implementation of the Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable standards

TRAFFIC NOISE – EXISTING RECEPTORS

Table 3.10-9 in Section 3.10 shows the predicted traffic noise level increases on the local roadway network for Existing No Project, Existing + Project, Cumulative, and Cumulative + Project conditions as a result of the Project. As shown in Table 5.0-12, Alternative 3 would result in a substantial reduction of automobile trips compared to the Project. This reduction in trips would correspond to a reduction in predicted traffic noise levels compared to the Project.

Some of the existing noise sensitive receptors located along the Plan area roadways are currently exposed to exterior traffic noise levels exceeding the Sonoma County 60 decibels (dB) day/night average sound level (LDN) exterior noise level standard in outdoor activity areas set in the General Plan Noise Element. These areas would continue to experience elevated exterior noise levels upon future development of the Project and this alternative. Under the Project, Robinson Road from Donald Street to East Verano Street will experience a 6 dB LDN increase under both the Existing Plus Project and the Cumulative Plus Project

scenarios and Donald Street east of Robinson Road will exceed the County's 60 dB standard under Cumulative plus Project conditions. These are the only roadway segments which experience a significant increase in traffic noise (although the resulting noise level would not exceed the 60 dB threshold). Additionally, the Cumulative Plus Project traffic noise level at the nearest residences along Robinson Road is predicted to be 54 dB LDN, and would not exceed the County standard of 60 dB LDN.

Under Alternative 3, development in the Donald/Verano neighborhood would be reduced compared to the Project and this area would maintain low density residential land use designation and zoning. The reduction in development under Alternative 3, and particularly in the Donald/Verano neighborhood, traffic noise at the study roadway segments, including the Robinson Road from Donald Street to East Verano Street and Donald Street east of Robinson Road roadway segments, would be reduced compared to the Project. It is anticipated that the potentially significant impact would be avoided under Alternative 3 and impacts associated with exposure of existing sensitive receptors to traffic noise would be less than significant.

TRAFFIC NOISE – NEW SENSITIVE RECEPTORS

As described in Section 3.10, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan and Specific Plan policies that alleviate noise impacts. Implementation of General Plan Policies NE-1a, NE-1b, NE-1c, and NE-1g, and the Specific Plan Environmental Measures related to noise, would ensure that this potential impact is less than significant for the Project. Since Alternative 3 would generate less traffic than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

STATIONARY AND OPERATIONAL NOISE

As described in Section 3.10, the County's General Plan and the proposed Specific Plan include policies that are intended to reduce operational noise associated with point sources. Specifically, General Plan Policies NE-1a, NE-1c, NE-1d, NE-1e, NE-1f, and NE-1h, and Specific Plan Environmental Measures related to noise, would reduce noise associated with point or operational sources. Implementation of proposed Specific Plan policies, would ensure that this impact is less than significant for the proposed Project. Since Alternative 3 would generate less stationary and operational noise than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

CONSTRUCTION NOISE

During construction of subsequent development projects proposed within the Plan area, including roads, water and sewer lines, and related infrastructure, construction noise would add to the noise environment in the vicinity of the Plan area. Construction-related noise would also be generated by increased truck traffic on area roadways. A significant noise source resulting from construction of subsequent development projects in the Plan area would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. These future noise increases would be of short duration, and would likely occur primarily during daytime hours. As provided in Section 3.10, implementation of Specific Plan Noise Measure B would ensure that this impact for the proposed Project is less than significant. Since Alternative 3 would generate less construction than the proposed Project, traffic noise generated would be reduced compared to the Project and would have less of an impact.

Impact 3.10-2: Implementation of the Project has the potential to expose persons to or generate excessive groundborne vibrations or groundborne noise

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage. Construction vibration levels anticipated for future development projects within the Plan area are less than the 0.1 in/sec criteria at distances of 50 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of this alternative would have a less than significant impact, similar to the Project.

Population and Housing

Impact 3.11-1: Implementation of the Project would not induce substantial population growth

Alternative 3 accommodates future growth in the Plan area, including new businesses and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. While no specific development projects are proposed as part of the Project or this alternative, both would accommodate future growth in the Plan area, including new businesses, expansion of existing businesses, and new residential development. Under Alternative 3, buildout of the Plan area would result in approximately 413 dwelling units and 198,015 square feet of non-residential uses.

As discussed in Section 3.11, given the historical and current population, housing, and employment trends, growth in the County, as well as the entire state, is inevitable. Plan Bay Area 2040 states that by 2040 the Bay Area is projected to add 2.1 million people, increasing total regional population from 7.2 million to 9.3 million, an increase of 30 percent or roughly 1 percent per year. From 2010 through 2040, Plan Bay Area 2040 anticipates 33,200 new households in Sonoma County, including 3,000 households in the unincorporated area, and 40,900 new employees, including 10,100 employees in the unincorporated area. During this same period, the California Department of Finance projected that Sonoma County's population would increase by 99,976 persons countywide. While the 2040 Plan Bay Area does not include community-specific growth projections, the 2013 Plan Bay Area projected that The Springs would grow by 1,150 households and 480 jobs. This alternative would accommodate up to 413 new households (up to approximately 1,156 new residents) and up to 382 new employees. Overall, the growth associated with this alternative is within the level of growth planned for the County and Bay Area.

Future development under this alternative is anticipated to be primarily infill development as well as redevelopment and intensification of existing uses, since the Plan area is substantially built-out. In order to accommodate the planned growth, surrounding infrastructure (i.e., water, sewer, and storm drainage facilities) would be extended to vacant infill sites from nearby and/or adjacent roadways or developments. Additionally, some internal access roadways may be required for future infill development. This alternative would not extend infrastructure to areas outside of the Plan area that are not currently served by infrastructure and does not increase capacity of infrastructure beyond that necessary to accommodate the growth anticipated for this alternative. Growth under this alternative is anticipated to remain within the general growth levels projected statewide, as well as locally, and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. This alternative is intended to assist in accommodating the County's fair share of statewide housing needs, which are allocated by the Association of Bay Area Governments, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

With adherence to the existing General Plan goals, objectives, and policies intended to guide growth to appropriate areas and provide services necessary to accommodate growth, development of the land uses allowed under Alternative 3 and the infrastructure anticipated to accommodate such development would be consistent with the long-range growth planned for the County and Bay Area and would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with Alternative 3 would result a less than significant impact. Because Alternative 3 would reduce the population of the Plan area at full buildout compared to the Project, this alternative would have reduced impacts associated with population growth.

Impact 3.11-2: Implementation of the Project would not displace substantial numbers of people or existing housing

There are approximately 557 existing residences (approximately 347 single-family units and 210 multi-family units) located within the Plan area. As buildout of the Plan area progresses under both the Project and Alternative 3, it is likely that some of the existing housing units would be remodeled, renovated, expanded on, demolished, or otherwise removed or replaced with new development. However, Alternative 3 does not require the removal of any housing. Alternative 3 would accommodate up to 413 new housing units. New development allowed under Alternative 3 would significantly increase the available housing stock in the County, but the number of units would be reduced from 706 to 413 units. Therefore, Alternative 3 would not displace substantial numbers of people or housing units. Therefore, impacts associated with displacement would be less than significant, similar to the Project.

Public Services and Recreation

Impact 3.12-1: Implementation of the Project could result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services

As shown in Table 5.0-4, Alternative 3 could result in up to 63 single family dwelling units, 270 multifamily dwelling units, 80 mixed use dwelling units, 125,617 square feet of commercial uses, 53,948 square feet of office uses, and 18,450 square feet of recreation uses. Development and growth facilitated by Alternative 3 would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the County.

As future development and infrastructure projects (including potential new public facilities) within the Plan area are considered by the County, each project will be evaluated for conformance with the Specific Plan, Sonoma County General Plan, Sonoma County Municipal Code, and other applicable regulations. The Sonoma County General Plan includes a range of objectives and policies to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the County and appropriate service agency, and that new development funds its fair share of services. Therefore, this impact is considered less than significant and no additional mitigation is necessary. Alternative 3 would reduce the development potential in the Plan area, which would slightly decrease demand on governmental facilities compared to the Project. Therefore, impacts related to governmental facilities and the provision of public services would be slightly reduced compared to the Project.

Impact 3.12-2: Implementation of the Project may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities

Growth accommodated under Alternative 3 would include a range of uses that would increase the population of the county and also attract additional workers and tourists to the county. This growth would result in increased demand for parks and recreation facilities. The provision of new park and recreational facilities is required by Sonoma County General Plan Policy PS-2g. The additional demand on existing parks and recreational facilities, particularly regional facilities, would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown. This alternative would significantly reduce the development potential in the Plan area. Therefore, impacts related to parks and recreation facilities would be reduced compared to the Project.

Overall, this impact is considered less than significant and no mitigation is necessary, similar to the Project. As noted previously, Alternative 3 would reduce the development potential in the Plan area, which would slightly decrease demand on park and recreation facilities compared to the Project. Therefore, impacts related to existing park and recreation facilities would be slightly reduced compared to the Project.

Impact 3.12-3: Implementation of the Project may increase demand for schools and result in the need to construct new schools

Implementation of Alternative 3 would indirectly lead to new population growth within the county, which would increase the demand for schools and school facilities. Subsequent development projects within the Plan Area would be subject to the applicable school facility impact fees. Additionally, subsequent development projects proposed within the Plan area would be subject to all relevant General Plan objectives and policies that provide provisions related to schools. For these reasons, implementation of Alternative 3 would have a less than significant impact related to school facilities. Because the number of units would be reduced from 706 under the Project to 413 units under Alternative 3, the resulting student generation would be slightly reduced compared to the Project. Therefore, impacts related to school facilities would be slightly reduced compared to the Project.

Transportation and Circulation

The trip generation associated with Alternative 3 uses the same methodologies and trip generation rates as applied for the Alternative 2 and the Project. Buildout of the Alternative 3 is projected to result in a total of 6,073 added daily trips including 314 added during the a.m. peak hour and 547 added during the p.m. peak hour, as shown in Table 5.0-12. Compared to the Project, Alternative 3 would generate 41 to 45 percent fewer trips, and compared to Alternative 2 it would generate approximately 14 percent fewer trips. A summary of the trip generation estimates by TAZ, including copies of the internal trip deduction worksheets, is included in Appendix F.

Table 5.0-12 summarizes total VMT, daily VMT, population, and daily trips associated with the Project and Alternative 3, based on information provided by W-trans in 2019 and 2021. It is noted that the trip generation analysis was prepared based on an estimated 685 units, 275,903 non-residential square feet, and 120 hotel rooms for the Project and 382 units, 198,015 non-residential square feet, and 120 hotel rooms for Alternative 3. While the projected units and non-residential development have slightly changed for the Project and Alternative 3, the daily trip analysis remains useful for comparative purposes.

TABLE 5.0-12: VEHICLE MILES TRAVELED, DAILY VMT, POPULATION, AND DAILY TRIPS – PROJECT AND ALTERNATIVE 3

	BASELINE	*PROJECT*	*ALTERNATIVE 3*
VEHICLE MILES TRAVELED			
Daily VMT (Baseline + Project)[1]	28,570,046	28,621,505	28,611,098
Scenario Daily VMT less Baseline[2]	-	51,459	41,052
Increase over Baseline	-	0.18%	0.14%
Scenario Annual VMT[1]	-	18,319,304	14,614,690
POPULATION			
Residential Population[1,2]	504,217	1,977	1,156
Residential Population Increase	-	0.39%	0.23%
Employees[2]	-	632	382
Service Population	-	2,609	1,538
VMT per Service Population	-	19.72	26.69
DAILY VEHICLE TRIPS			
Northern Plan Area[3]	-	6,524	4,696
Southern Plan Area[3]	-	3,934	1,377
Total[3]	-	10,458	6,073
HOME-BASED AND EMPLOYEE BASED DAILY VMT			
Home-based Daily VMT[2]	-	29,062	16,119
Employee-based Daily VMT[2]	-	9,988	6,796
Residential VMT (per capita)[2]	12.8 Regional Threshold	14.7	13.9
Employment Daily VMT (per capita)[2]	18.5 Regional Threshold	15.8	17.8

SOURCE: 1 W-TRANS, 2021B
2 W-TRANS, 2021A
3 W-TRANS, 2019

Each impact is discussed qualitatively in the following section.

Impact 3.13-1: Implementation of the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) concerning significance of transportation impacts in terms of vehicle miles traveled (VMT)

As shown in Table 5.0-12, the VMT modeling results produced by the SCTM\15 travel demand model indicate that the increase in residential uses under Alternative 3 would result in 13.9 home-based VMT per capita, which exceeds the home-based daily VMT threshold of 12.8 but is less than the Project's residential VMT of 14.7. Under Alternative 3, employee-based VMT associated with the increase in non-residential uses would be 17.8 VMT, which is less than the threshold of 18.5 VMT and exceeds the Project's employee-based VMT of 15.8. Alternative 3 would result in a significant impact associated with the home-based VMT. Alternative 3 would not result in a significant impact associated with employee-based VMT. Overall, Alternative 3 would have a higher VMT overall per service population (26.69) than the Project (19.72).

As discussed in Section 3.13 under Impact 3.13-1, while regional strategies such as VMT mitigation fees, exchanges, and banks hold much promise, they have yet to be implemented and their structures and

resulting effectiveness remain uncertain. Therefore, the impact would be significant and unavoidable under Alternative 3 and the impact would be worse than the Project.

Impact 3.13-2: Implementation of the Project would not substantially increase hazards due to a geometric design feature or incompatible uses

As discussed under Impact 3.13-2 of Section 3.13, the Project would have a less than significant impact associated with the potential to substantially increase hazards due to a design feature. While Alternative 3 would reduce land use densities and intensities, it would not result in any significant changes to design features associated with the Project or subsequent development in comparison to the Project. Therefore, the same evaluation of design hazards completed under Impact 3.13-2 in Section 3.13 for the Project also applies to Alternative 3. Impacts associated with Alternative 3 would remain less than significant, similar to the Project.

Impact 3.13-3: Implementation of the Project would not result in impacts related to emergency access

As discussed under Impact 3.13-3 of Section 3.13, the Project would have a less than significant impact associated with impacts related to emergency access. Alternative 3 would not change any features of the circulation plan or result in any changes that would affect emergency access. Therefore, the assessment of the Plan's potential impacts to emergency access is the same for both the Project and Alternative 3, as is the list of Specific Plan policies anticipated to mitigate potential impacts. Emergency access impacts associated with Alternative 3 would remain less than significant.

Impact 3.13-4: Implementation of the Project would not conflict with a program, plans, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, or pedestrian facilities

As discussed under Impact 3.13-4 of Section 3.13, the Project would have a less than significant impact associated with impacts related to potential conflicts with multi-modal circulation policies, plans, or programs or the potential to decrease performance or safety of public transit, bicycle, or pedestrian facilities. As with the Project, Alternative 2 is consistent with and expands upon the pedestrian and bicycle network identified in the Sonoma County Bicycle and Pedestrian Plan. The Project and Alternative 3 also support existing policies regarding non-motorized transportation, including SCTA's Moving Forward 2040 and Sonoma County's General Plan 2020.

Alternative 3 includes the same set of recommended pedestrian improvements as the Project including sidewalk gap filling, establishing new path segments, and identification of locations on the Highway 12 corridor where new crosswalks and pedestrian enhancements would be installed. It is noted that in areas where Alternative 2 has lower densities than the Project and therefore lower levels of pedestrian activity would occur, some of the Highway 12 crosswalks identified in the Specific Plan would not be needed until a later timeframe, or potentially not at all. Ultimately, the determination of when a particular crosswalk is needed to support pedestrian connectivity would be dependent on the actual types, locations, and timing of individual projects constructed in the future within the Plan area.

Alternative 3 also includes the same proposed bicycle network as depicted on the Bicycle Circulation Plan (Figure 6 in the Springs Specific Plan) including modification of existing bicycle lanes on Highway 12 to include a striped buffer between the bike lane and vehicle lanes. Alternative 3 would generate slightly less vehicular and bicyclist traffic to side streets in the Plan area, and the potential for any individual side

street to be so impacted by traffic as to create a hazard to bicyclists is limited. The Specific Plan identifies new bicycle facilities to increase bicyclist comfort and safety.

Alternative 3 is expected to increase population and employment within the Plan area, adding to the demand for transit service provided by Sonoma County Transit, albeit at slightly lower levels than the Project since the intensity of new development would be lower. Alternative 3 would retain a transit orientation, reducing reliance on travel by single-occupant vehicles and helping to further a travel mode shift from autos to transit.

In summary, while buildout of Alternative 3 would be expected to generate slightly lower levels of pedestrians, bicyclists, and transit riders than the Project, the assessment of the Plan's potential impacts to multi-modal circulation would essentially be the same. The list of Specific Plan policies anticipated to mitigate potential impacts would also remain unchanged. As a result, the potential impacts to multi-modal circulation associated with Alternative 3 would remain less than significant.

Utilities

Alternative 3 could result in up to 73 single family dwelling units, 222 multifamily dwelling units, 61 mixed use dwelling units, 124,6147 square feet of commercial uses, 53,948 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,156 new residents (compared to 1,977 residents under the Project) and up to 382 new employees (compared to 632 employees under the Project).

Impact 3.14-1: Implementation of the Project would not 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 providers existing commitments, or require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects

WASTEWATER GENERATION AND CAPACITY

The Project would generate 166,654.8 gallons per day (gpd), or 0.17 mgd. As shown in Table 5.0-13, Alternative 3 would generate 96,567.3 gpd, or 0.10 mgd. This is 58 percent of the wastewater generated by the Project.

TABLE 5.0-13: ALTERNATIVE 3 WASTEWATER GENERATION

LAND USE CATEGORY	*WASTEWATER FLOW RATE*	*WASTEWATER FLOW INCREASE (GPD)*
Single Family Units	200 per unit	12,600.0
Multifamily Units	160 per unit	43,200.0
Work/Live and Mixed Use Units	160 per unit	12,800.0
Commercial Square Feet	0.19 per square foot	23,867.2
Office Square Feet	0.076 per square foot	4,100.0
Hotel Rooms	100 per room	-
Recreation Square Feet	0	-
TOTAL	--	96,567.3

SOURCE: EBA, 2019; DE NOVO PLANNING GROUP, 2021.

The Sonoma County General Plan includes objectives and policies that would reduce impacts related to wastewater treatment. Additionally, the Specific Plan includes infrastructure policies aimed to support the private development and public improvements which would result from implementation of this

alternative. Because this alternative would adopt the Specific Plan polices, subsequent development projects under this alternative would be subject to these policies.

Buildout of the Plan area under this alternative would increase wastewater treatment demand; however, due to the decrease in development potential under this alternative, the associated demand on utilities, including wastewater treatment, would slightly decrease. While full buildout of the Project and Alternative 3 would slightly increase the existing treatment capacity of the treatment plant when combined with future growth throughout other areas of the County, the County's General Plan includes provisions to ensure that new development cannot be approved until it can be demonstrated that adequate capacity is available to serve it. As described above, the district must also periodically review and update their master plan, and as growth continues to occur within the Plan area, the district will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that the General Plan includes a comprehensive set of objectives and policies to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are less than significant. Because the amount of wastewater generated by this alternative would be slightly reduced, this impact would also be slightly reduced when compared to the Project.

WASTEWATER FACILITIES AND INFRASTRUCTURE

Similar to the Project, the majority of the required wastewater conveyance infrastructure would be constructed on-site in conjunction with development and redevelopment of individual parcels within the Plan area. Wastewater conveyance infrastructure would be located underground, within the right-of-way footprint of future roadways in the Plan area, and must be constructed to meet the requirements contained in the Sonoma Valley County Sanitation District Sanitation Codes and Standards. Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. As future development and infrastructure projects are considered by the County, each project would be evaluated for conformance with the General Plan, Zoning Code, and other applicable regulations.

The County's General Plan includes objectives and policies designed to ensure adequate wastewater treatment capacity is available to serve development, to minimize the potential adverse effects of wastewater treatment, and to ensure that development does not move forward until adequate wastewater capacity exists. Policy PF-1d requires all development projects to obtain written certification that either existing services are available or needed improvements will be made prior to occupancy.

Additionally, the Project includes infrastructure and public services policies aimed to support the private development and public improvements which would result from Implementation of the Project. For example, Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Subsequent development projects proposed within the Plan area would be subject to these policies. This is a less than significant impact, similar to the Project.

Impact 3.14-2: Implementation of the Project would not require or result in the relocation of new or expanded water facilities, and would have sufficient water supplies available to

serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years

Implementation of this alternative would result in increased population and employment growth within the Plan area, and a corresponding increase in the demand for additional water supplies.

The Project's water demand would be 206 acre-feet per year (AFY). As shown in Table 5.0-14, the water demand for this alternative would be approximately 124 AFY. This is 59 percent of the water generated by the Project.

TABLE 5.0-14: ALTERNATIVE 3 WATER DEMAND

LAND USE CATEGORY	*CONNECTION FACTOR*	*WATER DEMAND PER CONNECTION (AFY)*	*WATER DEMAND (AFY)*
Single Family Units	1 connection per unit	0.26681	16.8
Multifamily Units	1 connection per 10 units	1.13296	30.6
Work/Live and Mixed Use Units	1 connection per 12 units	1.13296	7.6
Commercial Square Feet	1 connection per 4,000 SF	1.14525	36.0
Office Square Feet	1 connection per 3,500 SF	1.14525	17.7
Hotel Rooms	0.525 rooms per connection	0.26681	0.0
Recreation Square Feet	1 connection per 4,450 SF	1.6258	6.7
Mixed Use Irrigation	3 new connection equivalent total assumed for irrigation for mixed use projects	1.6258	4.9
Commercial Irrigation	6 new connection equivalent total assumed for irrigation for commercial projects	1.4898	8.9
TOTAL	--	--	129.1

NOTE: SF = SQUARE FEET
SOURCE: EBA, 2019; DE NOVO PLANNING GROUP, 2021.

The County's General Plan includes a range of objectives and policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Subsequent development projects under this alternative would be subject to all relevant General Plan objectives and policies that reduce impacts related to water supply.

Additionally, the Specific Plan includes infrastructure and public services policies aimed to support the private development and public improvements which would result from Implementation of the Project. For example, Policy CF-1d requires development projects to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not impaired by new development. Additionally, Policy CF-1e requires development projects to install off-site infrastructure or pay appropriate in-lieu fees when appropriate. Subsequent development projects proposed under this alternative would be subject to these policies.

Given that the General Plan includes a comprehensive set of goals, objectives, and policies to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are less than significant. Because this alternative would slightly reduce the water demand compared to the Project, this impact would be slightly reduced under this alternative.

WATER FACILITIES AND INFRASTRUCTURE

Development and growth in the Plan area under this alternative would result in increased demand for water supplies, including water conveyance and treatment infrastructure. As described under Impact 3.14-2 in Section 3.14, the projected 2040 water supplies are adequate to meet demand that would be

generated by buildout of the Project. As noted previously, due to the decrease in development potential under this alternative, the associated demand on utilities, including water demand, would also decrease. As such, implementation and buildout of this alternative would not result in the need to construct or expand water supply and treatment facilities that have not already been described and accounted for in the SCWA's 2015 UWMP.

Future development in the Plan area under both the Project and this alternative would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the County's existing water infrastructure network. Any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under this alternative.

This Draft EIR addresses the potential impacts of development that may occur under this alternative, including residential, commercial, public facilities, and a range of other uses. Where potentially significant or significant impacts are identified, this EIR identifies mitigation measures to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels. There are no additional environmental impacts, apart from those disclosed in the relevant chapters of this EIR, which are anticipated to occur. Therefore, this impact is considered less than significant and no additional mitigation is necessary. Because the water demand generated by this alternative would be slightly reduced, this impact would also be slightly reduced when compared to the Project.

Impact 3.14-3: The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals

As shown in Table 5.0-4, Alternative 3 could result in up to 63 single family dwelling units, 270 multifamily dwelling units, 80 mixed use dwelling units, 125,617 square feet of commercial uses, 53,948 square feet of office uses, and 18,450 square feet of recreation uses. This alternative would accommodate up to approximately 1,156 new residents (compared to 1,977 residents under the Project) and up to 382 new employees (compared to 632 employees under the Project). Implementation of this alternative would result in an increase in solid waste generation. Compared to the Project, the amount of solid waste would be reduced due to the reduction in development potential and associated population.

While there is adequate permitted landfill capacity to accommodate future growth, the County's General Plan includes policies to further reduce the project's impact on solid waste services. Implementation of this alternative would not exceed the permitted capacity of the landfill serving the County. Therefore, through compliance with the General Plan policies, impacts to solid waste are less than significant. Because the amount of solid waste generated by this alternative would be slightly reduced, this impact would also be slightly reduced when compared to the Project.

Tribal Cultural Resources

Seventeen cultural resources have been identified within the Plan area, according to files maintained by the Northwest Information Center (Information Center) of the CHRIS. The CHRIS records search identifies

buildings, structures, historic sites, prehistoric sites, and any other cultural resources that have been reported to the Information Center. The Information Center did not indicate that any of the reported resources are included on the California Office of Historic Preservation's Archaeological Determination of Eligibility list. In addition, none are listed on the CRHR or the NRHP. The results of Sacred Land files search were negative.

As with most projects in the region that involve ground-disturbing activities, there is the potential for disturbance or discovery of an archaeological, historic, or tribal cultural resource.

The General Plan policies and objectives, listed in the Regulatory Setting subsection provided in Section 3.15: Tribal Cultural Resources, provide a robust framework for ensuring that effects on significant historic, archaeological and tribal cultural resources are reduced. Although ministerial projects are exempt from CEQA and do not require an archaeological records search or survey, Section 11.14.050 of the County Code outlines steps to take should archaeological resources or human remains be discovered during construction. Furthermore, Public Resources Code Section 5097.993 and Penal Code Section 622.5 explicitly prohibit the removal or destruction of archaeological resources on both public and private lands.

Alternative 2 would result in a similar development pattern and impact areas as the Project. The Specific Plan includes Measure Cult-A through Cult-D as discussed under Impact 3.4-1 in Section 3.4, as well as measures TCR-A, B, and C, in Chapter 3.15, which require resources consultation and coordination for all discretionary projects and avoidance of known resources. Measures Cult-C and Cult-D are protocol for if cultural resources are identified in the project area. These measures are consistent with CEQA Guidelines Section 15064.5 which requires a site-specific cultural or archaeological survey to be performed for all ground-disturbing projects located on sites within the Plan area where a known cultural, archaeological, or cultural resource is located or where the site is sensitive for such resources. With implementation of Measures Cult-A, Cult-B, Cult-C, Cult-D and Cult-E, this impact would be less than significant, similar to the Project.

Wildfire

Impact 3.16-1: Implementation of the Project has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The County has an Emergency Operations Plan, Hazard Mitigation Plan, and Community Wildfire Protection Plan. The EOP and its Annexes are not a formally "adopted" plan. However, the EOP functions as the emergency response plan and emergency evacuation plan for the unincorporated County, including for the Plan area. For the reasons discussed below, the Project would not impair implementation of or physically interfere with the EOP.

According to the EOP Evacuation Annex, the County has primary responsibility for emergency evacuation in unincorporated areas, such as the Springs. Any new development in the Plan area, facilitated by this plan, would be accessed by preexisting roadways. No new roads are provided for or contemplated in the Plan. The Specific Plan would not create physical impediments or interfere with the use of the roadways for evacuation or response during an emergency. All future development in the Plan area would be required to meet the most current applicable fire safety and emergency access and egress standards, including those regarding roadway width, turnarounds, and other necessary capacities.

As described in Section 3.12, Public Services, all new construction within the Plan Area would be subject to a Fire Impact Fee, adopted on March 23, 2021. The purpose of the fire impact fee is to fund the cost of

fire protection and emergency response facilities, apparatus, and equipment attirubtable to new residential and nonresidential development in the District. The fire impact fee will ensure that new development will not burden existing development with the cost of expanded facilities, apparatus, and equipment required to accommodate growth as it occurs within the District. (Sonoma Valley, 2022).

The EOP's Evacuation Annex discusses evacuation methods, routes, and assets. The primary mode of evacuation is assumed to be various forms of ground transport (personal vehicle, bicycle, rail, bus, etc.) for most persons in an evacuation area. Because evacuation routes are situation-specific, the Evacuation Annex does not identify specific routes but states that routes may include interstate, state and surface roads, and will be chosen based on the relative safety of roadway infrastructure and current traffic conditions. Evacuation routes will be selected by law enforcement officials, approved by the Incident Commander at the time of the evacuation decision, then communicated to the EOC.

The Evacuation Annex assumes that the majority of residents can self-evacuate using personal vehicles, and acknowledges that transit-dependent populations (such as those with disabilities and with access and/or functional needs and households without a vehicle) may require public transportation to evacuate. In those cases, Transportation Assembly Points (TAPs) would be used to transport persons who require evacuation assistance to temporary evacuation points and/or shelters in safe areas. The Annex acknowledges that evacuees may arrive at TAPs by foot, bicycle, public transit, paratransit, or private vehicles, and identifies public and private transportation assets (public and private buses) that would be used for evacuation from TAPs. As with evacuation routes, the location of TAPs in a particular emergency will be selected and activated depending on the immediate circumstances.

The Project is proposed in an existing urbanized area. Implementation of the Project would support improvements to transportation systems throughout the Plan area. The Plan identifies future improvements including addition of new crosswalks, bulb-outs and flashing beacons to improve pedestrian visibility at crossings. Sidewalks would be added along portions of Donald Street, Harley Street and smaller segments throughout the Plan area. Furthermore, the plan's emphasis on improved pedestrian and bicycle infrastructure is intended to support reduced congestion and improved circulation, and may facilitate evacuation, especially for those without access to vehicles who will need to make their way to the designated TAP for their area in the event of an evacuation. Development facilitated by the Project will use existing roadways. Accordingly, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, nor would it reduce existing levels of emergency response service as discussed above. While the area of disturbance associated with future development projects under Alternative 2 would be less than the Project, the impacts to this topic would be similar to the Project with regard to this issue.

Impact 3.16-2: Implementation of the Project has the potential to:

a) 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) 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; or

c) 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

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), weather (winds, temperatures, humidity levels and fuel moisture content) and topography (degree of slope). The California Department of Forestry and Fire Protection (CalFIRE) uses these factors to quantify fire hazards and categorizes them as Fire Hazard Severity Zones (FHSZ). Areas are designated as Moderate, High or Very High FHSZ, with areas of significant risk being Very High FHSZ. These areas are fully mapped in State Responsibility Areas, and areas within local jurisdiction (LRAs) are also mapped if they are Very High FHSZ.

All of the Plan area is near an SRA, and small portions of the Plan area are located within an SRA. A majority of the Plan area is urbanized and located in a Local Responsibility Area (LRA) that is not mapped by CalFIRE as a Very High FHSZ. Small portions of the plan area are in a Moderate or High FHSV, but none of the Plan area is within or adjacent to a Very High FHSZ. (See Figure 3.7-1) The Project does not propose development in or adjacent to Very High FHSZ, which is approximately 0.6 miles from the northern end of the Plan area at its closest point. Limiting development in Very High FHSZ limits exposure of people or structures to the areas of greatest fire hazard. A majority of the Plan area is in areas of existing urban development with minimal slope, where wildland fuels are low and wildfire hazards are limited. As shown in Figure 3.7-1, a portion of the southeast Plan area is in a Moderate Fire Hazard Zone (15 parcels or approximately 17 acres) and a portion of the northeast plan area is in a High Fire Hazard Zone (47 parcels or approximately 11 acres).

All future projects allowed under the Project would be required to comply with all applicable provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the County, each project would be evaluated for consistency with all applicable building and safety code sections that reduce fire risk. Compliance with these State and Local regulations would ensure that potential wildland fire hazards are mitigated through requirements for home hardening, automatic fire sprinkler systems or other on-site fire detection and suppression systems in new residential and commercial structures, and ensuring adequate fire protection services.

As discussed in Section 3.7-5 and as required by Specific Plan Policies Wildfire-1 and Wildfire-2, future projects would be subject to the applicable State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. These policies would ensure that future development does not exacerbate fire risk, and that risks to structures in the case of a wildland fire are reduced compared to those subject to less stringent requirements. In addition, because the Plan area encompasses properties with minimal vegetation, in an urbanized setting, projects built within the Plan area do not represent a new encroachment into wildland areas. As a result, the Plan would not introduce new sources of ignition to areas of very high wildfire hazard.

The Project does not propose to install any major new infrastructure that may exacerbate fire risk. Future infrastructure improvements in the Plan area would include the maintenance of existing water, sewer and roadways associated with new development which are typically underground and not located in wildland areas. Specifically, Policy CF-1f of the Specific Plan requires new utilities in the Plan area to be installed

underground. As discussed in Section 3.16-1 above, the circulation and road improvements would increase connectivity and may have a beneficial impact on emergency response, and it is expected that improvements to water infrastructure supported by future development would support firefighting capacity as well. The construction of these improvements would comply with State and local fire standards. Thus, the installation and maintenance of the proposed infrastructure would not exacerbate fire risk or result in temporary or ongoing impacts to the environment.

As discussed in the Geology and Soils Section (3.5), hillsides in the County have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the planning area's relatively level slopes, landslide potential is very low for all but a small portion of land located between Fetters and Central Avenue. Landslide potential increases in the foothills and mountains to the east of the Planning Area where wildland fire hazard potential also increases. In addition, development in the Plan area would be set back from watercourses that could channel post-wildfire debris flow.

Severe wildfires can 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 Plan Area is located downslope from hillside areas, or contains some landslide-susceptible areas, and vegetative wildfire fuels, as described above. If a severe wildfire were to occur adjacent to the Plan Area, structures within the area may be at risk of landslides and could 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 developed conditions.

Though the Plan area is downslope from areas with elevated landslide or fire hazards, the Plan area is consistent with the pattern of development countywide and due to its predominantly level topography and surrounding pattern of urbanization and soil cover would not expose people or structures to elevated post-fire risks such as downslope or downstream flooding or landslides.

Future development projects in the Plan area would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the site and does not result in downstream flooding or major drainage changes. Future development projects located within the area covered by the storm water permit boundary would be subject to the Guidelines for the Standard Urban Storm Water Mitigation Plan. Some of the treatment controls in the Guidelines can be used to provide flood control by including additional flood detention storage.

Because existing codes and regulations cannot fully prevent wildfires from damaging structures or occupants, the Project could increase the exposure of new residential development to risk of loss or damage from wildfire. The Specific Plan includes Policy Wildfire-1 to reduce the risk of wildfire for future development associated with the Project. Specific Plan Policies Wildfire-1 and Wildfire-2 would reduce construction wildfire risk and include project siting considerations for future development.

Overall, while the area of disturbance associated with future development projects under Alternative 2 would be less than the Project, this alternative would result in potentially significant impacts associated with potential ground-disturbing activities, similar to the Project. Mitigation would be required to reduce this impact to a less than significant level. Therefore, this impact would be similar to the Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (Existing General Plan) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Springs Specific Plan.

A comparative analysis of each of the project alternatives is provided in Table 5.0-15 below. As shown in the table, Alternative 3 (i.e., the Low Growth Alternative) is the environmentally superior alternative. Alternative 1 would reduce 11 impacts and would worsen seven impacts. Alternative 2 would reduce 11 impacts and would worsen any impacts. Alternative 3 would reduce 12 impacts and would worsen one impact.

TABLE 5.0-15: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROJECT

ENVIRONMENTAL ISSUE / IMPACT	*ALTERNATIVE 1*	*ALTERNATIVE 2*	*ALTERNATIVE 3*
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1 (Scenic Vista and Visual Character)	Less	Slightly Less	Slightly Less
Impact 3.1-2 (Scenic Resources)	Equal	Equal	Equal
Impact 3.1-3 (Light and Glare)	Equal	Equal	Equal
AIR QUALITY			
Impact 3.2-1 (Air Quality Plan and Criteria Pollutants)	Equal	Equal	Equal
Impact 3.2-2 (TACs)	Less	Equal	Equal
Impact 3.2-3 (Odors)	Equal	Equal	Equal
BIOLOGICAL RESOURCES			
Impact 3.3-1 (Species)	Worse	Equal	Equal
Impact 3.3-2 (Wetlands)	Equal	Equal	Equal
Impact 3.3-3 (Riparian Habitat and Sensitive Natural Communities)	Equal	Equal	Equal
Impact 3.3-4 (Wildlife Movement)	Equal	Equal	Equal
Impact 3.3-5 (Policies and Ordinances)	Equal	Equal	Equal
Impact 3.3-6 (Habitat Conservation Plan and Natural Community Conservation Plan)	Equal	Equal	Equal
CULTURAL AND TRIBAL RESOURCES			
Impact 3.4-1 (Historical Resources)	Worse	Equal	Equal
Impact 3.4-2 (Archaeological Resources)	Equal	Equal	Equal
Impact 3.4-3 (Human Remains)	Equal	Equal	Equal
GEOLOGY AND SOILS			
Impact 3.5-1 (Faults)	Equal	Equal	Equal
Impact 3.5-2 (Erosion and Loss of Topsoil)	Equal	Equal	Equal
Impact 3.5-3 (Unstable Soils)	Equal	Equal	Equal
Impact 3.5-4 (Expansive Soils)	Equal	Equal	Equal
Impact 3.5-5 (Septic Tanks)	Equal	Equal	Equal
Impact 3.5-6 (Paleontological Resources)	Worse	Equal	Equal
GREENHOUSE GASES AND ENERGY			
Impact 3.6-1 (GHG Policies)	Worse	Equal	Less
Impact 3.6-2 (GHG Generation)	Worse	Equal	Less
Impact 3.6-3 (Energy)	Less	Less	Less
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.7-1 (Hazardous Materials)	Equal	Equal	Equal
Impact 3.7-2 (Government Code Section 65962.5)	Equal	Equal	Equal
Impact 3.7-3 (Schools)	Equal	Equal	Equal
Impact 3.7-4 (Emergency Response and Evacuation)	Equal	Equal	Equal
Impact 3.7-5 (Wildland Fires)	Equal	Equal	Equal
Impact 3.7-6 (Airports and Airstrips)	Equal	Equal	Equal
HYDROLOGY AND WATER QUALITY			

ENVIRONMENTAL ISSUE / IMPACT	*ALTERNATIVE 1*	*ALTERNATIVE 2*	*ALTERNATIVE 3*
Impact 3.8-1 (Water Quality Standards)	Equal	Equal	Equal
Impact 3.8-2 (Groundwater Supplies and Recharge)	Equal	Equal	Equal
Impact 3.8-3 (Drainage and Runoff)	Equal	Equal	Equal
Impact 3.8-4 (Flood Hazards)	Equal	Equal	Equal
Impact 3.8-5 (Water Quality Control Plan and Sustainable Groundwater Management Plan)	Equal	Equal	Equal
LAND USE			
Impact 3.9-1 (Established Community)	Equal	Equal	Equal
Impact 3.9-2 (Land Use Plan, Policy, and Regulation)	Equal	Equal	Equal
Impact 3.9-3 (Habitat Conservation Plan and Natural Community Conservation Plan)	Equal	Equal	Equal
NOISE			
Impact 3.10-1 (Ambient Noise)	Less	Slightly Less	Less
Impact 3.10-2 (Groundborne Vibration and Noise)	Equal	Equal	Equal
POPULATION AND HOUSING			
Impact 3.11-1 (Population Growth)	Less	Less	Less
Impact 3.11-2 (Displacement)	Equal	Equal	Equal
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1 (Governmental Facilities and Public Services)	Less	Slightly Less	Slightly Less
Impact 3.12-2 (Park and Recreation Facilities)	Less	Slightly Less	Slightly Less
Impact 3.12-3 (Schools)	Less	Slightly Less	Slightly Less
TRANSPORTATION AND CIRCULATION			
Impact 3.13-1 (VMT)	Worse	Slightly Less	Worse
Impact 3.13-2 (Hazards Due to a Design Feature)	Equal	Equal	Equal
Impact 3.13-3 (Emergency Access)	Equal	Equal	Equal
Impact 3.13-4 (Multi-Modal)	Equal	Equal	Equal
UTILITIES			
Impact 3.14-1 (Wastewater)	Less	Slightly Less	Slightly Less
Impact 3.14-2 (Water)	Less	Slightly Less	Slightly Less
Impact 3.14-3 (Solid Waste)	Less	Slightly Less	Slightly Less
TRIBAL CULTURAL RESOURCES			
Impact 3.15-1 (Tribal Cultural Resources)	Worse	Equal	Equal
WILDFIRE			
Impact 3.16-1 (Emergency Responses/Evacuation Plan)	Equal	Equal	Equal
Impact 3.16-2 (Wildfire)	Worse	Equal	Equal

5.4 COMPARATIVE EVALUATION OF THE PROJECT AND ALTERNATIVES TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the Project objectives.

1. ***Recognize and Promote the Springs Commercial Corridor as a mixed-use "Downtown" Serving the Larger Springs Community.*** *The Springs Specific Plan encompasses the primary commercial district that serves as the "downtown" area of the larger Springs community. New commercial development along the Highway 12 corridor will increase the variety of retail shops and neighborhood services. New mixed-use development will help meet the housing needs of the community while providing pedestrian-oriented retail and restaurants. Wider sidewalks enhanced with pedestrian- and bike-friendly features will make it easier and more pleasant for residents to access local stores and services.*

Alternatives 2 and 3 would meet this project objective because these alternatives both would maintain the Springs Specific Plan, including the policies and design guidelines, which promote commercial vitality along the Highway 12 corridor. While Alternative 1 would generally meet this project objective, it would

not be as effective as the Project as it would not include the same potential for community-serving uses as the Project.

2. ***Develop a Centrally-Located Community Plaza.*** *Provide a central gathering place where farmers markets, concerts, and other community events can take place to enhance the vitality of the Springs area. The Community Plaza should be designed to reflect the multi-cultural character of the community.*

Alternatives 2 and 3 would meet this project objective because these alternatives both would develop a centrally-located community plaza. Alternative 1 would not meet this project objective because a central gathering place would not be provided.

3. ***Celebrate the Unique, Multi-cultural Identity of the Springs.*** *Recognize that the Springs is a diverse, multi-cultural community with significant historic resources and character. Ensure that new development respects the area's treasured past.*

All three alternatives would meet this project objective.

4. ***Increase Affordable, Workforce, and Mixed Use Housing.*** *Create new infill opportunities for higher density housing, while also expanding the variety of housing choices on vacant parcels in the vicinity of the Highway 12 corridor and in the Donald St/Verano Ave area. New high density and mixed-use housing will bring additional, attractive housing opportunities to the Springs and should be located within walking distance of transit, shops, restaurants, and other amenities.*

Alternatives 2 and 3 would meet this project objective because these alternatives both would include development of mixed use housing, and new infill opportunities would be created. It is noted that Alternatives 2 and 3 would not be as effective as the Project as both alternatives would reduce the potential for multifamily and mixed-use residential development compared to the Project. Similar, while Alternative 1 would allow residential development in the Plan area, it would provide limited opportunities for multifamily and mixed-use housing, which would provide more affordable and workforce-oriented opportunities.

5. ***Improve the Pedestrian, Bicycle, and Transit Network.*** *Provide bicycle, pedestrian, and transit facilities throughout the Springs that are safe, well-lit, shaded, comfortable, well-connected, and accessible. This improved multimodal network will provide greater incentive for people to choose non-vehicular travel for their daily trips. The Springs mobility network should recognize that non-vehicular travel is the primary travel mode for some residents.*

Alternatives 2 and 3 would meet this project objective because these alternatives both would maintain the Springs Specific Plan, including the policies and design guidelines, which would promote and improve the pedestrian, bicycle, and transit network in the Plan area. While Alternative 1 would provide pedestrian, bicycle, and transit improvements consistent with existing plans, it would not be as effective as the Project because the Springs Specific Plan policies and guidelines which incentivize and encourage non-vehicular travel would not be maintained.

6. ***Ensure an Adequate Parking Supply.*** *Provide parking garages and/or surface parking lots adjacent to Highway 12, particularly in areas where there are existing parking shortages and near the area planned for the community plaza.*

Alternatives 2 and 3 would include the same policies and programs related to increasing the parking supply as the Project. It is noted that because Alternative 1 would not plan for additional parking opportunities, it would not be as effective as the Project.

7. ***Address Community Safety.*** *Create a safe environment for residents and employees by providing attractive, well-lit, and well-maintained public and community facilities that encourage regular use.*

All three alternatives would meet this project objective through adhering to adopted County General Plan and Code of Ordinances requirements related to design, lighting, and safety. However, Alternatives 2 and 3 would include additional policies in support of creating a safe environment for residents that would not be included under Alternative 1.

8. ***Create and Connect to More Parks and Open Space.*** *Create new public and semi-public spaces, such as plazas, pocket parks, parklets, and green space, to create a desirable system of parks and community gathering areas.*

Alternatives 2 and 3 would meet this project objective because these alternatives both would maintain the Springs Specific Plan, including the policies and design guidelines, which encourage creation of public and semi-public spaces in future development. Alternative 1 would not be as effective as the Project because it would not provide the framework to encourage additional parks and community gathering areas that are provided in the Springs Specific Plan policies and guidelines.

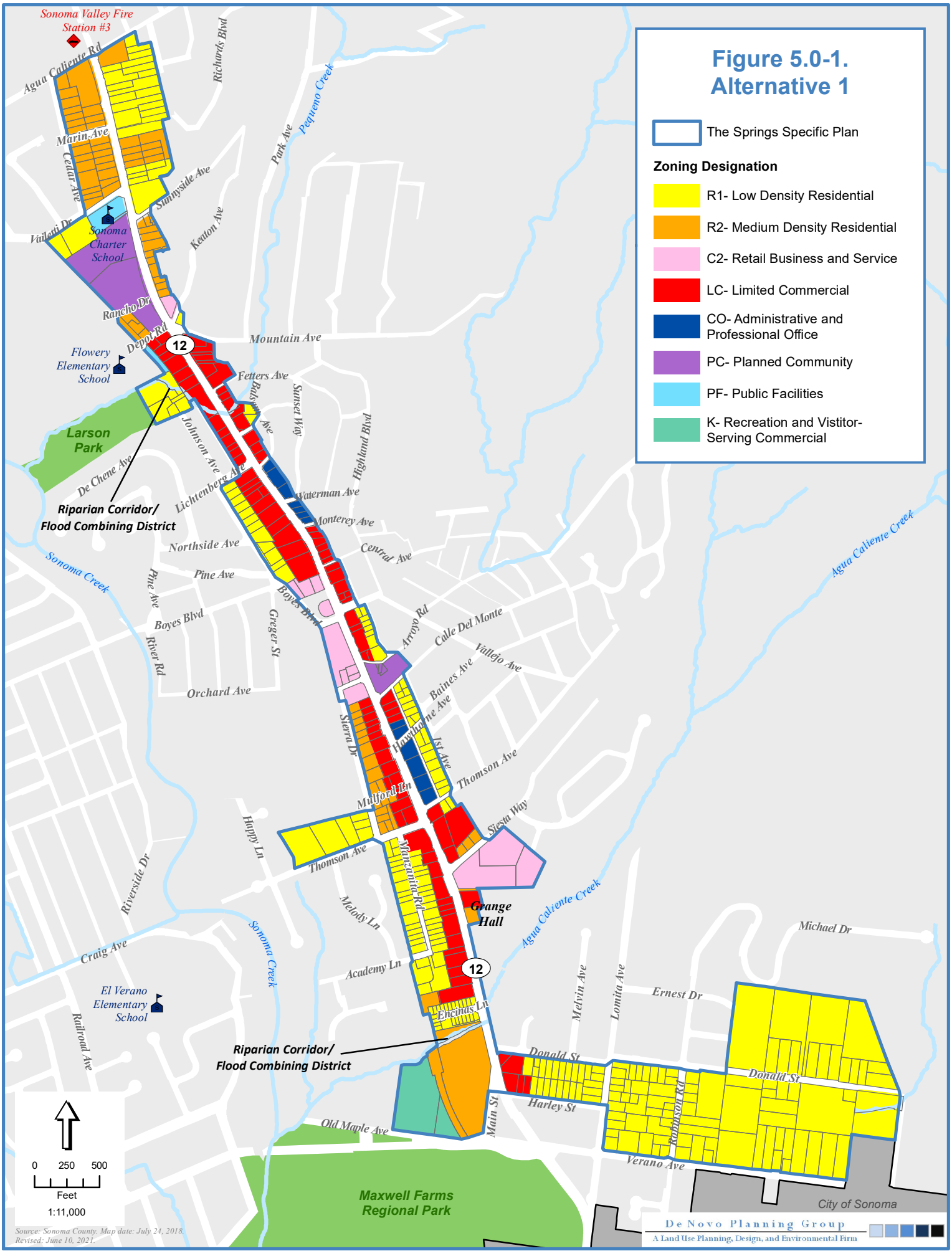
Figure 5.0-1.
Alternative 1
The Springs Specific Plan
Zoning Designation
R1- Low Density Residential
R2- Medium Density Residential
C2- Retail Business and Service
LC- Limited Commercial
CO- Administrative and Professional Office
PC- Planned Community
PF- Public Facilities
K- Recreation and Visitor-Serving Commercial
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Vallejo Dr
Sonoma Charter School
Keaton Ave
Rancho Dr
Depot Rd
12
Mountain Ave
Flowery Elementary School
Fetters Ave
Broadway Ave
Sunset Way
Highland Blvd
Larson Park
Johnson Ave
De Chene Ave
Lichtenberg Ave
Riparian Corridor/ Flood Combining District
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
Prune Ave
River Rd
Greger St
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Sierra Dr
Hawthorne Ave
1st Ave
Thomson Ave
Mulford Ln
Siesta Way
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Ernest Dr
Melvin Ave
Lomita Ave
El Verano Elementary School
Railroad Ave
Encinas Ln
Donald St
Harley St
Main St
Robinson Rd
Old Maple Ave
Verano Ave
Maxwell Farms Regional Park
City of Sonoma
0 250 500
Feet
1:11,000
Source: Sonoma County. Map date: July 24, 2018.
Revised: June 10, 2021.
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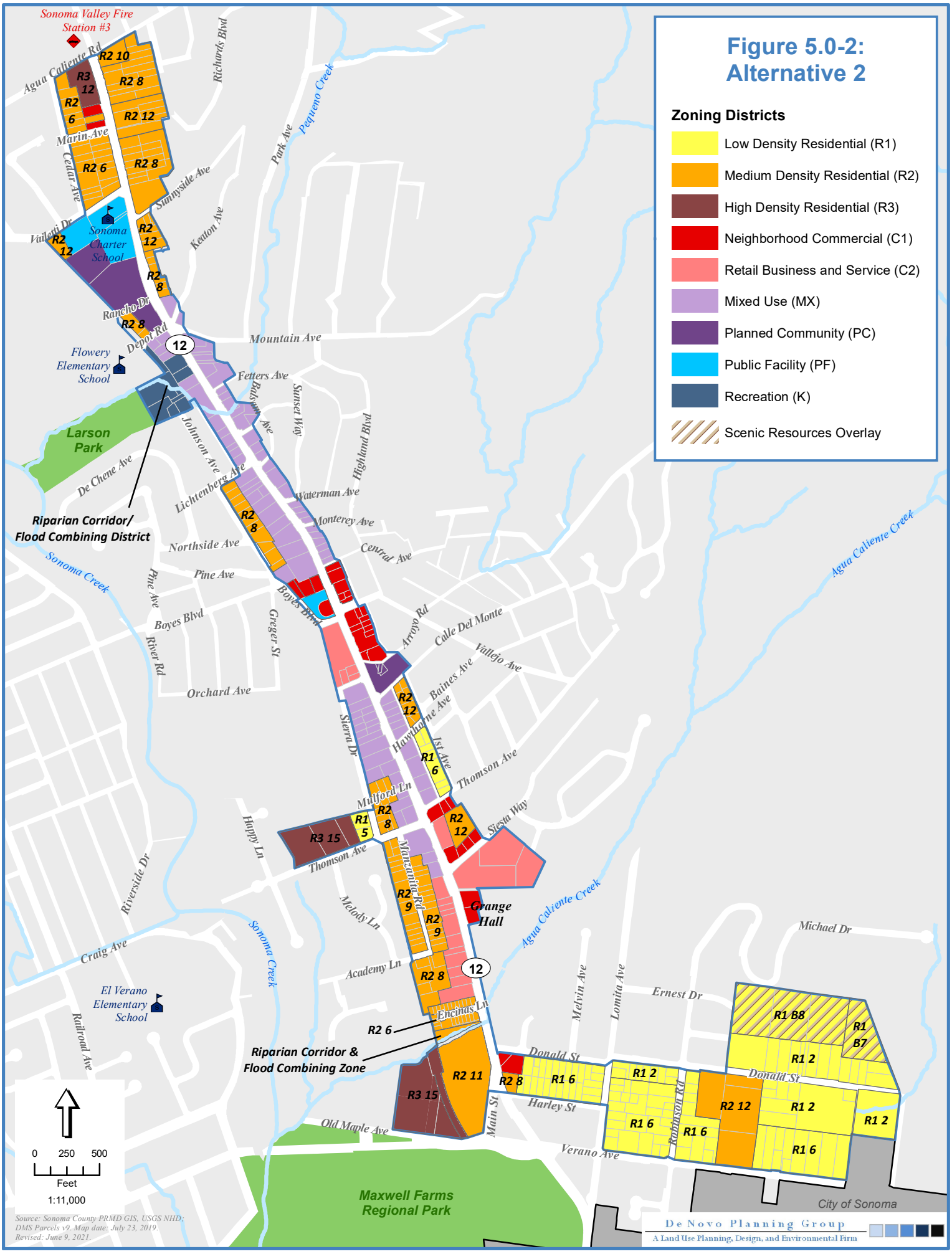
Figure 5.0-2:
Alternative 2
Zoning Districts
Low Density Residential (R1)
Medium Density Residential (R2)
High Density Residential (R3)
Neighborhood Commercial (C1)
Retail Business and Service (C2)
Mixed Use (MX)
Planned Community (PC)
Public Facility (PF)
Recreation (K)
Scenic Resources Overlay
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
Cedar Ave
Sunnyside Ave
Keaton Ave
Vailetti Dr
Sonoma Charter School
Rancho Dr
Depot Rd
Flowery Elementary School
Mountain Ave
Fetters Ave
Sunset Way
Highland Blvd
Larson Park
De Chene Ave
Johnson Ave
Lichtenberg Ave
Riparian Corridor/ Flood Combining District
Waterman Ave
Monterey Ave
Central Ave
Northside Ave
Sonoma Creek
Pine Ave
Boyes Blvd
Greger St
River Rd
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
Baines Ave
Hawthorne Ave
Sierra Dr
1st Ave
Thomson Ave
Siesta Way
Mulford Ln
Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Agua Caliente Creek
Michael Dr
Craig Ave
Academy Ln
Encinas Ln
Melvin Ave
Lomita Ave
Ernest Dr
El Verano Elementary School
Railroad Ave
R2 6
Riparian Corridor & Flood Combining Zone
Donald St
Harley St
Main St
Old Maple Ave
Verano Ave
Robinson Rd
Maxwell Farms Regional Park
City of Sonoma
0 250 500
Feet
1:11,000
Source: Sonoma County PRMD GIS, USGS NHD; DMS Parcels v9, Map date: July 23, 2019. Revised: June 9, 2021.
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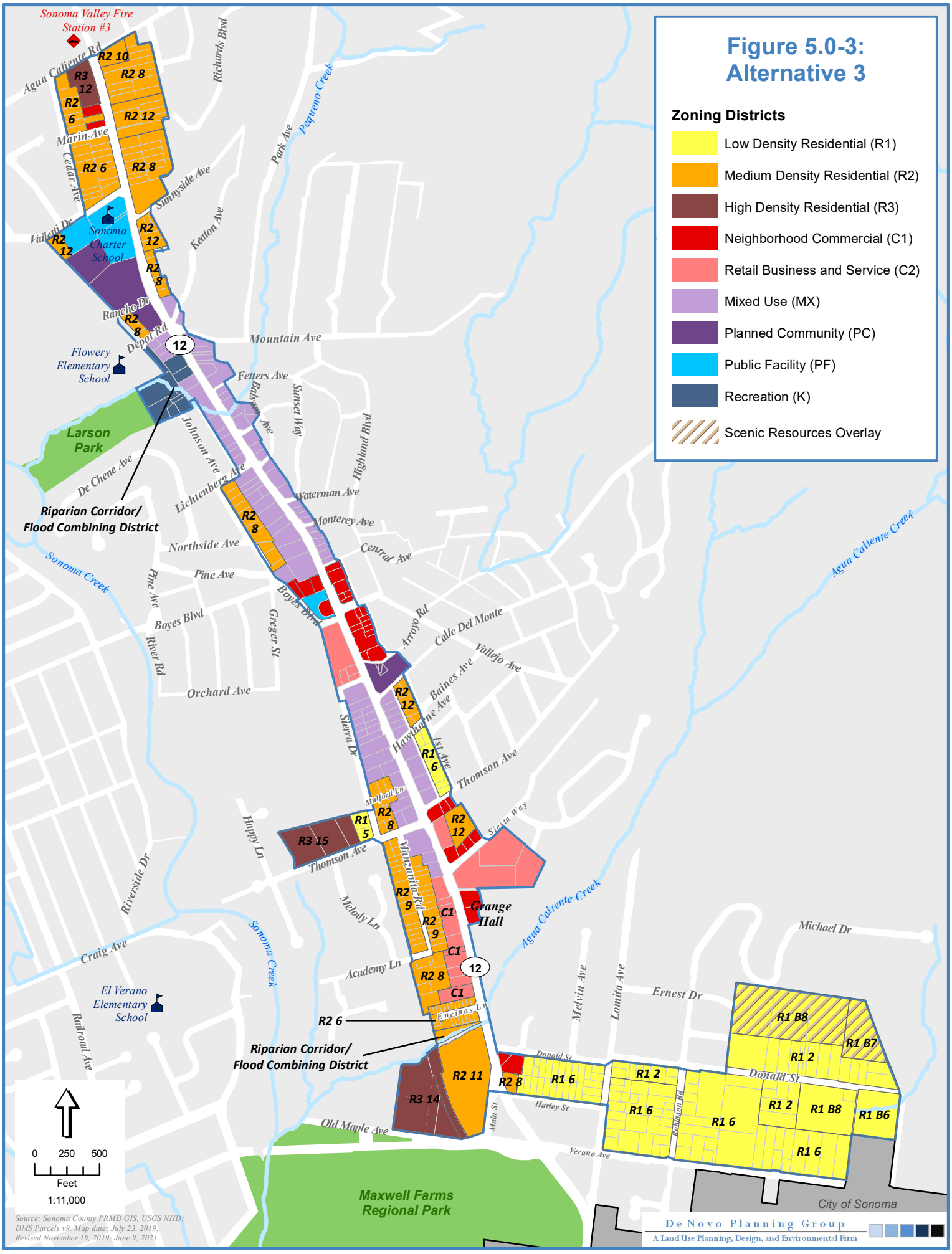
Figure 5.0-3:
Alternative 3
Zoning Districts
Low Density Residential (R1)
Medium Density Residential (R2)
High Density Residential (R3)
Neighborhood Commercial (C1)
Retail Business and Service (C2)
Mixed Use (MX)
Planned Community (PC)
Public Facility (PF)
Recreation (K)
Scenic Resources Overlay
Sonoma Valley Fire Station #3
Agua Caliente Rd
Richards Blvd
Pequeno Creek
Park Ave
Marin Ave
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Sunnyside Ave
Keaton Ave
Vallejo Dr
Sonoma Charter School
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Sonoma Creek
Pine Ave
Boyes Blvd
River Rd
Greger St
Orchard Ave
Arroyo Rd
Calle Del Monte
Vallejo Ave
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Hawthorne Ave
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Happy Ln
Riverside Dr
Manzanita Rd
Grange Hall
Melody Ln
Craig Ave
Academy Ln
Encinas Ln
El Verano Elementary School
Railroad Ave
R2 6
Riparian Corridor/ Flood Combining District
Agua Caliente Creek
Michael Dr
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Lomita Ave
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Source: Sonoma County PRMD GIS, USGS NHD; DMS Parcels v9, Map date: July 23, 2019. Revised November 19, 2019; June 9, 2021.
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Sonoma County completed Section 3.3 – Biological Resources, Section 3.4 – Cultural Resources, Section 3.5 – Geology and Soils, Section 3.7 – Hazards and Hazardous Materials, Section 3.8 – Hydrology and Water Quality, Section 3.9 – Land Use, 3.11 – Population and Housing, 3.15 – Tribal Cultural Resources, and 3.16 – Wildfire.

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Appendix A

Notice of Preparation and NOP Comments

permit SONOMA

County of Sonoma
Permit & Resource Management Department

Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report for The Springs Specific Plan

Date:	June 27, 2018
To:	State Clearinghouse, Agencies, Organizations and Interested Parties
Subject:	Notice of Scoping Meeting and Preparation of an Environmental Impact Report for the Springs Specific Plan
Scoping Meeting:	**July 10, 2018, 11:00 a.m. to Noon** **Permit Sonoma Hearing Room** **2550 Ventura Ave, Santa Rosa, CA**
Comment Period:	**June 28, 2018 to July 30, 2018 at 5:00 p.m.**

The County of Sonoma (County) will serve as Lead Agency in the preparation of a programmatic Environmental Impact Report (EIR) for the Springs Specific Plan (also referred to as 'Plan'). This programmatic EIR will address the environmental impacts associated with the adoption and implementation of the Springs Specific Plan. Information regarding the project description, project location, and topics to be addressed in the Draft EIR is provided below. Additional project documents and information are available at Permit Sonoma, 2550 Ventura Ave, Santa Rosa, and on-line at: thesprings.specificplan.org.

Scoping Meeting

The County will hold a scoping meeting to provide an opportunity for agency staff and interested members of the public to submit written or oral comments on the scope of the environmental issues to be addressed in the EIR.

The scoping meeting will be held on **Tuesday, July 10th, from 11:00 a.m. to Noon** at the Permit Sonoma Hearing Room, located at 2550 Ventura Avenue, Santa Rosa.

For questions regarding this notice, please contact Yolanda Solano at (707) 565-7387.

Submit Your Written Comments

Agencies and interested parties are invited to submit comments in writing as to the scope and content of the EIR. If you are a responsible or trustee agency, we would like to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection to the proposed project. All comments must be received prior to 5:00 p.m. on July 30, 2018.

Please send your written comments to:

Yolanda Solano
Permit and Resource Management Department
2550 Ventura Ave
Santa Rosa CA 95403
Email: yolanda.solano@sonoma-county.org

Project Location and Setting

The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. Covering approximately 178 acres, the Springs Specific Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor. The project's location is shown in Figure 1 and the Plan boundary is shown in Figure 2.

The 'L'-shaped Plan area has several distinct settings: the 1.6-mile stretch of mixed use Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald and Harley Streets. The area's terrain generally slopes gently down from east to west. Agua Caliente Creek crosses the Plan area south of Encinas Lane. In 2016, the Springs population was estimated to be 1,803.

Project Description

The Springs Specific Plan will be the primary planning document and reference guide for future development in the Springs. The Specific Plan is intended to be an expression of the community's vision for the Springs and constitutes the policy and regulatory framework by which future development projects will be reviewed and public improvements will be implemented. The County will implement the Specific Plan by requiring development, infrastructure improvements, and other projects to be consistent with the policies and design guidelines of this plan.

The Specific Plan is intended to foster a vibrant, attractive, multimodal community with increased opportunities for housing and improved circulation for pedestrians, bicyclists, and transit. The Plan will also designate a location for a community plaza and promote other public spaces while preserving the community's character and scale.

Specific Plan Contents

The Specific Plan includes six chapters:

1. Introduction. This chapter provides an overview of the Plan, describes the community outreach and engagement process used to develop the Plan, and identifies the guiding principles that informed preparation of the Plan.

2. Land Use. The Land Use chapter establishes the General Plan and zoning designations for the Plan area, describes key land use concepts in the Plan, identifies the Plan's development capacity, and provides the goals and policies to guide future land use.

3. Circulation. The Circulation chapter provides goals and policies to guide future decisions related to pedestrian, bicycle, vehicle, and transit circulation in the Plan area. This chapter also provides road standards to be used for future development and roadway improvement projects.

4. Design Guidelines. The Design Guidelines chapter is intended to facilitate well-designed projects that reflect the community's rich history and harmonize with the notable architectural styles found in the Springs. The Design Guidelines provide specific requirements for site design, architectural style, orientation, scale/massing, color, signs, lighting, landscaping, streetscapes, gateways, and development of the Plaza.

5. Infrastructure. The Infrastructure chapter addresses community services and infrastructure, including water, sewer, storm drainage, dry utilities, and emergency services, needed to support development of the Plan area.

6. Implementation & Financing Plan. The Implementation & Financing Plan chapter identifies the County department responsible for Plan implementation, provides an action plan identifying specific actions to be taken by the County to implement the Plan, identifies funding sources for Plan implementation, and identifies incentives to encourage development under the Plan.

Zoning

The Springs Zoning Map identifies the applicable zoning district for each parcel within the Specific Plan. The Springs Zoning Map is attached as Figure 2. The Springs Specific Plan's zoning districts are listed in Table 1. This table also includes a summary of permitted uses and standards for each zone. The Sonoma County Zoning Code should be consulted for a detailed

list of allowed uses and specific development standards for each particular zoning district. The proposed Mixed-Use Community (CM) zone will be added to the Zoning Code concurrent with the adoption of the Specific Plan.

Table 1: Zoning Districts, Total Acres, Allowed Uses, and Standards Summary

Zoning District	Acres	Permitted Uses [1]	Standards
Low Density Residential (R1)	15.21	▪ Single family ▪ Accessory dwelling unit ▪ Junior accessory dwelling unit	Density: 4 to 6 units per acre Minimum lot size: 6,000 square feet Main building height: 35 feet
Medium Density Residential (R2)	68.85	▪ Single family attached & detached ▪ Accessory dwelling unit ▪ Junior accessory dwelling unit ▪ Duplex ▪ Triplex ▪ Fourplex ▪ Multifamily ▪ Cottage Housing ▪ Single Room Occupancy	Density: 6 to 12 units per acre Minimum lot size: 4,000 square feet Main building height: 35 feet
High Density Residential (R3)	17.39	▪ Single family attached ▪ Accessory dwelling unit ▪ Junior accessory dwelling unit ▪ Micro apartments ▪ Duplex ▪ Triplex ▪ Fourplex ▪ Multifamily ▪ Cottage Housing ▪ Single Room Occupancy	Density: 12 to 20 units per acre Minimum lot size: 4,500 square feet Main building height: 35 feet, except maximum 40 feet for three stories
Planned Community (PC)	4.94	The PC district allows for a range of uses that are consistent with the General Plan land use designation for the parcel.	Residential Density: As allowed by the General Plan, subject to any zoning restrictions Non-Residential Maximum floor-area-ratio[2]: 1.0 Lot coverage: 50% Building height: 35 feet

Zoning District	Acres	Permitted Uses [1]	Standards
Neighborhood Commercial (C1)	8.40	▪ Neighborhood retail ▪ Restaurants ▪ Neighborhood and community services ▪ Offices ▪ Mixed Use ▪ Work/Live units **Prohibited Uses** ▪ Adult-oriented business ▪ Cannabis-related uses ▪ Convenience store sale of alcoholic beverages ▪ Drive-in or drive-through uses ▪ Mobile Food Trucks ▪ Industrial uses ▪ Tobacco/Smoking related sales or use (as a Primary Use) ▪ Vehicle Oriented Uses: auto sales, rental, service, repair, car wash, fueling, tire, and part sales, etc.	Maximum floor-area-ratio[2]: 1.0 Lot coverage: 65% Building height: 35 feet
Retail Business and Service (C2)	8.59	▪ Community Retail ▪ Auto repair and services ▪ Restaurants ▪ Financial institutions ▪ Theaters	Maximum floor-area-ratio[2]: 1.0 Lot coverage: 50% Building height: 35 feet
Recreation and Visitor Serving Commercial (K)	5.12	▪ Public parks ▪ Aquatic centers ▪ Sport fields ▪ Retail as part of recreational use	Maximum floor-area-ratio[2]: 1.0 Lot coverage: 50% Building height: 35 feet

Zoning District	Acres	Permitted Uses [1]	Standards
Mixed-Use Community (CM)	22.31	Ground Floor of Mixed-Use or Single-Story Commercial ▪ Neighborhood-serving retail: Grocery stores, drug stores book stores, gift shops, floral shops, art supplies, candy and ice cream shops, etc. ▪ Community-oriented services: Hair salons, barber shops, child day care, etc. ▪ Restaurants & retail food: Restaurants, coffee & tea shops, bakeries, candy and ice cream shops, sale of other foods ▪ Public Facilities Upper floor(s) ▪ Multifamily residential, office Other Uses ▪ Parking (stand alone) ▪ Community serving uses: Library, schools, museums, clinics, post office, etc. ▪ Work/live units **Prohibited Uses** Same prohibited uses as C1 district.	Maximum floor-area-ratio[2] (mixed-use): 2.0 Maximum floor-area-ratio[2] (other): 1.0 Lot coverage: 65% Building height: 35 feet, except maximum 40 feet for three stories with a use permit
Public Facilities (CF)	4.24	▪ County- and city-owned facilities ▪ Special district facilities for utilities ▪ Schools	Maximum floor-area-ratio[2]: 0.8 Lot coverage: 40% Building height: 35 feet

1 *Planning Permits may be required.*

2 *Floor area ratio is based on the lot coverage multiplied by the number of building stories allowed as a permitted use; 35 ft building heights are assumed to allow two stories and 40 foot or greater building heights are assumed to allow three stories.*

Growth Projections

Anticipated growth in the Specific Plan area includes new businesses, expansion of existing businesses, and new residential development. Table 2 summarizes the range of residential (single family units, multifamily units, and mixed use or live-work units) and commercial, office, and recreation (square footage) that could occur. Actual future development would depend on future market conditions, property owner preferences, site-specific constraints, and other factors.

Table 2: New Development Projections

Type of Development	Base Residential Units[1]	Density Bonus Units[2]	Maximum Residential Units	Non-Residential Square Footage
Single Family	69 - 94	22	**116**	**-**
Multifamily	229 - 272	160	**432**	**-**
Mixed Use or Live Work	14 – 146	21	**167**	**-**
Commercial	-	-	**-**	**53,208 – 181,041**
Office	-	-	**-**	**15,179 – 95,070**
Recreation	-	-	**-**	**22,654 – 156,134**
TOTAL	**312 - 512**	**203**	**715**	**91,041 – 432,245**

1 *Base residential units is based on the minimum and maximum units allowed for each zoning district and overlay.*

2 *Density bonus units are based on the County's Type A density bonus for R2 and R3 sites that can accommodate at least ten base units, the County's Type C density bonus for R1 sites that can accommodate at least four base units, and the State maximum density bonus of 35% for mixed use and work live sites that can accommodate at least eight base units.*

Program EIR Analysis

The County, as the Lead Agency under the California Environmental Quality Act (CEQA), will prepare a Program EIR for the Springs Specific Plan. The EIR will be prepared in accordance with CEQA, the CEQA Guidelines (Guidelines), relevant case law, and County procedures. No Initial Study will be prepared pursuant to Section 15063(a) of the CEQA Guidelines.

The EIR will analyze potentially significant impacts associated with adoption and implementation of the Springs Specific Plan. In particular, the EIR will focus on areas that have development potential.

The EIR will evaluate the full range of environmental issues contemplated under CEQA and the CEQA Guidelines, with the exception of Agricultural and Forestry Resources and Mineral Resources. At this time, the County anticipates that EIR sections will be organized in the following manner:

- Aesthetics and Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Population
- Noise
- Public Services and Recreation
- Transportation and Circulation
- Utilities
- Mandatory Findings of Significance/Cumulative Impacts

There are no agricultural lands, including Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, Williamson Act lands, timberlands, or forest-designated lands located within the Specific Plan project area (California Department of Conservation, 2016 Sonoma County Important Farmland Map; Sonoma County, 2017 Williamson Act Map). The project would have no impact on agriculture and forestry resources. There are no known mineral resource lands, including locally-important mineral recovery sites, within the Specific Plan area. The project would have no impact on mineral resources. Therefore, agriculture, forestry, and mineral resources will not be analyzed in the EIR.

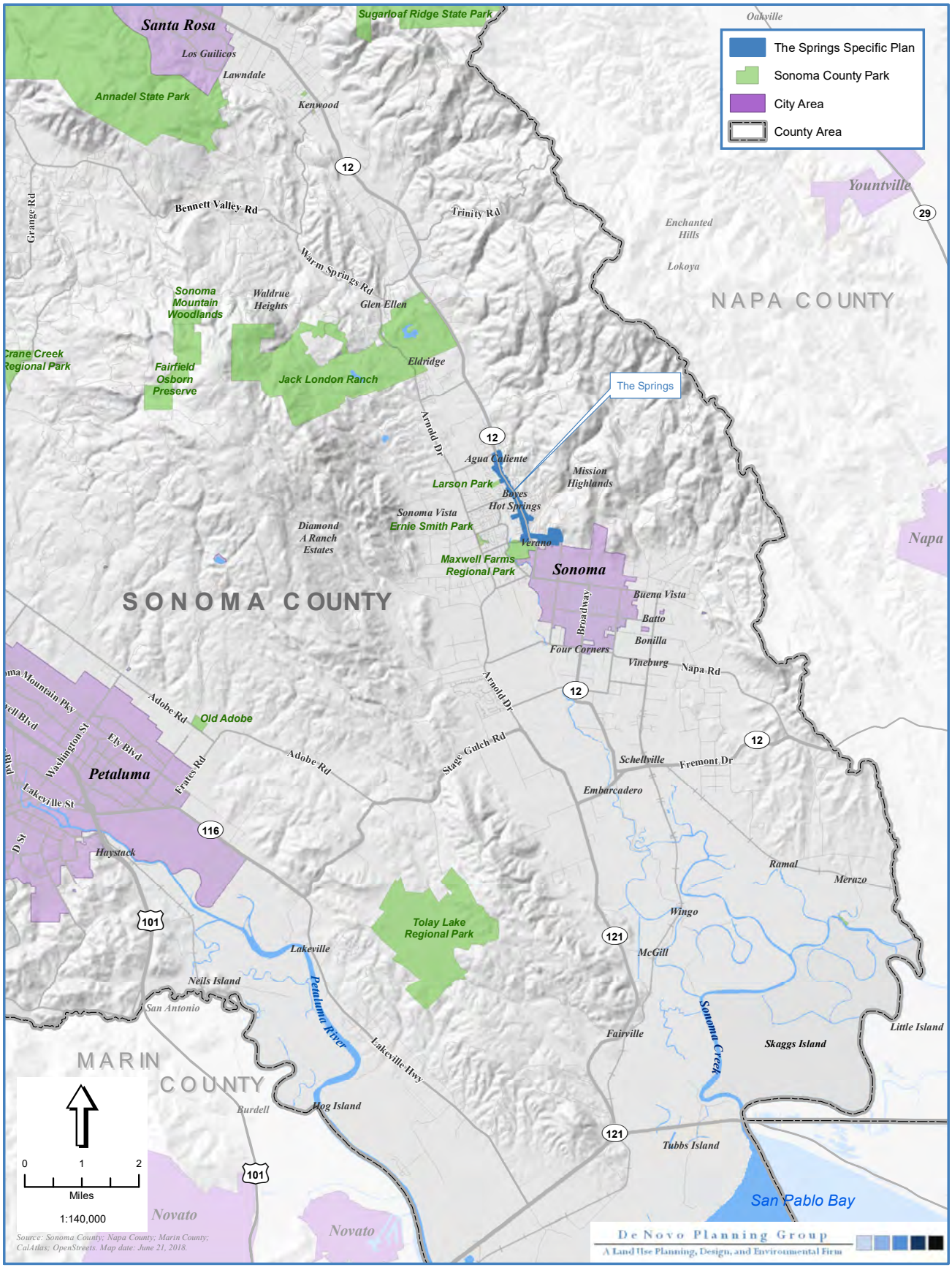


Figure 1: Project Location

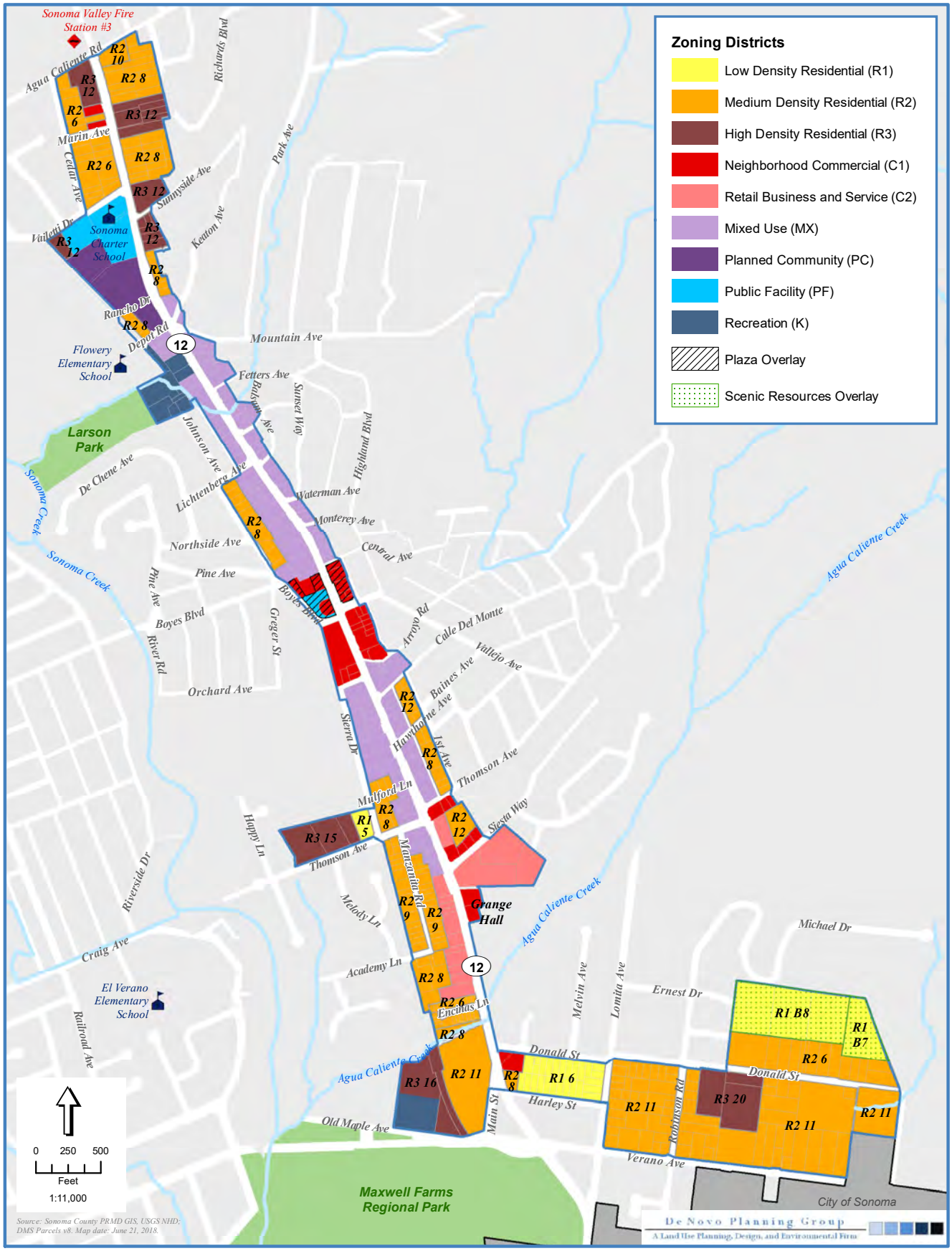


Figure 2: Springs Zoning Map

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life!

July 25, 2018

SCH # 2018062068
04-SON-2018-00298
PM: SON – 12 – Var
GTS ID 11204

Ms. Yolanda Solano
Project Planner
Sonoma County
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

The Springs Specific Plan – Notice of Preparation (NOP)

Dear Ms. Solano:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced project. In tandem with the Metropolitan Transportation Commission's (MTC) Sustainable Communities Strategy (SCS), Caltrans mission signals a modernization of our approach to evaluating and mitigating impacts to the State Transportation Network (STN). Caltrans' *Strategic Management Plan 2015-2020* aims to reduce Vehicle Miles Travelled (VMT) by tripling bicycle and doubling both pedestrian and transit travel by 2020. Our comments are based on the NOP.

Project Understanding

The Springs Specific Plan (Plan) would establish specific guiding principles and a design framework for the approximately 178 acres that is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by State Route (SR) 12. The project study area includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. The Plan would accommodate approximately 312 to 715 residential units and 91,041 to 432,245 square-feet of commercial, office, and recreation uses. The Plan will also designate a location for a community plaza and promote other public uses while preserving the community's character and scale.

The General Plan recognizes the Springs as a secondary commercial center in the Sonoma Valley area and encourages redevelopment by providing a flexible range of land uses within the Springs area. In addition, the General Plan encourages reducing the need for automobile use through improvements to the pedestrian, bicycle, and transit systems and through land development measures. 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.

The Plan envisions a revitalized mixed-use corridor extending from Depot Road to Thomson Avenue, where residential and neighborhood commercial are concentrated around a central activity hub. This hub area would be strategically designed to provide pedestrian connectivity to a public plaza that would serve as the central community gathering area for the Springs. The plaza will accommodate various community activities, such as festivals, cultural events, concerts, and farmers markets, as well as provide seating, shade structures, and greenery for the community to enjoy. Neighborhood-oriented commercial uses would surround the plaza, providing opportunities for ground-floor restaurants and shops with residential units above.

The Plan includes a range of residential densities, providing opportunities for single family, multifamily, mixed use, and work/live units. Medium density residential land use designations are concentrated in the northern and southern portions of the planning area. Higher densities are provided north of Rancho Drive, on West Thompson Avenue, and in the Donald Street/Verano Avenue neighborhood.

Parking lots would be located along or adjacent to the SR 12 corridor to accommodate a portion of the parking demand generated by the community plaza, commercial, and mixed-use development.

Travel Demand Analysis
In Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, this project falls under **Place Type 5 Rural and Agricultural Lands – Rural Towns**, which includes settlement patterns with widely-spaced towns separated by farms, vineyards, orchard, or grazing lands, which can significantly affect land uses, character and mobility needs. This place type has a mix of housing, services and public institutions in compact form to serve surrounding rural areas. Given this Place Type and intensification of use, which typically leads to high levels of VMT and corresponding low levels of active transportation, we recommend providing VMT analysis resulting from the proposed project, which includes:

- A vicinity map, regional location map, and site plan clearly showing the project's location in relation to the STN. Clearly identify State right-of-way (ROW), bicycle paths, and transit facilities within the study area.

- A VMT analysis pursuant to the County's guidelines or, if the County has no guidelines, the Office of Planning and Research's Draft Guidelines. Projects that result in automobile VMT per capita greater than 15 percent below existing (i.e. baseline) county-wide or regional values for similar land use types may indicate a significant impact. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies—such as Caltrans—are fully enforceable through permit conditions, agreements, or

other legally-binding instruments under the control of the County.
- Potential safety issues for all road users should be identified and fully mitigated.

Vehicle Trip Reduction

We encourage the implementation of a robust Transportation Demand Management (TDM) program including the elements described below. If a given project does not achieve the VMT reduction goals, the Mitigation and Monitoring reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on SR 12 and other State facilities.

- Commuter subsidy for transit, carpool, and vanpool for residents and employees on an ongoing basis;
- Membership in a transportation management association;
- Annual reporting with the Lead Agency monitoring;
- Onsite TDM coordinator;
- Emergency ride home program;
- Transit and trip planning resources such as a commute information kiosk;
- Kick-off commuter event at full occupancy;
- Project design to encourage walking, bicycling, and convenient transit access;
- Ten percent vehicle parking reduction;
- Unbundle parking;
- Electric vehicle (EV) charging stations and designated parking spaces for EVs and clean fuel vehicles;
- A carshare fleet for the development or incentives for residents to join a peer-to-peer carsharing such as Getaround;
- Dedicated parking spaces for carpooling employees;
- Enhanced bus stops including bus shelters;
- Bicycle route mapping resources and bicycle parking incentives;
- Bicycle share membership;
- Fix-it bicycle repair station(s);
- Showers, changing rooms, and clothing lockers; and
- Decrease headway times and improve way-finding on Sonoma County Transit bus routes and the Downtown Petaluma Sonoma-Marin Area Rail Transit (SMART) station to provide a better connection within the County, nearby transit stations and regional destinations.

For additional TDM options, please refer to Chapter 8 of Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference*,

regarding TDM at the local planning level. The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.
For information about parking ratios, please see MTC's report, Reforming Parking Policies to Support Smart Growth, or visit the MTC parking webpage: http://www.mtc.ca.gov/planning/smart_growth/parking.

Operations Analysis
We are concerned with the projected increase in generated trips, which have the potential to create significant speed differentials and increase the number of conflicts. Please submit a Travel Demand Analysis (TDA) evaluating project-related trip generation, distribution, turning movements, and trip assignment estimates on SR 12 between Agua Caliente Road and Donald Street/ Verano Avenue. This analysis of state facilities is necessary to determine the scope and significance of issues that may arise from the project's potential conflicts. The California Environmental Quality Act (CEQA) does not exempt these types of operational concerns from evaluation. Please ensure that sections 4 (Design Guidelines), 5 (Infrastructure), and 6 (Implementation), as well as the configurations of Figures 8 and 9 street cross-sections are included in the DEIR.

Cultural Resources
There are cultural resources recorded within the boundaries of the Plan Area that are State-owned cultural resources as they are within Caltrans ROW. As part of the programmatic environmental review for the Specific Plan, we recommend that, in compliance with CEQA Guidelines Section 15064.5, Sonoma County require environmental review for specific projects that includes the preparation of cultural resource technical studies that at a minimum contain a records search at the Northwest Information Center of the California Historical Resources Information System (CHRIS) at Sonoma State University, Native American consultation, and a field survey of the project area by a qualified archaeologist and qualified architectural historian.

If an encroachment permits are needed for work within Caltrans ROW, we may require cultural resource technical studies be prepared in compliance with CEQA, Public Resources Code (PRC) 5024, and the Caltrans Standard Environmental Reference (SER) Chapter 2 (http://www.dot.ca.gov/ser/vol2/vol2.htm).

Should ground-disturbing activities take place within Caltrans ROW and there is an inadvertent archaeological or burial discovery, in compliance with CEQA, PRC 5024.5, and the SER, all construction within 60 feet of the find shall cease and the Caltrans District 4 Office of Cultural Resource Studies (OCRS) shall be immediately contacted at (510) 622-1673.

Biological Resources
If there are proposed plans to remove trees for specific projects, we recommend implementing

such plan outside of the nesting bird season February 1 - September 15 in order to comply with the Migratory Bird Treaty Act. Pre-construction surveys for special status species will be needed in Caltrans ROW, especially for bridge widening. Compliance with best management practices are recommended on an as needed basis (re: e.g., night work, vegetation removal, dust control, etc.)

Hydraulics

Agua Caliente Creek is located at the southern end of the project study area. According to Federal Emergency Management Agency, Flood Insurance Rate Map 06097C0936E, there is a 100-year floodplain designated along Agua Caliente Creek. Development in designated floodplain should not cause an increase flooding elsewhere. Encroachment permits will be required for future development within State's right-of-way. Provide calculations of design discharge for pre-and post-development for specific projects. The design discharge of post development shall not exceed the design discharge under existing site conditions. Please provide the plans and drainage calculations for our review.

Multimodal Planning

Future project(s) should be conditioned to provide connections to existing bike lanes and multi-use trails to facilitate walking and biking to respective residential, commercial, and recreational areas. By providing these connections and configuring streets for alternative transportation modes, the County will reduce VMT and create multi-modal links to increase ridership for the Sonoma County Transit bus routes 30, 30X, 32, 34 and 38 and the Downtown Petaluma SMART Station. The County should work with Sonoma County Transit Agency and other entities to provide bus services from the Downtown Petaluma SMART Station to the project study area.

In addition, secondary impacts on pedestrians and bicyclists resulting from any traffic impact mitigation measures should be analyzed. The analysis should describe any pedestrian and bicycle mitigation measures and safety countermeasures that would in turn be needed as a means of maintaining and improving access to transit facilities and reducing vehicle trips and traffic impacts on State highways. Provide maps of existing and proposed improvements to the pedestrian, bicycle, and transit networks.

Please include Parking Study and Transportation Impact Study analyzing parking demand, as well as consider flexible use of parking that can be easily converted to other land uses in the future in the case of decreased parking demand.

Traffic Impact Fees

Given the potential for increased VMT and proximity to SR 12, the project should be conditioned to contribute fair share traffic impact fees. These contributions would be used to lessen future traffic congestion and improve multimodal forms of transportation in the project vicinity.

The fair share information should also be presented in the Mitigation Monitoring and Reporting Plan of the Draft Environmental Impact Report (DEIR). Required roadway improvements should be completed prior to the issuance of the Certificate of Occupancy.

Please identify in text and graphics existing and proposed improvements for the pedestrian, bicycle, and transit networks. The County should estimate the cost of needed improvements, expansion, and maintenance for the Plan area, as well as identify viable sources of funding, correlated with the pace of improvements, and a scheduled plan for implementation along with the DEIR.

Encroachment Permit

Please be advised that any sign or work within Caltrans ROW will require an encroachment permit prior to construction. Any improvement of access to SR 12 or changes in its operations shall be coordinated with Caltrans. Lane or shoulder closure charts for any work which interferes with operations of SR 12 shall be submitted to Caltrans for review and approval. To apply for an encroachment permit, please complete an encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW, and submit to the following address: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. See the website link below for more information.
http://www.dot.ca.gov/hq/traffops/developserv/permits.

Should you have any questions regarding this letter, please call Stephen Conteh at 510-286-5534 or stephen.conteh@dot.ca.gov.

Sincerely,

PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

DP&F
ATTORNEYS AT LAW

THOMAS ADAMS
tadams@dpf-law.com

July 30, 2018

VIA EMAIL TO YOLANDA.SOLANO@SONOMA-COUNTY.ORG

Yolanda Solano
Permit and Resource Management Department
2250 Ventura Ave.
Santa Rosa, CA 95403

Re: The Springs Specific Plan Notice of Preparation of Draft EIR Comments

Dear Ms. Solano:

Thank you for providing us the opportunity to comment on the Notice of Preparation of the Draft Environmental Impact Report for The Springs Specific Plan ("Specific Plan DEIR"). This firm represents Krug Development Corporation ("Krug Development") and MidPen Housing Corporation, a nonprofit affordable housing developer ("MidPen Housing") who are currently working with Splash in a collaborative effort to purchase and redevelop the Sonoma Valley Health and Recreation Association ("SVHRA" or "Splash") property, located north of Old Maple and Verano Avenues, comprised of APN 127-071-002, 127-071-003, and 127-071-005 (the "Project Site" or "Property"). We submit these comments for your consideration in developing the Specific Plan for the purpose of insuring that the Specific Plan reflects the zoning and development standards necessary to facilitate the approval and development of our client's collaborative efforts to provide more affordable housing, reasonably priced hotel rooms, along with other community benefits discussed below.

Project Site and Proposed Project Summary

Both MidPen Housing and Krug Development are proposing the redevelopment of the Project Site as a result of Splash no longer being financially able to achieve its objective of establishing a community pool at this location. In order to insure the property will continue to provide community benefits, Splash has been working with Krug Development and MidPen Housing to facilitate both affordable housing and a reasonably priced hotel component in the redevelopment of the Project Site. The proposed development plan will reconfigure the Project Site's existing three APNs into two legal parcels, one being 2.5 acres fronting Verano Avenue and zoned K with the other remaining 3.4 acres zoned R3 B6 16. The K zoned parcel will be the location of a 120-room affordably priced hotel developed by Krug, with the larger parcel zoned R3 the site of an 81-unit, 100% affordable housing development by MidPen Housing. (See attached Exhibit A Proposed Parcel and Rezone Site Plan.)

Of principal importance to the success of the Project is the perfecting of a lot line adjustment to create the underlying parcels which will be owned by Krug Development and MidPen Housing, under separate ownership. We would like to request an expedited process on the lot line adjustment application in order to facilitate the timely development of the Project Site and conformance with the Specific Plan.

There is a small, triangular portion of property that lies between the Property and West Verano Avenue which is owned and/or controlled by the County. Over the past several years, SVHRA have had numerous discussions with County representatives about incorporating that portion into development plans for the Property in some way, most likely through vacation proceedings or a long-term ground lease for nominal consideration. Doing such would allow a far more pleasing visual aspect from the public road and the recently installed bike path. That portion could be used for landscaping, parking, ingress/egress, all as may be requested by the developer(s) of the Property. Our clients therefore request that the Plan recognize and authorize that potential purpose (from a land use and environmental perspective) in such a manner as to give the County the requisite flexibility to take the necessary actions, in its discretion, at a future time.

Community Benefit

The upfront financing provided by Krug in its purchase of the 2.5-acre site facilitates Splash's ability to partner with MidPen Housing to provide the community with much needed affordable housing units. With Krug Development's up front funding, Splash can make the remaining approximately 3.4 acres of the Project Site available to MidPen Housing for the development of affordable housing without any upfront funding by MidPen Housing prior to it receiving final entitlements. In short, the hotel project financially facilitates Splash's ability to accommodate the longer financing timelines inherent in affordable housing projects.

Additionally, the purchase of the land from SPLASH by Krug will provide $100,000 in funding for the relocated Sonoma Valley Little League baseball field and will also provide funding to assist with the construction of the new public pool.

<u>New Community Pool and Consolidation of Operational Expenses</u>

Proceeds from the sale of the Project Site will be used by Splash to support the construction of the new community pool at Sonoma Valley High School.[1] Creation of the community pool is contingent on Splash's contributing all net proceeds in support of that pool from the sale of the Project Site. The new community pool and consolidation of operations will provide the following benefits to the Sonoma Valley School District and Sonoma Valley Health and Recreation Association:

1. Avoiding the duplicative effort to have a pool at both the High School and the Project Site: donor groups can focus on assisting just one community pool foundation.
2. Operating revenues are the biggest issue for the District; paying to run the pool at Splash was a budget problem.

[1] See "Sonoma Splash to sell Paul's Resort pool site to hotelier, affordable housing developer," Sonoma Index Tribune, July 16, 2018, www.sonomanews.com/news/8536669-181/sonoma-splash-to-sell-pauls , last accessed 7/27/2018.

3. Locating the pool at Sonoma Valley High School means transportation costs for students are eliminated for students from Prestwood Elementary, Adele Harrison Middle School and Sonoma Valley High School.

Increased Affordable Housing Units

MidPen Housing's 100 percent affordable housing community will result in the construction of approximately 81 affordable housing apartments, with recorded deed restrictions requiring that the units remain affordable for a minimum of 55 years.[2]

New Public Trail

The Krug Development's and MidPen Housing's projects are coordinating to create and maintain a public trail that connects the existing bike trail along Verano Avenue to a new public trail that will provide access to Agua Caliente Creek via the Project Site.

Relocation and Improved Baseball Field

Sonoma Valley Little League baseball field relocation to Maxwell Park offers the program the opportunity to benefit from an upgraded baseball facility. The Sonoma County Parks Master Plan currently includes two new baseball fields at Maxwell Park and will be constructed and maintained by the County with financial contributions from Krug Development, MidPen Housing, and others to assist with construction.

Transient Occupancy Tax Revenue

Krug's proposed 120-room reasonably priced hotel is projected to generate $1,000,000.00 annually in new tax revenue at current tax levels for the County to help fund existing and new County projects and programs in the community, and this amount will grow in future years as revenue increases.

Specific Plan Comments

The Springs Specific Plan ("Specific Plan") provides the opportunity to more closely align the land use zoning in the project area with the community's vision of the future development, economic growth, and traffic/pedestrian/bicycle circulation goals. In addition, the Specific Plan can provide for a clear and more streamlined permitting process for development projects that are consistent with the plan. Accordingly, we submit these comments for your consideration in developing the Specific Plan for the purpose of insuring that the Specific Plan reflects the zoning and development standards necessary facilitate the approval and development of our clients' proposed use of the Project Site.

[2] 936 units of housing units are required to be constructed in unincorporated Sonoma County, of which 220 need to be Very Low affordable (0-50% affordability). Sonoma County Regional Housing Needs Allocation (2014-2022) as established by Association of Bay Area Governments (ABAG) https://abag.ca.gov/planning/housingneeds/pdfs/Final%20RHNA%20(2014-2022).pdf. Last accessed 7/27/2018.

The following comments are based upon review of The Springs Specific Plan Land Use and Circulation Alternatives Report, February 2017:

The SP currently identifies the Project Site as a growth opportunity area (see Figure 1). The proposed development of the Project Site will accommodate growth while also providing community benefits, such as, affordable housing, updated recreation facilities, and public access to creek.

The Community Housing and Mixed Use Alternative zoning map designates the Project Site zoned K for Recreation (see Figure 2.) However, the text also states the following:

> "The Sonoma Splash property, located north of the Old Maple Avenue and Verano Avenue, is currently zoned to allow for a variety of recreation and visitor serving uses, such as health clubs, sports facilities, hotels, etc. This alternative designates the Sonoma Splash property, recreational and high density residential uses in order to accommodate a community serving aquatic center and high density workforce housing." (SP, p. 8.)

While the K zoning allows for hotels with up to 200 rooms with a use permit, it does not allow for the affordable housing component of the proposed project; therefore, we are requesting that this alternative be revised such that the Property be zoned K and zoned R3 B6 16du to allow both the affordable housing and hotel projects. See the attached Exhibit A for proposed parcel configuration and zoning of the Project Site.

Additionally, this alternative imposes development standards including thirty-five (35') foot building heights. We request that this alternative be revised such that maximum building height for the parcel be increased to forty-five (45') feet, so as to allow for the maximum architectural and aesthetic flexibility, including flexibility in design, variations in height, and improved land utilization efficiency. The building will be setback more than one hundred (100') feet from the east end of the property line, and more than one hundred and sixty (160') feet from Verano Avenue on the west side of the property, and will be well screened to limit visual impacts to the public.

This proposed change would be consistent with this alternative's objective of increasing affordable housing and would still provide for adequate recreation due to facilitating the updating and relocation of the existing or previously proposed recreational uses (baseball field and community pool) of the Property. The newly proposed public trail connecting the existing bike path with Agua Caliente Creek is also consistent with this alternative's goal of improving walkability since it would expand the public trail system.

The Moderate Growth Alternative zoning map designates the Project Site zoned K for Recreation (see Figure 5.) However, the text of this alternative, similar to the Community Housing and Mixed Use Alternative designates the Sonoma Splash property as:

> "... both Recreation and High Density Residential in order to accommodate a community aquatic center with high density workforce housing." (SP, p. 16.)

Splash will no longer be seeking to establish a community pool at the Project Site, and therefore, we are requesting that this alternative be revised such that the Property be zoned K and zoned R3 B6 16du, in order to accommodate an affordable hotel and high density affordable housing. (See attached Exhibit A.)

Like the Community Housing and Mixed Use Alternative, this alternative imposes development standards including thirty-five (35') foot building heights. We request that this alternative be revised such that maximum building height for parcel be increased to forty-five (45') feet, so as to allow for the maximum architectural and aesthetic flexibility, including flexibility in design, variations in height, and improved land utilization efficiency. The building will be setback more than one hundred (100') feet from the east end of the property line, and more than one hundred and sixty (160') feet from Verano Avenue on the west side of the property, and will be well screened to limit visual impacts to the public.

These proposed changes while changing its treatment of the Project Site would overall be consistent with this alternative's objective of increasing affordable housing and would still provide for adequate local serving recreation due to facilitating the updating and relocation of the existing or previously proposed recreational uses (baseball field and community pool) of the Property. The newly proposed public trail connecting the existing bike path with Agua Caliente Creek is also consistent with this alternative's goal of improving walkability since it would expand the public trail system.

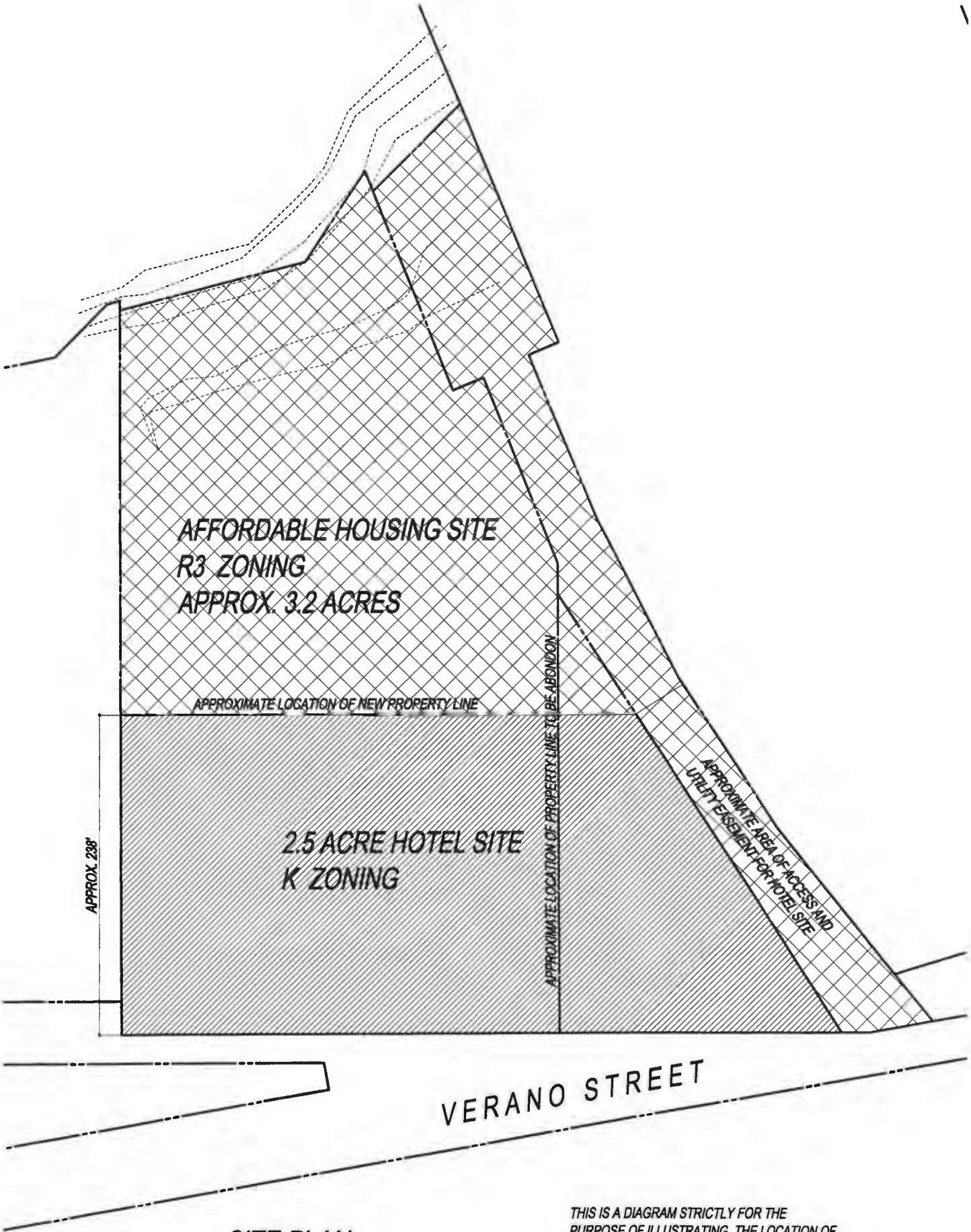
The Existing Zoning Alternative zoning map reflects the existing zoning of the Project Site as two parcels zoned K Recreation and Visitor-Serving Commercial and one zoned R2 Medium Density Residential. This alternative is physically infeasible for multi-family housing due to the existing small and very narrow R2 parcel, and is not consistent with our clients' desire for higher density R3 zoning to facilitate a financially feasible affordable housing development, in comparison to the Community Housing and Mixed Use and Moderate Growth Alternatives. This alternative limits new residential growth at a time when additional affordable housing is needed. Further, this alternative does not reflect the reality that Splash is no longer seeking to establish a community pool in this location. Allowing for rezoning as proposed by our clients (see Exhibit A) and increasing the maximum building height as part of the Specific Plan will facilitate the public benefits of the proposed redevelopment of the Project Site, as discussed above.

Sincerely,

DICKENSON, PEATMAN & FOGARTY

Thomas Adams and Erin Carlstrom

TSA:bab
Enclosure



SITE PLAN

0 20' 60' 120'

THIS IS A DIAGRAM STRICTLY FOR THE PURPOSE OF ILLUSTRATING THE LOCATION OF A PROPOSED LOT LINE ADJUSTMENT. A BOUNDARY SURVEY HAS NOT YET BEEN COMPLETED. THE SCALE AND DIMENSIONS ARE NOT EXACT.

Elise Carroll

From: Beth Thompson <bthompson@denovoplanning.com>
Sent: Tuesday, July 24, 2018 9:13 AM
To: Elise Carroll
Subject: Fwd: EIR and Springs Specific Plan
Attachments: Bear Cave_Water Agency.jpg

FYI - Another Springs scoping comment

Beth Thompson | Principal
De Novo Planning Group | www.denovoplanning.com
bthompson@denovoplanning.com | 916.812.7927
Northern California | 1020 Suncast Lane #106 | El Dorado Hills, CA 95762
Southern California | 180 East Main Street #108 | Tustin, CA 92780

---------- Forwarded message ----------
From: **Yolanda Solano** <Yolanda.Solano@sonoma-county.org>
Date: Wed, Jul 11, 2018 at 6:25 PM
Subject: RE: EIR and Springs Specific Plan
To: "Conlan, Ellen" <Ellen.Conlan@abc.com>
Cc: Rich Lee <richlee@comcast.net>, Beth Thompson <bthompson@denovoplanning.com>, "Ben Ritchie <britchie@denovoplanning.com>" <britchie@denovoplanning.com>

Hi Ellen,

Thank you very much for coming to the scoping meeting yesterday and for your comments.

Please take a look at the attached aerial. Are you referring to parcel 056-481-032 as a potential park site? If so, you are correct. This 2 acre parcel is not intended for development. It was set aside as part of the Creekwood subdivision and is owned by the Water Agency.

The parcel is outside the Specific Plan boundaries, but it is pretty close. The main obstacle as I see it is that the eligibility criteria for a Rural Community Investment area is a maximum of 160 acres. The project area is roughly 178 acres now. But I think it's a good idea. I'll just have to have to look into this further.

My general understanding is that the public has a right to use a navigable river up to the high water mark. We'd probably have to research which creeks are considered "navigable." I'll discuss with our consultants. Maybe we can add a policy to require or encourage public access points as part of new development projects.

The mobile home park east of the Splash site (west of Hwy) is in the Plan area. It is 6.29 acres in size. The property is zoned R2 (Medium Density Residential, 8 acre density), so it could currently be developed with 50 units. If 40% of the units are affordable, the density could be doubled. The Plan proposes to increase the density to 11 units per acre, which would allow 69 units (or up to 138 units if 40% are affordable). Note: The mobile home park south of Acacia (east of Hwy) is not in the Plan area.

The Scenic Resource combining zone was established 25 years ago. You can view the SR zones by using the zoning and land use map at this link:
https://sonomamap.maps.arcgis.com/apps/webappviewer/index.html?id=06ac7fe1b8554171b4682dc141293962

Check the "Scenic Resource SR" box on the layer list. Design review is also required for new development in commercial zones, as well as for substantial modifications to the exterior of existing buildings (commercial zones).

Again, thank you for your comments. Please let me know if you need any further information or clearification.

Yolanda

From: Conlan, Ellen [mailto:Ellen.Conlan@abc.com]
Sent: July 10, 2018 4:21 PM
To: Yolanda Solano <Yolanda.Solano@sonoma-county.org>
Cc: Rich Lee <richlee@comcast.net>
Subject: EIR and Springs Specific Plan

Yolanda, on the Springs Zoning map there is high-density housing planned/recommended (or maybe existing) at the end of Thompson Dr West at Happy Lane. I am wondering if a small park can be planned for the Water district property land indicated as *Bear Cave Park* on old maps as in the map below. This is the flood plain for the river and I don't think housing is built here or, if built, could, in the future, be removed. Is it possible to add this parcel to the EIR evaluation as a future open space/park?

Also, the plan references Aqua Caliente Creek as a bridge rebuild but doesn't reference the creek as a "public space" opportunity. A portion of it is public correct? Can the public portion be added to the plan and EIR? In the Springs we have at least 7 touchpoints of river access. But the plan and the EIR don't specifically take advantage of that natural resource for a community-wide benefit. How can we get **natural** water features into the plan?

I'd like to have a fuller discussion about why developing the large parcels of trailer homes parks is not part of the vision for the future of the Springs. Minimally, we'd like to know what the acreage is for those parks. And how many households they accommodate.

Finally, who determines "Scenic Resources Overlay". Is that a community request? Is that a neighborhood request? At our SCA meeting can we have a discussion about the process of overlays within a community? I believe you, or Tennis, mentioned "overlays" in the past as a way of refining codes for better outcomes of design.

Thank you for the scope meeting, it was informative.

Ellen Conlan

Elise Carroll

From: Beth Thompson <bthompson@denovoplanning.com>
Sent: Friday, August 3, 2018 12:15 PM
To: Elise Carroll
Subject: Fwd: FW: Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report (NOP) for the Springs Specific Plan

Springs NOP comment

Beth Thompson | Principal
De Novo Planning Group | www.denovoplanning.com
bthompson@denovoplanning.com | 916.812.7927
Northern California | 1020 Suncast Lane #106 | El Dorado Hills, CA 95762
Southern California | 180 East Main Street #108 | Tustin, CA 92780

---------- Forwarded message ----------
From: **Yolanda Solano** <Yolanda.Solano@sonoma-county.org>
Date: Fri, Aug 3, 2018 at 12:11 PM
Subject: FW: Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report (NOP) for the Springs Specific Plan
To: Beth Thompson <bthompson@denovoplanning.com>
Cc: "Ben Ritchie <britchie@denovoplanning.com>" <britchie@denovoplanning.com>

Please see comments below. Thank you!

From: Conlan, Ellen [mailto:Ellen.Conlan@abc.com]
Sent: July 30, 2018 8:23 AM
To: Yolanda Solano <Yolanda.Solano@sonoma-county.org>
Cc: Rich Lee <richlee@comcast.net>
Subject: Re: Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report (NOP) for the Springs Specific Plan

Good morning Yolanda. I know that today is the last day for comment on the EIR process for the Springs Specific plan. The scoping document refers to 6 chapters:

Introduction

- Land Use

- Circulation

- Design Guidelines

- Infrastructure

• Implementation

Are those chapters available? They are not on the website. Who provides them? In order to comment it's necessary to see the Plan.

In the Scoping document the Plan refers to a population of 1.8K but fails to mention the HWY 12 is a Main St for 15k people in the area. I think that context is needed.

Also the Scoping memo refers to potential new development projections of 715 residential housing but does not indicate the current housing number. Is the 715 doubling the number of housing units in the Plan area? Tripling it? Could we have the math on that.

The Springs Community Alliance Exec Committee is meeting on Tues evening. Are you available on Wed to discuss your presentation at our Aug 16 meeting?

Thank you,

Ellen

Sent from my iPhone

On Jun 27, 2018, at 5:22 PM, Yolanda Solano <Yolanda.Solano@sonoma-county.org> wrote:

> The County of Sonoma invites you to comment on the scope and content of the Draft Environmental Impact Report (DEIR) that will be prepared for the Springs Specific Plan.
>
> The Environmental Impact Report for the Springs Specific Plan will evaluate the full range of environmental topics, with the exception of agricultural resources, forestry resources, and mineral resources. There are no agricultural lands, timberlands or mineral resource lands in the Specific Plan area so these topics will not be addressed by the EIR.
>
> You may provide either written or oral comments at the Scoping Meeting for the project:
>
> **Scoping Meeting**
>
> **Tuesday, July 10, 2018**
>
> **11:00 a.m. to Noon**

Elise Carroll

From: Beth Thompson <bthompson@denovoplanning.com>
Sent: Friday, August 3, 2018 12:15 PM
To: Elise Carroll
Subject: Fwd: FW: Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report (NOP) for the Springs Specific Plan

Springs NOP Comment

Beth Thompson | Principal
De Novo Planning Group | www.denovoplanning.com
bthompson@denovoplanning.com | 916.812.7927
Northern California | 1020 Suncast Lane #106 | El Dorado Hills, CA 95762
Southern California | 180 East Main Street #108 | Tustin, CA 92780

---------- Forwarded message ----------
From: **Yolanda Solano** <Yolanda.Solano@sonoma-county.org>
Date: Fri, Aug 3, 2018 at 12:12 PM
Subject: FW: Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report (NOP) for the Springs Specific Plan
To: Beth Thompson <bthompson@denovoplanning.com>
Cc: "Ben Ritchie <britchie@denovoplanning.com>" <britchie@denovoplanning.com>

Follow up comment from Ellen Conlan, FYI. Thanks

From: Conlan, Ellen [mailto:Ellen.Conlan@abc.com]
Sent: July 30, 2018 5:06 PM
To: Yolanda Solano <Yolanda.Solano@sonoma-county.org>
Subject: Re: Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report (NOP) for the Springs Specific Plan

One other point, in our last SCA meeting Susan Gorin pointed out that affordable and low income housing does NOT contribute to property taxes.

In the Market & Feasibility Analysis Report it mentions “the community is interested in new residential housing within reach of local residents’ household income.” But the community is not aware that his type of housing undermines the revenue base of the area. Making it more likely that blight will be entrenched.

Does the final draft plan address this?

Sent from my iPhone

On Jun 27, 2018, at 5:22 PM, Yolanda Solano <Yolanda.Solano@sonoma-county.org> wrote:

J. Kapolchok
+ Associates
Land Use Planning
Urban Design

July 29, 2018

Yolanda Solano
Permit Resource and Management Department
County of Sonoma
2550 Ventura Avenue
Santa Rosa, CA. 95403

RE: Comments on Scope and Content of the EIR for The Springs Specific Plan

Dear Yolanda,

Thank you for the opportunity to provide written comment on the scope and content of the Environmental Impact Report (EIR) currently under preparation for The Springs Specific Plan.

My comments regard properties owned by my client and operated by The Fairmont Sonoma Mission Inn & Spa. The properties affected by the proposed Specific Plan are Assessor Parcel Numbers 056-404-020; 014; 023 and 024 and 056-385-009; 011; 012 and 013. All of these properties house improvements essential to the current and future operation of the Fairmont Sonoma Mission Inn & Spa.

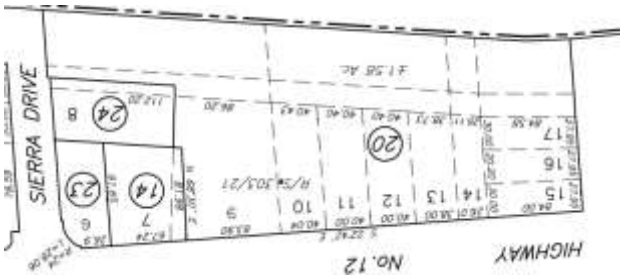
The Big Three/Surface and Underground Parking: This site is 1.92 acres in size and consists of four Assessor parcels: APNs 056-404-020; 014; 023 and 024. The site is developed with (see site map below):

- The Big Three Restaurant building, currently closed
- Surface parking lot

843 Second Street
Santa Rosa, CA 95404
TEL: 707.526.8939
FAX: 707.526.8985
EMAIL: jkapolchok@sbcglobal.net

- Entrance to an underground parking lot
- Sales Office
- Secondary entrance off of Sierra Drive

Site Plan



Assessor Parcels

All of these functions are essential to the operation of the Sonoma Mission Inn & Spa (SMI) and have been approved under SMI's Conditional Use Permit. Furthermore, all of these uses are hotel related uses.

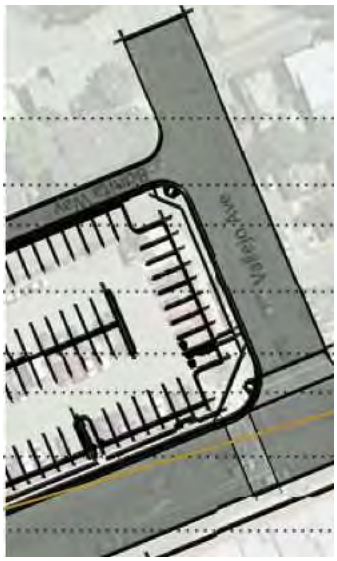
In the near term, SMI will be applying for a modification and potential expansion of their hotel facility. Various technical reports are underway to help direct the master planning process. Although all existing and proposed uses are/will be hotel related uses, the uses in the area identified above are likely to change.

In the draft Springs Specific Plan, the proposed Land Use designation for this area is Neighborhood Commercial, the Zoning, C-1. This is a change from its existing designation of General Commercial and C-2. Neither the proposed land use designation nor zoning district allow hotel uses. Hence, adoption of the Specific Plan, as proposed, would render a portion of the SMI legal non-conforming and potentially prevent the modernization and refurbishment envisioned by the SMI Master Plan.

It is believed that designating and rezoning a portion of SMI property Neighborhood Commercial/C-1 and thereby rendering that portion legal non-conforming was unintentional. We trust that this over-sight will be corrected prior to the plan going through the public hearing process. However, it is important for the draft proposed land use and zoning to be changed now. If not, the Environmental Impact Report must, at the very least, identify parcels and uses that have been rendered legal non-conforming in its land use analysis and examine any environmental consequence thereof.

We ask that the land use and zoning remain as it is currently designated, that is, General Commercial and C-2.

Surface Parking Lot: This site is 0.42- acres in size and consists of four Assessor parcels: APN 056-385-009; 011; 012 and 013. The site is developed with a surface parking lot that serves both the guests of the Inn and the employees.



Partial Site Plan

Assessors Parcels

The Springs Specific Plan is proposing a land use designation of Mixed-Use /Community Plaza Overlay and a zoning district of Mixed Use Community (CM) for this property. Although stand-alone parking is an allowed use, parking associated with a hotel use may not be and hotel uses are not. As mentioned, SMI is in the process of developing a Master Plan for their facilities. Uses discussed but by no means decided for this property include the continued use, a parking garage, a parking garage with limited retail, and parking combined with employee and/or affordable housing/retail.

Feasibility and Community Expectation: Unlike the discussion above regarding the Big 3/Parking Lot properties, allowed uses or uses allowed by use permit is not the principle concern for the Surface Parking Lot properties. Unless, of course, parking associated with a non-permitted use (hotel) is a prohibited use. Of major concern, is the designation of this privately-owned property, which is developed with a use essential to the operation of the Sonoma Mission Inn & Spa, for public use. It is insufficient to state, as was done during the scoping meeting held on the EIR, that this designation should be seen as long-range and a host of uses that are not public plaza uses are allowed. A Community Plaza designation creates a public expectation. It immediately puts any applicant at odds with the public when a use is proposed that is not a community serving plaza use. Furthermore, in the absence of redevelopment monies and the non-availability of replacement land, proposing a use that is not achievable is questionable public policy. Also, such a designation immediately devalues the property and could give rise to constitutional taking issues at time of project application.

As regards the environmental consequences of the proposed change, the issue would be similar to that stated above, if parking associated with a non-permitted use would be a prohibited use.

Our request is that the Community Plaza over-lay designation be removed for reasons stated above.

Thank you for your consideration of these comments. I and my clients are available to discuss any questions you may have at your convenience. Please feel free to contact me at jkapolchok@sbcglobal.net or 707-526-8939. I look forward to working with you.

Sincerely,
Jean A. Kapolchok

Jean A. Kapolchok

LAW OFFICE
MICHAEL R. WOODS
A Professional Corporation
846 Broadway
SONOMA, CALIFORNIA 95476-7013
(707) 996-1776
Facsimile
(707) 996-2460

Email: mwoods@mrwlawcorp.com

July 30, 2018

Yolanda Solano
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Re: Notice of Preparation of EIR for
The Springs Specific Plan

Dear Ms. Solano:

This letter is submitted on behalf of my client, Sonoma Valley Health and Recreation Association, a non-profit California corporation ("SVHRA", also called Sonoma Splash), in response to the County of Sonoma's request for written comments as to the scope and content of the EIR ("EIR") being prepared for The Springs Specific Plan ("Plan"). SVHRA owns the properties located at 135, 155 and 175 West Verano Avenue, Sonoma (APNs: 127-071-002, 127-071-003 and 127-071-005) (the "Property").

SVHRA is a volunteer, donor-supported community based non-profit which has long sought to establish a community pool in the Sonoma Valley. It acquired the Property in 2014. After many efforts to find a suitable partner to co-locate on the Property with the pool, SVHRA ultimately decided earlier this year to put the Property on the market. SVHRA has now entered into two letters of intent to sell portions of the Property. All parties anticipate executing purchase and sale agreements very soon. SVHRA intends to use the net proceeds of these sales to establish the long-sought and much needed community pool at another location in the Valley. Negotiations to locate the pool at the campus of Sonoma Valley High School are proceeding and are very encouraging.

Attached is a preliminary site plan showing the anticipated configuration of the three parcels on the Property (after a lot line adjustment which is currently being prepared and subject to refinement after survey work is completed). SVHRA intends to sell the 2.5 acre portion at the southwesterly corner of the Property to Krug Investments ("Krug"), which plans to develop that site for a 120-unit mid-priced hotel. SVHRA intends to sell the remainder of the Property to MidPen Housing ("MidPen"), which plans to develop an approximate 82 unit, 100% affordable housing project on its site. We understand that Krug and MidPen are submitting their own comments on the scope of the EIR, and SVHRA supports and encourages the County to incorporate those comments in its planning process for the Plan.

Most of the Property (APNs -002 and -003) is already zoned K (which allows a hotel with a conditional use permit); the balance (APN -005) is zoned R2. Consistent with the preliminary site plan, SVHRA requests that the Krug site retain the existing K designation, and that the MidPen

site be designated as R3.[1] SVHRA also requests that the EIR for the Plan address the full extent of environmental impacts from both the Krug and MidPen projects.

There is a small, triangular portion of property that lies between the Property and West Verano Avenue. That portion is owned and/or controlled by the County. Over the past several years, we have had numerous discussions with County representatives about incorporating that portion into development plans for the Property in some way, most likely through vacation proceedings or a long-term ground lease for nominal consideration. Doing such would allow a far more pleasing visual aspect from the public road and the recently installed bike path. That portion could be used for landscaping, parking, ingress/egress, all as may be requested by the developer(s) of the Property. SVHRA requests that the Plan recognize and authorize that potential purpose (from a land use and environmental perspective) in such a manner as to give the County the requisite flexibility to take the necessary actions, in its discretion, at a future time.

SVHRA is pleased to point to considerable community benefits that are present here. The development of the two projects will be undertaken in a way that allows a trail and public access to the creek on the northerly boundary of the Property. That access will also be available to guests of the hotel. MidPen was the successful developer of the Fetters apartment project, and will be providing additional, critically needed affordable housing. The hotel proposed by Krug is projected to provide approximately $1 million annually in transient occupancy taxes, and will help alleviate pressure for more vacation rentals. While relocation of the ballfield is proceeding on an independent track in cooperation with County Parks and others, we anticipate that its relocation will benefit financially from financial contributions resulting from Splash's work and the County's efforts to expedite consideration of these two projects. Last, but certainly not least, the successful conclusion of these sales and corresponding projects on the Property will allow SVHRA to accomplish the long-sought community pool to the benefit of everyone in the Sonoma Valley.

Thank you for the opportunity to provide comments, and please let me know if there are any questions.

Very truly yours,

Michael R. Woods
A Professional Corporation

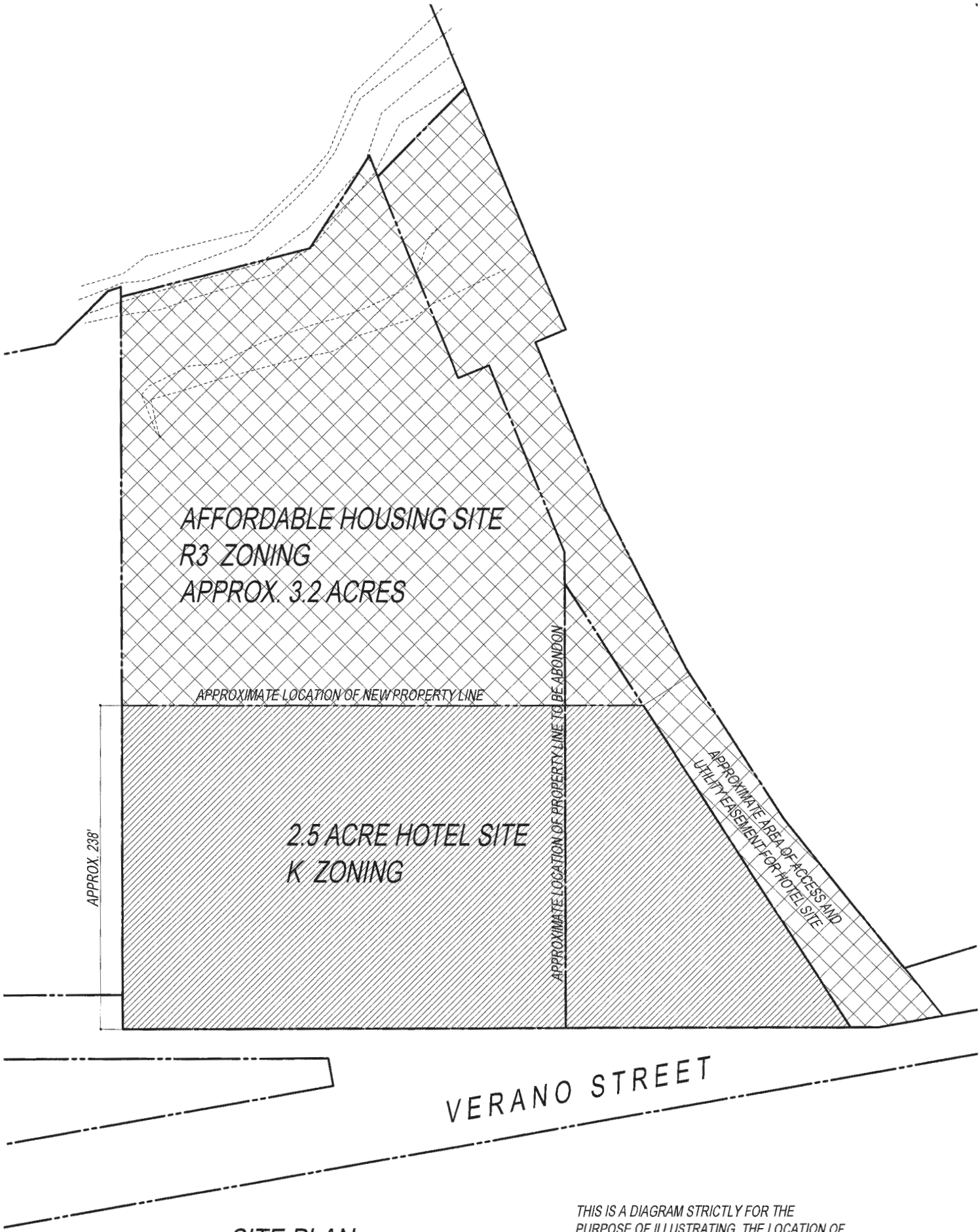
By: Michael R. Woods

MRW:ng

Cc: Paul Favaro, President, SVHRA

---

[1] We understand that the current draft Plan shows the K designation being reduced to the footprint of Paul's Field. The Little League, which uses that field, is relocating to Maxwell Farms Regional Park, and Paul's Field will no longer be used for baseball. Regardless of the outcome of our pending transactions, SVHRA would not support reducing the portion of its Property zoned K to fit only a small portion that will not be used for the purpose that reduction would seek to accommodate.



SITE PLAN

0 20' 60' 120'

THIS IS A DIAGRAM STRICTLY FOR THE PURPOSE OF ILLUSTRATING THE LOCATION OF A PROPOSED LOT LINE ADJUSTMENT. A BOUNDARY SURVEY HAS NOT YET BEEN COMPLETED. THE SCALE AND DIMENSIONS ARE NOT EXACT.

Scoping Meeting
July 10, 2018
16 attendees

Comments related to Scope of EIR

1. Michael Woods, representing Splash. Splash is selling property and plans to construct pool at another location (high school). A 120 room Best Western hotel and 82 unit housing development (100% affordable – Mid Penn). Hotel developer is Norman Krug. Michael Woods requested that EIR include an analysis of the hotel/housing project.
2. Sonoma Mission Inn representatives. Concern about plaza designation over their parking lot. Change from C2 to C1 (Big Three site) creates nonconforming issue for SMI. Plan must be feasible. Conversion of the parking area to a plaza is not necessarily feasible. Requested that EIR analyze land uses that are feasible for SMI.
3. Gina Cuclis. Suggested that the traffic section of the EIR differentiate between pass-through and local traffic. Concerned about cultural resources and historic preservation. Praised Fetter's project for saving palm trees that were part of the historic resort that existed previously.
4. Member of public. Asked if EIR would address ratio of parks/open space in relation to community health. Also asked about feasibility of recreation use adjacent Larson Park.

Elise Carroll

From: Beth Thompson <bthompson@denovoplanning.com>
Sent: Tuesday, July 24, 2018 9:04 AM
To: Elise Carroll
Subject: Fwd: FW: Spring EIR Plan

FYI - Springs Scoping comment

Beth Thompson | Principal
De Novo Planning Group | www.denovoplanning.com
bthompson@denovoplanning.com | 916.812.7927
Northern California | 1020 Suncast Lane #106 | El Dorado Hills, CA 95762
Southern California | 180 East Main Street #108 | Tustin, CA 92780

---------- Forwarded message ----------
From: **Yolanda Solano** <Yolanda.Solano@sonoma-county.org>
Date: Mon, Jul 16, 2018 at 9:42 AM
Subject: FW: Spring EIR Plan
To: Beth Thompson <bthompson@denovoplanning.com>
Cc: "Ben Ritchie <britchie@denovoplanning.com>" <britchie@denovoplanning.com>

FYI

From: Shel Leader [mailto:shel@sleader.com]
Sent: July 13, 2018 10:53 AM
To: Yolanda Solano <Yolanda.Solano@sonoma-county.org>
Subject: RE: Spring EIR Plan

Yolanda,

Appreciate your response and will look forward to following the EIR process. If you are creating a notification list, please add my name. During the past few years, we have had significant Community public debates in Social Media about various issues concerning the development of Highway 12 through the Springs Area. There was the “appearance” of decisions being made concerning the re-development plan by County officials without consulting with local constituency. That is why you are seeing “sudden” interest in the EIR. Many individuals were not aware of the EIR plan development.

Best Wishes,

Shel Leader

DVBE/SBE – California #2002324

shel@sleader.com | Office: 707.996.5079 | Mobile: 707.815.4188 | 261 E Agua Caliente Rd, Sonoma, CA 95476

From: Yolanda Solano <Yolanda.Solano@sonoma-county.org>
Sent: Friday, July 13, 2018 10:38 AM
To: Shel Leader <shel@sleader.com>
Subject: RE: Spring EIR Plan

Hello Shel,

I agree with you! It is important to hold meetings locally. We've held eight meetings in the springs so far (4 community workshops and 4 community advisory team meetings). Two other community meetings will be held in the Springs later this year.

We are just starting work on the environmental impact report. The EIR will cover a variety of environmental issues (Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gases and Climate Change, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Population, Noise, Public Services and Recreation, Transportation and Circulation, Utilities). Under CEQA, scoping is designed to examine a proposed project early in the EIR environmental analysis process, and is intended to identify the range of issues that should be identified in the EIR. The scoping process stresses early consultation with resource agencies, other state and local agencies, tribal governments, and federal agencies whose approval or funding of the proposed project will be required. The public is also invited to submit comments at any time throughout the Scoping period, which continues through July 30th.

Attendance at Tuesday's meeting was only one way that members of the public could provide comment during the scoping period.

Because Tuesday's scoping meeting didn't cover the content of the Specific Plan or the EIR (since it they haven't been prepared yet), we didn't anticipate much interest from the public. Had we correctly anticipated the level of public interest, we certainly would have held the meeting at a location more convenient for Springs residents.

As always, we appreciate your involvement in/commitment to this project. If you have any comments on the scope of the EIR please email, fax or mail them to me by July 30th.

Please let me know if you have any other concerns.

Thank you!

Yolanda

From: Shel Leader [mailto:shel@sleader.com]
Sent: July 11, 2018 1:24 PM
To: Yolanda Solano <Yolanda.Solano@sonoma-county.org>
Subject: Spring EIR Plan

Why are you scheduling meeting for the Spring EIR anywhere but in the Springs? The cities of Santa Rosa and Sonoma are not local to the Springs community.

Shel Leader

DVBE/SBE – California #2002324

shel@sleader.com | Office: 707.996.5079 | Mobile: 707.815.4188 | 261 E Agua Caliente Rd, Sonoma, CA 95476

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Appendix B

Special-Status Species Within 9-Quadrangle Region for Specific Plan Area

TABLE 1: SPECIAL-STATUS PLANTS WITHIN 9-QUADRANGLE REGION FOR SPECIFIC PLAN AREA

PLANT	*STATUS (FED/CA/ CNPS)*	*HABITAT ASSOCIATION*	*BLOOMING PERIOD*	*POTENTIAL FOR OCCURRENCE*
alkali milk-vetch *Astragalus tener var. tener*	--/--/1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 0-168 m.	Mar-Jun	**Low Potential**: Specific Plan area does not provide suitable habitat.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	--/--/1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 3-1680 m.	Apr-Jul	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
bent-flowered fiddleneck *Amsinckia lunaris*	--/--/1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 m.	Mar-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
big-scale balsamroot *Balsamorhiza macrolepis*	--/--/1B.2	Chaparral, valley and foothill grassland, cismontane woodland. Sometimes on serpentine. 35-1465 m.	Mar-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Calistoga ceanothus *Ceanothus divergens*	--/--/1B.2	Chaparral. Rocky, serpentine or volcanic sites. 100-950 m.	Feb-Apr	**Low Potential**: Specific Plan area does not provide suitable habitat.
Clara Hunt's milk-vetch *Astragalus claranus*	FE/CT/1B.1	Cismontane woodland, valley and foothill grassland, chaparral. Open grassy hillsides, especially on exposed shoulders in thin, volcanic clay soil moist in spring. 95-235 m.	Mar-May	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Cobb Mountain lupine *Lupinus sericatus*	--/--/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest. In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 120-1390 m.	Mar-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Colusa layia *Layia septentrionalis*	--/--/1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1100 m.	Apr-May	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	--/--/1B.2	Valley and foothill grassland. Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 5-520 m.	Apr-Nov	**Low Potential:** Specific Plan area does not provide suitable habitat.
Contra Costa goldfields *Lasthenia conjugens*	FE/--/1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland. Vernal pools, swales, low depressions, in open grassy areas. 1-450 m.	Mar-Jun	**Low Potential:** Specific Plan area does not provide suitable habitat.
Delta tule pea *Lathyrus jepsonii var. jepsonii*	--/--/1B.2	Marshes and swamps. In freshwater and brackish marshes. Often found with *Typha*, *Aster lentus*, *Rosa californica*, *Juncus* spp., *Scirpus*, etc. Usually on marsh and slough edges. 0-5 m.	May-Jul (Aug-Sep)	**Low Potential:** Specific Plan area does not provide suitable habitat.

Plant	*Status (Fed/CA/ CNPS)*	*Habitat Association*	*Blooming Period*	*Potential for Occurrence*
dwarf downingia *Downingia pusilla*	--/--/2B.2	Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 1-490 m.	Mar-May	**Low Potential:** Specific Plan area does not provide suitable habitat.
few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pools. Volcanic ash flow, and volcanic substrate vernal pools. 425-855 m.	May-Jun	**Low Potential:** Specific Plan area does not provide suitable habitat.
fragrant fritillary *Fritillaria liliacea*	--/--/1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-400 m.	Feb-Apr	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Franciscan onion *Allium peninsulare var. franciscanum*	--/--/1B.2	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine; sometimes on volcanics. Dry hillsides. 5-320 m.	(Apr) May-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
green jewelflower *Streptanthus hesperidis*	--/--/1B.2	Chaparral, cismontane woodland. Openings in chaparral or woodland; serpentine, rocky sites. 240-765 m.	May-Jul	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Greene's narrow-leaved daisy *Erigeron greenei*	--/--/1B.2	Chaparral. Serpentine and volcanic substrates, generally in shrubby vegetation. 90-835 m.	May-Sep	**Low Potential:** Specific Plan area does not provide suitable habitat.
holly-leaved ceanothus *Ceanothus purpureus*	--/--/1B.2	Chaparral, cismontane woodland. Rocky, volcanic slopes. 145-780 m.	Feb-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Jepson's coyote-thistle *Eryngium jepsonii*	--/--/1B.2	Vernal pools, valley and foothill grassland. Clay. 3-305 m.	Apr-Aug	**Moderate Potential:** Limited mesic habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Jepson's leptosiphon *Leptosiphon jepsonii*	--/--/1B.2	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 55-855 m.	Mar-May	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Kenwood Marsh checkerbloom *Sidalcea oregana ssp. valida*	FE/CE/1B.1	Marshes and swamps. Edges of freshwater marshes. 115-125 m.	Jun-Sep	**Low Potential:** Specific Plan area does not provide suitable habitat.
legenere *Legenere limosa*	--/--/1B.1	Vernal pools. In beds of vernal pools. 1-1005 m.	Apr-Jun	**Low Potential:** Specific Plan area does not provide suitable habitat.

Plant	*Status (Fed/CA/ CNPS)*	*Habitat Association*	*Blooming Period*	*Potential for Occurrence*
Lyngbye's sedge *Carex lyngbyei*	--/--/2B.2	Marshes and swamps (brackish or freshwater). 0-200 m.	Apr-Aug	**Low Potential:** Specific Plan area does not provide suitable habitat.
Marin knotweed *Polygonum marinense*	--/--/3.1	Marshes and swamps. Coastal salt marshes and brackish marshes. 0-10 m.	(Apr) May-Aug (Oct)	**Low Potential:** Specific Plan area does not provide suitable habitat.
Marin western flax *Hesperolinon congestum*	FT/CT/1B.1	Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 60-400 m.	Apr-Jul	**Low Potential:** Specific Plan area does not provide suitable habitat.
Mason's lilaeopsis *Lilaeopsis masonii*	--/CR/1B.1	Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. 0-10 m.	Apr-Nov	**Low Potential:** Specific Plan area does not provide suitable habitat.
Mead's owls-clover *Castilleja ambigua var. meadii*	--/--/1B.1	Vernal pools, meadows and seeps. Soils of volcanic origin and tend to have high clay content and be gravelly. 450-475 m.	Apr-May	**Low Potential:** Specific Plan area does not provide suitable habitat.
Napa bluecurls *Trichostema ruygtii*	--/--/1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest. Often in open, sunny areas. Also has been found in vernal pools. 30-680 m.	Jun-Oct	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Napa false indigo *Amorpha californica var. napensis*	--/--/1B.2	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 30-735 m	Apr-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
narrow-anthered brodiaea *Brodiaea leptandra*	--/--/1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Volcanic substrates. 30-590 m.	May-Jul	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Northern California black walnut *Juglans hindsii*	--/--/1B.1	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil, associated with a creek or stream. 0-640 m.	Apr-May	**Moderate Potential:** Limited riparian habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
oval-leaved viburnum *Viburnum ellipticum*	--/--/2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400 m.	May-Jun	**Moderate Potential:** Limited woodland habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
papoose tarplant *Centromadia parryi ssp. parryi*	--/--/1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 1-500 m.	May-Nov	**Low Potential:** Specific Plan area does not provide suitable habitat.

Plant	*Status (Fed/CA/ CNPS)*	*Habitat Association*	*Blooming Period*	*Potential for Occurrence*
Petaluma popcornflower *Plagiobothrys mollis var. vestitus*	--/--/1A	Valley and foothill grassland, marshes and swamps. Wet sites in grassland, possibly coastal marsh margins. 10-50 m.	Jun-Jul	**Low Potential:** Specific Plan area does not provide suitable habitat.
Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	--/--/1B.2	Marshes and swamps. Freshwater marshes near the coast.5-95 m.	Apr-Sep	**Low Potential:** Specific Plan area does not provide suitable habitat.
Point Reyes salty bird's-beak *Chloropyron maritimum ssp. palustre*	--/--/1B.2	Coastal salt marsh. Usually in coastal salt marsh with Salicornia, Distichlis, Jaumea, Spartina, etc. 0-115 m.	Jun-Oct	**Low Potential:** Specific Plan area does not provide suitable habitat.
Rincon Ridge ceanothus *Ceanothus confusus*	--/--/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland. Known from volcanic or serpentine soils, dry shrubby slopes. 150-1280 m.	Feb-June	**Low Potential:** Specific Plan area does not provide suitable habitat.
Rincon Ridge manzanita *Arctostaphylos stanfordiana ssp. decumbens*	--/--/1B.1	Chaparral, cismontane woodland. Highly restricted endemic to red rhyolites in Sonoma County. 90-375 m.	Feb-Apr (May)	**Low Potential:** Specific Plan area does not provide suitable habitat.
saline clover *Trifolium hydrophilum*	--/--/1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 1-335 m.	Apr-Jun	**Low Potential:** Specific Plan area does not provide suitable habitat.
San Joaquin spearscale *Extriplex joaquinana*	--/--/1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with *Distichlis spicata*, *Frankenia*, etc. 0-840 m.	Apr-Oct	**Low Potential:** Specific Plan area does not provide suitable habitat.
Sanford's arrowhead *Sagittaria sanfordii*	--/--/1B.2	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m.	May-Oct (Nov)	**Low Potential:** Specific Plan area does not provide suitable habitat.
Sebastopol meadowfoam *Limnanthes vinculans*	FE/CE/1B.1	Meadows and seeps, vernal pools, valley and foothill grassland. Swales, wet meadows and marshy areas in valley oak savanna; on poorly drained soils of clays and sandy loam. 15-115 m.	Apr-May	**Moderate Potential:** Limited mesic habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Sharsmith's western flax *Hesperolinon sharsmithiae*	--/--/1B.2	Chaparral. Serpentine substrates. 180-670 m.	May-Jul	**Low Potential:** Specific Plan area does not provide suitable habitat.
soft salty bird's-beak *Chloropyron molle ssp. molle*	FE/CR/1B.1	Coastal salt marsh. In coastal salt marsh with Distichlis, Salicornia, Frankenia, etc. 0-5 m.	Jun-Nov	**Low Potential:** Specific Plan area does not provide suitable habitat.
Sonoma Alopecurus *Alopecurus aequalis var. sonomensis*	FE/--/1B.1	Freshwater marshes and swamps, riparian scrub. Wet areas, marshes, and riparian banks, with other wetland species. 5-360 m.	May-Jul	**Moderate Potential:** Limited riparian habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.

Plant	*Status (Fed/CA/ CNPS)*	*Habitat Association*	*Blooming Period*	*Potential for Occurrence*
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	--/--/1B.3	Chaparral. Crevices in rock outcrops and talus slopes. 180-1405 m.	Apr-Aug	**Low Potential:** Specific Plan area does not provide suitable habitat.
Sonoma ceanothus *Ceanothus sonomensis*	--/--/1B.2	Chaparral. Sandy, serpentine or volcanic soils. 140-795 m.	Feb-Apr	**Low Potential:** Specific Plan area does not provide suitable habitat.
Sonoma spineflower *Chorizanthe valida*	FE/CE/1B.1	Coastal prairie. Sandy soil. 5-50 m.	Jun-Aug	**Low Potential:** Specific Plan area does not provide suitable habitat.
Sonoma sunshine *Blennosperma bakeri*	FE/CE/1B.1	Vernal pools, valley and foothill grassland. Vernal pools and swales. 10-290 m.	Mar-May	**Low Potential:** Specific Plan area does not provide suitable habitat.
Suisun Marsh aster *Symphyotrichum lentum*	--/--/1B.2	Marshes and swamps (brackish and freshwater). Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. 0-15 m.	(Apr) May-Nov	**Low Potential:** Specific Plan area does not provide suitable habitat.
thin-lobed horkelia *Horkelia tenuiloba*	--/--/1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Sandy soils; mesic openings. 45-640 m.	May-Jul (Aug)	**Moderate Potential:** Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
Tiburon buckwheat *Eriogonum luteolum var. caninum*	--/--/1B.2	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie. Serpentine soils; sandy to gravelly sites. 60-640 m.	May-Sep	**Moderate Potential:** Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
two-fork clover *Trifolium amoenum*	FE/--/1B.1	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face. 5-310 m.	Apr-Jun	**Low Potential:** Specific Plan area does not provide suitable habitat.

Source: CDFW CNDDB 2018.

Abbreviations:

Federal

FE *Federal Endangered*

State

CE *California Endangered Species*

CR *California Rare*

California Rare Plant Ranks (formerly CNPS Lists)

1A *CNPS - Presumed Extirpated in California and Either Rare or Extinct Elsewhere*

1B *CNPS - Rare, Threatened, or Endangered*

2B *CNPS - Plants rare, threatened, or endangered in California but more common elsewhere*

3 *Review List: Plants which more information is needed*

California Threat Ranks

0.1 *Seriously threatened in California*

0.2 *Moderately threatened in California*

0.3 *Not very threatened in California*

TABLE 2: SPECIAL-STATUS ANIMALS WITHIN 9-QUADRANGLE REGION FOR SPECIFIC PLAN AREA

ANIMAL	*STATUS (FED/CA)*	*HABITAT ASSOCIATION*	*POTENTIAL FOR OCCURRENCE*
MAMMALS			
American badger *Taxidea taxus*	--/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Low Potential**: The nearest previously documented occurrence is located approximately 3.3 miles to the northwest. Limited habitat is available in Specific Plan area. Agua Caliente Creek and Pequeno Creek provide some habitat for movement, foraging, and denning. No potential within the existing developed areas.
pallid bat *Antrozous pallidus*	--/SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**High Potential:** The nearest previously documented occurrence is located approximately 0.65 miles to the south. Potential roosting habitat in existing structures and trees. Site could provide foraging opportunities.
salt-marsh harvest mouse *Reithrodontomys raviventris*	FE/CE	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	**Not Present**: The nearest previously documented occurrence is located approximately 8.8 miles to the south. Specific Plan area does not provide suitable habitat.
Suisun shrew *Sorex ornatus sinuosus*	--/SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying cover and driftweed and other litter above the mean hightide line for nesting and foraging.	**Not Present**: The nearest previously documented occurrence is located approximately 9.2 miles to the southeast. Specific Plan area does not provide suitable habitat.
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Moderate Potential:** The nearest previously documented occurrence is located approximately 9.7 miles to the southwest. Potential roosting habitat in existing structures and trees. Site could provide foraging opportunities.
BIRDS			
bald eagle *Haliaeetus leucocephalus*	FD/CE (FP)	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Not Present**: There is only one previously documented occurrence within the 9-quad region for the Specific Plan area, which is located approximately 12.8 miles to the northeast. Specific Plan area does not provide suitable habitat.
bank swallow *Riparia riparia*	--/CT	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**High Potential**: This species is documented regionally, including in the Specific Plan area. Habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.

Animal	*Status (Fed/CA)*	*Habitat Association*	*Potential for Occurrence*
black swift *Cypseloides niger*	--/SSC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	**Low Potential:** The nearest previously documented occurrence is located approximately 3.3 miles to the northeast. Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
black-crowned night heron *Nycticorax nycticorax*	MBTA/--	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	**Not Present**: The nearest previously documented occurrence is located approximately 7.8 miles to the east. Specific Plan area does not provide suitable habitat.
burrowing owl *Athene cuniculari*	--/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Low Potential**: The nearest previously documented occurrence is located approximately 3.4 miles to the northwest. Specific Plan area lacks open grasslands used for nesting and foraging habitat.
California black rail *Laterallus jamaicensis coturniculus*	--/CT	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**Not Present**: The nearest previously documented occurrence is located approximately 8.3 miles to the southwest. Specific Plan area does not provide suitable habitat.
California horned lark *Eremophila alpestris actia*	--/WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also, main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	**Low Potential:** The nearest previously documented occurrence is located approximately 3.4 miles to the northwest. Specific Plan area lacks habitat.
California Ridgway's rail *Rallus obsoletus obsoletus*	FE/CE (FP)	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	**Not Present**: The nearest previously documented occurrence is located approximately 8.7 miles to the southwest. Specific Plan area does not provide suitable habitat.
double-crested cormorant *Phalacrocorax auritus*	--/WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	**Not Present**: The nearest previously documented occurrence is located approximately 13.2 miles to the northeast. Specific Plan area does not provide suitable habitat.
ferruginous hawk *Buteo regalis*	--/WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	**Low Potential:** The nearest previously documented occurrence is located approximately 3.2 miles to the northwest. Limited nesting habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area. Nesting is also possible in other larger trees throughout the Specific Plan area. Foraging habitat is limited, to not existent in the Specific Plan area.
golden eagle *Aquila chrysaetos*	--/FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Not Present**: The nearest previously documented occurrence is located approximately 3.0 miles to the west. Specific Plan area does not provide suitable habitat.

Animal	*Status (Fed/CA)*	*Habitat Association*	*Potential for Occurrence*
grasshopper sparrow *Ammodramus savannarum*	--/SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	**Low Potential:** The nearest previously documented occurrence is located approximately 3.3 miles to the northwest. Specific Plan area lacks habitat.
great blue heron *Ardea herodias*	--/--	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**Low Potential:** The nearest previously documented occurrence is located approximately 13.3 miles to the northeast. Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
great egret *Ardea alba*	MBTA/--	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Low Potential:** The nearest previously documented occurrence is located approximately 13.3 miles to the northeast. Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
northern harrier *Circus cyaneus*	--/SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Low Potential:** The nearest previously documented occurrence is located approximately 11.7 miles to the southeast. Limited habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
San Pablo song sparrow *Melospiza melodia samuelis*	--/SSC	Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	**Not Present**: The nearest previously documented occurrence is located approximately 3.9 miles to the southeast. Specific Plan area does not provide suitable habitat.
saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	--/SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Not Present**: The nearest previously documented occurrence is located approximately 6.2 miles to the south. Specific Plan area does not provide suitable habitat.
Swainson's hawk *Buteo swainsoni*	--/CT	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low Potential:** The nearest previously documented occurrence is located approximately 4.1 miles to the south. Limited nesting habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area. Nesting is also possible in other larger trees throughout the Specific Plan area. Foraging habitat is limited, to not existent in the Specific Plan area.
tricolored blackbird *Agelaius tricolor*	--/CC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers (km) of the colony.	**Not Present**: The nearest previously documented occurrence is located approximately 9.1 miles to the southeast. Specific Plan area does not provide suitable habitat.

Animal	*Status (Fed/CA)*	*Habitat Association*	*Potential for Occurrence*
western snowy plover *Charadrius alexandrinus nivosus*	FT/SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**Not Present**: The nearest previously documented occurrence is located approximately 8.4 miles to the southeast. Specific Plan area does not provide suitable habitat.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/CE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Low Potential:** There is only one previously documented occurrence within the 9-quad region for the Specific Plan area, which is located approximately 6.8 miles to the west. Limited nesting habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
white-tailed kite *Elanus leucurus*	--/FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Low Potential:** The nearest previously documented occurrence is located approximately 3.5 miles to the northwest. Limited nesting and foraging habitat associated with Agua Caliente Creek and Pequeno Creek is available in Specific Plan area.
yellow rail *Coturnicops noveboracensis*	--/SSC	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	**Not Present:** There is only one previously documented occurrence within the 9-quad region, which is to the southeast of the Specific Plan area. Specific Plan area does not provide suitable habitat.
Amphibians & Reptiles			
California giant salamander *Dicamptodon ensatus*	--/SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**High Potential:** There is one previously documented occurrence within the Specific Plan area. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for adult breeding form and larval development of this species within the Specific Plan area. There is very limited habitat for the terrestrial adult form of this species.
California red-legged frog *Rana draytonii*	FT/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Moderate Potential**: The nearest previously documented occurrence is located approximately 3.6 miles to the west. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat, however, there is very limited upland habitat within the Specific Plan area.
foothill yellow-legged frog *Rana boylii*	--/CC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**Moderate Potential**: The nearest previously documented occurrence is located approximately 1.8 miles to the southwest. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat, however, there is very limited upland habitat within the Specific Plan area.

Animal	*Status (Fed/CA)*	*Habitat Association*	*Potential for Occurrence*
red-bellied newt *Taricha rivularis*	--/SSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	**Moderate Potential:** The nearest previously documented occurrence is located approximately 3.9 miles to the north. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for adult breeding form and larval development of this species within the Specific Plan area. There is very limited habitat for the terrestrial adult form of this species.
western pond turtle *Emys marmorata*	--/SSC	Needs mammal burrows for refuge and oviposition sites. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Moderate Potential:** The nearest previously documented occurrence is located approximately 1.3 miles to the southeast. The Agua Caliente Creek and Pequeno Creek provide aquatic habitat for this species within the Specific Plan area. Upland habitat for egg-laying is limited, to not existent, in the Specific Plan area.
Fish			
Delta smelt *Hypomesus transpacificus*	FT/CE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities greater than 10 parts per thousand (ppt). Most often at salinities less than two ppt.	**Not Present:** The nearest previously documented occurrence is located approximately 14.1 miles to the southeast. Specific Plan area does not provide suitable habitat.
longfin smelt *Spirinchus thaleichthys*	FC/CT	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater.	**Not Present:** The nearest previously documented occurrence is located approximately 11.9 miles to the south. Specific Plan area does not provide suitable habitat.
Sacramento splittail *Pogonichthys macrolepidotus*	--/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	**Not Present:** The nearest previously documented occurrence is located approximately 15.0 miles to the southeast. Specific Plan area does not provide suitable habitat.
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	FT/--	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	**High Potential:** The nearest previously documented occurrence is located approximately 1.9 miles to the southwest in Sonoma Creek. The Agua Caliente Creek and Pequeno Creek are tributaries to Sonoma Creek and provide habitat for this species within the Specific Plan area.
Invertebrates			
California freshwater shrimp *Syncaris pacifica*	FE/CE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**Not Present:** There is one previously documented occurrence near Maxwell Farms Regional Park near the southern boundary of the Specific Plan area. Specific Plan area does not provide suitable habitat.

Animal	*Status (Fed/CA)*	*Habitat Association*	*Potential for Occurrence*
vernal pool fairy shrimp *Branchinecta lynchi*	FT/--	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Not Present:** There is only one previously documented occurrence within the 9-quad region for the Specific Plan area, which is located 12.6 miles to the southeast. Specific Plan area does not provide suitable habitat.

Source: CDFW CNDDB 2018.

Abbreviations:

Federal

FE *Federal Endangered*
FT *Federal Threatened*
FC *Federal Candidate*
FD *Federal Delisted*
MBTA *Migratory Bird Treaty Act*

State

CE *California Endangered Species*

Appendix C

Air Quality, Greenhouse Gas, and Energy Modeling

Appendix C.1

CalEEMod Modeling

Springs Specific Plan - 2040 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Springs Specific Plan - 2040 Operational Year

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	82.23	1000sqft	18.35	82,226.00	0
Hotel	120.00	Room	4.00	174,240.00	0
Recreational Swimming Pool	26.65	1000sqft	5.80	26,648.00	0
Apartments Low Rise	157.00	Dwelling Unit	15.21	157,000.00	440
Apartments Mid Rise	461.00	Dwelling Unit	68.85	461,000.00	1291
Single Family Housing	88.00	Dwelling Unit	28.57	158,400.00	246
Strip Mall	168.03	1000sqft	38.03	168,029.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Use - Proxies selected for each land use based on the Specific Plan land uses (multifamily = apartments mid rise. mixed use = apartments low rise). Population estimated based on 2.8 persons/dwelling unit. Acreages estimated.

Construction Phase - Construction Phase - Construction schedule simplified for the purposes of modeling.

Grading - Assume 178 acres is graded.

Vehicle Trips - VMT - VMT adjusted based on the VMT provided by W-Trans (November 2021) - 18,782,433 VMT per year

Springs Specific Plan - 2040 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Woodstoves - Woodstoves - BAAQMD Rule: "Effective November 1, 2016 - No wood-burning devices of any kind may be installed in new homes or buildings being
constructed in the Bay Area". This is consistent with BAAQMD's ban on woodburning fireplaces and stoves.

Area Mitigation - VOC

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	23.55	0.00
tblFireplaces	NumberGas	69.15	0.00
tblFireplaces	NumberGas	22.00	0.00
tblFireplaces	NumberNoFireplace	6.28	0.00
tblFireplaces	NumberNoFireplace	18.44	0.00
tblFireplaces	NumberNoFireplace	7.04	0.00
tblFireplaces	NumberWood	26.69	0.00
tblFireplaces	NumberWood	78.37	0.00
tblFireplaces	NumberWood	37.84	0.00
tblGrading	AcresOfGrading	930.00	178.00
tblGrading	AcresOfGrading	180.00	0.00
tblLandUse	LandUseSquareFeet	82,230.00	82,226.00
tblLandUse	LandUseSquareFeet	26,650.00	26,648.00
tblLandUse	LandUseSquareFeet	168,030.00	168,029.00
tblLandUse	LotAcreage	1.89	18.35

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	0.61	5.80
tblLandUse	LotAcreage	9.81	15.21
tblLandUse	LotAcreage	12.13	68.85
tblLandUse	LotAcreage	3.86	38.03
tblLandUse	Population	449.00	440.00
tblLandUse	Population	1,318.00	1,291.00
tblLandUse	Population	252.00	246.00
tblVehicleTrips	ST_TR	8.14	9.20
tblVehicleTrips	ST_TR	4.91	5.56
tblVehicleTrips	ST_TR	2.21	2.50
tblVehicleTrips	ST_TR	8.19	9.26
tblVehicleTrips	ST_TR	9.10	10.29
tblVehicleTrips	ST_TR	9.54	10.80
tblVehicleTrips	ST_TR	42.04	47.55
tblVehicleTrips	SU_TR	6.28	7.10
tblVehicleTrips	SU_TR	4.09	4.63
tblVehicleTrips	SU_TR	0.70	0.78
tblVehicleTrips	SU_TR	5.95	6.74
tblVehicleTrips	SU_TR	13.60	15.40
tblVehicleTrips	SU_TR	8.55	9.68
tblVehicleTrips	SU_TR	20.43	23.13
tblVehicleTrips	WD_TR	7.32	8.27
tblVehicleTrips	WD_TR	5.44	6.17
tblVehicleTrips	WD_TR	9.74	11.01
tblVehicleTrips	WD_TR	8.36	9.44
tblVehicleTrips	WD_TR	28.82	32.60
tblVehicleTrips	WD_TR	9.44	10.68
tblVehicleTrips	WD_TR	44.32	50.14
tblWoodstoves	NumberCatalytic	3.14	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	NumberCatalytic	9.22	0.00
tblWoodstoves	NumberCatalytic	3.52	0.00
tblWoodstoves	NumberNoncatalytic	3.14	0.00
tblWoodstoves	NumberNoncatalytic	9.22	0.00
tblWoodstoves	NumberNoncatalytic	3.52	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.5580	0.1728	0.7307	0.3022	0.1601	0.4623	0.0000	453.6851	453.6851	0.1284	4.6000e-004	457.0316
2023	0.4210	4.2835	3.4224	7.5300e-003	1.2585	0.1806	1.4391	0.6444	0.1661	0.8106	0.0000	662.0432	662.0432	0.2094	5.2000e-004	667.4338
2024	0.4647	3.4422	4.1638	0.0111	0.8901	0.1252	1.0152	0.3176	0.1162	0.4338	0.0000	1,008.3178	1,008.3178	0.1530	0.0427	1,024.8611
2025	0.4550	2.6931	4.3137	0.0128	0.7827	0.0773	0.8600	0.2112	0.0727	0.2839	0.0000	1,185.5192	1,185.5192	0.0939	0.0708	1,208.9617
2026	0.4381	2.6657	4.1780	0.0125	0.7827	0.0770	0.8597	0.2112	0.0724	0.2837	0.0000	1,166.6607	1,166.6607	0.0927	0.0688	1,189.4828
2027	0.4225	2.6411	4.0623	0.0123	0.7827	0.0767	0.8594	0.2112	0.0722	0.2834	0.0000	1,148.3853	1,148.3853	0.0915	0.0669	1,170.6139
2028	0.4064	2.6107	3.9503	0.0120	0.7797	0.0761	0.8558	0.2104	0.0716	0.2821	0.0000	1,127.2843	1,127.2843	0.0903	0.0649	1,148.8941
2029	0.3937	2.6001	3.8797	0.0119	0.7827	0.0762	0.8588	0.2112	0.0717	0.2829	0.0000	1,115.5386	1,115.5386	0.0898	0.0635	1,136.7156
2030	0.3729	1.9928	3.8171	0.0122	0.7827	0.0264	0.8091	0.2112	0.0260	0.2372	0.0000	1,141.7952	1,141.7952	0.0317	0.0621	1,161.0946
2031	0.3589	1.9793	3.7515	0.0120	0.7827	0.0262	0.8089	0.2112	0.0258	0.2370	0.0000	1,129.1131	1,129.1131	0.0310	0.0608	1,148.0170
2032	0.3487	1.9762	3.7114	0.0119	0.7857	0.0261	0.8118	0.2120	0.0257	0.2378	0.0000	1,122.1963	1,122.1963	0.0306	0.0600	1,140.8345
2033	0.3356	1.9519	3.6362	0.0117	0.7797	0.0257	0.8054	0.2104	0.0254	0.2358	0.0000	1,103.6617	1,103.6617	0.0298	0.0586	1,121.8629
2034	0.3265	1.9435	3.5948	0.0116	0.7796	0.0256	0.8052	0.2104	0.0252	0.2356	0.0000	1,094.6214	1,094.6214	0.0294	0.0577	1,112.5572
2035	0.3074	1.8420	3.5678	0.0116	0.7826	0.0180	0.8006	0.2112	0.0176	0.2288	0.0000	1,090.7773	1,090.7773	0.0281	0.0572	1,108.5219
2036	0.1996	1.0049	2.5478	6.1300e-003	0.2477	0.0226	0.2703	0.0668	0.0225	0.0893	0.0000	557.7729	557.7729	0.0171	0.0175	563.4062
2037	7.7357	0.1861	0.7029	1.5800e-003	0.1127	4.8800e-003	0.1176	0.0300	4.8500e-003	0.0348	0.0000	146.9804	146.9804	3.9400e-003	1.6600e-003	147.5741
Maximum	**7.7357**	**4.2835**	**4.3137**	**0.0128**	**1.2585**	**0.1806**	**1.4391**	**0.6444**	**0.1661**	**0.8106**	**0.0000**	**1,185.5192**	**1,185.5192**	**0.2094**	**0.0708**	**1,208.9617**

2.1 Overall Construction

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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.5580	0.1728	0.7307	0.3022	0.1601	0.4623	0.0000	453.6846	453.6846	0.1284	4.6000e-004	457.0311
2023	0.4210	4.2834	3.4224	7.5300e-003	1.2585	0.1806	1.4391	0.6444	0.1661	0.8106	0.0000	662.0425	662.0425	0.2094	5.2000e-004	667.4330
2024	0.4647	3.4422	4.1638	0.0111	0.8901	0.1252	1.0152	0.3176	0.1162	0.4338	0.0000	1,008.3172	1,008.3172	0.1530	0.0427	1,024.8605
2025	0.4550	2.6931	4.3137	0.0128	0.7827	0.0773	0.8600	0.2112	0.0727	0.2839	0.0000	1,185.5188	1,185.5188	0.0939	0.0708	1,208.9614
2026	0.4381	2.6657	4.1780	0.0125	0.7827	0.0770	0.8597	0.2112	0.0724	0.2837	0.0000	1,166.6604	1,166.6604	0.0927	0.0688	1,189.4824
2027	0.4225	2.6411	4.0623	0.0123	0.7827	0.0767	0.8594	0.2112	0.0722	0.2834	0.0000	1,148.3849	1,148.3849	0.0915	0.0669	1,170.6135
2028	0.4064	2.6107	3.9503	0.0120	0.7797	0.0761	0.8558	0.2104	0.0716	0.2820	0.0000	1,127.2839	1,127.2839	0.0903	0.0649	1,148.8938
2029	0.3937	2.6001	3.8797	0.0119	0.7827	0.0762	0.8588	0.2112	0.0717	0.2829	0.0000	1,115.5383	1,115.5383	0.0898	0.0635	1,136.7153
2030	0.3729	1.9928	3.8171	0.0122	0.7827	0.0264	0.8091	0.2112	0.0260	0.2372	0.0000	1,141.7948	1,141.7948	0.0317	0.0621	1,161.0942
2031	0.3589	1.9793	3.7515	0.0120	0.7827	0.0262	0.8089	0.2112	0.0258	0.2370	0.0000	1,129.1127	1,129.1127	0.0310	0.0608	1,148.0166
2032	0.3487	1.9762	3.7114	0.0119	0.7857	0.0261	0.8118	0.2120	0.0257	0.2378	0.0000	1,122.1959	1,122.1959	0.0306	0.0600	1,140.8340
2033	0.3356	1.9519	3.6362	0.0117	0.7797	0.0257	0.8054	0.2104	0.0254	0.2358	0.0000	1,103.6613	1,103.6613	0.0298	0.0586	1,121.8625
2034	0.3265	1.9435	3.5948	0.0116	0.7796	0.0256	0.8052	0.2104	0.0252	0.2356	0.0000	1,094.6210	1,094.6210	0.0294	0.0577	1,112.5568
2035	0.3074	1.8420	3.5678	0.0116	0.7826	0.0180	0.8006	0.2112	0.0176	0.2288	0.0000	1,090.7769	1,090.7769	0.0281	0.0572	1,108.5215
2036	0.1996	1.0049	2.5478	6.1300e-003	0.2477	0.0226	0.2703	0.0668	0.0225	0.0893	0.0000	557.7725	557.7725	0.0171	0.0175	563.4058
2037	7.7357	0.1861	0.7029	1.5800e-003	0.1127	4.8800e-003	0.1176	0.0300	4.8500e-003	0.0348	0.0000	146.9803	146.9803	3.9400e-003	1.6600e-003	147.5740
Maximum	**7.7357**	**4.2834**	**4.3137**	**0.0128**	**1.2585**	**0.1806**	**1.4391**	**0.6444**	**0.1661**	**0.8106**	**0.0000**	**1,185.5188**	**1,185.5188**	**0.2094**	**0.0708**	**1,208.9614**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2022**	**3-31-2022**	0.9150	0.9150
2	**4-1-2022**	**6-30-2022**	0.9248	0.9248
3	**7-1-2022**	**9-30-2022**	0.9350	0.9350
4	**10-1-2022**	**12-31-2022**	1.1756	1.1756
5	**1-1-2023**	**3-31-2023**	0.9931	0.9931
6	**4-1-2023**	**6-30-2023**	1.2335	1.2335
7	**7-1-2023**	**9-30-2023**	1.2471	1.2471
8	**10-1-2023**	**12-31-2023**	1.2475	1.2475
9	**1-1-2024**	**3-31-2024**	1.1607	1.1607
10	**4-1-2024**	**6-30-2024**	1.0487	1.0487
11	**7-1-2024**	**9-30-2024**	0.8308	0.8308
12	**10-1-2024**	**12-31-2024**	0.8553	0.8553
13	**1-1-2025**	**3-31-2025**	0.7895	0.7895
14	**4-1-2025**	**6-30-2025**	0.7752	0.7752
15	**7-1-2025**	**9-30-2025**	0.7837	0.7837
16	**10-1-2025**	**12-31-2025**	0.8070	0.8070
17	**1-1-2026**	**3-31-2026**	0.7778	0.7778
18	**4-1-2026**	**6-30-2026**	0.7644	0.7644
19	**7-1-2026**	**9-30-2026**	0.7728	0.7728
20	**10-1-2026**	**12-31-2026**	0.7951	0.7951
21	**1-1-2027**	**3-31-2027**	0.7673	0.7673
22	**4-1-2027**	**6-30-2027**	0.7546	0.7546
23	**7-1-2027**	**9-30-2027**	0.7629	0.7629

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

24	**10-1-2027**	**12-31-2027**	0.7843	0.7843
25	**1-1-2028**	**3-31-2028**	0.7665	0.7665
26	**4-1-2028**	**6-30-2028**	0.7462	0.7462
27	**7-1-2028**	**9-30-2028**	0.7544	0.7544
28	**10-1-2028**	**12-31-2028**	0.7749	0.7749
29	**1-1-2029**	**3-31-2029**	0.7489	0.7489
30	**4-1-2029**	**6-30-2029**	0.7376	0.7376
31	**7-1-2029**	**9-30-2029**	0.7457	0.7457
32	**10-1-2029**	**12-31-2029**	0.7656	0.7656
33	**1-1-2030**	**3-31-2030**	0.5937	0.5937
34	**4-1-2030**	**6-30-2030**	0.5813	0.5813
35	**7-1-2030**	**9-30-2030**	0.5877	0.5877
36	**10-1-2030**	**12-31-2030**	0.6069	0.6069
37	**1-1-2031**	**3-31-2031**	0.5864	0.5864
38	**4-1-2031**	**6-30-2031**	0.5746	0.5746
39	**7-1-2031**	**9-30-2031**	0.5809	0.5809
40	**10-1-2031**	**12-31-2031**	0.5995	0.5995
41	**1-1-2032**	**3-31-2032**	0.5870	0.5870
42	**4-1-2032**	**6-30-2032**	0.5691	0.5691
43	**7-1-2032**	**9-30-2032**	0.5754	0.5754
44	**10-1-2032**	**12-31-2032**	0.5935	0.5935
45	**1-1-2033**	**3-31-2033**	0.5753	0.5753
46	**4-1-2033**	**6-30-2033**	0.5642	0.5642
47	**7-1-2033**	**9-30-2033**	0.5705	0.5705
48	**10-1-2033**	**12-31-2033**	0.5881	0.5881
49	**1-1-2034**	**3-31-2034**	0.5707	0.5707
50	**4-1-2034**	**6-30-2034**	0.5599	0.5599
51	**7-1-2034**	**9-30-2034**	0.5660	0.5660
52	**10-1-2034**	**12-31-2034**	0.5834	0.5834

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

53	**1-1-2035**	**3-31-2035**	0.5386	0.5386
54	**4-1-2035**	**6-30-2035**	0.5277	0.5277
55	**7-1-2035**	**9-30-2035**	0.5335	0.5335
56	**10-1-2035**	**12-31-2035**	0.5506	0.5506
57	**1-1-2036**	**3-31-2036**	0.5446	0.5446
58	**4-1-2036**	**6-30-2036**	0.2622	0.2622
59	**7-1-2036**	**9-30-2036**	0.1989	0.1989
60	**10-1-2036**	**12-31-2036**	0.1990	0.1990
61	**1-1-2037**	**3-31-2037**	1.0997	1.0997
62	**4-1-2037**	**6-30-2037**	2.3073	2.3073
63	**7-1-2037**	**9-30-2037**	2.3326	2.3326
		Highest	2.3326	2.3326

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Energy	0.0924	0.8170	0.5382	5.0400e-003		0.0638	0.0638		0.0638	0.0638	0.0000	1,613.4089	1,613.4089	0.1306	0.0305	1,625.7552
Mobile	3.8454	4.3660	37.4313	0.0744	10.3596	0.0421	10.4017	2.7724	0.0393	2.8117	0.0000	7,503.4427	7,503.4427	0.4354	0.3728	7,625.4091
Waste						0.0000	0.0000		0.0000	0.0000	174.1886	0.0000	174.1886	10.2943	0.0000	431.5448
Water						0.0000	0.0000		0.0000	0.0000	24.6444	54.0748	78.7192	2.5400	0.0608	160.3450
Total	**9.5522**	**5.2433**	**43.1922**	**0.0797**	**10.3596**	**0.1350**	**10.4946**	**2.7724**	**0.1323**	**2.9047**	**198.8330**	**9,179.4964**	**9,378.3293**	**13.4084**	**0.4641**	**9,851.8283**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Energy	0.0810	0.7160	0.4691	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	1,450.7914	1,450.7914	0.1204	0.0274	1,461.9741
Mobile	3.2070	3.3423	28.6782	0.0504	6.8891	0.0298	6.9189	1.8436	0.0278	1.8714	0.0000	5,082.4596	5,082.4596	0.3411	0.2840	5,175.6032
Waste						0.0000	0.0000		0.0000	0.0000	174.1886	0.0000	174.1886	10.2943	0.0000	431.5448
Water						0.0000	0.0000		0.0000	0.0000	19.7155	45.3704	65.0860	2.0323	0.0487	130.4075
Total	**8.9024**	**4.1186**	**34.3701**	**0.0551**	**6.8891**	**0.1148**	**7.0039**	**1.8436**	**0.1128**	**1.9565**	**193.9041**	**6,587.1915**	**6,781.0956**	**12.7962**	**0.3601**	**7,208.3039**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.80**	**21.45**	**20.43**	**30.90**	**33.50**	**14.96**	**33.26**	**33.50**	**14.68**	**32.64**	**2.48**	**28.24**	**27.69**	**4.57**	**22.41**	**26.83**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	10/7/2022	5	200	
2	Site Preparation	Site Preparation	10/8/2022	3/24/2023	5	120	
3	Grading	Grading	3/25/2023	5/31/2024	5	310	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	6/1/2024	4/18/2036	5	3100	
5	Paving	Paving	4/19/2036	2/20/2037	5	220	
6	Architectural Coating	Architectural Coating	2/21/2037	12/25/2037	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 178

Acres of Paving: 0

Residential Indoor: 1,572,210; Residential Outdoor: 524,070; Non-Residential Indoor: 636,743; Non-Residential Outdoor: 212,248; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	641.00	149.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	128.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9023	339.9023	0.0955	0.0000	342.2892
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9023**	**339.9023**	**0.0955**	**0.0000**	**342.2892**

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3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9019	339.9019	0.0955	0.0000	342.2887
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9019**	**339.9019**	**0.0955**	**0.0000**	**342.2887**

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3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3182	100.3182	0.0324	0.0000	101.1293
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.5420**	**0.0484**	**0.5904**	**0.2979**	**0.0445**	**0.3424**	**0.0000**	**100.3182**	**100.3182**	**0.0324**	**0.0000**	**101.1293**

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3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3181	100.3181	0.0324	0.0000	101.1292
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.5420**	**0.0484**	**0.5904**	**0.2979**	**0.0445**	**0.3424**	**0.0000**	**100.3181**	**100.3181**	**0.0324**	**0.0000**	**101.1292**

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3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3521	100.3521	0.0325	0.0000	101.1635
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.5420**	**0.0380**	**0.5800**	**0.2979**	**0.0349**	**0.3329**	**0.0000**	**100.3521**	**100.3521**	**0.0325**	**0.0000**	**101.1635**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3520	100.3520	0.0325	0.0000	101.1634
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.5420**	**0.0380**	**0.5800**	**0.2979**	**0.0349**	**0.3329**	**0.0000**	**100.3520**	**100.3520**	**0.0325**	**0.0000**	**101.1634**

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3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6966	0.0000	0.6966	0.3412	0.0000	0.3412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3521	545.3521	0.1764	0.0000	549.7615
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**0.6966**	**0.1425**	**0.8390**	**0.3412**	**0.1311**	**0.4723**	**0.0000**	**545.3521**	**545.3521**	**0.1764**	**0.0000**	**549.7615**

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3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6966	0.0000	0.6966	0.3412	0.0000	0.3412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3514	545.3514	0.1764	0.0000	549.7609
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**0.6966**	**0.1425**	**0.8390**	**0.3412**	**0.1311**	**0.4723**	**0.0000**	**545.3514**	**545.3514**	**0.1764**	**0.0000**	**549.7609**

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3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4256	0.0000	0.4256	0.1923	0.0000	0.1923	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8574	299.8574	0.0970	0.0000	302.2819
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.4256**	**0.0735**	**0.4991**	**0.1923**	**0.0676**	**0.2598**	**0.0000**	**299.8574**	**299.8574**	**0.0970**	**0.0000**	**302.2819**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4256	0.0000	0.4256	0.1923	0.0000	0.1923	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8570	299.8570	0.0970	0.0000	302.2815
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.4256**	**0.0735**	**0.4991**	**0.1923**	**0.0676**	**0.2598**	**0.0000**	**299.8570**	**299.8570**	**0.0970**	**0.0000**	**302.2815**

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3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2053	176.2053	0.0417	0.0000	177.2470
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2053**	**176.2053**	**0.0417**	**0.0000**	**177.2470**

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3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0118	0.5326	0.1462	2.2600e-003	0.0735	2.8500e-003	0.0764	0.0213	2.7300e-003	0.0240	0.0000	219.7041	219.7041	4.1400e-003	0.0332	229.7121
Worker	0.1604	0.1048	1.2362	3.2700e-003	0.3823	2.2000e-003	0.3845	0.1018	2.0300e-003	0.1038	0.0000	305.6495	305.6495	9.9900e-003	9.2300e-003	308.6509
Total	**0.1722**	**0.6374**	**1.3824**	**5.5300e-003**	**0.4558**	**5.0500e-003**	**0.4609**	**0.1230**	**4.7600e-003**	**0.1278**	**0.0000**	**525.3536**	**525.3536**	**0.0141**	**0.0425**	**538.3629**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2051	176.2051	0.0417	0.0000	177.2468
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2051**	**176.2051**	**0.0417**	**0.0000**	**177.2468**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0118	0.5326	0.1462	2.2600e-003	0.0735	2.8500e-003	0.0764	0.0213	2.7300e-003	0.0240	0.0000	219.7041	219.7041	4.1400e-003	0.0332	229.7121
Worker	0.1604	0.1048	1.2362	3.2700e-003	0.3823	2.2000e-003	0.3845	0.1018	2.0300e-003	0.1038	0.0000	305.6495	305.6495	9.9900e-003	9.2300e-003	308.6509
Total	**0.1722**	**0.6374**	**1.3824**	**5.5300e-003**	**0.4558**	**5.0500e-003**	**0.4609**	**0.1230**	**4.7600e-003**	**0.1278**	**0.0000**	**525.3536**	**525.3536**	**0.0141**	**0.0425**	**538.3629**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0195	0.9050	0.2449	3.8100e-003	0.1262	4.8400e-003	0.1311	0.0365	4.6300e-003	0.0411	0.0000	370.5717	370.5717	7.2600e-003	0.0561	387.4554
Worker	0.2571	0.1608	1.9698	5.4200e-003	0.6565	3.5900e-003	0.6601	0.1747	3.3100e-003	0.1781	0.0000	512.2927	512.2927	0.0155	0.0147	517.0729
Total	**0.2766**	**1.0658**	**2.2147**	**9.2300e-003**	**0.7827**	**8.4300e-003**	**0.7911**	**0.2112**	**7.9400e-003**	**0.2192**	**0.0000**	**882.8643**	**882.8643**	**0.0228**	**0.0708**	**904.5282**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0195	0.9050	0.2449	3.8100e-003	0.1262	4.8400e-003	0.1311	0.0365	4.6300e-003	0.0411	0.0000	370.5717	370.5717	7.2600e-003	0.0561	387.4554
Worker	0.2571	0.1608	1.9698	5.4200e-003	0.6565	3.5900e-003	0.6601	0.1747	3.3100e-003	0.1781	0.0000	512.2927	512.2927	0.0155	0.0147	517.0729
Total	**0.2766**	**1.0658**	**2.2147**	**9.2300e-003**	**0.7827**	**8.4300e-003**	**0.7911**	**0.2112**	**7.9400e-003**	**0.2192**	**0.0000**	**882.8643**	**882.8643**	**0.0228**	**0.0708**	**904.5282**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0188	0.8935	0.2398	3.7400e-003	0.1262	4.7500e-003	0.1310	0.0365	4.5500e-003	0.0410	0.0000	363.8214	363.8214	7.4300e-003	0.0550	380.3994
Worker	0.2408	0.1449	1.8392	5.2500e-003	0.6565	3.4000e-003	0.6599	0.1747	3.1300e-003	0.1779	0.0000	500.1845	500.1845	0.0141	0.0138	504.6498
Total	**0.2596**	**1.0384**	**2.0790**	**8.9900e-003**	**0.7827**	**8.1500e-003**	**0.7909**	**0.2112**	**7.6800e-003**	**0.2189**	**0.0000**	**864.0058**	**864.0058**	**0.0215**	**0.0688**	**885.0492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0188	0.8935	0.2398	3.7400e-003	0.1262	4.7500e-003	0.1310	0.0365	4.5500e-003	0.0410	0.0000	363.8214	363.8214	7.4300e-003	0.0550	380.3994
Worker	0.2408	0.1449	1.8392	5.2500e-003	0.6565	3.4000e-003	0.6599	0.1747	3.1300e-003	0.1779	0.0000	500.1845	500.1845	0.0141	0.0138	504.6498
Total	**0.2596**	**1.0384**	**2.0790**	**8.9900e-003**	**0.7827**	**8.1500e-003**	**0.7909**	**0.2112**	**7.6800e-003**	**0.2189**	**0.0000**	**864.0058**	**864.0058**	**0.0215**	**0.0688**	**885.0492**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0182	0.8825	0.2356	3.6600e-003	0.1262	4.6800e-003	0.1309	0.0365	4.4700e-003	0.0410	0.0000	356.6205	356.6205	7.5600e-003	0.0539	372.8739
Worker	0.2259	0.1313	1.7277	5.0900e-003	0.6565	3.1800e-003	0.6597	0.1747	2.9300e-003	0.1777	0.0000	489.1099	489.1099	0.0128	0.0130	493.3065
Total	**0.2441**	**1.0138**	**1.9633**	**8.7500e-003**	**0.7827**	**7.8600e-003**	**0.7905**	**0.2112**	**7.4000e-003**	**0.2186**	**0.0000**	**845.7304**	**845.7304**	**0.0204**	**0.0669**	**866.1804**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0182	0.8825	0.2356	3.6600e-003	0.1262	4.6800e-003	0.1309	0.0365	4.4700e-003	0.0410	0.0000	356.6205	356.6205	7.5600e-003	0.0539	372.8739
Worker	0.2259	0.1313	1.7277	5.0900e-003	0.6565	3.1800e-003	0.6597	0.1747	2.9300e-003	0.1777	0.0000	489.1099	489.1099	0.0128	0.0130	493.3065
Total	**0.2441**	**1.0138**	**1.9633**	**8.7500e-003**	**0.7827**	**7.8600e-003**	**0.7905**	**0.2112**	**7.4000e-003**	**0.2186**	**0.0000**	**845.7304**	**845.7304**	**0.0204**	**0.0669**	**866.1804**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0176	0.8704	0.2314	3.5700e-003	0.1257	4.5900e-003	0.1303	0.0363	4.3900e-003	0.0407	0.0000	348.5076	348.5076	7.6700e-003	0.0527	364.3930
Worker	0.2110	0.1192	1.6279	4.9300e-003	0.6540	2.9600e-003	0.6569	0.1741	2.7300e-003	0.1768	0.0000	477.2814	477.2814	0.0117	0.0123	481.2340
Total	**0.2286**	**0.9897**	**1.8593**	**8.5000e-003**	**0.7797**	**7.5500e-003**	**0.7872**	**0.2104**	**7.1200e-003**	**0.2175**	**0.0000**	**825.7890**	**825.7890**	**0.0194**	**0.0649**	**845.6270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

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3.5 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0176	0.8704	0.2314	3.5700e-003	0.1257	4.5900e-003	0.1303	0.0363	4.3900e-003	0.0407	0.0000	348.5076	348.5076	7.6700e-003	0.0527	364.3930
Worker	0.2110	0.1192	1.6279	4.9300e-003	0.6540	2.9600e-003	0.6569	0.1741	2.7300e-003	0.1768	0.0000	477.2814	477.2814	0.0117	0.0123	481.2340
Total	**0.2286**	**0.9897**	**1.8593**	**8.5000e-003**	**0.7797**	**7.5500e-003**	**0.7872**	**0.2104**	**7.1200e-003**	**0.2175**	**0.0000**	**825.7890**	**825.7890**	**0.0194**	**0.0649**	**845.6270**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.8632	0.2293	3.5100e-003	0.1262	4.5300e-003	0.1307	0.0365	4.3400e-003	0.0408	0.0000	342.8427	342.8427	7.8300e-003	0.0518	358.4720
Worker	0.1981	0.1096	1.5513	4.8200e-003	0.6565	2.7800e-003	0.6593	0.1747	2.5600e-003	0.1773	0.0000	470.0410	470.0410	0.0108	0.0117	473.8102
Total	**0.2153**	**0.9728**	**1.7807**	**8.3300e-003**	**0.7827**	**7.3100e-003**	**0.7900**	**0.2112**	**6.9000e-003**	**0.2181**	**0.0000**	**812.8837**	**812.8837**	**0.0186**	**0.0635**	**832.2821**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.8632	0.2293	3.5100e-003	0.1262	4.5300e-003	0.1307	0.0365	4.3400e-003	0.0408	0.0000	342.8427	342.8427	7.8300e-003	0.0518	358.4720
Worker	0.1981	0.1096	1.5513	4.8200e-003	0.6565	2.7800e-003	0.6593	0.1747	2.5600e-003	0.1773	0.0000	470.0410	470.0410	0.0108	0.0117	473.8102
Total	**0.2153**	**0.9728**	**1.7807**	**8.3300e-003**	**0.7827**	**7.3100e-003**	**0.7900**	**0.2112**	**6.9000e-003**	**0.2181**	**0.0000**	**812.8837**	**812.8837**	**0.0186**	**0.0635**	**832.2821**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.8564	0.2274	3.4500e-003	0.1262	4.4800e-003	0.1307	0.0365	4.2900e-003	0.0408	0.0000	336.8073	336.8073	7.9500e-003	0.0509	352.1635
Worker	0.1852	0.1009	1.4812	4.7100e-003	0.6565	2.5900e-003	0.6591	0.1747	2.3900e-003	0.1771	0.0000	461.9543	461.9543	9.9500e-003	0.0112	465.5534
Total	**0.2020**	**0.9573**	**1.7086**	**8.1600e-003**	**0.7827**	**7.0700e-003**	**0.7897**	**0.2112**	**6.6800e-003**	**0.2179**	**0.0000**	**798.7616**	**798.7616**	**0.0179**	**0.0621**	**817.7169**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.8564	0.2274	3.4500e-003	0.1262	4.4800e-003	0.1307	0.0365	4.2900e-003	0.0408	0.0000	336.8073	336.8073	7.9500e-003	0.0509	352.1635
Worker	0.1852	0.1009	1.4812	4.7100e-003	0.6565	2.5900e-003	0.6591	0.1747	2.3900e-003	0.1771	0.0000	461.9543	461.9543	9.9500e-003	0.0112	465.5534
Total	**0.2020**	**0.9573**	**1.7086**	**8.1600e-003**	**0.7827**	**7.0700e-003**	**0.7897**	**0.2112**	**6.6800e-003**	**0.2179**	**0.0000**	**798.7616**	**798.7616**	**0.0179**	**0.0621**	**817.7169**

3.5 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0165	0.8510	0.2261	3.3900e-003	0.1262	4.4400e-003	0.1306	0.0365	4.2500e-003	0.0407	0.0000	331.4423	331.4423	8.0800e-003	0.0500	346.5566
Worker	0.1716	0.0928	1.4170	4.6100e-003	0.6565	2.4200e-003	0.6589	0.1747	2.2300e-003	0.1770	0.0000	454.6372	454.6372	9.1700e-003	0.0108	458.0827
Total	**0.1881**	**0.9438**	**1.6430**	**8.0000e-003**	**0.7827**	**6.8600e-003**	**0.7895**	**0.2112**	**6.4800e-003**	**0.2177**	**0.0000**	**786.0795**	**786.0795**	**0.0173**	**0.0608**	**804.6393**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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3.5 Building Construction - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0165	0.8510	0.2261	3.3900e-003	0.1262	4.4400e-003	0.1306	0.0365	4.2500e-003	0.0407	0.0000	331.4423	331.4423	8.0800e-003	0.0500	346.5566
Worker	0.1716	0.0928	1.4170	4.6100e-003	0.6565	2.4200e-003	0.6589	0.1747	2.2300e-003	0.1770	0.0000	454.6372	454.6372	9.1700e-003	0.0108	458.0827
Total	**0.1881**	**0.9438**	**1.6430**	**8.0000e-003**	**0.7827**	**6.8600e-003**	**0.7895**	**0.2112**	**6.4800e-003**	**0.2177**	**0.0000**	**786.0795**	**786.0795**	**0.0173**	**0.0608**	**804.6393**

3.5 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

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3.5 Building Construction - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0163	0.8501	0.2262	3.3600e-003	0.1267	4.4300e-003	0.1311	0.0366	4.2300e-003	0.0408	0.0000	327.9605	327.9605	8.2100e-003	0.0495	342.9192
Worker	0.1609	0.0867	1.3687	4.5300e-003	0.6590	2.2700e-003	0.6613	0.1754	2.0900e-003	0.1775	0.0000	449.8879	449.8879	8.5300e-003	0.0105	453.2219
Total	**0.1772**	**0.9368**	**1.5949**	**7.8900e-003**	**0.7857**	**6.7000e-003**	**0.7924**	**0.2120**	**6.3200e-003**	**0.2183**	**0.0000**	**777.8484**	**777.8484**	**0.0167**	**0.0600**	**796.1411**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0163	0.8501	0.2262	3.3600e-003	0.1267	4.4300e-003	0.1311	0.0366	4.2300e-003	0.0408	0.0000	327.9605	327.9605	8.2100e-003	0.0495	342.9192
Worker	0.1609	0.0867	1.3687	4.5300e-003	0.6590	2.2700e-003	0.6613	0.1754	2.0900e-003	0.1775	0.0000	449.8879	449.8879	8.5300e-003	0.0105	453.2219
Total	**0.1772**	**0.9368**	**1.5949**	**7.8900e-003**	**0.7857**	**6.7000e-003**	**0.7924**	**0.2120**	**6.3200e-003**	**0.2183**	**0.0000**	**777.8484**	**777.8484**	**0.0167**	**0.0600**	**796.1411**

3.5 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0160	0.8397	0.2240	3.2900e-003	0.1257	4.3600e-003	0.1300	0.0363	4.1700e-003	0.0405	0.0000	321.2113	321.2113	8.2500e-003	0.0485	335.8657
Worker	0.1494	0.0807	1.3118	4.4100e-003	0.6540	2.1100e-003	0.6561	0.1741	1.9400e-003	0.1760	0.0000	440.7311	440.7311	7.8700e-003	0.0101	443.9351
Total	**0.1654**	**0.9204**	**1.5358**	**7.7000e-003**	**0.7796**	**6.4700e-003**	**0.7861**	**0.2104**	**6.1100e-003**	**0.2165**	**0.0000**	**761.9424**	**761.9424**	**0.0161**	**0.0586**	**779.8008**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0160	0.8397	0.2240	3.2900e-003	0.1257	4.3600e-003	0.1300	0.0363	4.1700e-003	0.0405	0.0000	321.2113	321.2113	8.2500e-003	0.0485	335.8657
Worker	0.1494	0.0807	1.3118	4.4100e-003	0.6540	2.1100e-003	0.6561	0.1741	1.9400e-003	0.1760	0.0000	440.7311	440.7311	7.8700e-003	0.0101	443.9351
Total	**0.1654**	**0.9204**	**1.5358**	**7.7000e-003**	**0.7796**	**6.4700e-003**	**0.7861**	**0.2104**	**6.1100e-003**	**0.2165**	**0.0000**	**761.9424**	**761.9424**	**0.0161**	**0.0586**	**779.8008**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.8357	0.2238	3.2400e-003	0.1257	4.3300e-003	0.1300	0.0363	4.1400e-003	0.0405	0.0000	317.2286	317.2286	8.3400e-003	0.0479	331.7048
Worker	0.1404	0.0764	1.2707	4.3400e-003	0.6540	1.9800e-003	0.6560	0.1741	1.8200e-003	0.1759	0.0000	435.6734	435.6734	7.3400e-003	9.8400e-003	438.7904
Total	**0.1563**	**0.9120**	**1.4944**	**7.5800e-003**	**0.7796**	**6.3100e-003**	**0.7860**	**0.2104**	**5.9600e-003**	**0.2164**	**0.0000**	**752.9020**	**752.9020**	**0.0157**	**0.0577**	**770.4952**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.8357	0.2238	3.2400e-003	0.1257	4.3300e-003	0.1300	0.0363	4.1400e-003	0.0405	0.0000	317.2286	317.2286	8.3400e-003	0.0479	331.7048
Worker	0.1404	0.0764	1.2707	4.3400e-003	0.6540	1.9800e-003	0.6560	0.1741	1.8200e-003	0.1759	0.0000	435.6734	435.6734	7.3400e-003	9.8400e-003	438.7904
Total	**0.1563**	**0.9120**	**1.4944**	**7.5800e-003**	**0.7796**	**6.3100e-003**	**0.7860**	**0.2104**	**5.9600e-003**	**0.2164**	**0.0000**	**752.9020**	**752.9020**	**0.0157**	**0.0577**	**770.4952**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0336**	**343.0336**	**0.0128**	**0.0000**	**343.3530**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0158	0.8343	0.2244	3.2200e-003	0.1262	4.3100e-003	0.1305	0.0365	4.1200e-003	0.0406	0.0000	314.7916	314.7916	8.4300e-003	0.0475	329.1589
Worker	0.1328	0.0732	1.2400	4.3000e-003	0.6565	1.8600e-003	0.6584	0.1747	1.7100e-003	0.1765	0.0000	432.9521	432.9521	6.9100e-003	9.6800e-003	436.0100
Total	**0.1486**	**0.9075**	**1.4645**	**7.5200e-003**	**0.7826**	**6.1700e-003**	**0.7888**	**0.2112**	**5.8300e-003**	**0.2170**	**0.0000**	**747.7437**	**747.7437**	**0.0153**	**0.0572**	**765.1689**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0332**	**343.0332**	**0.0128**	**0.0000**	**343.3526**

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3.5 Building Construction - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0158	0.8343	0.2244	3.2200e-003	0.1262	4.3100e-003	0.1305	0.0365	4.1200e-003	0.0406	0.0000	314.7916	314.7916	8.4300e-003	0.0475	329.1589
Worker	0.1328	0.0732	1.2400	4.3000e-003	0.6565	1.8600e-003	0.6584	0.1747	1.7100e-003	0.1765	0.0000	432.9521	432.9521	6.9100e-003	9.6800e-003	436.0100
Total	**0.1486**	**0.9075**	**1.4645**	**7.5200e-003**	**0.7826**	**6.1700e-003**	**0.7888**	**0.2112**	**5.8300e-003**	**0.2170**	**0.0000**	**747.7437**	**747.7437**	**0.0153**	**0.0572**	**765.1689**

3.5 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8301	103.8301	3.8700e-003	0.0000	103.9268
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8301**	**103.8301**	**3.8700e-003**	**0.0000**	**103.9268**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7700e-003	0.2525	0.0679	9.7000e-004	0.0382	1.3000e-003	0.0395	0.0110	1.2500e-003	0.0123	0.0000	95.2818	95.2818	2.5500e-003	0.0144	99.6305
Worker	0.0402	0.0222	0.3753	1.3000e-003	0.1987	5.6000e-004	0.1993	0.0529	5.2000e-004	0.0534	0.0000	131.0468	131.0468	2.0900e-003	2.9300e-003	131.9724
Total	**0.0450**	**0.2747**	**0.4433**	**2.2700e-003**	**0.2369**	**1.8600e-003**	**0.2388**	**0.0639**	**1.7700e-003**	**0.0657**	**0.0000**	**226.3286**	**226.3286**	**4.6400e-003**	**0.0173**	**231.6029**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8300	103.8300	3.8700e-003	0.0000	103.9267
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8300**	**103.8300**	**3.8700e-003**	**0.0000**	**103.9267**

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3.5 Building Construction - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7700e-003	0.2525	0.0679	9.7000e-004	0.0382	1.3000e-003	0.0395	0.0110	1.2500e-003	0.0123	0.0000	95.2818	95.2818	2.5500e-003	0.0144	99.6305
Worker	0.0402	0.0222	0.3753	1.3000e-003	0.1987	5.6000e-004	0.1993	0.0529	5.2000e-004	0.0534	0.0000	131.0468	131.0468	2.0900e-003	2.9300e-003	131.9724
Total	**0.0450**	**0.2747**	**0.4433**	**2.2700e-003**	**0.2369**	**1.8600e-003**	**0.2388**	**0.0639**	**1.7700e-003**	**0.0657**	**0.0000**	**226.3286**	**226.3286**	**4.6400e-003**	**0.0173**	**231.6029**

3.6 Paving - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5106	220.5106	8.4900e-003	0.0000	220.7227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5106**	**220.5106**	**8.4900e-003**	**0.0000**	**220.7227**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5103	220.5103	8.4900e-003	0.0000	220.7225
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5103**	**220.5103**	**8.4900e-003**	**0.0000**	**220.7225**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

3.6 Paving - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6270
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6270**

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3.6 Paving - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6269
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6269**

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3.6 Paving - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

3.7 Architectural Coating - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	7.6789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**7.6918**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0224	0.0123	0.2087	7.2000e-004	0.1105	3.1000e-004	0.1108	0.0294	2.9000e-004	0.0297	0.0000	72.8742	72.8742	1.1600e-003	1.6300e-003	73.3889
Total	**0.0224**	**0.0123**	**0.2087**	**7.2000e-004**	**0.1105**	**3.1000e-004**	**0.1108**	**0.0294**	**2.9000e-004**	**0.0297**	**0.0000**	**72.8742**	**72.8742**	**1.1600e-003**	**1.6300e-003**	**73.3889**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	7.6789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**7.6918**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

3.7 Architectural Coating - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0224	0.0123	0.2087	7.2000e-004	0.1105	3.1000e-004	0.1108	0.0294	2.9000e-004	0.0297	0.0000	72.8742	72.8742	1.1600e-003	1.6300e-003	73.3889
Total	**0.0224**	**0.0123**	**0.2087**	**7.2000e-004**	**0.1105**	**3.1000e-004**	**0.1108**	**0.0294**	**2.9000e-004**	**0.0297**	**0.0000**	**72.8742**	**72.8742**	**1.1600e-003**	**1.6300e-003**	**73.3889**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.2070	3.3423	28.6782	0.0504	6.8891	0.0298	6.9189	1.8436	0.0278	1.8714	0.0000	5,082.4596	5,082.4596	0.3411	0.2840	5,175.6032
Unmitigated	3.8454	4.3660	37.4313	0.0744	10.3596	0.0421	10.4017	2.7724	0.0393	2.8117	0.0000	7,503.4427	7,503.4427	0.4354	0.3728	7,625.4091

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,298.51	1,444.89	1114.36	2,986,595	1,986,086
Apartments Mid Rise	2,842.30	2,565.00	2135.19	6,239,788	4,149,459
General Office Building	905.16	205.27	64.30	1,637,109	1,088,677
Hotel	1,133.25	1,111.59	808.43	2,059,056	1,369,272
Recreational Swimming Pool	868.84	274.12	410.38	1,298,325	863,386
Single Family Housing	939.56	950.15	852.22	2,144,695	1,426,222
Strip Mall	8,424.36	7,989.75	3886.22	11,879,763	7,900,043
Total	16,411.98	14,540.77	9,271.10	28,245,331	18,783,145

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Apartments Mid Rise	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
General Office Building	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Hotel	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Recreational Swimming Pool	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Single Family Housing	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Strip Mall	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	649.1700	649.1700	0.1050	0.0127	655.5892
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	699.1414	699.1414	0.1131	0.0137	706.0547
NaturalGas Mitigated	0.0810	0.7160	0.4691	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	801.6213	801.6213	0.0154	0.0147	806.3850
NaturalGas Unmitigated	0.0924	0.8170	0.5382	5.0400e-003		0.0638	0.0638		0.0638	0.0638	0.0000	914.2674	914.2674	0.0175	0.0168	919.7005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.54924e+006	8.3500e-003	0.0714	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6735	82.6735	1.5800e-003	1.5200e-003	83.1648
Apartments Mid Rise	3.86395e+006	0.0208	0.1780	0.0758	1.1400e-003		0.0144	0.0144		0.0144	0.0144	0.0000	206.1953	206.1953	3.9500e-003	3.7800e-003	207.4206
General Office Building	1.33206e+006	7.1800e-003	0.0653	0.0549	3.9000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	71.0839	71.0839	1.3600e-003	1.3000e-003	71.5063
Hotel	7.65088e+006	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285	0.0000	408.2800	408.2800	7.8300e-003	7.4900e-003	410.7062
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.3434e+006	0.0126	0.1080	0.0460	6.9000e-004		8.7300e-003	8.7300e-003		8.7300e-003	8.7300e-003	0.0000	125.0527	125.0527	2.4000e-003	2.2900e-003	125.7959
Strip Mall	393188	2.1200e-003	0.0193	0.0162	1.2000e-004		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	20.9820	20.9820	4.0000e-004	3.8000e-004	21.1067
Total		**0.0924**	**0.8170**	**0.5382**	**5.0500e-003**		**0.0638**	**0.0638**		**0.0638**	**0.0638**	**0.0000**	**914.2674**	**914.2674**	**0.0175**	**0.0168**	**919.7005**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.39116e+006	7.5000e-003	0.0641	0.0273	4.1000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	74.2374	74.2374	1.4200e-003	1.3600e-003	74.6786
Apartments Mid Rise	3.50253e+006	0.0189	0.1614	0.0687	1.0300e-003		0.0131	0.0131		0.0131	0.0131	0.0000	186.9083	186.9083	3.5800e-003	3.4300e-003	188.0190
General Office Building	1.13299e+006	6.1100e-003	0.0555	0.0467	3.3000e-004		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	60.4608	60.4608	1.1600e-003	1.1100e-003	60.8201
Hotel	6.62739e+006	0.0357	0.3249	0.2729	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	353.6629	353.6629	6.7800e-003	6.4800e-003	355.7646
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.03354e+006	0.0110	0.0937	0.0399	6.0000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003	0.0000	108.5172	108.5172	2.0800e-003	1.9900e-003	109.1621
Strip Mall	334210	1.8000e-003	0.0164	0.0138	1.0000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003	0.0000	17.8347	17.8347	3.4000e-004	3.3000e-004	17.9407
Total		**0.0810**	**0.7160**	**0.4691**	**4.4200e-003**		**0.0560**	**0.0560**		**0.0560**	**0.0560**	**0.0000**	**801.6213**	**801.6213**	**0.0154**	**0.0147**	**806.3850**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	637579	58.9912	9.5400e-003	1.1600e-003	59.5745
Apartments Mid Rise	1.78242e+006	164.9166	0.0267	3.2300e-003	166.5473
General Office Building	1.41182e+006	130.6270	0.0211	2.5600e-003	131.9186
Hotel	1.28938e+006	119.2979	0.0193	2.3400e-003	120.4776
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	689323	63.7788	0.0103	1.2500e-003	64.4095
Strip Mall	1.74582e+006	161.5300	0.0261	3.1700e-003	163.1272
Total		**699.1414**	**0.1131**	**0.0137**	**706.0547**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	615388	56.9380	9.2100e-003	1.1200e-003	57.5010
Apartments Mid Rise	1.72283e+006	159.4031	0.0258	3.1300e-003	160.9793
General Office Building	1.29355e+006	119.6846	0.0194	2.3500e-003	120.8680
Hotel	1.17603e+006	108.8110	0.0176	2.1300e-003	109.8870
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	665768	61.5994	9.9700e-003	1.2100e-003	62.2085
Strip Mall	1.54267e+006	142.7340	0.0231	2.8000e-003	144.1454
Total		**649.1701**	**0.1050**	**0.0127**	**655.5892**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Unmitigated	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.6901					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1564	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Total	**5.6144**	**0.0603**	**5.2227**	**2.8000e-004**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**8.5700**	**8.5700**	**8.1700e-003**	**0.0000**	**8.7742**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.6901					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1564	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Total	**5.6144**	**0.0603**	**5.2227**	**2.8000e-004**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**8.5700**	**8.5700**	**8.1700e-003**	**0.0000**	**8.7742**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	65.0860	2.0323	0.0487	130.4075
Unmitigated	78.7192	2.5400	0.0608	160.3450

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.2292 / 6.44883	10.4548	0.3345	8.0100e-003	21.2044
Apartments Mid Rise	30.036 / 18.9357	30.6985	0.9822	0.0235	62.2626
General Office Building	14.615 / 8.95761	14.8544	0.4779	0.0115	30.2122
Hotel	3.04401 / 0.338224	2.5992	0.0995	2.3700e-003	5.7931
Recreational Swimming Pool	1.57616 / 0.966036	1.6020	0.0515	1.2300e-003	3.2583
Single Family Housing	5.73355 / 3.61463	5.8600	0.1875	4.4900e-003	11.8853
Strip Mall	12.4464 / 7.62844	12.6503	0.4070	9.7500e-003	25.7292
Total		**78.7192**	**2.5400**	**0.0608**	**160.3450**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	8.18335 / 6.05545	8.6541	0.2676	6.4200e-003	17.2567
Apartments Mid Rise	24.0288 / 17.7807	25.4111	0.7859	0.0188	50.6709
General Office Building	11.692 / 8.41119	12.2867	0.3824	9.1600e-003	24.5770
Hotel	2.43521 / 0.317592	2.0946	0.0796	1.9000e-003	4.6498
Recreational Swimming Pool	1.26093 / 0.907108	1.3251	0.0412	9.9000e-004	2.6505
Single Family Housing	4.58684 / 3.39414	4.8507	0.1500	3.6000e-003	9.6725
Strip Mall	9.95712 / 7.16311	10.4636	0.3256	7.8000e-003	20.9301
Total		**65.0860**	**2.0323**	**0.0487**	**130.4075**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	174.1886	10.2943	0.0000	431.5448
Unmitigated	174.1886	10.2943	0.0000	431.5448

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	72.22	14.6600	0.8664	0.0000	36.3196
Apartments Mid Rise	212.06	43.0463	2.5440	0.0000	106.6453
General Office Building	76.47	15.5227	0.9174	0.0000	38.4569
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	151.91	30.8364	1.8224	0.0000	76.3958
Single Family Housing	103.32	20.9730	1.2395	0.0000	51.9598
Strip Mall	176.43	35.8137	2.1165	0.0000	88.7269
Total		**174.1886**	**10.2943**	**0.0000**	**431.5448**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	72.22	14.6600	0.8664	0.0000	36.3196
Apartments Mid Rise	212.06	43.0463	2.5440	0.0000	106.6453
General Office Building	76.47	15.5227	0.9174	0.0000	38.4569
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	151.91	30.8364	1.8224	0.0000	76.3958
Single Family Housing	103.32	20.9730	1.2395	0.0000	51.9598
Strip Mall	176.43	35.8137	2.1165	0.0000	88.7269
Total		**174.1886**	**10.2943**	**0.0000**	**431.5448**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Springs Specific Plan - 2050 Operational Year

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	82.23	1000sqft	18.35	82,226.00	0
Hotel	120.00	Room	4.00	174,240.00	0
Recreational Swimming Pool	26.65	1000sqft	5.80	26,648.00	0
Apartments Low Rise	157.00	Dwelling Unit	15.21	157,000.00	440
Apartments Mid Rise	461.00	Dwelling Unit	68.85	461,000.00	1291
Single Family Housing	88.00	Dwelling Unit	28.57	158,400.00	246
Strip Mall	168.03	1000sqft	38.03	168,029.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2050
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Use - Proxies selected for each land use based on the Specific Plan land uses (multifamily = apartments mid rise. mixed use = apartments low rise). Population estimated based on 2.8 persons/dwelling unit.

Construction Phase - Construction Phase - Construction schedule simplified for the purposes of modeling.

Grading - Assume 178 acres is graded.

Vehicle Trips - VMT - VMT adjusted based on the VMT provided by W-Trans (November 2021).

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Woodstoves - Woodstoves - BAAQMD Rule: "Effective November 1, 2016 - No wood-burning devices of any kind may be installed in new homes or buildings being constructed in the Bay Area".

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	23.55	0.00
tblFireplaces	NumberGas	69.15	0.00
tblFireplaces	NumberGas	22.00	0.00
tblFireplaces	NumberNoFireplace	6.28	0.00
tblFireplaces	NumberNoFireplace	18.44	0.00
tblFireplaces	NumberNoFireplace	7.04	0.00
tblFireplaces	NumberWood	26.69	0.00
tblFireplaces	NumberWood	78.37	0.00
tblFireplaces	NumberWood	37.84	0.00
tblGrading	AcresOfGrading	930.00	178.00
tblGrading	AcresOfGrading	180.00	0.00
tblLandUse	LandUseSquareFeet	82,230.00	82,226.00
tblLandUse	LandUseSquareFeet	26,650.00	26,648.00
tblLandUse	LandUseSquareFeet	168,030.00	168,029.00
tblLandUse	LotAcreage	1.89	18.35
tblLandUse	LotAcreage	0.61	5.80
tblLandUse	LotAcreage	9.81	15.21

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	12.13	68.85
tblLandUse	LotAcreage	3.86	38.03
tblLandUse	Population	449.00	440.00
tblLandUse	Population	1,318.00	1,291.00
tblLandUse	Population	252.00	246.00
tblVehicleTrips	ST_TR	8.14	9.20
tblVehicleTrips	ST_TR	4.91	5.56
tblVehicleTrips	ST_TR	2.21	2.50
tblVehicleTrips	ST_TR	8.19	9.26
tblVehicleTrips	ST_TR	9.10	10.29
tblVehicleTrips	ST_TR	9.54	10.80
tblVehicleTrips	ST_TR	42.04	47.55
tblVehicleTrips	SU_TR	6.28	7.10
tblVehicleTrips	SU_TR	4.09	4.63
tblVehicleTrips	SU_TR	0.70	0.78
tblVehicleTrips	SU_TR	5.95	6.74
tblVehicleTrips	SU_TR	13.60	15.40
tblVehicleTrips	SU_TR	8.55	9.68
tblVehicleTrips	SU_TR	20.43	23.13
tblVehicleTrips	WD_TR	7.32	8.27
tblVehicleTrips	WD_TR	5.44	6.17
tblVehicleTrips	WD_TR	9.74	11.01
tblVehicleTrips	WD_TR	8.36	9.44
tblVehicleTrips	WD_TR	28.82	32.60
tblVehicleTrips	WD_TR	9.44	10.68
tblVehicleTrips	WD_TR	44.32	50.14
tblWoodstoves	NumberCatalytic	3.14	0.00
tblWoodstoves	NumberCatalytic	9.22	0.00
tblWoodstoves	NumberCatalytic	3.52	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	NumberNoncatalytic	3.14	0.00
tblWoodstoves	NumberNoncatalytic	9.22	0.00
tblWoodstoves	NumberNoncatalytic	3.52	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.5580	0.1728	0.7307	0.3022	0.1601	0.4623	0.0000	453.6851	453.6851	0.1284	4.6000e-004	457.0316
2023	0.4210	4.2835	3.4224	7.5300e-003	1.2585	0.1806	1.4391	0.6444	0.1661	0.8106	0.0000	662.0432	662.0432	0.2094	5.2000e-004	667.4338
2024	0.4647	3.4422	4.1638	0.0111	0.8901	0.1252	1.0152	0.3176	0.1162	0.4338	0.0000	1,008.3178	1,008.3178	0.1530	0.0427	1,024.8611
2025	0.4550	2.6931	4.3137	0.0128	0.7827	0.0773	0.8600	0.2112	0.0727	0.2839	0.0000	1,185.5192	1,185.5192	0.0939	0.0708	1,208.9617
2026	0.4381	2.6657	4.1780	0.0125	0.7827	0.0770	0.8597	0.2112	0.0724	0.2837	0.0000	1,166.6607	1,166.6607	0.0927	0.0688	1,189.4828
2027	0.4225	2.6411	4.0623	0.0123	0.7827	0.0767	0.8594	0.2112	0.0722	0.2834	0.0000	1,148.3853	1,148.3853	0.0915	0.0669	1,170.6139
2028	0.4064	2.6107	3.9503	0.0120	0.7797	0.0761	0.8558	0.2104	0.0716	0.2821	0.0000	1,127.2843	1,127.2843	0.0903	0.0649	1,148.8941
2029	0.3937	2.6001	3.8797	0.0119	0.7827	0.0762	0.8588	0.2112	0.0717	0.2829	0.0000	1,115.5386	1,115.5386	0.0898	0.0635	1,136.7156
2030	0.3729	1.9928	3.8171	0.0122	0.7827	0.0264	0.8091	0.2112	0.0260	0.2372	0.0000	1,141.7952	1,141.7952	0.0317	0.0621	1,161.0946
2031	0.3589	1.9793	3.7515	0.0120	0.7827	0.0262	0.8089	0.2112	0.0258	0.2370	0.0000	1,129.1131	1,129.1131	0.0310	0.0608	1,148.0170
2032	0.3487	1.9762	3.7114	0.0119	0.7857	0.0261	0.8118	0.2120	0.0257	0.2378	0.0000	1,122.1963	1,122.1963	0.0306	0.0600	1,140.8345
2033	0.3356	1.9519	3.6362	0.0117	0.7797	0.0257	0.8054	0.2104	0.0254	0.2358	0.0000	1,103.6617	1,103.6617	0.0298	0.0586	1,121.8629
2034	0.3265	1.9435	3.5948	0.0116	0.7796	0.0256	0.8052	0.2104	0.0252	0.2356	0.0000	1,094.6214	1,094.6214	0.0294	0.0577	1,112.5572
2035	0.3074	1.8420	3.5678	0.0116	0.7826	0.0180	0.8006	0.2112	0.0176	0.2288	0.0000	1,090.7773	1,090.7773	0.0281	0.0572	1,108.5219
2036	0.1996	1.0049	2.5478	6.1300e-003	0.2477	0.0226	0.2703	0.0668	0.0225	0.0893	0.0000	557.7729	557.7729	0.0171	0.0175	563.4062
2037	7.7357	0.1861	0.7029	1.5800e-003	0.1127	4.8800e-003	0.1176	0.0300	4.8500e-003	0.0348	0.0000	146.9804	146.9804	3.9400e-003	1.6600e-003	147.5741
Maximum	**7.7357**	**4.2835**	**4.3137**	**0.0128**	**1.2585**	**0.1806**	**1.4391**	**0.6444**	**0.1661**	**0.8106**	**0.0000**	**1,185.5192**	**1,185.5192**	**0.2094**	**0.0708**	**1,208.9617**

2.1 Overall Construction

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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.5580	0.1728	0.7307	0.3022	0.1601	0.4623	0.0000	453.6846	453.6846	0.1284	4.6000e-004	457.0311
2023	0.4210	4.2834	3.4224	7.5300e-003	1.2585	0.1806	1.4391	0.6444	0.1661	0.8106	0.0000	662.0425	662.0425	0.2094	5.2000e-004	667.4330
2024	0.4647	3.4422	4.1638	0.0111	0.8901	0.1252	1.0152	0.3176	0.1162	0.4338	0.0000	1,008.3172	1,008.3172	0.1530	0.0427	1,024.8605
2025	0.4550	2.6931	4.3137	0.0128	0.7827	0.0773	0.8600	0.2112	0.0727	0.2839	0.0000	1,185.5188	1,185.5188	0.0939	0.0708	1,208.9614
2026	0.4381	2.6657	4.1780	0.0125	0.7827	0.0770	0.8597	0.2112	0.0724	0.2837	0.0000	1,166.6604	1,166.6604	0.0927	0.0688	1,189.4824
2027	0.4225	2.6411	4.0623	0.0123	0.7827	0.0767	0.8594	0.2112	0.0722	0.2834	0.0000	1,148.3849	1,148.3849	0.0915	0.0669	1,170.6135
2028	0.4064	2.6107	3.9503	0.0120	0.7797	0.0761	0.8558	0.2104	0.0716	0.2820	0.0000	1,127.2839	1,127.2839	0.0903	0.0649	1,148.8938
2029	0.3937	2.6001	3.8797	0.0119	0.7827	0.0762	0.8588	0.2112	0.0717	0.2829	0.0000	1,115.5383	1,115.5383	0.0898	0.0635	1,136.7153
2030	0.3729	1.9928	3.8171	0.0122	0.7827	0.0264	0.8091	0.2112	0.0260	0.2372	0.0000	1,141.7948	1,141.7948	0.0317	0.0621	1,161.0942
2031	0.3589	1.9793	3.7515	0.0120	0.7827	0.0262	0.8089	0.2112	0.0258	0.2370	0.0000	1,129.1127	1,129.1127	0.0310	0.0608	1,148.0166
2032	0.3487	1.9762	3.7114	0.0119	0.7857	0.0261	0.8118	0.2120	0.0257	0.2378	0.0000	1,122.1959	1,122.1959	0.0306	0.0600	1,140.8340
2033	0.3356	1.9519	3.6362	0.0117	0.7797	0.0257	0.8054	0.2104	0.0254	0.2358	0.0000	1,103.6613	1,103.6613	0.0298	0.0586	1,121.8625
2034	0.3265	1.9435	3.5948	0.0116	0.7796	0.0256	0.8052	0.2104	0.0252	0.2356	0.0000	1,094.6210	1,094.6210	0.0294	0.0577	1,112.5568
2035	0.3074	1.8420	3.5678	0.0116	0.7826	0.0180	0.8006	0.2112	0.0176	0.2288	0.0000	1,090.7769	1,090.7769	0.0281	0.0572	1,108.5215
2036	0.1996	1.0049	2.5478	6.1300e-003	0.2477	0.0226	0.2703	0.0668	0.0225	0.0893	0.0000	557.7725	557.7725	0.0171	0.0175	563.4058
2037	7.7357	0.1861	0.7029	1.5800e-003	0.1127	4.8800e-003	0.1176	0.0300	4.8500e-003	0.0348	0.0000	146.9803	146.9803	3.9400e-003	1.6600e-003	147.5740
Maximum	**7.7357**	**4.2834**	**4.3137**	**0.0128**	**1.2585**	**0.1806**	**1.4391**	**0.6444**	**0.1661**	**0.8106**	**0.0000**	**1,185.5188**	**1,185.5188**	**0.2094**	**0.0708**	**1,208.9614**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2022**	**3-31-2022**	0.9150	0.9150
2	**4-1-2022**	**6-30-2022**	0.9248	0.9248
3	**7-1-2022**	**9-30-2022**	0.9350	0.9350
4	**10-1-2022**	**12-31-2022**	1.1756	1.1756
5	**1-1-2023**	**3-31-2023**	0.9931	0.9931
6	**4-1-2023**	**6-30-2023**	1.2335	1.2335
7	**7-1-2023**	**9-30-2023**	1.2471	1.2471
8	**10-1-2023**	**12-31-2023**	1.2475	1.2475
9	**1-1-2024**	**3-31-2024**	1.1607	1.1607
10	**4-1-2024**	**6-30-2024**	1.0487	1.0487
11	**7-1-2024**	**9-30-2024**	0.8308	0.8308
12	**10-1-2024**	**12-31-2024**	0.8553	0.8553
13	**1-1-2025**	**3-31-2025**	0.7895	0.7895
14	**4-1-2025**	**6-30-2025**	0.7752	0.7752
15	**7-1-2025**	**9-30-2025**	0.7837	0.7837
16	**10-1-2025**	**12-31-2025**	0.8070	0.8070
17	**1-1-2026**	**3-31-2026**	0.7778	0.7778
18	**4-1-2026**	**6-30-2026**	0.7644	0.7644
19	**7-1-2026**	**9-30-2026**	0.7728	0.7728
20	**10-1-2026**	**12-31-2026**	0.7951	0.7951
21	**1-1-2027**	**3-31-2027**	0.7673	0.7673
22	**4-1-2027**	**6-30-2027**	0.7546	0.7546
23	**7-1-2027**	**9-30-2027**	0.7629	0.7629

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24	**10-1-2027**	**12-31-2027**	0.7843	0.7843
25	**1-1-2028**	**3-31-2028**	0.7665	0.7665
26	**4-1-2028**	**6-30-2028**	0.7462	0.7462
27	**7-1-2028**	**9-30-2028**	0.7544	0.7544
28	**10-1-2028**	**12-31-2028**	0.7749	0.7749
29	**1-1-2029**	**3-31-2029**	0.7489	0.7489
30	**4-1-2029**	**6-30-2029**	0.7376	0.7376
31	**7-1-2029**	**9-30-2029**	0.7457	0.7457
32	**10-1-2029**	**12-31-2029**	0.7656	0.7656
33	**1-1-2030**	**3-31-2030**	0.5937	0.5937
34	**4-1-2030**	**6-30-2030**	0.5813	0.5813
35	**7-1-2030**	**9-30-2030**	0.5877	0.5877
36	**10-1-2030**	**12-31-2030**	0.6069	0.6069
37	**1-1-2031**	**3-31-2031**	0.5864	0.5864
38	**4-1-2031**	**6-30-2031**	0.5746	0.5746
39	**7-1-2031**	**9-30-2031**	0.5809	0.5809
40	**10-1-2031**	**12-31-2031**	0.5995	0.5995
41	**1-1-2032**	**3-31-2032**	0.5870	0.5870
42	**4-1-2032**	**6-30-2032**	0.5691	0.5691
43	**7-1-2032**	**9-30-2032**	0.5754	0.5754
44	**10-1-2032**	**12-31-2032**	0.5935	0.5935
45	**1-1-2033**	**3-31-2033**	0.5753	0.5753
46	**4-1-2033**	**6-30-2033**	0.5642	0.5642
47	**7-1-2033**	**9-30-2033**	0.5705	0.5705
48	**10-1-2033**	**12-31-2033**	0.5881	0.5881
49	**1-1-2034**	**3-31-2034**	0.5707	0.5707
50	**4-1-2034**	**6-30-2034**	0.5599	0.5599
51	**7-1-2034**	**9-30-2034**	0.5660	0.5660
52	**10-1-2034**	**12-31-2034**	0.5834	0.5834

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53	**1-1-2035**	**3-31-2035**	0.5386	0.5386
54	**4-1-2035**	**6-30-2035**	0.5277	0.5277
55	**7-1-2035**	**9-30-2035**	0.5335	0.5335
56	**10-1-2035**	**12-31-2035**	0.5506	0.5506
57	**1-1-2036**	**3-31-2036**	0.5446	0.5446
58	**4-1-2036**	**6-30-2036**	0.2622	0.2622
59	**7-1-2036**	**9-30-2036**	0.1989	0.1989
60	**10-1-2036**	**12-31-2036**	0.1990	0.1990
61	**1-1-2037**	**3-31-2037**	1.0997	1.0997
62	**4-1-2037**	**6-30-2037**	2.3073	2.3073
63	**7-1-2037**	**9-30-2037**	2.3326	2.3326
		Highest	2.3326	2.3326

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Energy	0.0924	0.8170	0.5382	5.0400e-003		0.0638	0.0638		0.0638	0.0638	0.0000	1,613.4089	1,613.4089	0.1306	0.0305	1,625.7552
Mobile	3.3353	4.0437	34.8400	0.0716	10.3502	0.0347	10.3849	2.7684	0.0324	2.8008	0.0000	7,282.5898	7,282.5898	0.3908	0.3576	7,398.9349
Waste						0.0000	0.0000		0.0000	0.0000	174.1886	0.0000	174.1886	10.2943	0.0000	431.5448
Water						0.0000	0.0000		0.0000	0.0000	24.6444	54.0748	78.7192	2.5400	0.0608	160.3450
Total	**9.0420**	**4.9210**	**40.6009**	**0.0770**	**10.3502**	**0.1276**	**10.4778**	**2.7684**	**0.1253**	**2.8937**	**198.8330**	**8,958.6435**	**9,157.4764**	**13.3638**	**0.4489**	**9,625.3541**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Energy	0.0810	0.7160	0.4691	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	1,450.7914	1,450.7914	0.1204	0.0274	1,461.9741
Mobile	2.7522	3.1162	26.7112	0.0485	6.8829	0.0245	6.9074	1.8410	0.0229	1.8638	0.0000	4,932.2489	4,932.2489	0.3040	0.2733	5,021.2894
Waste						0.0000	0.0000		0.0000	0.0000	174.1886	0.0000	174.1886	10.2943	0.0000	431.5448
Water						0.0000	0.0000		0.0000	0.0000	19.7155	45.3704	65.0860	2.0323	0.0487	130.4075
Total	**8.4476**	**3.8924**	**32.4031**	**0.0532**	**6.8829**	**0.1095**	**6.9924**	**1.8410**	**0.1079**	**1.9489**	**193.9041**	**6,436.9807**	**6,630.8848**	**12.7591**	**0.3494**	**7,053.9901**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**6.57**	**20.90**	**20.19**	**30.85**	**33.50**	**14.15**	**33.26**	**33.50**	**13.89**	**32.65**	**2.48**	**28.15**	**27.59**	**4.53**	**22.17**	**26.71**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	10/7/2022	5	200	
2	Site Preparation	Site Preparation	10/8/2022	3/24/2023	5	120	
3	Grading	Grading	3/25/2023	5/31/2024	5	310	

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4	Building Construction	Building Construction	6/1/2024	4/18/2036	5	3100	
5	Paving	Paving	4/19/2036	2/20/2037	5	220	
6	Architectural Coating	Architectural Coating	2/21/2037	12/25/2037	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 178

Acres of Paving: 0

Residential Indoor: 1,572,210; Residential Outdoor: 524,070; Non-Residential Indoor: 636,743; Non-Residential Outdoor: 212,248; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

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Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	641.00	149.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	128.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9023	339.9023	0.0955	0.0000	342.2892
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9023**	**339.9023**	**0.0955**	**0.0000**	**342.2892**

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3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9019	339.9019	0.0955	0.0000	342.2887
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9019**	**339.9019**	**0.0955**	**0.0000**	**342.2887**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3182	100.3182	0.0324	0.0000	101.1293
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.5420**	**0.0484**	**0.5904**	**0.2979**	**0.0445**	**0.3424**	**0.0000**	**100.3182**	**100.3182**	**0.0324**	**0.0000**	**101.1293**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3181	100.3181	0.0324	0.0000	101.1292
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.5420**	**0.0484**	**0.5904**	**0.2979**	**0.0445**	**0.3424**	**0.0000**	**100.3181**	**100.3181**	**0.0324**	**0.0000**	**101.1292**

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3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3521	100.3521	0.0325	0.0000	101.1635
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.5420**	**0.0380**	**0.5800**	**0.2979**	**0.0349**	**0.3329**	**0.0000**	**100.3521**	**100.3521**	**0.0325**	**0.0000**	**101.1635**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3520	100.3520	0.0325	0.0000	101.1634
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.5420**	**0.0380**	**0.5800**	**0.2979**	**0.0349**	**0.3329**	**0.0000**	**100.3520**	**100.3520**	**0.0325**	**0.0000**	**101.1634**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6966	0.0000	0.6966	0.3412	0.0000	0.3412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3521	545.3521	0.1764	0.0000	549.7615
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**0.6966**	**0.1425**	**0.8390**	**0.3412**	**0.1311**	**0.4723**	**0.0000**	**545.3521**	**545.3521**	**0.1764**	**0.0000**	**549.7615**

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3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6966	0.0000	0.6966	0.3412	0.0000	0.3412	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3514	545.3514	0.1764	0.0000	549.7609
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**0.6966**	**0.1425**	**0.8390**	**0.3412**	**0.1311**	**0.4723**	**0.0000**	**545.3514**	**545.3514**	**0.1764**	**0.0000**	**549.7609**

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3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4256	0.0000	0.4256	0.1923	0.0000	0.1923	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8574	299.8574	0.0970	0.0000	302.2819
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.4256**	**0.0735**	**0.4991**	**0.1923**	**0.0676**	**0.2598**	**0.0000**	**299.8574**	**299.8574**	**0.0970**	**0.0000**	**302.2819**

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3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4256	0.0000	0.4256	0.1923	0.0000	0.1923	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8570	299.8570	0.0970	0.0000	302.2815
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.4256**	**0.0735**	**0.4991**	**0.1923**	**0.0676**	**0.2598**	**0.0000**	**299.8570**	**299.8570**	**0.0970**	**0.0000**	**302.2815**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2053	176.2053	0.0417	0.0000	177.2470
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2053**	**176.2053**	**0.0417**	**0.0000**	**177.2470**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0118	0.5326	0.1462	2.2600e-003	0.0735	2.8500e-003	0.0764	0.0213	2.7300e-003	0.0240	0.0000	219.7041	219.7041	4.1400e-003	0.0332	229.7121
Worker	0.1604	0.1048	1.2362	3.2700e-003	0.3823	2.2000e-003	0.3845	0.1018	2.0300e-003	0.1038	0.0000	305.6495	305.6495	9.9900e-003	9.2300e-003	308.6509
Total	**0.1722**	**0.6374**	**1.3824**	**5.5300e-003**	**0.4558**	**5.0500e-003**	**0.4609**	**0.1230**	**4.7600e-003**	**0.1278**	**0.0000**	**525.3536**	**525.3536**	**0.0141**	**0.0425**	**538.3629**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2051	176.2051	0.0417	0.0000	177.2468
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2051**	**176.2051**	**0.0417**	**0.0000**	**177.2468**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0118	0.5326	0.1462	2.2600e-003	0.0735	2.8500e-003	0.0764	0.0213	2.7300e-003	0.0240	0.0000	219.7041	219.7041	4.1400e-003	0.0332	229.7121
Worker	0.1604	0.1048	1.2362	3.2700e-003	0.3823	2.2000e-003	0.3845	0.1018	2.0300e-003	0.1038	0.0000	305.6495	305.6495	9.9900e-003	9.2300e-003	308.6509
Total	**0.1722**	**0.6374**	**1.3824**	**5.5300e-003**	**0.4558**	**5.0500e-003**	**0.4609**	**0.1230**	**4.7600e-003**	**0.1278**	**0.0000**	**525.3536**	**525.3536**	**0.0141**	**0.0425**	**538.3629**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0195	0.9050	0.2449	3.8100e-003	0.1262	4.8400e-003	0.1311	0.0365	4.6300e-003	0.0411	0.0000	370.5717	370.5717	7.2600e-003	0.0561	387.4554
Worker	0.2571	0.1608	1.9698	5.4200e-003	0.6565	3.5900e-003	0.6601	0.1747	3.3100e-003	0.1781	0.0000	512.2927	512.2927	0.0155	0.0147	517.0729
Total	**0.2766**	**1.0658**	**2.2147**	**9.2300e-003**	**0.7827**	**8.4300e-003**	**0.7911**	**0.2112**	**7.9400e-003**	**0.2192**	**0.0000**	**882.8643**	**882.8643**	**0.0228**	**0.0708**	**904.5282**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0195	0.9050	0.2449	3.8100e-003	0.1262	4.8400e-003	0.1311	0.0365	4.6300e-003	0.0411	0.0000	370.5717	370.5717	7.2600e-003	0.0561	387.4554
Worker	0.2571	0.1608	1.9698	5.4200e-003	0.6565	3.5900e-003	0.6601	0.1747	3.3100e-003	0.1781	0.0000	512.2927	512.2927	0.0155	0.0147	517.0729
Total	**0.2766**	**1.0658**	**2.2147**	**9.2300e-003**	**0.7827**	**8.4300e-003**	**0.7911**	**0.2112**	**7.9400e-003**	**0.2192**	**0.0000**	**882.8643**	**882.8643**	**0.0228**	**0.0708**	**904.5282**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0188	0.8935	0.2398	3.7400e-003	0.1262	4.7500e-003	0.1310	0.0365	4.5500e-003	0.0410	0.0000	363.8214	363.8214	7.4300e-003	0.0550	380.3994
Worker	0.2408	0.1449	1.8392	5.2500e-003	0.6565	3.4000e-003	0.6599	0.1747	3.1300e-003	0.1779	0.0000	500.1845	500.1845	0.0141	0.0138	504.6498
Total	**0.2596**	**1.0384**	**2.0790**	**8.9900e-003**	**0.7827**	**8.1500e-003**	**0.7909**	**0.2112**	**7.6800e-003**	**0.2189**	**0.0000**	**864.0058**	**864.0058**	**0.0215**	**0.0688**	**885.0492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0188	0.8935	0.2398	3.7400e-003	0.1262	4.7500e-003	0.1310	0.0365	4.5500e-003	0.0410	0.0000	363.8214	363.8214	7.4300e-003	0.0550	380.3994
Worker	0.2408	0.1449	1.8392	5.2500e-003	0.6565	3.4000e-003	0.6599	0.1747	3.1300e-003	0.1779	0.0000	500.1845	500.1845	0.0141	0.0138	504.6498
Total	**0.2596**	**1.0384**	**2.0790**	**8.9900e-003**	**0.7827**	**8.1500e-003**	**0.7909**	**0.2112**	**7.6800e-003**	**0.2189**	**0.0000**	**864.0058**	**864.0058**	**0.0215**	**0.0688**	**885.0492**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0182	0.8825	0.2356	3.6600e-003	0.1262	4.6800e-003	0.1309	0.0365	4.4700e-003	0.0410	0.0000	356.6205	356.6205	7.5600e-003	0.0539	372.8739
Worker	0.2259	0.1313	1.7277	5.0900e-003	0.6565	3.1800e-003	0.6597	0.1747	2.9300e-003	0.1777	0.0000	489.1099	489.1099	0.0128	0.0130	493.3065
Total	**0.2441**	**1.0138**	**1.9633**	**8.7500e-003**	**0.7827**	**7.8600e-003**	**0.7905**	**0.2112**	**7.4000e-003**	**0.2186**	**0.0000**	**845.7304**	**845.7304**	**0.0204**	**0.0669**	**866.1804**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0182	0.8825	0.2356	3.6600e-003	0.1262	4.6800e-003	0.1309	0.0365	4.4700e-003	0.0410	0.0000	356.6205	356.6205	7.5600e-003	0.0539	372.8739
Worker	0.2259	0.1313	1.7277	5.0900e-003	0.6565	3.1800e-003	0.6597	0.1747	2.9300e-003	0.1777	0.0000	489.1099	489.1099	0.0128	0.0130	493.3065
Total	**0.2441**	**1.0138**	**1.9633**	**8.7500e-003**	**0.7827**	**7.8600e-003**	**0.7905**	**0.2112**	**7.4000e-003**	**0.2186**	**0.0000**	**845.7304**	**845.7304**	**0.0204**	**0.0669**	**866.1804**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0176	0.8704	0.2314	3.5700e-003	0.1257	4.5900e-003	0.1303	0.0363	4.3900e-003	0.0407	0.0000	348.5076	348.5076	7.6700e-003	0.0527	364.3930
Worker	0.2110	0.1192	1.6279	4.9300e-003	0.6540	2.9600e-003	0.6569	0.1741	2.7300e-003	0.1768	0.0000	477.2814	477.2814	0.0117	0.0123	481.2340
Total	**0.2286**	**0.9897**	**1.8593**	**8.5000e-003**	**0.7797**	**7.5500e-003**	**0.7872**	**0.2104**	**7.1200e-003**	**0.2175**	**0.0000**	**825.7890**	**825.7890**	**0.0194**	**0.0649**	**845.6270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0176	0.8704	0.2314	3.5700e-003	0.1257	4.5900e-003	0.1303	0.0363	4.3900e-003	0.0407	0.0000	348.5076	348.5076	7.6700e-003	0.0527	364.3930
Worker	0.2110	0.1192	1.6279	4.9300e-003	0.6540	2.9600e-003	0.6569	0.1741	2.7300e-003	0.1768	0.0000	477.2814	477.2814	0.0117	0.0123	481.2340
Total	**0.2286**	**0.9897**	**1.8593**	**8.5000e-003**	**0.7797**	**7.5500e-003**	**0.7872**	**0.2104**	**7.1200e-003**	**0.2175**	**0.0000**	**825.7890**	**825.7890**	**0.0194**	**0.0649**	**845.6270**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.8632	0.2293	3.5100e-003	0.1262	4.5300e-003	0.1307	0.0365	4.3400e-003	0.0408	0.0000	342.8427	342.8427	7.8300e-003	0.0518	358.4720
Worker	0.1981	0.1096	1.5513	4.8200e-003	0.6565	2.7800e-003	0.6593	0.1747	2.5600e-003	0.1773	0.0000	470.0410	470.0410	0.0108	0.0117	473.8102
Total	**0.2153**	**0.9728**	**1.7807**	**8.3300e-003**	**0.7827**	**7.3100e-003**	**0.7900**	**0.2112**	**6.9000e-003**	**0.2181**	**0.0000**	**812.8837**	**812.8837**	**0.0186**	**0.0635**	**832.2821**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.8632	0.2293	3.5100e-003	0.1262	4.5300e-003	0.1307	0.0365	4.3400e-003	0.0408	0.0000	342.8427	342.8427	7.8300e-003	0.0518	358.4720
Worker	0.1981	0.1096	1.5513	4.8200e-003	0.6565	2.7800e-003	0.6593	0.1747	2.5600e-003	0.1773	0.0000	470.0410	470.0410	0.0108	0.0117	473.8102
Total	**0.2153**	**0.9728**	**1.7807**	**8.3300e-003**	**0.7827**	**7.3100e-003**	**0.7900**	**0.2112**	**6.9000e-003**	**0.2181**	**0.0000**	**812.8837**	**812.8837**	**0.0186**	**0.0635**	**832.2821**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.8564	0.2274	3.4500e-003	0.1262	4.4800e-003	0.1307	0.0365	4.2900e-003	0.0408	0.0000	336.8073	336.8073	7.9500e-003	0.0509	352.1635
Worker	0.1852	0.1009	1.4812	4.7100e-003	0.6565	2.5900e-003	0.6591	0.1747	2.3900e-003	0.1771	0.0000	461.9543	461.9543	9.9500e-003	0.0112	465.5534
Total	**0.2020**	**0.9573**	**1.7086**	**8.1600e-003**	**0.7827**	**7.0700e-003**	**0.7897**	**0.2112**	**6.6800e-003**	**0.2179**	**0.0000**	**798.7616**	**798.7616**	**0.0179**	**0.0621**	**817.7169**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.8564	0.2274	3.4500e-003	0.1262	4.4800e-003	0.1307	0.0365	4.2900e-003	0.0408	0.0000	336.8073	336.8073	7.9500e-003	0.0509	352.1635
Worker	0.1852	0.1009	1.4812	4.7100e-003	0.6565	2.5900e-003	0.6591	0.1747	2.3900e-003	0.1771	0.0000	461.9543	461.9543	9.9500e-003	0.0112	465.5534
Total	**0.2020**	**0.9573**	**1.7086**	**8.1600e-003**	**0.7827**	**7.0700e-003**	**0.7897**	**0.2112**	**6.6800e-003**	**0.2179**	**0.0000**	**798.7616**	**798.7616**	**0.0179**	**0.0621**	**817.7169**

3.5 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0165	0.8510	0.2261	3.3900e-003	0.1262	4.4400e-003	0.1306	0.0365	4.2500e-003	0.0407	0.0000	331.4423	331.4423	8.0800e-003	0.0500	346.5566
Worker	0.1716	0.0928	1.4170	4.6100e-003	0.6565	2.4200e-003	0.6589	0.1747	2.2300e-003	0.1770	0.0000	454.6372	454.6372	9.1700e-003	0.0108	458.0827
Total	**0.1881**	**0.9438**	**1.6430**	**8.0000e-003**	**0.7827**	**6.8600e-003**	**0.7895**	**0.2112**	**6.4800e-003**	**0.2177**	**0.0000**	**786.0795**	**786.0795**	**0.0173**	**0.0608**	**804.6393**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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3.5 Building Construction - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0165	0.8510	0.2261	3.3900e-003	0.1262	4.4400e-003	0.1306	0.0365	4.2500e-003	0.0407	0.0000	331.4423	331.4423	8.0800e-003	0.0500	346.5566
Worker	0.1716	0.0928	1.4170	4.6100e-003	0.6565	2.4200e-003	0.6589	0.1747	2.2300e-003	0.1770	0.0000	454.6372	454.6372	9.1700e-003	0.0108	458.0827
Total	**0.1881**	**0.9438**	**1.6430**	**8.0000e-003**	**0.7827**	**6.8600e-003**	**0.7895**	**0.2112**	**6.4800e-003**	**0.2177**	**0.0000**	**786.0795**	**786.0795**	**0.0173**	**0.0608**	**804.6393**

3.5 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0163	0.8501	0.2262	3.3600e-003	0.1267	4.4300e-003	0.1311	0.0366	4.2300e-003	0.0408	0.0000	327.9605	327.9605	8.2100e-003	0.0495	342.9192
Worker	0.1609	0.0867	1.3687	4.5300e-003	0.6590	2.2700e-003	0.6613	0.1754	2.0900e-003	0.1775	0.0000	449.8879	449.8879	8.5300e-003	0.0105	453.2219
Total	**0.1772**	**0.9368**	**1.5949**	**7.8900e-003**	**0.7857**	**6.7000e-003**	**0.7924**	**0.2120**	**6.3200e-003**	**0.2183**	**0.0000**	**777.8484**	**777.8484**	**0.0167**	**0.0600**	**796.1411**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0163	0.8501	0.2262	3.3600e-003	0.1267	4.4300e-003	0.1311	0.0366	4.2300e-003	0.0408	0.0000	327.9605	327.9605	8.2100e-003	0.0495	342.9192
Worker	0.1609	0.0867	1.3687	4.5300e-003	0.6590	2.2700e-003	0.6613	0.1754	2.0900e-003	0.1775	0.0000	449.8879	449.8879	8.5300e-003	0.0105	453.2219
Total	**0.1772**	**0.9368**	**1.5949**	**7.8900e-003**	**0.7857**	**6.7000e-003**	**0.7924**	**0.2120**	**6.3200e-003**	**0.2183**	**0.0000**	**777.8484**	**777.8484**	**0.0167**	**0.0600**	**796.1411**

3.5 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0160	0.8397	0.2240	3.2900e-003	0.1257	4.3600e-003	0.1300	0.0363	4.1700e-003	0.0405	0.0000	321.2113	321.2113	8.2500e-003	0.0485	335.8657
Worker	0.1494	0.0807	1.3118	4.4100e-003	0.6540	2.1100e-003	0.6561	0.1741	1.9400e-003	0.1760	0.0000	440.7311	440.7311	7.8700e-003	0.0101	443.9351
Total	**0.1654**	**0.9204**	**1.5358**	**7.7000e-003**	**0.7796**	**6.4700e-003**	**0.7861**	**0.2104**	**6.1100e-003**	**0.2165**	**0.0000**	**761.9424**	**761.9424**	**0.0161**	**0.0586**	**779.8008**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0160	0.8397	0.2240	3.2900e-003	0.1257	4.3600e-003	0.1300	0.0363	4.1700e-003	0.0405	0.0000	321.2113	321.2113	8.2500e-003	0.0485	335.8657
Worker	0.1494	0.0807	1.3118	4.4100e-003	0.6540	2.1100e-003	0.6561	0.1741	1.9400e-003	0.1760	0.0000	440.7311	440.7311	7.8700e-003	0.0101	443.9351
Total	**0.1654**	**0.9204**	**1.5358**	**7.7000e-003**	**0.7796**	**6.4700e-003**	**0.7861**	**0.2104**	**6.1100e-003**	**0.2165**	**0.0000**	**761.9424**	**761.9424**	**0.0161**	**0.0586**	**779.8008**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.8357	0.2238	3.2400e-003	0.1257	4.3300e-003	0.1300	0.0363	4.1400e-003	0.0405	0.0000	317.2286	317.2286	8.3400e-003	0.0479	331.7048
Worker	0.1404	0.0764	1.2707	4.3400e-003	0.6540	1.9800e-003	0.6560	0.1741	1.8200e-003	0.1759	0.0000	435.6734	435.6734	7.3400e-003	9.8400e-003	438.7904
Total	**0.1563**	**0.9120**	**1.4944**	**7.5800e-003**	**0.7796**	**6.3100e-003**	**0.7860**	**0.2104**	**5.9600e-003**	**0.2164**	**0.0000**	**752.9020**	**752.9020**	**0.0157**	**0.0577**	**770.4952**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.8357	0.2238	3.2400e-003	0.1257	4.3300e-003	0.1300	0.0363	4.1400e-003	0.0405	0.0000	317.2286	317.2286	8.3400e-003	0.0479	331.7048
Worker	0.1404	0.0764	1.2707	4.3400e-003	0.6540	1.9800e-003	0.6560	0.1741	1.8200e-003	0.1759	0.0000	435.6734	435.6734	7.3400e-003	9.8400e-003	438.7904
Total	**0.1563**	**0.9120**	**1.4944**	**7.5800e-003**	**0.7796**	**6.3100e-003**	**0.7860**	**0.2104**	**5.9600e-003**	**0.2164**	**0.0000**	**752.9020**	**752.9020**	**0.0157**	**0.0577**	**770.4952**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0336**	**343.0336**	**0.0128**	**0.0000**	**343.3530**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0158	0.8343	0.2244	3.2200e-003	0.1262	4.3100e-003	0.1305	0.0365	4.1200e-003	0.0406	0.0000	314.7916	314.7916	8.4300e-003	0.0475	329.1589
Worker	0.1328	0.0732	1.2400	4.3000e-003	0.6565	1.8600e-003	0.6584	0.1747	1.7100e-003	0.1765	0.0000	432.9521	432.9521	6.9100e-003	9.6800e-003	436.0100
Total	**0.1486**	**0.9075**	**1.4645**	**7.5200e-003**	**0.7826**	**6.1700e-003**	**0.7888**	**0.2112**	**5.8300e-003**	**0.2170**	**0.0000**	**747.7437**	**747.7437**	**0.0153**	**0.0572**	**765.1689**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0332**	**343.0332**	**0.0128**	**0.0000**	**343.3526**

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3.5 Building Construction - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0158	0.8343	0.2244	3.2200e-003	0.1262	4.3100e-003	0.1305	0.0365	4.1200e-003	0.0406	0.0000	314.7916	314.7916	8.4300e-003	0.0475	329.1589
Worker	0.1328	0.0732	1.2400	4.3000e-003	0.6565	1.8600e-003	0.6584	0.1747	1.7100e-003	0.1765	0.0000	432.9521	432.9521	6.9100e-003	9.6800e-003	436.0100
Total	**0.1486**	**0.9075**	**1.4645**	**7.5200e-003**	**0.7826**	**6.1700e-003**	**0.7888**	**0.2112**	**5.8300e-003**	**0.2170**	**0.0000**	**747.7437**	**747.7437**	**0.0153**	**0.0572**	**765.1689**

3.5 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8301	103.8301	3.8700e-003	0.0000	103.9268
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8301**	**103.8301**	**3.8700e-003**	**0.0000**	**103.9268**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7700e-003	0.2525	0.0679	9.7000e-004	0.0382	1.3000e-003	0.0395	0.0110	1.2500e-003	0.0123	0.0000	95.2818	95.2818	2.5500e-003	0.0144	99.6305
Worker	0.0402	0.0222	0.3753	1.3000e-003	0.1987	5.6000e-004	0.1993	0.0529	5.2000e-004	0.0534	0.0000	131.0468	131.0468	2.0900e-003	2.9300e-003	131.9724
Total	**0.0450**	**0.2747**	**0.4433**	**2.2700e-003**	**0.2369**	**1.8600e-003**	**0.2388**	**0.0639**	**1.7700e-003**	**0.0657**	**0.0000**	**226.3286**	**226.3286**	**4.6400e-003**	**0.0173**	**231.6029**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8300	103.8300	3.8700e-003	0.0000	103.9267
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8300**	**103.8300**	**3.8700e-003**	**0.0000**	**103.9267**

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3.5 Building Construction - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7700e-003	0.2525	0.0679	9.7000e-004	0.0382	1.3000e-003	0.0395	0.0110	1.2500e-003	0.0123	0.0000	95.2818	95.2818	2.5500e-003	0.0144	99.6305
Worker	0.0402	0.0222	0.3753	1.3000e-003	0.1987	5.6000e-004	0.1993	0.0529	5.2000e-004	0.0534	0.0000	131.0468	131.0468	2.0900e-003	2.9300e-003	131.9724
Total	**0.0450**	**0.2747**	**0.4433**	**2.2700e-003**	**0.2369**	**1.8600e-003**	**0.2388**	**0.0639**	**1.7700e-003**	**0.0657**	**0.0000**	**226.3286**	**226.3286**	**4.6400e-003**	**0.0173**	**231.6029**

3.6 Paving - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5106	220.5106	8.4900e-003	0.0000	220.7227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5106**	**220.5106**	**8.4900e-003**	**0.0000**	**220.7227**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5103	220.5103	8.4900e-003	0.0000	220.7225
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5103**	**220.5103**	**8.4900e-003**	**0.0000**	**220.7225**

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3.6 Paving - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

3.6 Paving - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6270
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6270**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6269
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6269**

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3.6 Paving - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

3.7 Architectural Coating - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	7.6789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**7.6918**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0224	0.0123	0.2087	7.2000e-004	0.1105	3.1000e-004	0.1108	0.0294	2.9000e-004	0.0297	0.0000	72.8742	72.8742	1.1600e-003	1.6300e-003	73.3889
Total	**0.0224**	**0.0123**	**0.2087**	**7.2000e-004**	**0.1105**	**3.1000e-004**	**0.1108**	**0.0294**	**2.9000e-004**	**0.0297**	**0.0000**	**72.8742**	**72.8742**	**1.1600e-003**	**1.6300e-003**	**73.3889**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	7.6789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**7.6918**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

3.7 Architectural Coating - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0224	0.0123	0.2087	7.2000e-004	0.1105	3.1000e-004	0.1108	0.0294	2.9000e-004	0.0297	0.0000	72.8742	72.8742	1.1600e-003	1.6300e-003	73.3889
Total	**0.0224**	**0.0123**	**0.2087**	**7.2000e-004**	**0.1105**	**3.1000e-004**	**0.1108**	**0.0294**	**2.9000e-004**	**0.0297**	**0.0000**	**72.8742**	**72.8742**	**1.1600e-003**	**1.6300e-003**	**73.3889**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7522	3.1162	26.7112	0.0485	6.8829	0.0245	6.9074	1.8410	0.0229	1.8638	0.0000	4,932.2489	4,932.2489	0.3040	0.2733	5,021.2894
Unmitigated	3.3353	4.0437	34.8400	0.0716	10.3502	0.0347	10.3849	2.7684	0.0324	2.8008	0.0000	7,282.5898	7,282.5898	0.3908	0.3576	7,398.9349

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,298.51	1,444.89	1114.36	2,986,595	1,986,086
Apartments Mid Rise	2,842.30	2,565.00	2135.19	6,239,788	4,149,459
General Office Building	905.16	205.27	64.30	1,637,109	1,088,677
Hotel	1,133.25	1,111.59	808.43	2,059,056	1,369,272
Recreational Swimming Pool	868.84	274.12	410.38	1,298,325	863,386
Single Family Housing	939.56	950.15	852.22	2,144,695	1,426,222
Strip Mall	8,424.36	7,989.75	3886.22	11,879,763	7,900,043
Total	16,411.98	14,540.77	9,271.10	28,245,331	18,783,145

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

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	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Apartments Mid Rise	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
General Office Building	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Hotel	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Recreational Swimming Pool	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Single Family Housing	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Strip Mall	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	649.1700	649.1700	0.1050	0.0127	655.5892
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	699.1414	699.1414	0.1131	0.0137	706.0547
NaturalGas Mitigated	0.0810	0.7160	0.4691	4.4200e-003		0.0560	0.0560		0.0560	0.0560	0.0000	801.6213	801.6213	0.0154	0.0147	806.3850
NaturalGas Unmitigated	0.0924	0.8170	0.5382	5.0400e-003		0.0638	0.0638		0.0638	0.0638	0.0000	914.2674	914.2674	0.0175	0.0168	919.7005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.54924e+006	8.3500e-003	0.0714	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6735	82.6735	1.5800e-003	1.5200e-003	83.1648
Apartments Mid Rise	3.86395e+006	0.0208	0.1780	0.0758	1.1400e-003		0.0144	0.0144		0.0144	0.0144	0.0000	206.1953	206.1953	3.9500e-003	3.7800e-003	207.4206
General Office Building	1.33206e+006	7.1800e-003	0.0653	0.0549	3.9000e-004		4.9600e-003	4.9600e-003		4.9600e-003	4.9600e-003	0.0000	71.0839	71.0839	1.3600e-003	1.3000e-003	71.5063
Hotel	7.65088e+006	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285	0.0000	408.2800	408.2800	7.8300e-003	7.4900e-003	410.7062
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.3434e+006	0.0126	0.1080	0.0460	6.9000e-004		8.7300e-003	8.7300e-003		8.7300e-003	8.7300e-003	0.0000	125.0527	125.0527	2.4000e-003	2.2900e-003	125.7959
Strip Mall	393188	2.1200e-003	0.0193	0.0162	1.2000e-004		1.4600e-003	1.4600e-003		1.4600e-003	1.4600e-003	0.0000	20.9820	20.9820	4.0000e-004	3.8000e-004	21.1067
Total		**0.0924**	**0.8170**	**0.5382**	**5.0500e-003**		**0.0638**	**0.0638**		**0.0638**	**0.0638**	**0.0000**	**914.2674**	**914.2674**	**0.0175**	**0.0168**	**919.7005**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.39116e+006	7.5000e-003	0.0641	0.0273	4.1000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	74.2374	74.2374	1.4200e-003	1.3600e-003	74.6786
Apartments Mid Rise	3.50253e+006	0.0189	0.1614	0.0687	1.0300e-003		0.0131	0.0131		0.0131	0.0131	0.0000	186.9083	186.9083	3.5800e-003	3.4300e-003	188.0190
General Office Building	1.13299e+006	6.1100e-003	0.0555	0.0467	3.3000e-004		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	60.4608	60.4608	1.1600e-003	1.1100e-003	60.8201
Hotel	6.62739e+006	0.0357	0.3249	0.2729	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	353.6629	353.6629	6.7800e-003	6.4800e-003	355.7646
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.03354e+006	0.0110	0.0937	0.0399	6.0000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003	0.0000	108.5172	108.5172	2.0800e-003	1.9900e-003	109.1621
Strip Mall	334210	1.8000e-003	0.0164	0.0138	1.0000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003	0.0000	17.8347	17.8347	3.4000e-004	3.3000e-004	17.9407
Total		**0.0810**	**0.7160**	**0.4691**	**4.4200e-003**		**0.0560**	**0.0560**		**0.0560**	**0.0560**	**0.0000**	**801.6213**	**801.6213**	**0.0154**	**0.0147**	**806.3850**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	637579	58.9912	9.5400e-003	1.1600e-003	59.5745
Apartments Mid Rise	1.78242e+006	164.9166	0.0267	3.2300e-003	166.5473
General Office Building	1.41182e+006	130.6270	0.0211	2.5600e-003	131.9186
Hotel	1.28938e+006	119.2979	0.0193	2.3400e-003	120.4776
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	689323	63.7788	0.0103	1.2500e-003	64.4095
Strip Mall	1.74582e+006	161.5300	0.0261	3.1700e-003	163.1272
Total		**699.1414**	**0.1131**	**0.0137**	**706.0547**

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	615388	56.9380	9.2100e-003	1.1200e-003	57.5010
Apartments Mid Rise	1.72283e+006	159.4031	0.0258	3.1300e-003	160.9793
General Office Building	1.29355e+006	119.6846	0.0194	2.3500e-003	120.8680
Hotel	1.17603e+006	108.8110	0.0176	2.1300e-003	109.8870
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	665768	61.5994	9.9700e-003	1.2100e-003	62.2085
Strip Mall	1.54267e+006	142.7340	0.0231	2.8000e-003	144.1454
Total		**649.1701**	**0.1050**	**0.0127**	**655.5892**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Unmitigated	5.6144	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.6901					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1564	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Total	**5.6144**	**0.0603**	**5.2227**	**2.8000e-004**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**8.5700**	**8.5700**	**8.1700e-003**	**0.0000**	**8.7742**

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7679					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.6901					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1564	0.0603	5.2227	2.8000e-004		0.0291	0.0291		0.0291	0.0291	0.0000	8.5700	8.5700	8.1700e-003	0.0000	8.7742
Total	**5.6144**	**0.0603**	**5.2227**	**2.8000e-004**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**8.5700**	**8.5700**	**8.1700e-003**	**0.0000**	**8.7742**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	65.0860	2.0323	0.0487	130.4075
Unmitigated	78.7192	2.5400	0.0608	160.3450

Springs Specific Plan - 2050 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.2292 / 6.44883	10.4548	0.3345	8.0100e-003	21.2044
Apartments Mid Rise	30.036 / 18.9357	30.6985	0.9822	0.0235	62.2626
General Office Building	14.615 / 8.95761	14.8544	0.4779	0.0115	30.2122
Hotel	3.04401 / 0.338224	2.5992	0.0995	2.3700e-003	5.7931
Recreational Swimming Pool	1.57616 / 0.966036	1.6020	0.0515	1.2300e-003	3.2583
Single Family Housing	5.73355 / 3.61463	5.8600	0.1875	4.4900e-003	11.8853
Strip Mall	12.4464 / 7.62844	12.6503	0.4070	9.7500e-003	25.7292
Total		**78.7192**	**2.5400**	**0.0608**	**160.3450**

Springs Specific Plan - 2050 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	8.18335 / 6.05545	8.6541	0.2676	6.4200e-003	17.2567
Apartments Mid Rise	24.0288 / 17.7807	25.4111	0.7859	0.0188	50.6709
General Office Building	11.692 / 8.41119	12.2867	0.3824	9.1600e-003	24.5770
Hotel	2.43521 / 0.317592	2.0946	0.0796	1.9000e-003	4.6498
Recreational Swimming Pool	1.26093 / 0.907108	1.3251	0.0412	9.9000e-004	2.6505
Single Family Housing	4.58684 / 3.39414	4.8507	0.1500	3.6000e-003	9.6725
Strip Mall	9.95712 / 7.16311	10.4636	0.3256	7.8000e-003	20.9301
Total		**65.0860**	**2.0323**	**0.0487**	**130.4075**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	174.1886	10.2943	0.0000	431.5448
Unmitigated	174.1886	10.2943	0.0000	431.5448

Springs Specific Plan - 2050 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	72.22	14.6600	0.8664	0.0000	36.3196
Apartments Mid Rise	212.06	43.0463	2.5440	0.0000	106.6453
General Office Building	76.47	15.5227	0.9174	0.0000	38.4569
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	151.91	30.8364	1.8224	0.0000	76.3958
Single Family Housing	103.32	20.9730	1.2395	0.0000	51.9598
Strip Mall	176.43	35.8137	2.1165	0.0000	88.7269
Total		**174.1886**	**10.2943**	**0.0000**	**431.5448**

Springs Specific Plan - 2050 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	72.22	14.6600	0.8664	0.0000	36.3196
Apartments Mid Rise	212.06	43.0463	2.5440	0.0000	106.6453
General Office Building	76.47	15.5227	0.9174	0.0000	38.4569
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	151.91	30.8364	1.8224	0.0000	76.3958
Single Family Housing	103.32	20.9730	1.2395	0.0000	51.9598
Strip Mall	176.43	35.8137	2.1165	0.0000	88.7269
Total		**174.1886**	**10.2943**	**0.0000**	**431.5448**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Springs Specific Plan - 2050 Operational Year - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Springs Specific Plan - Alternative 3

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	53.95	1000sqft	18.35	53,948.00	0
Hotel	120.00	Room	4.00	174,240.00	0
Recreational Swimming Pool	18.45	1000sqft	5.80	18,450.00	0
Apartments Low Rise	80.00	Dwelling Unit	15.21	80,000.00	224
Apartments Mid Rise	270.00	Dwelling Unit	68.85	270,000.00	756
Single Family Housing	63.00	Dwelling Unit	28.57	113,400.00	176
Strip Mall	125.62	1000sqft	38.03	125,617.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Use - Proxies selected for each land use based on the Specific Plan land uses (multifamily = apartments mid rise. mixed use = apartments low rise). Population estimated based on 2.8 persons/dwelling unit. Acreages estimated.

Construction Phase - Construction Phase - Construction schedule simplified for the purposes of modeling.

Grading - Assume 178 acres is graded.

Vehicle Trips - VMT - VMT adjusted based on the VMT provided by W-Trans (November 2021) - 14,984,162 VMT per year

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Woodstoves - Woodstoves - BAAQMD Rule: "Effective November 1, 2016 - No wood-burning devices of any kind may be installed in new homes or buildings being
constructed in the Bay Area". This is consistent with BAAQMD's ban on woodburning fireplaces and stoves.

Area Mitigation - VOC

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.24	18.35
tblLandUse	LotAcreage	0.42	5.80
tblLandUse	LotAcreage	5.00	15.21
tblLandUse	LotAcreage	7.11	68.85
tblLandUse	LotAcreage	20.45	28.57
tblLandUse	LotAcreage	2.88	38.03
tblLandUse	Population	229.00	224.00
tblLandUse	Population	772.00	756.00
tblLandUse	Population	180.00	176.00
tblVehicleTrips	ST_TR	8.14	10.57
tblVehicleTrips	ST_TR	4.91	6.38
tblVehicleTrips	ST_TR	2.21	2.87
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	9.10	11.82
tblVehicleTrips	ST_TR	9.54	12.39
tblVehicleTrips	ST_TR	42.04	54.61
tblVehicleTrips	SU_TR	6.28	8.16
tblVehicleTrips	SU_TR	4.09	5.31
tblVehicleTrips	SU_TR	0.70	0.91
tblVehicleTrips	SU_TR	5.95	7.73
tblVehicleTrips	SU_TR	13.60	17.67
tblVehicleTrips	SU_TR	8.55	11.11
tblVehicleTrips	SU_TR	20.43	26.54
tblVehicleTrips	WD_TR	7.32	9.51

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	WD_TR	5.44	7.07
tblVehicleTrips	WD_TR	9.74	12.65
tblVehicleTrips	WD_TR	8.36	10.86
tblVehicleTrips	WD_TR	28.82	37.44
tblVehicleTrips	WD_TR	9.44	12.26
tblVehicleTrips	WD_TR	44.32	57.57

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.6534	0.1728	0.8262	0.3125	0.1601	0.4726	0.0000	453.6851	453.6851	0.1284	4.6000e-004	457.0316
2023	0.4210	4.2835	3.4224	7.5300e-003	1.7527	0.1806	1.9333	0.6978	0.1661	0.8639	0.0000	662.0432	662.0432	0.2094	5.2000e-004	667.4338
2024	0.4041	3.2477	3.6809	9.2300e-003	1.1311	0.1235	1.2547	0.3182	0.1147	0.4329	0.0000	834.7210	834.7210	0.1482	0.0296	847.2413
2025	0.3578	2.3687	3.5408	9.7000e-003	0.5119	0.0746	0.5865	0.1383	0.0702	0.2085	0.0000	893.8691	893.8691	0.0863	0.0490	910.6255
2026	0.3468	2.3503	3.4530	9.5300e-003	0.5119	0.0744	0.5863	0.1383	0.0700	0.2083	0.0000	881.3108	881.3108	0.0855	0.0477	897.6490
2027	0.3368	2.3338	3.3782	9.3800e-003	0.5119	0.0742	0.5861	0.1383	0.0698	0.2081	0.0000	869.1010	869.1010	0.0847	0.0464	885.0372
2028	0.3261	2.3113	3.3030	9.2000e-003	0.5099	0.0737	0.5837	0.1378	0.0694	0.2071	0.0000	854.6030	854.6030	0.0838	0.0450	870.1160
2029	0.3182	2.3062	3.2602	9.1000e-003	0.5119	0.0738	0.5857	0.1383	0.0695	0.2078	0.0000	847.1056	847.1056	0.0836	0.0441	862.3266
2030	0.3020	1.7040	3.2231	9.5100e-003	0.5119	0.0242	0.5361	0.1383	0.0239	0.1622	0.0000	878.0209	878.0209	0.0258	0.0431	891.5054
2031	0.2930	1.6950	3.1807	9.4000e-003	0.5119	0.0240	0.5359	0.1383	0.0238	0.1621	0.0000	869.5257	869.5257	0.0254	0.0422	882.7408
2032	0.2867	1.6944	3.1578	9.3400e-003	0.5139	0.0240	0.5378	0.1388	0.0237	0.1626	0.0000	865.3264	865.3264	0.0251	0.0416	878.3613
2033	0.2777	1.6753	3.1035	9.1800e-003	0.5099	0.0237	0.5336	0.1378	0.0235	0.1612	0.0000	852.0419	852.0419	0.0246	0.0407	864.7759
2034	0.2718	1.6696	3.0768	9.1100e-003	0.5099	0.0236	0.5335	0.1378	0.0234	0.1611	0.0000	845.9766	845.9766	0.0243	0.0401	858.5289
2035	0.2555	1.5696	3.0605	9.0800e-003	0.5119	0.0160	0.5279	0.1383	0.0158	0.1541	0.0000	843.8202	843.8202	0.0232	0.0397	856.2344
2036	0.1839	0.9225	2.3943	5.3800e-003	0.1657	0.0220	0.1877	0.0447	0.0220	0.0667	0.0000	483.0234	483.0234	0.0156	0.0122	487.0433
2037	5.1559	0.1818	0.6295	1.3300e-003	0.0738	4.7700e-003	0.0786	0.0197	4.7500e-003	0.0244	0.0000	121.3605	121.3605	3.5300e-003	1.0900e-003	121.7733
Maximum	**5.1559**	**4.2835**	**3.6809**	**9.7000e-003**	**1.7527**	**0.1806**	**1.9333**	**0.6978**	**0.1661**	**0.8639**	**0.0000**	**893.8691**	**893.8691**	**0.2094**	**0.0490**	**910.6255**

2.1 Overall Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.6534	0.1728	0.8262	0.3125	0.1601	0.4726	0.0000	453.6846	453.6846	0.1284	4.6000e-004	457.0311
2023	0.4210	4.2834	3.4224	7.5300e-003	1.7527	0.1806	1.9333	0.6978	0.1661	0.8639	0.0000	662.0425	662.0425	0.2094	5.2000e-004	667.4330
2024	0.4041	3.2477	3.6809	9.2300e-003	1.1311	0.1235	1.2547	0.3182	0.1147	0.4329	0.0000	834.7204	834.7204	0.1482	0.0296	847.2408
2025	0.3578	2.3687	3.5408	9.7000e-003	0.5119	0.0746	0.5865	0.1383	0.0702	0.2085	0.0000	893.8688	893.8688	0.0863	0.0490	910.6252
2026	0.3468	2.3503	3.4530	9.5300e-003	0.5119	0.0744	0.5863	0.1383	0.0700	0.2083	0.0000	881.3105	881.3105	0.0855	0.0477	897.6486
2027	0.3368	2.3338	3.3782	9.3800e-003	0.5119	0.0742	0.5861	0.1383	0.0698	0.2081	0.0000	869.1006	869.1006	0.0847	0.0464	885.0368
2028	0.3261	2.3113	3.3030	9.2000e-003	0.5099	0.0737	0.5837	0.1378	0.0694	0.2071	0.0000	854.6027	854.6027	0.0838	0.0450	870.1156
2029	0.3182	2.3062	3.2602	9.1000e-003	0.5119	0.0738	0.5857	0.1383	0.0695	0.2078	0.0000	847.1052	847.1052	0.0836	0.0441	862.3262
2030	0.3020	1.7040	3.2231	9.5100e-003	0.5119	0.0242	0.5361	0.1383	0.0239	0.1622	0.0000	878.0205	878.0205	0.0258	0.0431	891.5049
2031	0.2930	1.6950	3.1807	9.4000e-003	0.5119	0.0240	0.5359	0.1383	0.0238	0.1621	0.0000	869.5253	869.5253	0.0254	0.0422	882.7404
2032	0.2867	1.6944	3.1578	9.3400e-003	0.5139	0.0240	0.5378	0.1388	0.0237	0.1626	0.0000	865.3260	865.3260	0.0251	0.0416	878.3609
2033	0.2777	1.6753	3.1035	9.1800e-003	0.5099	0.0237	0.5336	0.1378	0.0235	0.1612	0.0000	852.0415	852.0415	0.0246	0.0407	864.7755
2034	0.2718	1.6696	3.0768	9.1100e-003	0.5099	0.0236	0.5335	0.1378	0.0234	0.1611	0.0000	845.9762	845.9762	0.0243	0.0401	858.5285
2035	0.2555	1.5696	3.0605	9.0800e-003	0.5119	0.0160	0.5279	0.1383	0.0158	0.1541	0.0000	843.8198	843.8198	0.0232	0.0397	856.2340
2036	0.1839	0.9225	2.3943	5.3800e-003	0.1657	0.0220	0.1877	0.0447	0.0220	0.0667	0.0000	483.0230	483.0230	0.0156	0.0122	487.0429
2037	5.1559	0.1818	0.6295	1.3300e-003	0.0738	4.7700e-003	0.0786	0.0197	4.7500e-003	0.0244	0.0000	121.3605	121.3605	3.5300e-003	1.0900e-003	121.7732
Maximum	**5.1559**	**4.2834**	**3.6809**	**9.7000e-003**	**1.7527**	**0.1806**	**1.9333**	**0.6978**	**0.1661**	**0.8639**	**0.0000**	**893.8688**	**893.8688**	**0.2094**	**0.0490**	**910.6252**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2022	3-31-2022	0.9150	0.9150
2	4-1-2022	6-30-2022	0.9248	0.9248
3	7-1-2022	9-30-2022	0.9350	0.9350
4	10-1-2022	12-31-2022	1.1756	1.1756
5	1-1-2023	3-31-2023	0.9931	0.9931
6	4-1-2023	6-30-2023	1.2335	1.2335
7	7-1-2023	9-30-2023	1.2471	1.2471
8	10-1-2023	12-31-2023	1.2475	1.2475
9	1-1-2024	3-31-2024	1.1607	1.1607
10	4-1-2024	6-30-2024	1.0137	1.0137
11	7-1-2024	9-30-2024	0.7234	0.7234
12	10-1-2024	12-31-2024	0.7399	0.7399
13	1-1-2025	3-31-2025	0.6809	0.6809
14	4-1-2025	6-30-2025	0.6729	0.6729
15	7-1-2025	9-30-2025	0.6803	0.6803
16	10-1-2025	12-31-2025	0.6960	0.6960
17	1-1-2026	3-31-2026	0.6732	0.6732
18	4-1-2026	6-30-2026	0.6658	0.6658
19	7-1-2026	9-30-2026	0.6731	0.6731
20	10-1-2026	12-31-2026	0.6881	0.6881
21	1-1-2027	3-31-2027	0.6662	0.6662
22	4-1-2027	6-30-2027	0.6593	0.6593
23	7-1-2027	9-30-2027	0.6665	0.6665

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24	**10-1-2027**	**12-31-2027**	0.6810	0.6810
25	**1-1-2028**	**3-31-2028**	0.6675	0.6675
26	**4-1-2028**	**6-30-2028**	0.6537	0.6537
27	**7-1-2028**	**9-30-2028**	0.6609	0.6609
28	**10-1-2028**	**12-31-2028**	0.6748	0.6748
29	**1-1-2029**	**3-31-2029**	0.6541	0.6541
30	**4-1-2029**	**6-30-2029**	0.6481	0.6481
31	**7-1-2029**	**9-30-2029**	0.6552	0.6552
32	**10-1-2029**	**12-31-2029**	0.6686	0.6686
33	**1-1-2030**	**3-31-2030**	0.5015	0.5015
34	**4-1-2030**	**6-30-2030**	0.4941	0.4941
35	**7-1-2030**	**9-30-2030**	0.4996	0.4996
36	**10-1-2030**	**12-31-2030**	0.5126	0.5126
37	**1-1-2031**	**3-31-2031**	0.4967	0.4967
38	**4-1-2031**	**6-30-2031**	0.4897	0.4897
39	**7-1-2031**	**9-30-2031**	0.4951	0.4951
40	**10-1-2031**	**12-31-2031**	0.5077	0.5077
41	**1-1-2032**	**3-31-2032**	0.4983	0.4983
42	**4-1-2032**	**6-30-2032**	0.4861	0.4861
43	**7-1-2032**	**9-30-2032**	0.4915	0.4915
44	**10-1-2032**	**12-31-2032**	0.5038	0.5038
45	**1-1-2033**	**3-31-2033**	0.4894	0.4894
46	**4-1-2033**	**6-30-2033**	0.4829	0.4829
47	**7-1-2033**	**9-30-2033**	0.4882	0.4882
48	**10-1-2033**	**12-31-2033**	0.5003	0.5003
49	**1-1-2034**	**3-31-2034**	0.4864	0.4864
50	**4-1-2034**	**6-30-2034**	0.4800	0.4800
51	**7-1-2034**	**9-30-2034**	0.4853	0.4853
52	**10-1-2034**	**12-31-2034**	0.4972	0.4972

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

53	**1-1-2035**	**3-31-2035**	0.4557	0.4557
54	**4-1-2035**	**6-30-2035**	0.4492	0.4492
55	**7-1-2035**	**9-30-2035**	0.4542	0.4542
56	**10-1-2035**	**12-31-2035**	0.4658	0.4658
57	**1-1-2036**	**3-31-2036**	0.4608	0.4608
58	**4-1-2036**	**6-30-2036**	0.2467	0.2467
59	**7-1-2036**	**9-30-2036**	0.1989	0.1989
60	**10-1-2036**	**12-31-2036**	0.1990	0.1990
61	**1-1-2037**	**3-31-2037**	0.7723	0.7723
62	**4-1-2037**	**6-30-2037**	1.5438	1.5438
63	**7-1-2037**	**9-30-2037**	1.5608	1.5608
		Highest	1.5608	1.5608

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9728	0.0620	4.7080	3.4900e-003		0.2539	0.2539		0.2539	0.2539	23.9644	13.5352	37.4995	0.0456	1.5000e-003	39.0867
Energy	0.0731	0.6503	0.4559	3.9800e-003		0.0505	0.0505		0.0505	0.0505	0.0000	1,221.0897	1,221.0897	0.0944	0.0230	1,230.3112
Mobile	3.0966	3.5026	30.0302	0.0594	8.2649	0.0337	8.2985	2.2118	0.0315	2.2433	0.0000	5,990.3494	5,990.3494	0.3497	0.2990	6,088.1865
Waste						0.0000	0.0000		0.0000	0.0000	119.3303	0.0000	119.3303	7.0522	0.0000	295.6357
Water						0.0000	0.0000		0.0000	0.0000	15.8429	34.5707	50.4136	1.6328	0.0391	102.8856
Total	**8.1424**	**4.2149**	**35.1940**	**0.0669**	**8.2649**	**0.3380**	**8.6029**	**2.2118**	**0.3358**	**2.5476**	**159.1375**	**7,259.5450**	**7,418.6825**	**9.1747**	**0.3626**	**7,756.1057**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.7939	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Energy	0.0638	0.5678	0.3965	3.4800e-003		0.0441	0.0441		0.0441	0.0441	0.0000	1,092.1638	1,092.1638	0.0866	0.0206	1,100.4710
Mobile	2.5873	2.6859	23.0469	0.0403	5.4961	0.0238	5.5200	1.4709	0.0223	1.4931	0.0000	4,058.8874	4,058.8874	0.2744	0.2281	4,133.7295
Waste						0.0000	0.0000		0.0000	0.0000	119.3303	0.0000	119.3303	7.0522	0.0000	295.6357
Water						0.0000	0.0000		0.0000	0.0000	12.6743	28.9867	41.6610	1.3065	0.0313	83.6518
Total	**6.4450**	**3.2890**	**26.4994**	**0.0439**	**5.4961**	**0.0849**	**5.5811**	**1.4709**	**0.0834**	**1.5542**	**132.0046**	**5,185.0527**	**5,317.0573**	**8.7245**	**0.2801**	**5,618.6225**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.85**	**21.97**	**24.70**	**34.38**	**33.50**	**74.87**	**35.13**	**33.50**	**75.17**	**38.99**	**17.05**	**28.58**	**28.33**	**4.91**	**22.77**	**27.56**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	10/7/2022	5	200	
2	Site Preparation	Site Preparation	10/8/2022	3/24/2023	5	120	
3	Grading	Grading	3/25/2023	5/31/2024	5	310	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	6/1/2024	4/18/2036	5	3100	
5	Paving	Paving	4/19/2036	2/20/2037	5	220	
6	Architectural Coating	Architectural Coating	2/21/2037	12/25/2037	5	220	

Acres of Grading (Site Preparation Phase): 180

Acres of Grading (Grading Phase): 930

Acres of Paving: 0

Residential Indoor: 938,385; Residential Outdoor: 312,795; Non-Residential Indoor: 530,708; Non-Residential Outdoor: 176,903; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

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Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	413.00	105.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	83.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9023	339.9023	0.0955	0.0000	342.2892
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9023**	**339.9023**	**0.0955**	**0.0000**	**342.2892**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9019	339.9019	0.0955	0.0000	342.2887
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9019**	**339.9019**	**0.0955**	**0.0000**	**342.2887**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3182	100.3182	0.0324	0.0000	101.1293
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.6374**	**0.0484**	**0.6858**	**0.3082**	**0.0445**	**0.3527**	**0.0000**	**100.3182**	**100.3182**	**0.0324**	**0.0000**	**101.1293**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3181	100.3181	0.0324	0.0000	101.1292
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.6374**	**0.0484**	**0.6858**	**0.3082**	**0.0445**	**0.3527**	**0.0000**	**100.3181**	**100.3181**	**0.0324**	**0.0000**	**101.1292**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3521	100.3521	0.0325	0.0000	101.1635
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.6374**	**0.0380**	**0.6754**	**0.3082**	**0.0349**	**0.3432**	**0.0000**	**100.3521**	**100.3521**	**0.0325**	**0.0000**	**101.1635**

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3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3520	100.3520	0.0325	0.0000	101.1634
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.6374**	**0.0380**	**0.6754**	**0.3082**	**0.0349**	**0.3432**	**0.0000**	**100.3520**	**100.3520**	**0.0325**	**0.0000**	**101.1634**

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3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0953	0.0000	1.0953	0.3843	0.0000	0.3843	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3521	545.3521	0.1764	0.0000	549.7615
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**1.0953**	**0.1425**	**1.2378**	**0.3843**	**0.1311**	**0.5153**	**0.0000**	**545.3521**	**545.3521**	**0.1764**	**0.0000**	**549.7615**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0953	0.0000	1.0953	0.3843	0.0000	0.3843	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3514	545.3514	0.1764	0.0000	549.7609
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**1.0953**	**0.1425**	**1.2378**	**0.3843**	**0.1311**	**0.5153**	**0.0000**	**545.3514**	**545.3514**	**0.1764**	**0.0000**	**549.7609**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8244	0.0000	0.8244	0.2353	0.0000	0.2353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8574	299.8574	0.0970	0.0000	302.2819
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.8244**	**0.0735**	**0.8978**	**0.2353**	**0.0676**	**0.3029**	**0.0000**	**299.8574**	**299.8574**	**0.0970**	**0.0000**	**302.2819**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8244	0.0000	0.8244	0.2353	0.0000	0.2353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8570	299.8570	0.0970	0.0000	302.2815
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.8244**	**0.0735**	**0.8978**	**0.2353**	**0.0676**	**0.3029**	**0.0000**	**299.8570**	**299.8570**	**0.0970**	**0.0000**	**302.2815**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2053	176.2053	0.0417	0.0000	177.2470
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2053**	**176.2053**	**0.0417**	**0.0000**	**177.2470**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3100e-003	0.3753	0.1031	1.5900e-003	0.0518	2.0100e-003	0.0538	0.0150	1.9200e-003	0.0169	0.0000	154.8250	154.8250	2.9100e-003	0.0234	161.8776
Worker	0.1034	0.0675	0.7965	2.1000e-003	0.2463	1.4200e-003	0.2478	0.0656	1.3100e-003	0.0669	0.0000	196.9317	196.9317	6.4400e-003	5.9500e-003	198.8655
Total	**0.1117**	**0.4429**	**0.8995**	**3.6900e-003**	**0.2981**	**3.4300e-003**	**0.3016**	**0.0806**	**3.2300e-003**	**0.0838**	**0.0000**	**351.7568**	**351.7568**	**9.3500e-003**	**0.0294**	**360.7432**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2051	176.2051	0.0417	0.0000	177.2468
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2051**	**176.2051**	**0.0417**	**0.0000**	**177.2468**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3100e-003	0.3753	0.1031	1.5900e-003	0.0518	2.0100e-003	0.0538	0.0150	1.9200e-003	0.0169	0.0000	154.8250	154.8250	2.9100e-003	0.0234	161.8776
Worker	0.1034	0.0675	0.7965	2.1000e-003	0.2463	1.4200e-003	0.2478	0.0656	1.3100e-003	0.0669	0.0000	196.9317	196.9317	6.4400e-003	5.9500e-003	198.8655
Total	**0.1117**	**0.4429**	**0.8995**	**3.6900e-003**	**0.2981**	**3.4300e-003**	**0.3016**	**0.0806**	**3.2300e-003**	**0.0838**	**0.0000**	**351.7568**	**351.7568**	**9.3500e-003**	**0.0294**	**360.7432**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0137	0.6378	0.1726	2.6800e-003	0.0889	3.4100e-003	0.0924	0.0257	3.2600e-003	0.0290	0.0000	261.1411	261.1411	5.1100e-003	0.0395	273.0390
Worker	0.1657	0.1036	1.2692	3.4900e-003	0.4230	2.3200e-003	0.4253	0.1126	2.1300e-003	0.1147	0.0000	330.0731	330.0731	9.9900e-003	9.5000e-003	333.1530
Total	**0.1794**	**0.7414**	**1.4417**	**6.1700e-003**	**0.5119**	**5.7300e-003**	**0.5177**	**0.1383**	**5.3900e-003**	**0.1437**	**0.0000**	**591.2142**	**591.2142**	**0.0151**	**0.0490**	**606.1920**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0137	0.6378	0.1726	2.6800e-003	0.0889	3.4100e-003	0.0924	0.0257	3.2600e-003	0.0290	0.0000	261.1411	261.1411	5.1100e-003	0.0395	273.0390
Worker	0.1657	0.1036	1.2692	3.4900e-003	0.4230	2.3200e-003	0.4253	0.1126	2.1300e-003	0.1147	0.0000	330.0731	330.0731	9.9900e-003	9.5000e-003	333.1530
Total	**0.1794**	**0.7414**	**1.4417**	**6.1700e-003**	**0.5119**	**5.7300e-003**	**0.5177**	**0.1383**	**5.3900e-003**	**0.1437**	**0.0000**	**591.2142**	**591.2142**	**0.0151**	**0.0490**	**606.1920**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.6297	0.1690	2.6300e-003	0.0889	3.3500e-003	0.0923	0.0257	3.2100e-003	0.0289	0.0000	256.3842	256.3842	5.2300e-003	0.0388	268.0667
Worker	0.1552	0.0934	1.1850	3.3800e-003	0.4230	2.1900e-003	0.4252	0.1126	2.0200e-003	0.1146	0.0000	322.2718	322.2718	9.0700e-003	8.8900e-003	325.1488
Total	**0.1684**	**0.7230**	**1.3540**	**6.0100e-003**	**0.5119**	**5.5400e-003**	**0.5175**	**0.1383**	**5.2300e-003**	**0.1435**	**0.0000**	**578.6559**	**578.6559**	**0.0143**	**0.0477**	**593.2155**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.6297	0.1690	2.6300e-003	0.0889	3.3500e-003	0.0923	0.0257	3.2100e-003	0.0289	0.0000	256.3842	256.3842	5.2300e-003	0.0388	268.0667
Worker	0.1552	0.0934	1.1850	3.3800e-003	0.4230	2.1900e-003	0.4252	0.1126	2.0200e-003	0.1146	0.0000	322.2718	322.2718	9.0700e-003	8.8900e-003	325.1488
Total	**0.1684**	**0.7230**	**1.3540**	**6.0100e-003**	**0.5119**	**5.5400e-003**	**0.5175**	**0.1383**	**5.2300e-003**	**0.1435**	**0.0000**	**578.6559**	**578.6559**	**0.0143**	**0.0477**	**593.2155**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0128	0.6219	0.1660	2.5800e-003	0.0889	3.2900e-003	0.0922	0.0257	3.1500e-003	0.0289	0.0000	251.3098	251.3098	5.3200e-003	0.0380	262.7635
Worker	0.1455	0.0846	1.1132	3.2800e-003	0.4230	2.0500e-003	0.4250	0.1126	1.8900e-003	0.1145	0.0000	315.1363	315.1363	8.2700e-003	8.3800e-003	317.8402
Total	**0.1583**	**0.7065**	**1.2792**	**5.8600e-003**	**0.5119**	**5.3400e-003**	**0.5173**	**0.1383**	**5.0400e-003**	**0.1433**	**0.0000**	**566.4461**	**566.4461**	**0.0136**	**0.0464**	**580.6037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0128	0.6219	0.1660	2.5800e-003	0.0889	3.2900e-003	0.0922	0.0257	3.1500e-003	0.0289	0.0000	251.3098	251.3098	5.3200e-003	0.0380	262.7635
Worker	0.1455	0.0846	1.1132	3.2800e-003	0.4230	2.0500e-003	0.4250	0.1126	1.8900e-003	0.1145	0.0000	315.1363	315.1363	8.2700e-003	8.3800e-003	317.8402
Total	**0.1583**	**0.7065**	**1.2792**	**5.8600e-003**	**0.5119**	**5.3400e-003**	**0.5173**	**0.1383**	**5.0400e-003**	**0.1433**	**0.0000**	**566.4461**	**566.4461**	**0.0136**	**0.0464**	**580.6037**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0124	0.6134	0.1631	2.5200e-003	0.0886	3.2400e-003	0.0918	0.0256	3.1000e-003	0.0287	0.0000	245.5926	245.5926	5.4000e-003	0.0371	256.7870
Worker	0.1360	0.0768	1.0489	3.1800e-003	0.4214	1.9100e-003	0.4233	0.1122	1.7600e-003	0.1139	0.0000	307.5152	307.5152	7.5500e-003	7.9100e-003	310.0618
Total	**0.1484**	**0.6902**	**1.2119**	**5.7000e-003**	**0.5099**	**5.1500e-003**	**0.5151**	**0.1378**	**4.8600e-003**	**0.1426**	**0.0000**	**553.1077**	**553.1077**	**0.0130**	**0.0450**	**566.8489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0124	0.6134	0.1631	2.5200e-003	0.0886	3.2400e-003	0.0918	0.0256	3.1000e-003	0.0287	0.0000	245.5926	245.5926	5.4000e-003	0.0371	256.7870
Worker	0.1360	0.0768	1.0489	3.1800e-003	0.4214	1.9100e-003	0.4233	0.1122	1.7600e-003	0.1139	0.0000	307.5152	307.5152	7.5500e-003	7.9100e-003	310.0618
Total	**0.1484**	**0.6902**	**1.2119**	**5.7000e-003**	**0.5099**	**5.1500e-003**	**0.5151**	**0.1378**	**4.8600e-003**	**0.1426**	**0.0000**	**553.1077**	**553.1077**	**0.0130**	**0.0450**	**566.8489**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0121	0.6083	0.1616	2.4800e-003	0.0889	3.1900e-003	0.0921	0.0257	3.0600e-003	0.0288	0.0000	241.6006	241.6006	5.5200e-003	0.0365	252.6145
Worker	0.1276	0.0706	0.9995	3.1100e-003	0.4230	1.7900e-003	0.4248	0.1126	1.6500e-003	0.1142	0.0000	302.8501	302.8501	6.9600e-003	7.5700e-003	305.2786
Total	**0.1397**	**0.6789**	**1.1611**	**5.5900e-003**	**0.5119**	**4.9800e-003**	**0.5169**	**0.1383**	**4.7100e-003**	**0.1430**	**0.0000**	**544.4507**	**544.4507**	**0.0125**	**0.0441**	**557.8931**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0121	0.6083	0.1616	2.4800e-003	0.0889	3.1900e-003	0.0921	0.0257	3.0600e-003	0.0288	0.0000	241.6006	241.6006	5.5200e-003	0.0365	252.6145
Worker	0.1276	0.0706	0.9995	3.1100e-003	0.4230	1.7900e-003	0.4248	0.1126	1.6500e-003	0.1142	0.0000	302.8501	302.8501	6.9600e-003	7.5700e-003	305.2786
Total	**0.1397**	**0.6789**	**1.1611**	**5.5900e-003**	**0.5119**	**4.9800e-003**	**0.5169**	**0.1383**	**4.7100e-003**	**0.1430**	**0.0000**	**544.4507**	**544.4507**	**0.0125**	**0.0441**	**557.8931**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0119	0.6035	0.1602	2.4300e-003	0.0889	3.1600e-003	0.0921	0.0257	3.0200e-003	0.0287	0.0000	237.3474	237.3474	5.6000e-003	0.0358	248.1689
Worker	0.1193	0.0650	0.9543	3.0300e-003	0.4230	1.6700e-003	0.4247	0.1126	1.5400e-003	0.1141	0.0000	297.6398	297.6398	6.4100e-003	7.2400e-003	299.9588
Total	**0.1312**	**0.6685**	**1.1146**	**5.4600e-003**	**0.5119**	**4.8300e-003**	**0.5167**	**0.1383**	**4.5600e-003**	**0.1429**	**0.0000**	**534.9872**	**534.9872**	**0.0120**	**0.0431**	**548.1277**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0119	0.6035	0.1602	2.4300e-003	0.0889	3.1600e-003	0.0921	0.0257	3.0200e-003	0.0287	0.0000	237.3474	237.3474	5.6000e-003	0.0358	248.1689
Worker	0.1193	0.0650	0.9543	3.0300e-003	0.4230	1.6700e-003	0.4247	0.1126	1.5400e-003	0.1141	0.0000	297.6398	297.6398	6.4100e-003	7.2400e-003	299.9588
Total	**0.1312**	**0.6685**	**1.1146**	**5.4600e-003**	**0.5119**	**4.8300e-003**	**0.5167**	**0.1383**	**4.5600e-003**	**0.1429**	**0.0000**	**534.9872**	**534.9872**	**0.0120**	**0.0431**	**548.1277**

3.5 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0116	0.5997	0.1593	2.3900e-003	0.0889	3.1300e-003	0.0920	0.0257	2.9900e-003	0.0287	0.0000	233.5667	233.5667	5.7000e-003	0.0353	244.2178
Worker	0.1105	0.0598	0.9130	2.9700e-003	0.4230	1.5600e-003	0.4245	0.1126	1.4300e-003	0.1140	0.0000	292.9254	292.9254	5.9100e-003	6.9500e-003	295.1453
Total	**0.1222**	**0.6595**	**1.0723**	**5.3600e-003**	**0.5119**	**4.6900e-003**	**0.5166**	**0.1383**	**4.4200e-003**	**0.1427**	**0.0000**	**526.4921**	**526.4921**	**0.0116**	**0.0422**	**539.3631**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0116	0.5997	0.1593	2.3900e-003	0.0889	3.1300e-003	0.0920	0.0257	2.9900e-003	0.0287	0.0000	233.5667	233.5667	5.7000e-003	0.0353	244.2178
Worker	0.1105	0.0598	0.9130	2.9700e-003	0.4230	1.5600e-003	0.4245	0.1126	1.4300e-003	0.1140	0.0000	292.9254	292.9254	5.9100e-003	6.9500e-003	295.1453
Total	**0.1222**	**0.6595**	**1.0723**	**5.3600e-003**	**0.5119**	**4.6900e-003**	**0.5166**	**0.1383**	**4.4200e-003**	**0.1427**	**0.0000**	**526.4921**	**526.4921**	**0.0116**	**0.0422**	**539.3631**

3.5 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0115	0.5990	0.1594	2.3700e-003	0.0893	3.1200e-003	0.0924	0.0258	2.9800e-003	0.0288	0.0000	231.1131	231.1131	5.7900e-003	0.0349	241.6545
Worker	0.1037	0.0559	0.8819	2.9200e-003	0.4246	1.4600e-003	0.4261	0.1130	1.3500e-003	0.1144	0.0000	289.8654	289.8654	5.5000e-003	6.7500e-003	292.0135
Total	**0.1152**	**0.6549**	**1.0412**	**5.2900e-003**	**0.5139**	**4.5800e-003**	**0.5184**	**0.1388**	**4.3300e-003**	**0.1431**	**0.0000**	**520.9785**	**520.9785**	**0.0113**	**0.0416**	**533.6680**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0115	0.5990	0.1594	2.3700e-003	0.0893	3.1200e-003	0.0924	0.0258	2.9800e-003	0.0288	0.0000	231.1131	231.1131	5.7900e-003	0.0349	241.6545
Worker	0.1037	0.0559	0.8819	2.9200e-003	0.4246	1.4600e-003	0.4261	0.1130	1.3500e-003	0.1144	0.0000	289.8654	289.8654	5.5000e-003	6.7500e-003	292.0135
Total	**0.1152**	**0.6549**	**1.0412**	**5.2900e-003**	**0.5139**	**4.5800e-003**	**0.5184**	**0.1388**	**4.3300e-003**	**0.1431**	**0.0000**	**520.9785**	**520.9785**	**0.0113**	**0.0416**	**533.6680**

3.5 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0113	0.5917	0.1579	2.3200e-003	0.0886	3.0700e-003	0.0916	0.0256	2.9400e-003	0.0285	0.0000	226.3570	226.3570	5.8200e-003	0.0342	236.6839
Worker	0.0962	0.0520	0.8452	2.8400e-003	0.4214	1.3600e-003	0.4227	0.1122	1.2500e-003	0.1134	0.0000	283.9656	283.9656	5.0700e-003	6.5000e-003	286.0299
Total	**0.1075**	**0.6438**	**1.0031**	**5.1600e-003**	**0.5099**	**4.4300e-003**	**0.5144**	**0.1378**	**4.1900e-003**	**0.1419**	**0.0000**	**510.3226**	**510.3226**	**0.0109**	**0.0407**	**522.7138**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0113	0.5917	0.1579	2.3200e-003	0.0886	3.0700e-003	0.0916	0.0256	2.9400e-003	0.0285	0.0000	226.3570	226.3570	5.8200e-003	0.0342	236.6839
Worker	0.0962	0.0520	0.8452	2.8400e-003	0.4214	1.3600e-003	0.4227	0.1122	1.2500e-003	0.1134	0.0000	283.9656	283.9656	5.0700e-003	6.5000e-003	286.0299
Total	**0.1075**	**0.6438**	**1.0031**	**5.1600e-003**	**0.5099**	**4.4300e-003**	**0.5144**	**0.1378**	**4.1900e-003**	**0.1419**	**0.0000**	**510.3226**	**510.3226**	**0.0109**	**0.0407**	**522.7138**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0112	0.5889	0.1577	2.2900e-003	0.0886	3.0500e-003	0.0916	0.0256	2.9200e-003	0.0285	0.0000	223.5504	223.5504	5.8800e-003	0.0337	233.7517
Worker	0.0905	0.0492	0.8187	2.8000e-003	0.4214	1.2700e-003	0.4226	0.1122	1.1700e-003	0.1133	0.0000	280.7069	280.7069	4.7300e-003	6.3400e-003	282.7152
Total	**0.1016**	**0.6381**	**0.9764**	**5.0900e-003**	**0.5099**	**4.3200e-003**	**0.5142**	**0.1378**	**4.0900e-003**	**0.1419**	**0.0000**	**504.2573**	**504.2573**	**0.0106**	**0.0401**	**516.4669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0112	0.5889	0.1577	2.2900e-003	0.0886	3.0500e-003	0.0916	0.0256	2.9200e-003	0.0285	0.0000	223.5504	223.5504	5.8800e-003	0.0337	233.7517
Worker	0.0905	0.0492	0.8187	2.8000e-003	0.4214	1.2700e-003	0.4226	0.1122	1.1700e-003	0.1133	0.0000	280.7069	280.7069	4.7300e-003	6.3400e-003	282.7152
Total	**0.1016**	**0.6381**	**0.9764**	**5.0900e-003**	**0.5099**	**4.3200e-003**	**0.5142**	**0.1378**	**4.0900e-003**	**0.1419**	**0.0000**	**504.2573**	**504.2573**	**0.0106**	**0.0401**	**516.4669**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0336**	**343.0336**	**0.0128**	**0.0000**	**343.3530**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.5879	0.1582	2.2700e-003	0.0889	3.0400e-003	0.0919	0.0257	2.9100e-003	0.0286	0.0000	221.8330	221.8330	5.9400e-003	0.0335	231.9576
Worker	0.0856	0.0472	0.7990	2.7700e-003	0.4230	1.2000e-003	0.4242	0.1126	1.1000e-003	0.1137	0.0000	278.9535	278.9535	4.4500e-003	6.2400e-003	280.9238
Total	**0.0967**	**0.6351**	**0.9571**	**5.0400e-003**	**0.5119**	**4.2400e-003**	**0.5161**	**0.1383**	**4.0100e-003**	**0.1423**	**0.0000**	**500.7865**	**500.7865**	**0.0104**	**0.0397**	**512.8814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0332**	**343.0332**	**0.0128**	**0.0000**	**343.3526**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.5879	0.1582	2.2700e-003	0.0889	3.0400e-003	0.0919	0.0257	2.9100e-003	0.0286	0.0000	221.8330	221.8330	5.9400e-003	0.0335	231.9576
Worker	0.0856	0.0472	0.7990	2.7700e-003	0.4230	1.2000e-003	0.4242	0.1126	1.1000e-003	0.1137	0.0000	278.9535	278.9535	4.4500e-003	6.2400e-003	280.9238
Total	**0.0967**	**0.6351**	**0.9571**	**5.0400e-003**	**0.5119**	**4.2400e-003**	**0.5161**	**0.1383**	**4.0100e-003**	**0.1423**	**0.0000**	**500.7865**	**500.7865**	**0.0104**	**0.0397**	**512.8814**

3.5 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8301	103.8301	3.8700e-003	0.0000	103.9268
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8301**	**103.8301**	**3.8700e-003**	**0.0000**	**103.9268**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3600e-003	0.1780	0.0479	6.9000e-004	0.0269	9.2000e-004	0.0278	7.7800e-003	8.8000e-004	8.6600e-003	0.0000	67.1449	67.1449	1.8000e-003	0.0101	70.2094
Worker	0.0259	0.0143	0.2418	8.4000e-004	0.1280	3.6000e-004	0.1284	0.0341	3.3000e-004	0.0344	0.0000	84.4342	84.4342	1.3500e-003	1.8900e-003	85.0306
Total	**0.0293**	**0.1922**	**0.2897**	**1.5300e-003**	**0.1549**	**1.2800e-003**	**0.1562**	**0.0419**	**1.2100e-003**	**0.0431**	**0.0000**	**151.5791**	**151.5791**	**3.1500e-003**	**0.0120**	**155.2400**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8300	103.8300	3.8700e-003	0.0000	103.9267
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8300**	**103.8300**	**3.8700e-003**	**0.0000**	**103.9267**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3600e-003	0.1780	0.0479	6.9000e-004	0.0269	9.2000e-004	0.0278	7.7800e-003	8.8000e-004	8.6600e-003	0.0000	67.1449	67.1449	1.8000e-003	0.0101	70.2094
Worker	0.0259	0.0143	0.2418	8.4000e-004	0.1280	3.6000e-004	0.1284	0.0341	3.3000e-004	0.0344	0.0000	84.4342	84.4342	1.3500e-003	1.8900e-003	85.0306
Total	**0.0293**	**0.1922**	**0.2897**	**1.5300e-003**	**0.1549**	**1.2800e-003**	**0.1562**	**0.0419**	**1.2100e-003**	**0.0431**	**0.0000**	**151.5791**	**151.5791**	**3.1500e-003**	**0.0120**	**155.2400**

3.6 Paving - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5106	220.5106	8.4900e-003	0.0000	220.7227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5106**	**220.5106**	**8.4900e-003**	**0.0000**	**220.7227**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5103	220.5103	8.4900e-003	0.0000	220.7225
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5103**	**220.5103**	**8.4900e-003**	**0.0000**	**220.7225**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

3.6 Paving - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6270
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6270**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6269
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6269**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

3.7 Architectural Coating - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.1069					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**5.1199**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

Springs Specific Plan - Alternative 3 - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0145	7.9900e-003	0.1353	4.7000e-004	0.0717	2.0000e-004	0.0719	0.0191	1.9000e-004	0.0193	0.0000	47.2544	47.2544	7.5000e-004	1.0600e-003	47.5881
Total	**0.0145**	**7.9900e-003**	**0.1353**	**4.7000e-004**	**0.0717**	**2.0000e-004**	**0.0719**	**0.0191**	**1.9000e-004**	**0.0193**	**0.0000**	**47.2544**	**47.2544**	**7.5000e-004**	**1.0600e-003**	**47.5881**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.1069					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**5.1199**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

3.7 Architectural Coating - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0145	7.9900e-003	0.1353	4.7000e-004	0.0717	2.0000e-004	0.0719	0.0191	1.9000e-004	0.0193	0.0000	47.2544	47.2544	7.5000e-004	1.0600e-003	47.5881
Total	**0.0145**	**7.9900e-003**	**0.1353**	**4.7000e-004**	**0.0717**	**2.0000e-004**	**0.0719**	**0.0191**	**1.9000e-004**	**0.0193**	**0.0000**	**47.2544**	**47.2544**	**7.5000e-004**	**1.0600e-003**	**47.5881**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

Springs Specific Plan - Alternative 3 - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5873	2.6859	23.0469	0.0403	5.4961	0.0238	5.5200	1.4709	0.0223	1.4931	0.0000	4,058.8874	4,058.8874	0.2744	0.2281	4,133.7295
Unmitigated	3.0966	3.5026	30.0302	0.0594	8.2649	0.0337	8.2985	2.2118	0.0315	2.2433	0.0000	5,990.3494	5,990.3494	0.3497	0.2990	6,088.1865

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	760.80	845.60	652.80	1,749,495	1,163,414
Apartments Mid Rise	1,908.90	1,722.60	1433.70	4,190,551	2,786,717
General Office Building	682.44	154.83	49.09	1,234,524	820,958
Hotel	1,303.20	1,276.80	927.60	2,366,879	1,573,975
Recreational Swimming Pool	690.77	218.08	326.01	1,032,197	686,411
Single Family Housing	772.38	780.57	699.93	1,762,692	1,172,190
Strip Mall	7,231.77	6,859.94	3333.88	10,197,807	6,781,542
Total	13,350.26	11,858.42	7,423.01	22,534,146	14,985,207

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Apartments Mid Rise	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
General Office Building	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Hotel	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Recreational Swimming Pool	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Single Family Housing	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533
Strip Mall	0.607923	0.051236	0.156689	0.105527	0.021293	0.006087	0.015426	0.006394	0.001025	0.000244	0.024437	0.001187	0.002533

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	460.5143	460.5143	0.0745	9.0300e-003	465.0680
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	498.0678	498.0678	0.0806	9.7700e-003	502.9928
NaturalGas Mitigated	0.0638	0.5678	0.3965	3.4800e-003		0.0441	0.0441		0.0441	0.0441	0.0000	631.6495	631.6495	0.0121	0.0116	635.4030
NaturalGas Unmitigated	0.0731	0.6503	0.4559	3.9800e-003		0.0505	0.0505		0.0505	0.0505	0.0000	723.0218	723.0218	0.0139	0.0133	727.3184

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	789423	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1266	42.1266	8.1000e-004	7.7000e-004	42.3770
Apartments Mid Rise	2.26305e+006	0.0122	0.1043	0.0444	6.7000e-004		8.4300e-003	8.4300e-003		8.4300e-003	8.4300e-003	0.0000	120.7652	120.7652	2.3100e-003	2.2100e-003	121.4828
General Office Building	873958	4.7100e-003	0.0428	0.0360	2.6000e-004		3.2600e-003	3.2600e-003		3.2600e-003	3.2600e-003	0.0000	46.6377	46.6377	8.9000e-004	8.6000e-004	46.9149
Hotel	7.65088e+006	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285	0.0000	408.2800	408.2800	7.8300e-003	7.4900e-003	410.7062
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.67766e+006	9.0500e-003	0.0773	0.0329	4.9000e-004		6.2500e-003	6.2500e-003		6.2500e-003	6.2500e-003	0.0000	89.5264	89.5264	1.7200e-003	1.6400e-003	90.0584
Strip Mall	293944	1.5800e-003	0.0144	0.0121	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	15.6860	15.6860	3.0000e-004	2.9000e-004	15.7792
Total		**0.0731**	**0.6503**	**0.4559**	**3.9900e-003**		**0.0505**	**0.0505**		**0.0505**	**0.0505**	**0.0000**	**723.0219**	**723.0219**	**0.0139**	**0.0133**	**727.3184**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	708870	3.8200e-003	0.0327	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8280	37.8280	7.3000e-004	6.9000e-004	38.0528
Apartments Mid Rise	2.05137e+006	0.0111	0.0945	0.0402	6.0000e-004		7.6400e-003	7.6400e-003		7.6400e-003	7.6400e-003	0.0000	109.4691	109.4691	2.1000e-003	2.0100e-003	110.1196
General Office Building	743349	4.0100e-003	0.0364	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003	0.0000	39.6680	39.6680	7.6000e-004	7.3000e-004	39.9037
Hotel	6.62739e+006	0.0357	0.3249	0.2729	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	353.6629	353.6629	6.7800e-003	6.4800e-003	355.7646
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.45583e+006	7.8500e-003	0.0671	0.0286	4.3000e-004		5.4200e-003	5.4200e-003		5.4200e-003	5.4200e-003	0.0000	77.6885	77.6885	1.4900e-003	1.4200e-003	78.1501
Strip Mall	249852	1.3500e-003	0.0123	0.0103	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3331	13.3331	2.6000e-004	2.4000e-004	13.4123
Total		**0.0638**	**0.5678**	**0.3965**	**3.4800e-003**		**0.0441**	**0.0441**		**0.0441**	**0.0441**	**0.0000**	**631.6495**	**631.6495**	**0.0121**	**0.0116**	**635.4030**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	324881	30.0592	4.8600e-003	5.9000e-004	30.3564
Apartments Mid Rise	1.04394e+006	96.5889	0.0156	1.8900e-003	97.5440
General Office Building	926287	85.7036	0.0139	1.6800e-003	86.5510
Hotel	1.28938e+006	119.2979	0.0193	2.3400e-003	120.4776
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	493493	45.6598	7.3900e-003	9.0000e-004	46.1113
Strip Mall	1.30516e+006	120.7584	0.0195	2.3700e-003	121.9525
Total		**498.0678**	**0.0806**	**9.7700e-003**	**502.9928**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	313574	29.0130	4.6900e-003	5.7000e-004	29.2999
Apartments Mid Rise	1.00903e+006	93.3597	0.0151	1.8300e-003	94.2829
General Office Building	848694	78.5244	0.0127	1.5400e-003	79.3008
Hotel	1.17603e+006	108.8110	0.0176	2.1300e-003	109.8870
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	476629	44.0995	7.1300e-003	8.6000e-004	44.5356
Strip Mall	1.15329e+006	106.7067	0.0173	2.0900e-003	107.7619
Total		**460.5143**	**0.0745**	**9.0200e-003**	**465.0680**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.7939	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Unmitigated	4.9728	0.0620	4.7080	3.4900e-003		0.2539	0.2539		0.2539	0.2539	23.9644	13.5352	37.4995	0.0456	1.5000e-003	39.0867

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1789	0.0267	1.6520	3.3300e-003		0.2369	0.2369		0.2369	0.2369	23.9644	8.5203	32.4847	0.0408	1.5000e-003	33.9523
Landscaping	0.0916	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Total	**4.9727**	**0.0620**	**4.7080**	**3.4900e-003**		**0.2539**	**0.2539**		**0.2539**	**0.2539**	**23.9644**	**13.5352**	**37.4995**	**0.0456**	**1.5000e-003**	**39.0867**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0916	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Total	**3.7939**	**0.0353**	**3.0560**	**1.6000e-004**		**0.0170**	**0.0170**		**0.0170**	**0.0170**	**0.0000**	**5.0149**	**5.0149**	**4.7800e-003**	**0.0000**	**5.1344**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.6610	1.3065	0.0313	83.6518
Unmitigated	50.4136	1.6328	0.0391	102.8856

Springs Specific Plan - Alternative 3 - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	5.21232 / 3.28603	5.3273	0.1704	4.0800e-003	10.8048
Apartments Mid Rise	17.5916 / 11.0903	17.9796	0.5752	0.0138	36.4662
General Office Building	9.58874 / 5.87697	9.7458	0.3135	7.5100e-003	19.8218
Hotel	3.04401 / 0.338224	2.5992	0.0995	2.3700e-003	5.7931
Recreational Swimming Pool	1.09119 / 0.668794	1.1091	0.0357	8.5000e-004	2.2557
Single Family Housing	4.1047 / 2.58775	4.1952	0.1342	3.2100e-003	8.5088
Strip Mall	9.30499 / 5.70306	9.4574	0.3043	7.2900e-003	19.2353
Total		**50.4136**	**1.6328**	**0.0391**	**102.8856**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.16986 / 3.08558	4.4097	0.1364	3.2700e-003	8.7932
Apartments Mid Rise	14.0733 / 10.4138	14.8829	0.4603	0.0110	29.6771
General Office Building	7.67099 / 5.51847	8.0612	0.2509	6.0100e-003	16.1246
Hotel	2.43521 / 0.317592	2.0946	0.0796	1.9000e-003	4.6498
Recreational Swimming Pool	0.872953 / 0.627998	0.9174	0.0286	6.8000e-004	1.8350
Single Family Housing	3.28376 / 2.4299	3.4727	0.1074	2.5700e-003	6.9247
Strip Mall	7.44399 / 5.35517	7.8226	0.2435	5.8300e-003	15.6475
Total		**41.6610**	**1.3065**	**0.0313**	**83.6518**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	119.3303	7.0522	0.0000	295.6357
Unmitigated	119.3303	7.0522	0.0000	295.6357

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	36.8	7.4701	0.4415	0.0000	18.5068
Apartments Mid Rise	124.2	25.2115	1.4900	0.0000	62.4604
General Office Building	50.17	10.1841	0.6019	0.0000	25.2306
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	105.17	21.3486	1.2617	0.0000	52.8902
Single Family Housing	73.92	15.0051	0.8868	0.0000	37.1745
Strip Mall	131.9	26.7745	1.5823	0.0000	66.3327
Total		**119.3303**	**7.0522**	**0.0000**	**295.6357**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	36.8	7.4701	0.4415	0.0000	18.5068
Apartments Mid Rise	124.2	25.2115	1.4900	0.0000	62.4604
General Office Building	50.17	10.1841	0.6019	0.0000	25.2306
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	105.17	21.3486	1.2617	0.0000	52.8902
Single Family Housing	73.92	15.0051	0.8868	0.0000	37.1745
Strip Mall	131.9	26.7745	1.5823	0.0000	66.3327
Total		**119.3303**	**7.0522**	**0.0000**	**295.6357**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Springs Specific Plan - Alternative 3 (2050)

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	53.95	1000sqft	18.35	53,948.00	0
Hotel	120.00	Room	4.00	174,240.00	0
Recreational Swimming Pool	18.45	1000sqft	5.80	18,450.00	0
Apartments Low Rise	80.00	Dwelling Unit	15.21	80,000.00	224
Apartments Mid Rise	270.00	Dwelling Unit	68.85	270,000.00	756
Single Family Housing	63.00	Dwelling Unit	28.57	113,400.00	176
Strip Mall	125.62	1000sqft	38.03	125,617.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2050
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Use - Proxies selected for each land use based on the Specific Plan land uses (multifamily = apartments mid rise. mixed use = apartments low rise). Population estimated based on 2.8 persons/dwelling unit. Acreages estimated.

Construction Phase - Construction Phase - Construction schedule simplified for the purposes of modeling.

Grading - Assume 178 acres is graded.

Vehicle Trips - VMT - VMT adjusted based on the VMT provided by W-Trans (November 2021) - 14,984,162 VMT per year

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Woodstoves - Woodstoves - BAAQMD Rule: "Effective November 1, 2016 - No wood-burning devices of any kind may be installed in new homes or buildings being
constructed in the Bay Area". This is consistent with BAAQMD's ban on woodburning fireplaces and stoves.

Area Mitigation - VOC

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	53,950.00	53,948.00
tblLandUse	LandUseSquareFeet	125,620.00	125,617.00
tblLandUse	LotAcreage	1.24	18.35
tblLandUse	LotAcreage	0.42	5.80
tblLandUse	LotAcreage	5.00	15.21
tblLandUse	LotAcreage	7.11	68.85
tblLandUse	LotAcreage	20.45	28.57
tblLandUse	LotAcreage	2.88	38.03
tblLandUse	Population	229.00	224.00
tblLandUse	Population	772.00	756.00
tblLandUse	Population	180.00	176.00
tblVehicleTrips	ST_TR	8.14	10.57
tblVehicleTrips	ST_TR	4.91	6.38
tblVehicleTrips	ST_TR	2.21	2.87
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	9.10	11.82
tblVehicleTrips	ST_TR	9.54	12.39
tblVehicleTrips	ST_TR	42.04	54.61
tblVehicleTrips	SU_TR	6.28	8.16
tblVehicleTrips	SU_TR	4.09	5.31
tblVehicleTrips	SU_TR	0.70	0.91
tblVehicleTrips	SU_TR	5.95	7.73
tblVehicleTrips	SU_TR	13.60	17.67
tblVehicleTrips	SU_TR	8.55	11.11

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	SU_TR	20.43	26.54
tblVehicleTrips	WD_TR	7.32	9.51
tblVehicleTrips	WD_TR	5.44	7.07
tblVehicleTrips	WD_TR	9.74	12.65
tblVehicleTrips	WD_TR	8.36	10.86
tblVehicleTrips	WD_TR	28.82	37.44
tblVehicleTrips	WD_TR	9.44	12.26
tblVehicleTrips	WD_TR	44.32	57.57

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.6534	0.1728	0.8262	0.3125	0.1601	0.4726	0.0000	453.6851	453.6851	0.1284	4.6000e-004	457.0316
2023	0.4210	4.2835	3.4224	7.5300e-003	1.7527	0.1806	1.9333	0.6978	0.1661	0.8639	0.0000	662.0432	662.0432	0.2094	5.2000e-004	667.4338
2024	0.4041	3.2477	3.6809	9.2300e-003	1.1311	0.1235	1.2547	0.3182	0.1147	0.4329	0.0000	834.7210	834.7210	0.1482	0.0296	847.2413
2025	0.3578	2.3687	3.5408	9.7000e-003	0.5119	0.0746	0.5865	0.1383	0.0702	0.2085	0.0000	893.8691	893.8691	0.0863	0.0490	910.6255
2026	0.3468	2.3503	3.4530	9.5300e-003	0.5119	0.0744	0.5863	0.1383	0.0700	0.2083	0.0000	881.3108	881.3108	0.0855	0.0477	897.6490
2027	0.3368	2.3338	3.3782	9.3800e-003	0.5119	0.0742	0.5861	0.1383	0.0698	0.2081	0.0000	869.1010	869.1010	0.0847	0.0464	885.0372
2028	0.3261	2.3113	3.3030	9.2000e-003	0.5099	0.0737	0.5837	0.1378	0.0694	0.2071	0.0000	854.6030	854.6030	0.0838	0.0450	870.1160
2029	0.3182	2.3062	3.2602	9.1000e-003	0.5119	0.0738	0.5857	0.1383	0.0695	0.2078	0.0000	847.1056	847.1056	0.0836	0.0441	862.3266
2030	0.3020	1.7040	3.2231	9.5100e-003	0.5119	0.0242	0.5361	0.1383	0.0239	0.1622	0.0000	878.0209	878.0209	0.0258	0.0431	891.5054
2031	0.2930	1.6950	3.1807	9.4000e-003	0.5119	0.0240	0.5359	0.1383	0.0238	0.1621	0.0000	869.5257	869.5257	0.0254	0.0422	882.7408
2032	0.2867	1.6944	3.1578	9.3400e-003	0.5139	0.0240	0.5378	0.1388	0.0237	0.1626	0.0000	865.3264	865.3264	0.0251	0.0416	878.3613
2033	0.2777	1.6753	3.1035	9.1800e-003	0.5099	0.0237	0.5336	0.1378	0.0235	0.1612	0.0000	852.0419	852.0419	0.0246	0.0407	864.7759
2034	0.2718	1.6696	3.0768	9.1100e-003	0.5099	0.0236	0.5335	0.1378	0.0234	0.1611	0.0000	845.9766	845.9766	0.0243	0.0401	858.5289
2035	0.2555	1.5696	3.0605	9.0800e-003	0.5119	0.0160	0.5279	0.1383	0.0158	0.1541	0.0000	843.8202	843.8202	0.0232	0.0397	856.2344
2036	0.1839	0.9225	2.3943	5.3800e-003	0.1657	0.0220	0.1877	0.0447	0.0220	0.0667	0.0000	483.0234	483.0234	0.0156	0.0122	487.0433
2037	5.1559	0.1818	0.6295	1.3300e-003	0.0738	4.7700e-003	0.0786	0.0197	4.7500e-003	0.0244	0.0000	121.3605	121.3605	3.5300e-003	1.0900e-003	121.7733
Maximum	**5.1559**	**4.2835**	**3.6809**	**9.7000e-003**	**1.7527**	**0.1806**	**1.9333**	**0.6978**	**0.1661**	**0.8639**	**0.0000**	**893.8691**	**893.8691**	**0.2094**	**0.0490**	**910.6255**

2.1 Overall Construction

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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3668	3.5701	2.7118	5.1700e-003	0.6534	0.1728	0.8262	0.3125	0.1601	0.4726	0.0000	453.6846	453.6846	0.1284	4.6000e-004	457.0311
2023	0.4210	4.2834	3.4224	7.5300e-003	1.7527	0.1806	1.9333	0.6978	0.1661	0.8639	0.0000	662.0425	662.0425	0.2094	5.2000e-004	667.4330
2024	0.4041	3.2477	3.6809	9.2300e-003	1.1311	0.1235	1.2547	0.3182	0.1147	0.4329	0.0000	834.7204	834.7204	0.1482	0.0296	847.2408
2025	0.3578	2.3687	3.5408	9.7000e-003	0.5119	0.0746	0.5865	0.1383	0.0702	0.2085	0.0000	893.8688	893.8688	0.0863	0.0490	910.6252
2026	0.3468	2.3503	3.4530	9.5300e-003	0.5119	0.0744	0.5863	0.1383	0.0700	0.2083	0.0000	881.3105	881.3105	0.0855	0.0477	897.6486
2027	0.3368	2.3338	3.3782	9.3800e-003	0.5119	0.0742	0.5861	0.1383	0.0698	0.2081	0.0000	869.1006	869.1006	0.0847	0.0464	885.0368
2028	0.3261	2.3113	3.3030	9.2000e-003	0.5099	0.0737	0.5837	0.1378	0.0694	0.2071	0.0000	854.6027	854.6027	0.0838	0.0450	870.1156
2029	0.3182	2.3062	3.2602	9.1000e-003	0.5119	0.0738	0.5857	0.1383	0.0695	0.2078	0.0000	847.1052	847.1052	0.0836	0.0441	862.3262
2030	0.3020	1.7040	3.2231	9.5100e-003	0.5119	0.0242	0.5361	0.1383	0.0239	0.1622	0.0000	878.0205	878.0205	0.0258	0.0431	891.5049
2031	0.2930	1.6950	3.1807	9.4000e-003	0.5119	0.0240	0.5359	0.1383	0.0238	0.1621	0.0000	869.5253	869.5253	0.0254	0.0422	882.7404
2032	0.2867	1.6944	3.1578	9.3400e-003	0.5139	0.0240	0.5378	0.1388	0.0237	0.1626	0.0000	865.3260	865.3260	0.0251	0.0416	878.3609
2033	0.2777	1.6753	3.1035	9.1800e-003	0.5099	0.0237	0.5336	0.1378	0.0235	0.1612	0.0000	852.0415	852.0415	0.0246	0.0407	864.7755
2034	0.2718	1.6696	3.0768	9.1100e-003	0.5099	0.0236	0.5335	0.1378	0.0234	0.1611	0.0000	845.9762	845.9762	0.0243	0.0401	858.5285
2035	0.2555	1.5696	3.0605	9.0800e-003	0.5119	0.0160	0.5279	0.1383	0.0158	0.1541	0.0000	843.8198	843.8198	0.0232	0.0397	856.2340
2036	0.1839	0.9225	2.3943	5.3800e-003	0.1657	0.0220	0.1877	0.0447	0.0220	0.0667	0.0000	483.0230	483.0230	0.0156	0.0122	487.0429
2037	5.1559	0.1818	0.6295	1.3300e-003	0.0738	4.7700e-003	0.0786	0.0197	4.7500e-003	0.0244	0.0000	121.3605	121.3605	3.5300e-003	1.0900e-003	121.7732
Maximum	**5.1559**	**4.2834**	**3.6809**	**9.7000e-003**	**1.7527**	**0.1806**	**1.9333**	**0.6978**	**0.1661**	**0.8639**	**0.0000**	**893.8688**	**893.8688**	**0.2094**	**0.0490**	**910.6252**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2022	3-31-2022	0.9150	0.9150
2	4-1-2022	6-30-2022	0.9248	0.9248
3	7-1-2022	9-30-2022	0.9350	0.9350
4	10-1-2022	12-31-2022	1.1756	1.1756
5	1-1-2023	3-31-2023	0.9931	0.9931
6	4-1-2023	6-30-2023	1.2335	1.2335
7	7-1-2023	9-30-2023	1.2471	1.2471
8	10-1-2023	12-31-2023	1.2475	1.2475
9	1-1-2024	3-31-2024	1.1607	1.1607
10	4-1-2024	6-30-2024	1.0137	1.0137
11	7-1-2024	9-30-2024	0.7234	0.7234
12	10-1-2024	12-31-2024	0.7399	0.7399
13	1-1-2025	3-31-2025	0.6809	0.6809
14	4-1-2025	6-30-2025	0.6729	0.6729
15	7-1-2025	9-30-2025	0.6803	0.6803
16	10-1-2025	12-31-2025	0.6960	0.6960
17	1-1-2026	3-31-2026	0.6732	0.6732
18	4-1-2026	6-30-2026	0.6658	0.6658
19	7-1-2026	9-30-2026	0.6731	0.6731
20	10-1-2026	12-31-2026	0.6881	0.6881
21	1-1-2027	3-31-2027	0.6662	0.6662
22	4-1-2027	6-30-2027	0.6593	0.6593
23	7-1-2027	9-30-2027	0.6665	0.6665

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24	**10-1-2027**	**12-31-2027**	0.6810	0.6810
25	**1-1-2028**	**3-31-2028**	0.6675	0.6675
26	**4-1-2028**	**6-30-2028**	0.6537	0.6537
27	**7-1-2028**	**9-30-2028**	0.6609	0.6609
28	**10-1-2028**	**12-31-2028**	0.6748	0.6748
29	**1-1-2029**	**3-31-2029**	0.6541	0.6541
30	**4-1-2029**	**6-30-2029**	0.6481	0.6481
31	**7-1-2029**	**9-30-2029**	0.6552	0.6552
32	**10-1-2029**	**12-31-2029**	0.6686	0.6686
33	**1-1-2030**	**3-31-2030**	0.5015	0.5015
34	**4-1-2030**	**6-30-2030**	0.4941	0.4941
35	**7-1-2030**	**9-30-2030**	0.4996	0.4996
36	**10-1-2030**	**12-31-2030**	0.5126	0.5126
37	**1-1-2031**	**3-31-2031**	0.4967	0.4967
38	**4-1-2031**	**6-30-2031**	0.4897	0.4897
39	**7-1-2031**	**9-30-2031**	0.4951	0.4951
40	**10-1-2031**	**12-31-2031**	0.5077	0.5077
41	**1-1-2032**	**3-31-2032**	0.4983	0.4983
42	**4-1-2032**	**6-30-2032**	0.4861	0.4861
43	**7-1-2032**	**9-30-2032**	0.4915	0.4915
44	**10-1-2032**	**12-31-2032**	0.5038	0.5038
45	**1-1-2033**	**3-31-2033**	0.4894	0.4894
46	**4-1-2033**	**6-30-2033**	0.4829	0.4829
47	**7-1-2033**	**9-30-2033**	0.4882	0.4882
48	**10-1-2033**	**12-31-2033**	0.5003	0.5003
49	**1-1-2034**	**3-31-2034**	0.4864	0.4864
50	**4-1-2034**	**6-30-2034**	0.4800	0.4800
51	**7-1-2034**	**9-30-2034**	0.4853	0.4853
52	**10-1-2034**	**12-31-2034**	0.4972	0.4972

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53	**1-1-2035**	**3-31-2035**	0.4557	0.4557
54	**4-1-2035**	**6-30-2035**	0.4492	0.4492
55	**7-1-2035**	**9-30-2035**	0.4542	0.4542
56	**10-1-2035**	**12-31-2035**	0.4658	0.4658
57	**1-1-2036**	**3-31-2036**	0.4608	0.4608
58	**4-1-2036**	**6-30-2036**	0.2467	0.2467
59	**7-1-2036**	**9-30-2036**	0.1989	0.1989
60	**10-1-2036**	**12-31-2036**	0.1990	0.1990
61	**1-1-2037**	**3-31-2037**	0.7723	0.7723
62	**4-1-2037**	**6-30-2037**	1.5438	1.5438
63	**7-1-2037**	**9-30-2037**	1.5608	1.5608
		Highest	1.5608	1.5608

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9728	0.0620	4.7080	3.4900e-003		0.2539	0.2539		0.2539	0.2539	23.9644	13.5352	37.4996	0.0456	1.5000e-003	39.0867
Energy	0.0731	0.6503	0.4559	3.9800e-003		0.0505	0.0505		0.0505	0.0505	0.0000	1,221.0897	1,221.0897	0.0944	0.0230	1,230.3112
Mobile	2.6845	3.2450	27.9524	0.0572	8.2575	0.0277	8.2853	2.2087	0.0259	2.2346	0.0000	5,814.0800	5,814.0800	0.3138	0.2869	5,907.4175
Waste						0.0000	0.0000		0.0000	0.0000	119.3303	0.0000	119.3303	7.0522	0.0000	295.6357
Water						0.0000	0.0000		0.0000	0.0000	15.8429	34.5707	50.4136	1.6328	0.0391	102.8856
Total	**7.7303**	**3.9572**	**33.1162**	**0.0647**	**8.2575**	**0.3321**	**8.5896**	**2.2087**	**0.3302**	**2.5389**	**159.1375**	**7,083.2755**	**7,242.4130**	**9.1388**	**0.3505**	**7,575.3367**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.7939	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Energy	0.0638	0.5678	0.3965	3.4800e-003		0.0441	0.0441		0.0441	0.0441	0.0000	1,092.1638	1,092.1638	0.0866	0.0206	1,100.4710
Mobile	2.2194	2.5050	21.4672	0.0387	5.4913	0.0196	5.5109	1.4688	0.0183	1.4871	0.0000	3,938.9522	3,938.9522	0.2445	0.2196	4,010.5058
Waste						0.0000	0.0000		0.0000	0.0000	119.3303	0.0000	119.3303	7.0522	0.0000	295.6357
Water						0.0000	0.0000		0.0000	0.0000	12.6743	28.9867	41.6610	1.3065	0.0313	83.6518
Total	**6.0771**	**3.1081**	**24.9196**	**0.0424**	**5.4913**	**0.0807**	**5.5720**	**1.4688**	**0.0794**	**1.5482**	**132.0046**	**5,065.1176**	**5,197.1221**	**8.6945**	**0.2715**	**5,495.3987**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**21.39**	**21.46**	**24.75**	**34.46**	**33.50**	**75.69**	**35.13**	**33.50**	**75.95**	**39.02**	**17.05**	**28.49**	**28.24**	**4.86**	**22.54**	**27.46**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	10/7/2022	5	200	
2	Site Preparation	Site Preparation	10/8/2022	3/24/2023	5	120	
3	Grading	Grading	3/25/2023	5/31/2024	5	310	

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4	Building Construction	Building Construction	6/1/2024	4/18/2036	5	3100	
5	Paving	Paving	4/19/2036	2/20/2037	5	220	
6	Architectural Coating	Architectural Coating	2/21/2037	12/25/2037	5	220	

Acres of Grading (Site Preparation Phase): 180

Acres of Grading (Grading Phase): 930

Acres of Paving: 0

Residential Indoor: 938,385; Residential Outdoor: 312,795; Non-Residential Indoor: 530,708; Non-Residential Outdoor: 176,903; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

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Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	413.00	105.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	83.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9023	339.9023	0.0955	0.0000	342.2892
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9023**	**339.9023**	**0.0955**	**0.0000**	**342.2892**

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3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2639	2.5719	2.0594	3.8800e-003		0.1243	0.1243		0.1155	0.1155	0.0000	339.9019	339.9019	0.0955	0.0000	342.2887
Total	**0.2639**	**2.5719**	**2.0594**	**3.8800e-003**		**0.1243**	**0.1243**		**0.1155**	**0.1155**	**0.0000**	**339.9019**	**339.9019**	**0.0955**	**0.0000**	**342.2887**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7300e-003	4.1300e-003	0.0452	1.1000e-004	0.0118	8.0000e-005	0.0119	3.1300e-003	7.0000e-005	3.2000e-003	0.0000	9.9005	9.9005	3.8000e-004	3.3000e-004	10.0097
Total	**5.7300e-003**	**4.1300e-003**	**0.0452**	**1.1000e-004**	**0.0118**	**8.0000e-005**	**0.0119**	**3.1300e-003**	**7.0000e-005**	**3.2000e-003**	**0.0000**	**9.9005**	**9.9005**	**3.8000e-004**	**3.3000e-004**	**10.0097**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3182	100.3182	0.0324	0.0000	101.1293
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.6374**	**0.0484**	**0.6858**	**0.3082**	**0.0445**	**0.3527**	**0.0000**	**100.3182**	**100.3182**	**0.0324**	**0.0000**	**101.1293**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0951	0.9925	0.5909	1.1400e-003		0.0484	0.0484		0.0445	0.0445	0.0000	100.3181	100.3181	0.0324	0.0000	101.1292
Total	**0.0951**	**0.9925**	**0.5909**	**1.1400e-003**	**0.6374**	**0.0484**	**0.6858**	**0.3082**	**0.0445**	**0.3527**	**0.0000**	**100.3181**	**100.3181**	**0.0324**	**0.0000**	**101.1292**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	1.4900e-003	0.0163	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	3.0000e-005	1.1500e-003	0.0000	3.5642	3.5642	1.4000e-004	1.2000e-004	3.6035
Total	**2.0600e-003**	**1.4900e-003**	**0.0163**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2700e-003**	**1.1300e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.5642**	**3.5642**	**1.4000e-004**	**1.2000e-004**	**3.6035**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3521	100.3521	0.0325	0.0000	101.1635
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.6374**	**0.0380**	**0.6754**	**0.3082**	**0.0349**	**0.3432**	**0.0000**	**100.3521**	**100.3521**	**0.0325**	**0.0000**	**101.1635**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0798	0.8257	0.5473	1.1400e-003		0.0380	0.0380		0.0349	0.0349	0.0000	100.3520	100.3520	0.0325	0.0000	101.1634
Total	**0.0798**	**0.8257**	**0.5473**	**1.1400e-003**	**0.6374**	**0.0380**	**0.6754**	**0.3082**	**0.0349**	**0.3432**	**0.0000**	**100.3520**	**100.3520**	**0.0325**	**0.0000**	**101.1634**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9100e-003	1.3100e-003	0.0149	4.0000e-005	4.2400e-003	3.0000e-005	4.2600e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.4737	3.4737	1.2000e-004	1.1000e-004	3.5097
Total	**1.9100e-003**	**1.3100e-003**	**0.0149**	**4.0000e-005**	**4.2400e-003**	**3.0000e-005**	**4.2600e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**0.0000**	**3.4737**	**3.4737**	**1.2000e-004**	**1.1000e-004**	**3.5097**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0953	0.0000	1.0953	0.3843	0.0000	0.3843	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3521	545.3521	0.1764	0.0000	549.7615
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**1.0953**	**0.1425**	**1.2378**	**0.3843**	**0.1311**	**0.5153**	**0.0000**	**545.3521**	**545.3521**	**0.1764**	**0.0000**	**549.7615**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0953	0.0000	1.0953	0.3843	0.0000	0.3843	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3322	3.4516	2.8051	6.2100e-003		0.1425	0.1425		0.1311	0.1311	0.0000	545.3514	545.3514	0.1764	0.0000	549.7609
Total	**0.3322**	**3.4516**	**2.8051**	**6.2100e-003**	**1.0953**	**0.1425**	**1.2378**	**0.3843**	**0.1311**	**0.5153**	**0.0000**	**545.3514**	**545.3514**	**0.1764**	**0.0000**	**549.7609**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0800e-003	4.8500e-003	0.0551	1.4000e-004	0.0157	1.0000e-004	0.0158	4.1800e-003	9.0000e-005	4.2700e-003	0.0000	12.8654	12.8654	4.5000e-004	4.1000e-004	12.9990
Total	**7.0800e-003**	**4.8500e-003**	**0.0551**	**1.4000e-004**	**0.0157**	**1.0000e-004**	**0.0158**	**4.1800e-003**	**9.0000e-005**	**4.2700e-003**	**0.0000**	**12.8654**	**12.8654**	**4.5000e-004**	**4.1000e-004**	**12.9990**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8244	0.0000	0.8244	0.2353	0.0000	0.2353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8574	299.8574	0.0970	0.0000	302.2819
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.8244**	**0.0735**	**0.8978**	**0.2353**	**0.0676**	**0.3029**	**0.0000**	**299.8574**	**299.8574**	**0.0970**	**0.0000**	**302.2819**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8244	0.0000	0.8244	0.2353	0.0000	0.2353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1770	1.7807	1.5248	3.4100e-003		0.0735	0.0735		0.0676	0.0676	0.0000	299.8570	299.8570	0.0970	0.0000	302.2815
Total	**0.1770**	**1.7807**	**1.5248**	**3.4100e-003**	**0.8244**	**0.0735**	**0.8978**	**0.2353**	**0.0676**	**0.3029**	**0.0000**	**299.8570**	**299.8570**	**0.0970**	**0.0000**	**302.2815**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6200e-003	2.3700e-003	0.0279	7.0000e-005	8.6300e-003	5.0000e-005	8.6800e-003	2.3000e-003	5.0000e-005	2.3400e-003	0.0000	6.9015	6.9015	2.3000e-004	2.1000e-004	6.9693
Total	**3.6200e-003**	**2.3700e-003**	**0.0279**	**7.0000e-005**	**8.6300e-003**	**5.0000e-005**	**8.6800e-003**	**2.3000e-003**	**5.0000e-005**	**2.3400e-003**	**0.0000**	**6.9015**	**6.9015**	**2.3000e-004**	**2.1000e-004**	**6.9693**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2053	176.2053	0.0417	0.0000	177.2470
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2053**	**176.2053**	**0.0417**	**0.0000**	**177.2470**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3100e-003	0.3753	0.1031	1.5900e-003	0.0518	2.0100e-003	0.0538	0.0150	1.9200e-003	0.0169	0.0000	154.8250	154.8250	2.9100e-003	0.0234	161.8776
Worker	0.1034	0.0675	0.7965	2.1000e-003	0.2463	1.4200e-003	0.2478	0.0656	1.3100e-003	0.0669	0.0000	196.9317	196.9317	6.4400e-003	5.9500e-003	198.8655
Total	**0.1117**	**0.4429**	**0.8995**	**3.6900e-003**	**0.2981**	**3.4300e-003**	**0.3016**	**0.0806**	**3.2300e-003**	**0.0838**	**0.0000**	**351.7568**	**351.7568**	**9.3500e-003**	**0.0294**	**360.7432**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1118	1.0217	1.2287	2.0500e-003		0.0466	0.0466		0.0438	0.0438	0.0000	176.2051	176.2051	0.0417	0.0000	177.2468
Total	**0.1118**	**1.0217**	**1.2287**	**2.0500e-003**		**0.0466**	**0.0466**		**0.0438**	**0.0438**	**0.0000**	**176.2051**	**176.2051**	**0.0417**	**0.0000**	**177.2468**

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3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3100e-003	0.3753	0.1031	1.5900e-003	0.0518	2.0100e-003	0.0538	0.0150	1.9200e-003	0.0169	0.0000	154.8250	154.8250	2.9100e-003	0.0234	161.8776
Worker	0.1034	0.0675	0.7965	2.1000e-003	0.2463	1.4200e-003	0.2478	0.0656	1.3100e-003	0.0669	0.0000	196.9317	196.9317	6.4400e-003	5.9500e-003	198.8655
Total	**0.1117**	**0.4429**	**0.8995**	**3.6900e-003**	**0.2981**	**3.4300e-003**	**0.3016**	**0.0806**	**3.2300e-003**	**0.0838**	**0.0000**	**351.7568**	**351.7568**	**9.3500e-003**	**0.0294**	**360.7432**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0137	0.6378	0.1726	2.6800e-003	0.0889	3.4100e-003	0.0924	0.0257	3.2600e-003	0.0290	0.0000	261.1411	261.1411	5.1100e-003	0.0395	273.0390
Worker	0.1657	0.1036	1.2692	3.4900e-003	0.4230	2.3200e-003	0.4253	0.1126	2.1300e-003	0.1147	0.0000	330.0731	330.0731	9.9900e-003	9.5000e-003	333.1530
Total	**0.1794**	**0.7414**	**1.4417**	**6.1700e-003**	**0.5119**	**5.7300e-003**	**0.5177**	**0.1383**	**5.3900e-003**	**0.1437**	**0.0000**	**591.2142**	**591.2142**	**0.0151**	**0.0490**	**606.1920**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0137	0.6378	0.1726	2.6800e-003	0.0889	3.4100e-003	0.0924	0.0257	3.2600e-003	0.0290	0.0000	261.1411	261.1411	5.1100e-003	0.0395	273.0390
Worker	0.1657	0.1036	1.2692	3.4900e-003	0.4230	2.3200e-003	0.4253	0.1126	2.1300e-003	0.1147	0.0000	330.0731	330.0731	9.9900e-003	9.5000e-003	333.1530
Total	**0.1794**	**0.7414**	**1.4417**	**6.1700e-003**	**0.5119**	**5.7300e-003**	**0.5177**	**0.1383**	**5.3900e-003**	**0.1437**	**0.0000**	**591.2142**	**591.2142**	**0.0151**	**0.0490**	**606.1920**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.6297	0.1690	2.6300e-003	0.0889	3.3500e-003	0.0923	0.0257	3.2100e-003	0.0289	0.0000	256.3842	256.3842	5.2300e-003	0.0388	268.0667
Worker	0.1552	0.0934	1.1850	3.3800e-003	0.4230	2.1900e-003	0.4252	0.1126	2.0200e-003	0.1146	0.0000	322.2718	322.2718	9.0700e-003	8.8900e-003	325.1488
Total	**0.1684**	**0.7230**	**1.3540**	**6.0100e-003**	**0.5119**	**5.5400e-003**	**0.5175**	**0.1383**	**5.2300e-003**	**0.1435**	**0.0000**	**578.6559**	**578.6559**	**0.0143**	**0.0477**	**593.2155**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.6297	0.1690	2.6300e-003	0.0889	3.3500e-003	0.0923	0.0257	3.2100e-003	0.0289	0.0000	256.3842	256.3842	5.2300e-003	0.0388	268.0667
Worker	0.1552	0.0934	1.1850	3.3800e-003	0.4230	2.1900e-003	0.4252	0.1126	2.0200e-003	0.1146	0.0000	322.2718	322.2718	9.0700e-003	8.8900e-003	325.1488
Total	**0.1684**	**0.7230**	**1.3540**	**6.0100e-003**	**0.5119**	**5.5400e-003**	**0.5175**	**0.1383**	**5.2300e-003**	**0.1435**	**0.0000**	**578.6559**	**578.6559**	**0.0143**	**0.0477**	**593.2155**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0128	0.6219	0.1660	2.5800e-003	0.0889	3.2900e-003	0.0922	0.0257	3.1500e-003	0.0289	0.0000	251.3098	251.3098	5.3200e-003	0.0380	262.7635
Worker	0.1455	0.0846	1.1132	3.2800e-003	0.4230	2.0500e-003	0.4250	0.1126	1.8900e-003	0.1145	0.0000	315.1363	315.1363	8.2700e-003	8.3800e-003	317.8402
Total	**0.1583**	**0.7065**	**1.2792**	**5.8600e-003**	**0.5119**	**5.3400e-003**	**0.5173**	**0.1383**	**5.0400e-003**	**0.1433**	**0.0000**	**566.4461**	**566.4461**	**0.0136**	**0.0464**	**580.6037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0128	0.6219	0.1660	2.5800e-003	0.0889	3.2900e-003	0.0922	0.0257	3.1500e-003	0.0289	0.0000	251.3098	251.3098	5.3200e-003	0.0380	262.7635
Worker	0.1455	0.0846	1.1132	3.2800e-003	0.4230	2.0500e-003	0.4250	0.1126	1.8900e-003	0.1145	0.0000	315.1363	315.1363	8.2700e-003	8.3800e-003	317.8402
Total	**0.1583**	**0.7065**	**1.2792**	**5.8600e-003**	**0.5119**	**5.3400e-003**	**0.5173**	**0.1383**	**5.0400e-003**	**0.1433**	**0.0000**	**566.4461**	**566.4461**	**0.0136**	**0.0464**	**580.6037**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

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3.5 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0124	0.6134	0.1631	2.5200e-003	0.0886	3.2400e-003	0.0918	0.0256	3.1000e-003	0.0287	0.0000	245.5926	245.5926	5.4000e-003	0.0371	256.7870
Worker	0.1360	0.0768	1.0489	3.1800e-003	0.4214	1.9100e-003	0.4233	0.1122	1.7600e-003	0.1139	0.0000	307.5152	307.5152	7.5500e-003	7.9100e-003	310.0618
Total	**0.1484**	**0.6902**	**1.2119**	**5.7000e-003**	**0.5099**	**5.1500e-003**	**0.5151**	**0.1378**	**4.8600e-003**	**0.1426**	**0.0000**	**553.1077**	**553.1077**	**0.0130**	**0.0450**	**566.8489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

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3.5 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0124	0.6134	0.1631	2.5200e-003	0.0886	3.2400e-003	0.0918	0.0256	3.1000e-003	0.0287	0.0000	245.5926	245.5926	5.4000e-003	0.0371	256.7870
Worker	0.1360	0.0768	1.0489	3.1800e-003	0.4214	1.9100e-003	0.4233	0.1122	1.7600e-003	0.1139	0.0000	307.5152	307.5152	7.5500e-003	7.9100e-003	310.0618
Total	**0.1484**	**0.6902**	**1.2119**	**5.7000e-003**	**0.5099**	**5.1500e-003**	**0.5151**	**0.1378**	**4.8600e-003**	**0.1426**	**0.0000**	**553.1077**	**553.1077**	**0.0130**	**0.0450**	**566.8489**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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3.5 Building Construction - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0121	0.6083	0.1616	2.4800e-003	0.0889	3.1900e-003	0.0921	0.0257	3.0600e-003	0.0288	0.0000	241.6006	241.6006	5.5200e-003	0.0365	252.6145
Worker	0.1276	0.0706	0.9995	3.1100e-003	0.4230	1.7900e-003	0.4248	0.1126	1.6500e-003	0.1142	0.0000	302.8501	302.8501	6.9600e-003	7.5700e-003	305.2786
Total	**0.1397**	**0.6789**	**1.1611**	**5.5900e-003**	**0.5119**	**4.9800e-003**	**0.5169**	**0.1383**	**4.7100e-003**	**0.1430**	**0.0000**	**544.4507**	**544.4507**	**0.0125**	**0.0441**	**557.8931**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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3.5 Building Construction - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0121	0.6083	0.1616	2.4800e-003	0.0889	3.1900e-003	0.0921	0.0257	3.0600e-003	0.0288	0.0000	241.6006	241.6006	5.5200e-003	0.0365	252.6145
Worker	0.1276	0.0706	0.9995	3.1100e-003	0.4230	1.7900e-003	0.4248	0.1126	1.6500e-003	0.1142	0.0000	302.8501	302.8501	6.9600e-003	7.5700e-003	305.2786
Total	**0.1397**	**0.6789**	**1.1611**	**5.5900e-003**	**0.5119**	**4.9800e-003**	**0.5169**	**0.1383**	**4.7100e-003**	**0.1430**	**0.0000**	**544.4507**	**544.4507**	**0.0125**	**0.0441**	**557.8931**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0119	0.6035	0.1602	2.4300e-003	0.0889	3.1600e-003	0.0921	0.0257	3.0200e-003	0.0287	0.0000	237.3474	237.3474	5.6000e-003	0.0358	248.1689
Worker	0.1193	0.0650	0.9543	3.0300e-003	0.4230	1.6700e-003	0.4247	0.1126	1.5400e-003	0.1141	0.0000	297.6398	297.6398	6.4100e-003	7.2400e-003	299.9588
Total	**0.1312**	**0.6685**	**1.1146**	**5.4600e-003**	**0.5119**	**4.8300e-003**	**0.5167**	**0.1383**	**4.5600e-003**	**0.1429**	**0.0000**	**534.9872**	**534.9872**	**0.0120**	**0.0431**	**548.1277**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

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3.5 Building Construction - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0119	0.6035	0.1602	2.4300e-003	0.0889	3.1600e-003	0.0921	0.0257	3.0200e-003	0.0287	0.0000	237.3474	237.3474	5.6000e-003	0.0358	248.1689
Worker	0.1193	0.0650	0.9543	3.0300e-003	0.4230	1.6700e-003	0.4247	0.1126	1.5400e-003	0.1141	0.0000	297.6398	297.6398	6.4100e-003	7.2400e-003	299.9588
Total	**0.1312**	**0.6685**	**1.1146**	**5.4600e-003**	**0.5119**	**4.8300e-003**	**0.5167**	**0.1383**	**4.5600e-003**	**0.1429**	**0.0000**	**534.9872**	**534.9872**	**0.0120**	**0.0431**	**548.1277**

3.5 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

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3.5 Building Construction - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0116	0.5997	0.1593	2.3900e-003	0.0889	3.1300e-003	0.0920	0.0257	2.9900e-003	0.0287	0.0000	233.5667	233.5667	5.7000e-003	0.0353	244.2178
Worker	0.1105	0.0598	0.9130	2.9700e-003	0.4230	1.5600e-003	0.4245	0.1126	1.4300e-003	0.1140	0.0000	292.9254	292.9254	5.9100e-003	6.9500e-003	295.1453
Total	**0.1222**	**0.6595**	**1.0723**	**5.3600e-003**	**0.5119**	**4.6900e-003**	**0.5166**	**0.1383**	**4.4200e-003**	**0.1427**	**0.0000**	**526.4921**	**526.4921**	**0.0116**	**0.0422**	**539.3631**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0116	0.5997	0.1593	2.3900e-003	0.0889	3.1300e-003	0.0920	0.0257	2.9900e-003	0.0287	0.0000	233.5667	233.5667	5.7000e-003	0.0353	244.2178
Worker	0.1105	0.0598	0.9130	2.9700e-003	0.4230	1.5600e-003	0.4245	0.1126	1.4300e-003	0.1140	0.0000	292.9254	292.9254	5.9100e-003	6.9500e-003	295.1453
Total	**0.1222**	**0.6595**	**1.0723**	**5.3600e-003**	**0.5119**	**4.6900e-003**	**0.5166**	**0.1383**	**4.4200e-003**	**0.1427**	**0.0000**	**526.4921**	**526.4921**	**0.0116**	**0.0422**	**539.3631**

3.5 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0115	0.5990	0.1594	2.3700e-003	0.0893	3.1200e-003	0.0924	0.0258	2.9800e-003	0.0288	0.0000	231.1131	231.1131	5.7900e-003	0.0349	241.6545
Worker	0.1037	0.0559	0.8819	2.9200e-003	0.4246	1.4600e-003	0.4261	0.1130	1.3500e-003	0.1144	0.0000	289.8654	289.8654	5.5000e-003	6.7500e-003	292.0135
Total	**0.1152**	**0.6549**	**1.0412**	**5.2900e-003**	**0.5139**	**4.5800e-003**	**0.5184**	**0.1388**	**4.3300e-003**	**0.1431**	**0.0000**	**520.9785**	**520.9785**	**0.0113**	**0.0416**	**533.6680**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

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3.5 Building Construction - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0115	0.5990	0.1594	2.3700e-003	0.0893	3.1200e-003	0.0924	0.0258	2.9800e-003	0.0288	0.0000	231.1131	231.1131	5.7900e-003	0.0349	241.6545
Worker	0.1037	0.0559	0.8819	2.9200e-003	0.4246	1.4600e-003	0.4261	0.1130	1.3500e-003	0.1144	0.0000	289.8654	289.8654	5.5000e-003	6.7500e-003	292.0135
Total	**0.1152**	**0.6549**	**1.0412**	**5.2900e-003**	**0.5139**	**4.5800e-003**	**0.5184**	**0.1388**	**4.3300e-003**	**0.1431**	**0.0000**	**520.9785**	**520.9785**	**0.0113**	**0.0416**	**533.6680**

3.5 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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3.5 Building Construction - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0113	0.5917	0.1579	2.3200e-003	0.0886	3.0700e-003	0.0916	0.0256	2.9400e-003	0.0285	0.0000	226.3570	226.3570	5.8200e-003	0.0342	236.6839
Worker	0.0962	0.0520	0.8452	2.8400e-003	0.4214	1.3600e-003	0.4227	0.1122	1.2500e-003	0.1134	0.0000	283.9656	283.9656	5.0700e-003	6.5000e-003	286.0299
Total	**0.1075**	**0.6438**	**1.0031**	**5.1600e-003**	**0.5099**	**4.4300e-003**	**0.5144**	**0.1378**	**4.1900e-003**	**0.1419**	**0.0000**	**510.3226**	**510.3226**	**0.0109**	**0.0407**	**522.7138**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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3.5 Building Construction - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0113	0.5917	0.1579	2.3200e-003	0.0886	3.0700e-003	0.0916	0.0256	2.9400e-003	0.0285	0.0000	226.3570	226.3570	5.8200e-003	0.0342	236.6839
Worker	0.0962	0.0520	0.8452	2.8400e-003	0.4214	1.3600e-003	0.4227	0.1122	1.2500e-003	0.1134	0.0000	283.9656	283.9656	5.0700e-003	6.5000e-003	286.0299
Total	**0.1075**	**0.6438**	**1.0031**	**5.1600e-003**	**0.5099**	**4.4300e-003**	**0.5144**	**0.1378**	**4.1900e-003**	**0.1419**	**0.0000**	**510.3226**	**510.3226**	**0.0109**	**0.0407**	**522.7138**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0112	0.5889	0.1577	2.2900e-003	0.0886	3.0500e-003	0.0916	0.0256	2.9200e-003	0.0285	0.0000	223.5504	223.5504	5.8800e-003	0.0337	233.7517
Worker	0.0905	0.0492	0.8187	2.8000e-003	0.4214	1.2700e-003	0.4226	0.1122	1.1700e-003	0.1133	0.0000	280.7069	280.7069	4.7300e-003	6.3400e-003	282.7152
Total	**0.1016**	**0.6381**	**0.9764**	**5.0900e-003**	**0.5099**	**4.3200e-003**	**0.5142**	**0.1378**	**4.0900e-003**	**0.1419**	**0.0000**	**504.2573**	**504.2573**	**0.0106**	**0.0401**	**516.4669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0112	0.5889	0.1577	2.2900e-003	0.0886	3.0500e-003	0.0916	0.0256	2.9200e-003	0.0285	0.0000	223.5504	223.5504	5.8800e-003	0.0337	233.7517
Worker	0.0905	0.0492	0.8187	2.8000e-003	0.4214	1.2700e-003	0.4226	0.1122	1.1700e-003	0.1133	0.0000	280.7069	280.7069	4.7300e-003	6.3400e-003	282.7152
Total	**0.1016**	**0.6381**	**0.9764**	**5.0900e-003**	**0.5099**	**4.3200e-003**	**0.5142**	**0.1378**	**4.0900e-003**	**0.1419**	**0.0000**	**504.2573**	**504.2573**	**0.0106**	**0.0401**	**516.4669**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0336**	**343.0336**	**0.0128**	**0.0000**	**343.3530**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.5879	0.1582	2.2700e-003	0.0889	3.0400e-003	0.0919	0.0257	2.9100e-003	0.0286	0.0000	221.8330	221.8330	5.9400e-003	0.0335	231.9576
Worker	0.0856	0.0472	0.7990	2.7700e-003	0.4230	1.2000e-003	0.4242	0.1126	1.1000e-003	0.1137	0.0000	278.9535	278.9535	4.4500e-003	6.2400e-003	280.9238
Total	**0.0967**	**0.6351**	**0.9571**	**5.0400e-003**	**0.5119**	**4.2400e-003**	**0.5161**	**0.1383**	**4.0100e-003**	**0.1423**	**0.0000**	**500.7865**	**500.7865**	**0.0104**	**0.0397**	**512.8814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0332**	**343.0332**	**0.0128**	**0.0000**	**343.3526**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.5879	0.1582	2.2700e-003	0.0889	3.0400e-003	0.0919	0.0257	2.9100e-003	0.0286	0.0000	221.8330	221.8330	5.9400e-003	0.0335	231.9576
Worker	0.0856	0.0472	0.7990	2.7700e-003	0.4230	1.2000e-003	0.4242	0.1126	1.1000e-003	0.1137	0.0000	278.9535	278.9535	4.4500e-003	6.2400e-003	280.9238
Total	**0.0967**	**0.6351**	**0.9571**	**5.0400e-003**	**0.5119**	**4.2400e-003**	**0.5161**	**0.1383**	**4.0100e-003**	**0.1423**	**0.0000**	**500.7865**	**500.7865**	**0.0104**	**0.0397**	**512.8814**

3.5 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8301	103.8301	3.8700e-003	0.0000	103.9268
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8301**	**103.8301**	**3.8700e-003**	**0.0000**	**103.9268**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3600e-003	0.1780	0.0479	6.9000e-004	0.0269	9.2000e-004	0.0278	7.7800e-003	8.8000e-004	8.6600e-003	0.0000	67.1449	67.1449	1.8000e-003	0.0101	70.2094
Worker	0.0259	0.0143	0.2418	8.4000e-004	0.1280	3.6000e-004	0.1284	0.0341	3.3000e-004	0.0344	0.0000	84.4342	84.4342	1.3500e-003	1.8900e-003	85.0306
Total	**0.0293**	**0.1922**	**0.2897**	**1.5300e-003**	**0.1549**	**1.2800e-003**	**0.1562**	**0.0419**	**1.2100e-003**	**0.0431**	**0.0000**	**151.5791**	**151.5791**	**3.1500e-003**	**0.0120**	**155.2400**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0481	0.2829	0.6367	1.2200e-003		3.5700e-003	3.5700e-003		3.5700e-003	3.5700e-003	0.0000	103.8300	103.8300	3.8700e-003	0.0000	103.9267
Total	**0.0481**	**0.2829**	**0.6367**	**1.2200e-003**		**3.5700e-003**	**3.5700e-003**		**3.5700e-003**	**3.5700e-003**	**0.0000**	**103.8300**	**103.8300**	**3.8700e-003**	**0.0000**	**103.9267**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3600e-003	0.1780	0.0479	6.9000e-004	0.0269	9.2000e-004	0.0278	7.7800e-003	8.8000e-004	8.6600e-003	0.0000	67.1449	67.1449	1.8000e-003	0.0101	70.2094
Worker	0.0259	0.0143	0.2418	8.4000e-004	0.1280	3.6000e-004	0.1284	0.0341	3.3000e-004	0.0344	0.0000	84.4342	84.4342	1.3500e-003	1.8900e-003	85.0306
Total	**0.0293**	**0.1922**	**0.2897**	**1.5300e-003**	**0.1549**	**1.2800e-003**	**0.1562**	**0.0419**	**1.2100e-003**	**0.0431**	**0.0000**	**151.5791**	**151.5791**	**3.1500e-003**	**0.0120**	**155.2400**

3.6 Paving - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5106	220.5106	8.4900e-003	0.0000	220.7227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5106**	**220.5106**	**8.4900e-003**	**0.0000**	**220.7227**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2036

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1044	0.4462	1.4476	2.5700e-003		0.0172	0.0172		0.0172	0.0172	0.0000	220.5103	220.5103	8.4900e-003	0.0000	220.7225
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1044**	**0.4462**	**1.4476**	**2.5700e-003**		**0.0172**	**0.0172**		**0.0172**	**0.0172**	**0.0000**	**220.5103**	**220.5103**	**8.4900e-003**	**0.0000**	**220.7225**

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3.6 Paving - 2036

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0204	7.0000e-005	0.0108	3.0000e-005	0.0108	2.8700e-003	3.0000e-005	2.9000e-003	0.0000	7.1037	7.1037	1.1000e-004	1.6000e-004	7.1539
Total	**2.1800e-003**	**1.2000e-003**	**0.0204**	**7.0000e-005**	**0.0108**	**3.0000e-005**	**0.0108**	**2.8700e-003**	**3.0000e-005**	**2.9000e-003**	**0.0000**	**7.1037**	**7.1037**	**1.1000e-004**	**1.6000e-004**	**7.1539**

3.6 Paving - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6270
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6270**

3.6 Paving - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0211	0.0902	0.2927	5.2000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	44.5841	44.5841	1.7200e-003	0.0000	44.6269
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0211**	**0.0902**	**0.2927**	**5.2000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**44.5841**	**44.5841**	**1.7200e-003**	**0.0000**	**44.6269**

3.6 Paving - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	4.1100e-003	1.0000e-005	2.1800e-003	1.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.4363	1.4363	2.0000e-005	3.0000e-005	1.4464
Total	**4.4000e-004**	**2.4000e-004**	**4.1100e-003**	**1.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.4363**	**1.4363**	**2.0000e-005**	**3.0000e-005**	**1.4464**

3.7 Architectural Coating - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.1069					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**5.1199**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2037

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0145	7.9900e-003	0.1353	4.7000e-004	0.0717	2.0000e-004	0.0719	0.0191	1.9000e-004	0.0193	0.0000	47.2544	47.2544	7.5000e-004	1.0600e-003	47.5881
Total	**0.0145**	**7.9900e-003**	**0.1353**	**4.7000e-004**	**0.0717**	**2.0000e-004**	**0.0719**	**0.0191**	**1.9000e-004**	**0.0193**	**0.0000**	**47.2544**	**47.2544**	**7.5000e-004**	**1.0600e-003**	**47.5881**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.1069					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.0834	0.1974	3.3000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	28.0858	28.0858	1.0400e-003	0.0000	28.1117
Total	**5.1199**	**0.0834**	**0.1974**	**3.3000e-004**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**28.0858**	**28.0858**	**1.0400e-003**	**0.0000**	**28.1117**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2037

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0145	7.9900e-003	0.1353	4.7000e-004	0.0717	2.0000e-004	0.0719	0.0191	1.9000e-004	0.0193	0.0000	47.2544	47.2544	7.5000e-004	1.0600e-003	47.5881
Total	**0.0145**	**7.9900e-003**	**0.1353**	**4.7000e-004**	**0.0717**	**2.0000e-004**	**0.0719**	**0.0191**	**1.9000e-004**	**0.0193**	**0.0000**	**47.2544**	**47.2544**	**7.5000e-004**	**1.0600e-003**	**47.5881**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2194	2.5050	21.4672	0.0387	5.4913	0.0196	5.5109	1.4688	0.0183	1.4871	0.0000	3,938.9522	3,938.9522	0.2445	0.2196	4,010.5058
Unmitigated	2.6845	3.2450	27.9524	0.0572	8.2575	0.0277	8.2853	2.2087	0.0259	2.2346	0.0000	5,814.0800	5,814.0800	0.3138	0.2869	5,907.4175

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	760.80	845.60	652.80	1,749,495	1,163,414
Apartments Mid Rise	1,908.90	1,722.60	1433.70	4,190,551	2,786,717
General Office Building	682.47	154.84	49.09	1,234,570	820,989
Hotel	1,303.20	1,276.80	927.60	2,366,879	1,573,975
Recreational Swimming Pool	690.77	218.08	326.01	1,032,197	686,411
Single Family Housing	772.38	780.57	699.93	1,762,692	1,172,190
Strip Mall	7,231.94	6,860.11	3333.95	10,198,050	6,781,704
Total	13,350.46	11,858.59	7,423.09	22,534,435	14,985,399

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Apartments Mid Rise	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
General Office Building	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Hotel	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Recreational Swimming Pool	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Single Family Housing	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322
Strip Mall	0.616156	0.051063	0.155535	0.103256	0.019012	0.005633	0.015595	0.006508	0.001026	0.000227	0.022797	0.000869	0.002322

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	460.5143	460.5143	0.0745	9.0300e-003	465.0680
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	498.0678	498.0678	0.0806	9.7700e-003	502.9928
NaturalGas Mitigated	0.0638	0.5678	0.3965	3.4800e-003		0.0441	0.0441		0.0441	0.0441	0.0000	631.6495	631.6495	0.0121	0.0116	635.4030
NaturalGas Unmitigated	0.0731	0.6503	0.4559	3.9800e-003		0.0505	0.0505		0.0505	0.0505	0.0000	723.0218	723.0218	0.0139	0.0133	727.3184

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	789423	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1266	42.1266	8.1000e-004	7.7000e-004	42.3770
Apartments Mid Rise	2.26305e+006	0.0122	0.1043	0.0444	6.7000e-004		8.4300e-003	8.4300e-003		8.4300e-003	8.4300e-003	0.0000	120.7652	120.7652	2.3100e-003	2.2100e-003	121.4828
General Office Building	873958	4.7100e-003	0.0428	0.0360	2.6000e-004		3.2600e-003	3.2600e-003		3.2600e-003	3.2600e-003	0.0000	46.6377	46.6377	8.9000e-004	8.6000e-004	46.9149
Hotel	7.65088e+006	0.0413	0.3750	0.3150	2.2500e-003		0.0285	0.0285		0.0285	0.0285	0.0000	408.2800	408.2800	7.8300e-003	7.4900e-003	410.7062
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.67766e+006	9.0500e-003	0.0773	0.0329	4.9000e-004		6.2500e-003	6.2500e-003		6.2500e-003	6.2500e-003	0.0000	89.5264	89.5264	1.7200e-003	1.6400e-003	90.0584
Strip Mall	293944	1.5800e-003	0.0144	0.0121	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	15.6860	15.6860	3.0000e-004	2.9000e-004	15.7792
Total		**0.0731**	**0.6503**	**0.4559**	**3.9900e-003**		**0.0505**	**0.0505**		**0.0505**	**0.0505**	**0.0000**	**723.0219**	**723.0219**	**0.0139**	**0.0133**	**727.3184**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	708870	3.8200e-003	0.0327	0.0139	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8280	37.8280	7.3000e-004	6.9000e-004	38.0528
Apartments Mid Rise	2.05137e+006	0.0111	0.0945	0.0402	6.0000e-004		7.6400e-003	7.6400e-003		7.6400e-003	7.6400e-003	0.0000	109.4691	109.4691	2.1000e-003	2.0100e-003	110.1196
General Office Building	743349	4.0100e-003	0.0364	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003	0.0000	39.6680	39.6680	7.6000e-004	7.3000e-004	39.9037
Hotel	6.62739e+006	0.0357	0.3249	0.2729	1.9500e-003		0.0247	0.0247		0.0247	0.0247	0.0000	353.6629	353.6629	6.7800e-003	6.4800e-003	355.7646
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.45583e+006	7.8500e-003	0.0671	0.0286	4.3000e-004		5.4200e-003	5.4200e-003		5.4200e-003	5.4200e-003	0.0000	77.6885	77.6885	1.4900e-003	1.4200e-003	78.1501
Strip Mall	249852	1.3500e-003	0.0123	0.0103	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3331	13.3331	2.6000e-004	2.4000e-004	13.4123
Total		**0.0638**	**0.5678**	**0.3965**	**3.4800e-003**		**0.0441**	**0.0441**		**0.0441**	**0.0441**	**0.0000**	**631.6495**	**631.6495**	**0.0121**	**0.0116**	**635.4030**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	324881	30.0592	4.8600e-003	5.9000e-004	30.3564
Apartments Mid Rise	1.04394e+006	96.5889	0.0156	1.8900e-003	97.5440
General Office Building	926287	85.7036	0.0139	1.6800e-003	86.5510
Hotel	1.28938e+006	119.2979	0.0193	2.3400e-003	120.4776
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	493493	45.6598	7.3900e-003	9.0000e-004	46.1113
Strip Mall	1.30516e+006	120.7584	0.0195	2.3700e-003	121.9525
Total		**498.0678**	**0.0806**	**9.7700e-003**	**502.9928**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	313574	29.0130	4.6900e-003	5.7000e-004	29.2999
Apartments Mid Rise	1.00903e+006	93.3597	0.0151	1.8300e-003	94.2829
General Office Building	848694	78.5244	0.0127	1.5400e-003	79.3008
Hotel	1.17603e+006	108.8110	0.0176	2.1300e-003	109.8870
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	476629	44.0995	7.1300e-003	8.6000e-004	44.5356
Strip Mall	1.15329e+006	106.7067	0.0173	2.0900e-003	107.7619
Total		**460.5143**	**0.0745**	**9.0200e-003**	**465.0680**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.7939	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Unmitigated	4.9728	0.0620	4.7080	3.4900e-003		0.2539	0.2539		0.2539	0.2539	23.9644	13.5352	37.4996	0.0456	1.5000e-003	39.0867

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1789	0.0267	1.6520	3.3300e-003		0.2369	0.2369		0.2369	0.2369	23.9644	8.5203	32.4847	0.0408	1.5000e-003	33.9523
Landscaping	0.0916	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Total	**4.9727**	**0.0620**	**4.7080**	**3.4900e-003**		**0.2539**	**0.2539**		**0.2539**	**0.2539**	**23.9644**	**13.5352**	**37.4995**	**0.0456**	**1.5000e-003**	**39.0867**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0916	0.0353	3.0560	1.6000e-004		0.0170	0.0170		0.0170	0.0170	0.0000	5.0149	5.0149	4.7800e-003	0.0000	5.1344
Total	**3.7939**	**0.0353**	**3.0560**	**1.6000e-004**		**0.0170**	**0.0170**		**0.0170**	**0.0170**	**0.0000**	**5.0149**	**5.0149**	**4.7800e-003**	**0.0000**	**5.1344**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

Springs Specific Plan - Alternative 3 (2050) - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.6610	1.3065	0.0313	83.6518
Unmitigated	50.4136	1.6328	0.0391	102.8856

Springs Specific Plan - Alternative 3 (2050) - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	5.21232 / 3.28603	5.3273	0.1704	4.0800e-003	10.8048
Apartments Mid Rise	17.5916 / 11.0903	17.9796	0.5752	0.0138	36.4662
General Office Building	9.58874 / 5.87697	9.7458	0.3135	7.5100e-003	19.8218
Hotel	3.04401 / 0.338224	2.5992	0.0995	2.3700e-003	5.7931
Recreational Swimming Pool	1.09119 / 0.668794	1.1091	0.0357	8.5000e-004	2.2557
Single Family Housing	4.1047 / 2.58775	4.1952	0.1342	3.2100e-003	8.5088
Strip Mall	9.30499 / 5.70306	9.4574	0.3043	7.2900e-003	19.2353
Total		**50.4136**	**1.6328**	**0.0391**	**102.8856**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.16986 / 3.08558	4.4097	0.1364	3.2700e-003	8.7932
Apartments Mid Rise	14.0733 / 10.4138	14.8829	0.4603	0.0110	29.6771
General Office Building	7.67099 / 5.51847	8.0612	0.2509	6.0100e-003	16.1246
Hotel	2.43521 / 0.317592	2.0946	0.0796	1.9000e-003	4.6498
Recreational Swimming Pool	0.872953 / 0.627998	0.9174	0.0286	6.8000e-004	1.8350
Single Family Housing	3.28376 / 2.4299	3.4727	0.1074	2.5700e-003	6.9247
Strip Mall	7.44399 / 5.35517	7.8226	0.2435	5.8300e-003	15.6475
Total		**41.6610**	**1.3065**	**0.0313**	**83.6518**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Springs Specific Plan - Alternative 3 (2050) - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	119.3303	7.0522	0.0000	295.6357
Unmitigated	119.3303	7.0522	0.0000	295.6357

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	36.8	7.4701	0.4415	0.0000	18.5068
Apartments Mid Rise	124.2	25.2115	1.4900	0.0000	62.4604
General Office Building	50.17	10.1841	0.6019	0.0000	25.2306
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	105.17	21.3486	1.2617	0.0000	52.8902
Single Family Housing	73.92	15.0051	0.8868	0.0000	37.1745
Strip Mall	131.9	26.7745	1.5823	0.0000	66.3327
Total		**119.3303**	**7.0522**	**0.0000**	**295.6357**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	36.8	7.4701	0.4415	0.0000	18.5068
Apartments Mid Rise	124.2	25.2115	1.4900	0.0000	62.4604
General Office Building	50.17	10.1841	0.6019	0.0000	25.2306
Hotel	65.7	13.3365	0.7882	0.0000	33.0406
Recreational Swimming Pool	105.17	21.3486	1.2617	0.0000	52.8902
Single Family Housing	73.92	15.0051	0.8868	0.0000	37.1745
Strip Mall	131.9	26.7745	1.5823	0.0000	66.3327
Total		**119.3303**	**7.0522**	**0.0000**	**295.6357**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Springs Specific Plan - Alternative 3 (2050) - Sonoma-San Francisco County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix C.2

Energy Modeling

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Sonoma
Calendar Year: 2022, 2040
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Total VMT	Fuel Consumption	MPG (derived)	
Sonoma	2022	All Other Buses	Aggregate	Aggregate	Diesel	8240.637632	0.962833573	**8.55873524**	
Sonoma	2022	LDA	Aggregate	Aggregate	Gasoline	5196180.098	179.8772525	**28.88736638**	
Sonoma	2022	LDA	Aggregate	Aggregate	Diesel	31689.51591	0.763598522	**41.5002321**	
Sonoma	2022	LDT1	Aggregate	Aggregate	Gasoline	610046.7879	25.41294269	**24.00535803**	
Sonoma	2022	LDT1	Aggregate	Aggregate	Diesel	319.0854837	0.01327006	**24.04551844**	
Sonoma	2022	LDT2	Aggregate	Aggregate	Gasoline	2513548.444	108.9549535	**23.06961147**	
Sonoma	2022	LDT2	Aggregate	Aggregate	Diesel	11380.62293	0.371526695	**30.63204632**	
Sonoma	2022	LHD1	Aggregate	Aggregate	Gasoline	308164.6135	34.04413574	**9.051914723**	
Sonoma	2022	LHD1	Aggregate	Aggregate	Diesel	317378.0585	20.24206312	**15.6791359**	
Sonoma	2022	LHD2	Aggregate	Aggregate	Gasoline	50670.46611	6.047944855	**8.37812965**	
Sonoma	2022	LHD2	Aggregate	Aggregate	Diesel	116890.4302	9.108688186	**12.83285011**	
Sonoma	2022	MCY	Aggregate	Aggregate	Gasoline	56210.00846	1.404114637	**40.03234992**	
Sonoma	2022	MDV	Aggregate	Aggregate	Gasoline	1685911.783	89.201376	**18.90006476**	
Sonoma	2022	MDV	Aggregate	Aggregate	Diesel	40501.82159	1.706068043	**23.73986298**	
Sonoma	2022	MH	Aggregate	Aggregate	Gasoline	10944.58079	2.481194462	**4.411012905**	
Sonoma	2022	MH	Aggregate	Aggregate	Diesel	5721.925415	0.608639606	**9.401171667**	
Sonoma	2022	Motor Coach	Aggregate	Aggregate	Diesel	4243.420896	0.773067739	**5.489067361**	
Sonoma	2022	OBUS	Aggregate	Aggregate	Gasoline	8733.20773	1.84800153	**4.725757846**	
Sonoma	2022	PTO	Aggregate	Aggregate	Diesel	13876.69879	2.904326102	**4.777941013**	
Sonoma	2022	SBUS	Aggregate	Aggregate	Gasoline	2953.316042	0.298855219	**9.882096254**	
Sonoma	2022	SBUS	Aggregate	Aggregate	Diesel	9106.625544	1.144512532	**7.956772239**	MHD:
Sonoma	2022	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	104.9282184	0.011896056	**8.82042038**	8.474319
Sonoma	2022	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	143.9426472	0.016276022	**8.843846795**	
Sonoma	2022	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	376.1262554	0.042119968	**8.929879893**	
Sonoma	2022	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	2359.253989	0.247363807	**9.537587661**	
Sonoma	2022	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	7904.967078	0.978373356	**8.079703963**	
Sonoma	2022	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	4505.474525	0.559056315	**8.059070975**	
Sonoma	2022	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	13617.68798	1.690992121	**8.053075949**	
Sonoma	2022	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	5934.782177	0.712521615	**8.329266165**	
Sonoma	2022	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	22684.19901	2.676595294	**8.475020136**	
Sonoma	2022	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	65426.18772	7.707556468	**8.48857715**	
Sonoma	2022	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	39235.98996	4.633838371	**8.46727633**	
Sonoma	2022	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	33035.22865	3.792143401	**8.711492462**	
Sonoma	2022	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	299.0121919	0.033974533	**8.801068622**	
Sonoma	2022	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	12881.35489	1.37398313	**9.375191446**	
Sonoma	2022	T6 OOS Class 4	Aggregate	Aggregate	Diesel	62.34332875	0.007067182	**8.821525787**	
Sonoma	2022	T6 OOS Class 5	Aggregate	Aggregate	Diesel	85.52383626	0.009671486	**8.842884332**	
Sonoma	2022	T6 OOS Class 6	Aggregate	Aggregate	Diesel	223.476231	0.025031419	**8.927829047**	
Sonoma	2022	T6 OOS Class 7	Aggregate	Aggregate	Diesel	1624.95009	0.170100854	**9.552862645**	
Sonoma	2022	T6 Public Class 4	Aggregate	Aggregate	Diesel	1038.092223	0.138363407	**7.502650068**	
Sonoma	2022	T6 Public Class 5	Aggregate	Aggregate	Diesel	3139.566986	0.412010037	**7.620122574**	
Sonoma	2022	T6 Public Class 6	Aggregate	Aggregate	Diesel	1856.607106	0.249635107	**7.437283678**	
Sonoma	2022	T6 Public Class 7	Aggregate	Aggregate	Diesel	4693.475434	0.619727908	**7.573445341**	
Sonoma	2022	T6 Utility Class 5	Aggregate	Aggregate	Diesel	500.7937079	0.057770156	**8.668726933**	
Sonoma	2022	T6 Utility Class 6	Aggregate	Aggregate	Diesel	94.68708839	0.010962234	**8.637572089**	
Sonoma	2022	T6 Utility Class 7	Aggregate	Aggregate	Diesel	130.925941	0.014994665	**8.731501377**	
Sonoma	2022	T6TS	Aggregate	Aggregate	Gasoline	34038.65273	7.367758996	**4.619946547**	HHD:
Sonoma	2022	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	36179.04712	6.053510864	**5.976539555**	5.567667
Sonoma	2022	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	42931.85478	7.184373156	**5.975727297**	
Sonoma	2022	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	15598.51887	2.626376115	**5.939179379**	
Sonoma	2022	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	2948.478705	0.503952915	**5.850702746**	
Sonoma	2022	T7 POAK Class 8	Aggregate	Aggregate	Diesel	6819.981643	1.192060899	**5.721168818**	
Sonoma	2022	T7 Public Class 8	Aggregate	Aggregate	Diesel	13429.08373	2.638053853	**5.09052676**	
Sonoma	2022	T7 Single Concrete/Transit Mix Class 8	Aggregate	Aggregate	Diesel	3539.687723	0.60849939	**5.817076866**	
Sonoma	2022	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	29908.74919	5.209221976	**5.741500235**	
Sonoma	2022	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	32799.7234	5.632031713	**5.823781731**	
Sonoma	2022	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	7576.083967	3.078177678	**2.461223736**	
Sonoma	2022	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	20771.52811	3.442450351	**6.033936873**	
Sonoma	2022	T7 Utility Class 8	Aggregate	Aggregate	Diesel	399.6502613	0.070356915	**5.680326703**	
Sonoma	2022	T7IS	Aggregate	Aggregate	Gasoline	70.89570956	0.022474074	**3.154555328**	
Sonoma	2022	UBUS	Aggregate	Aggregate	Gasoline	3610.694802	0.515545918	**7.003633767**	
Sonoma	2022	UBUS	Aggregate	Aggregate	Diesel	3856.329914	0.44206602	**8.723425315**	
Sonoma	2040	All Other Buses	Aggregate	Aggregate	Diesel	8012.15173	0.823381327	**9.730791156**	
Sonoma	2040	LDA	Aggregate	Aggregate	Gasoline	5459266.075	153.6663472	**35.52675115**	
Sonoma	2040	LDA	Aggregate	Aggregate	Diesel	4466.755749	0.089957481	**49.65407755**	
Sonoma	2040	LDT1	Aggregate	Aggregate	Gasoline	301846.9805	10.08249171	**29.93773653**	
Sonoma	2040	LDT1	Aggregate	Aggregate	Diesel	3.085503968	0.000108115	**28.53912971**	
Sonoma	2040	LDT2	Aggregate	Aggregate	Gasoline	2408493.16	84.05148796	**28.6549735**	
Sonoma	2040	LDT2	Aggregate	Aggregate	Diesel	9295.33413	0.250805731	**37.06188887**	
Sonoma	2040	LHD1	Aggregate	Aggregate	Gasoline	140884.7953	13.11054003	**10.74591856**	
Sonoma	2040	LHD1	Aggregate	Aggregate	Diesel	110162.2284	6.8168827	**16.16020596**	
Sonoma	2040	LHD2	Aggregate	Aggregate	Gasoline	18968.32931	1.986862881	**9.546873861**	
Sonoma	2040	LHD2	Aggregate	Aggregate	Diesel	51152.32614	3.726035457	**13.72835195**	
Sonoma	2040	MCY	Aggregate	Aggregate	Gasoline	40231.42588	0.953472042	**42.19465709**	
Sonoma	2040	MDV	Aggregate	Aggregate	Gasoline	1400920.631	59.48662597	**23.55017802**	
Sonoma	2040	MDV	Aggregate	Aggregate	Diesel	17097.23732	0.612112354	**27.93153446**	
Sonoma	2040	MH	Aggregate	Aggregate	Gasoline	4661.555926	1.05425802	**4.42164616**	
Sonoma	2040	MH	Aggregate	Aggregate	Diesel	3265.461282	0.348895407	**9.359427536**	
Sonoma	2040	Motor Coach	Aggregate	Aggregate	Diesel	4665.902234	0.746349008	**6.251635871**	
Sonoma	2040	OBUS	Aggregate	Aggregate	Gasoline	2257.790097	0.431879258	**5.227827121**	
Sonoma	2040	PTO	Aggregate	Aggregate	Diesel	10268.06486	1.829642161	**5.61206179**	
Sonoma	2040	SBUS	Aggregate	Aggregate	Gasoline	2880.921515	0.277599464	**10.37797937**	
Sonoma	2040	SBUS	Aggregate	Aggregate	Diesel	6317.612282	0.741247076	**8.522950693**	MHD:
Sonoma	2040	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	59.51823346	0.006075547	**9.79635758**	9.298473
Sonoma	2040	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	82.09023109	0.008382822	**9.792672852**	
Sonoma	2040	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	211.2297582	0.021583495	**9.786633704**	
Sonoma	2040	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	2131.556532	0.190479617	**11.1904705**	
Sonoma	2040	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	5425.168042	0.606254124	**8.948669914**	
Sonoma	2040	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	3099.025535	0.347379939	**8.921141347**	
Sonoma	2040	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	9377.380096	1.048643435	**8.942391463**	
Sonoma	2040	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	5052.80511	0.5746857	**8.792293087**	
Sonoma	2040	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	15149.96669	1.624194997	**9.327677232**	
Sonoma	2040	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	43622.86004	4.68840368	**9.30441639**	
Sonoma	2040	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	26193.88152	2.813979361	**9.308483879**	
Sonoma	2040	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	26182.22681	2.858182311	**9.160446732**	
Sonoma	2040	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	193.5386917	0.020597213	**9.396353364**	
Sonoma	2040	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	12778.11329	1.255854392	**10.17483664**	
Sonoma	2040	T6 OOS Class 4	Aggregate	Aggregate	Diesel	71.85527406	0.006845438	**10.49681126**	
Sonoma	2040	T6 OOS Class 5	Aggregate	Aggregate	Diesel	98.57251476	0.009397486	**10.489243**	
Sonoma	2040	T6 OOS Class 6	Aggregate	Aggregate	Diesel	257.5728012	0.02452729	**10.50147829**	
Sonoma	2040	T6 OOS Class 7	Aggregate	Aggregate	Diesel	1872.874554	0.160214379	**11.68980317**	
Sonoma	2040	T6 Public Class 4	Aggregate	Aggregate	Diesel	644.3923451	0.076066427	**8.471442247**	
Sonoma	2040	T6 Public Class 5	Aggregate	Aggregate	Diesel	1995.409578	0.238069637	**8.381621461**	
Sonoma	2040	T6 Public Class 6	Aggregate	Aggregate	Diesel	1175.090829	0.138951253	**8.456856653**	
Sonoma	2040	T6 Public Class 7	Aggregate	Aggregate	Diesel	3062.239964	0.353556404	**8.661248748**	
Sonoma	2040	T6 Utility Class 5	Aggregate	Aggregate	Diesel	240.181878	0.025176543	**9.539906907**	
Sonoma	2040	T6 Utility Class 6	Aggregate	Aggregate	Diesel	45.40168496	0.004757301	**9.543580143**	
Sonoma	2040	T6 Utility Class 7	Aggregate	Aggregate	Diesel	60.86982167	0.006338492	**9.603202578**	
Sonoma	2040	T6TS	Aggregate	Aggregate	Gasoline	12945.37987	2.456921247	**5.268943761**	HHD:
Sonoma	2040	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	36718.95244	5.006012136	**7.33497072**	6.939204
Sonoma	2040	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	54986.77838	7.133565715	**7.708175768**	
Sonoma	2040	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	19978.45899	2.622063808	**7.619364154**	
Sonoma	2040	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	3890.348766	0.536914004	**7.245757675**	
Sonoma	2040	T7 POAK Class 8	Aggregate	Aggregate	Diesel	8157.090645	1.14765462	**7.10761801**	
Sonoma	2040	T7 Public Class 8	Aggregate	Aggregate	Diesel	9227.277789	1.585037281	**5.821489439**	
Sonoma	2040	T7 Single Concrete/Transit Mix Class 8	Aggregate	Aggregate	Diesel	1900.857564	0.285165959	**6.665794098**	
Sonoma	2040	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	20887.70445	3.326491333	**6.279200022**	
Sonoma	2040	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	26329.64412	4.163685933	**6.323638369**	
Sonoma	2040	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	2026.089658	0.79948429	**2.534245741**	
Sonoma	2040	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	23396.49867	3.292398989	**7.106216089**	
Sonoma	2040	T7 Utility Class 8	Aggregate	Aggregate	Diesel	261.0660462	0.041671541	**6.264852175**	
Sonoma	2040	T7IS	Aggregate	Aggregate	Gasoline	38.36063856	0.008265482	**4.641064756**	
Sonoma	2040	UBUS	Aggregate	Aggregate	Gasoline	2670.065266	0.264468965	**10.0959493**	
Sonoma	2040	UBUS	Aggregate	Aggregate	Diesel	2276.106556	0.273004348	**8.337253861**	

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source. Site preparation and grading off-road mobile vehicle on-site gallons of fuel are calculated below.

Given Factor:	**1,054.34**	**metric tons**	**CO2 (provided in CalEEMod Output File)**	
Conversion Factor:	2204.62	pounds	per metric ton	
Intermediate Result:	**2,324,408**	**pounds**	**CO2**	
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel	(Source: U.S. EIA, 2016).
Final Result:	**103,860.95**	**gallons**	**diesel fuel**	Website: http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11)

On-road Mobile (Operational) Energy Usage

Note: For the sake of simplicity, it was assumed that passenger vehicles, light duty trucks, motorcycles, and mobile homes use gasoline, and all medium-duty trucks, heavy-duty trucks, and buses use diesel fuel.

Therefore:

Average Daily VMT:

51,459 Source: W-Trans, 2021

Step 2: Given:

Fleet Mix (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
60.8%	5.1%	15.7%	10.6%	2.1%	0.6%	1.5%	0.6%	0.1%	0.0%	2.4%	0.1%	0.3%

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2020) - Year 2040

LDA	LDT1	LDT2	MDV	MCY	MH	OBUS
35.52675115	29.937737	28.654973	23.55017802	42.19465709	4.42164616	5.2278271

Diesel MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2040

LHD1	LHD2	MHD	HHD	UBUS	SBUS
16.16020596	13.728352	9.2984725	6.939203644	8.337253861	8.522950693

Therefore:

Weighted Average MPG Factors

Gasoline: **32.8** Diesel: **12.4**

Step 3: **Therefore:**

1,487 daily gallons of gasoline **214 daily gallons of diesel**

or

542,800	**annual gallons of gasoline**	**78,270**	**annual gallons of diesel**

On-road Mobile (Construction) Energy Usage - Demolition

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

15

Worker Trip Length (miles) (provided by CalEEMod)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2
0.3333333	0.333333	0.333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2020) - Year 2022

LDA	LDT1	LDT2
28.887366	24.00536	23.06961

Therefore:

Weighted Average Worker MPG Factor

25.3

Step 3: **Therefore:**

6.4 **Worker daily gallons of gasoline**

Step 4: 200 **# of Days (see CalEEMod)**

Therefore:

Result: **1,280** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Site Preparation

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

18

Worker Trip Length (miles) (provided by CalEEMod)

10.8

Therefore:

Average Worker Daily VMT:

194

Step 2: Given:

Assumed Fleet Mix for Workers (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2020) - Year 2022

LDA	LDT1	LDT2
28.887366	24.005358	23.069611

Therefore:

Weighted Average Worker MPG Factor

25.3

Step 3: **Therefore:**

7.7 **Worker daily gallons of gasoline**

Step 4: 120 **# of Days (see CalEEMod)**

Therefore:

Result: **921** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

20

Worker Trip Length (miles) (provided by CalEEMod)

10.8

Therefore:

Average Worker Daily VMT:

216

Step 2: Given:

Assumed Fleet Mix for Workers (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2020) - Year 2022

LDA	LDT1	LDT2
28.887366	24.005358	23.069611

Therefore:

Weighted Average Worker MPG Factor

25.3

Step 3: **Therefore:**

8.5 **Worker daily gallons of gasoline**

Step 4: 310 **# of Days (see CalEEMod)**

Therefore:

Result: **2,644** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Building Construction

Step 1:

Total Daily Worker Trips (provided by CalEEMod)
32
Note: Assume 5% of building construction occurs at once.

Total Daily Vendor Trips (provided by CalEEMod)
7
Note: Assume 5% of building construction occurs at once.

Total Daily Hauler Trips (provided by CalEEMod)
0

Worker Trip Length (miles) (provided by CalEEMod)
10.8

Vendor Trip Length (miles) (provided by CalEEMod)
7.3

Hauling Trip Length (miles) (provided by CalEEMod)
0

Therefore:

Average Worker Daily VMT:
346.14

Average Vendor Daily VMT:
54

Average Hauling Daily VMT:
-

Step 2:

Given:

Assumed Fleet Mix for Workers (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2
0.33333333	0.333333	0.333333

Assumed Fleet Mix for Vendors (provided by CalEEMod v2020.4.0)

MHD	HHD
0.5	0.5

And:

MPG Factors for each Vehicle Class (from EMFAC2020 - Year 2022)

Gasoline:

LDA	LDT1	LDT2
28.8873664	24.00536	23.06961

Diesel:

MHD	HHD
8.474319111	5.567667

Therefore:

Weighted Average Worker (Gasoline) MPG Factor
25.3

Weighted Average Vendor (Diesel) MPG Factor
7.0

Weighted Average Hauling MPG Factor
0.0

Step 3:

Therefore:
14 **Worker daily gallons of gasoline**

Therefore:
8 **Vendor daily gallons of diesel**

Therefore:
0.0

Step 4:

3100 **# of Days (see CalEEMod)**

Therefore:
42,378 **Total gallons of gasoline**

Therefore:
24,013 **Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Paving

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

15

Worker Trip Length (miles) (provided by CalEEMod)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2020) - Year 2022

LDA	LDT1	LDT2
28.887366	24.005358	23.069611

Therefore:

Weighted Average Worker MPG Factor

25.3

Step 3: **Therefore:**

6.4 **Worker daily gallons of gasoline**

Step 4: 220 **# of Days (see CalEEMod)**

Therefore:

Result: **1,408** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Architectural Coating

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

128

Worker Trip Length (miles) (provided by CalEEMod)

10.8

Therefore:

Average Worker Daily VMT:

1,382

Step 2: Given:

Assumed Fleet Mix for Workers (provided by CalEEMod v2020.4.0)

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2020) - Year 2022

LDA	LDT1	LDT2
28.887366	24.005358	23.069611

Therefore:

Weighted Average Worker MPG Factor

25.3

Step 3: **Therefore:**

54.6 **Worker daily gallons of gasoline**

Step 4: 220 **# of Days (see CalEEMod)**

Therefore:

Result: **12,011** **Total gallons of gasoline**

Appendix C.3

Analysis of Models and Tools for Correlating Project-generated Emissions to Health Endpoints

ANALYSIS OF MODELS AND TOOLS TO CORRELATE PROJECT-GENERATED CRITERIA POLLUTANT EMISSIONS TO HEALTH END POINTS

TOOL	CREATED BY	DESCRIPTION	RESOLUTION	POLLUTANTS ANALYZED	PROJECT-LEVEL CEQA APPLICABILITY
AERMOD Modeling System[1,2]	AERMIC	A steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The modeling system incorporates air dispersion based on a planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}, NH_3	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
AirCounts[3]	Abt Assoc.	Online tool that helps large and medium-sized cities quickly estimate the health benefits of $PM_{2.5}$ emission reductions and economic value of those benefits. The tool estimates the number of deaths (mortality) avoided and economic value related to user-specified regional, annual $PM_{2.5}$ emissions reduction.	City-level	Primary $PM_{2.5}$	This tool is only illustrative, as it is limited to certain cities and does not target specific sectors. The tool is not sector specific, and includes limited California data. It cannot provide results at a project-level. Therefore, the tool is not recommended for project-level CEQA analysis.
Air Pollution Emission Experiments and Policy analysis (APEEP) model[4]	Mueller and Mendelsohn2006, 2009	The Air Pollution Emission Experiments and Policy (APEEP) analysis model (Muller and Mendelsohn 2006, 2009) is a traditional integrated assessment model. Like other integrated assessment models, APEEP connects emissions of air pollution through air-quality modeling to exposures, physical effects, and monetary damages. Making these links requires the use of findings reported in the peer-reviewed literature across several scientific disciplines. The air-quality models in APEEP use the emission data provided by EPA to estimate corresponding ambient concentrations in each county in the coterminous states.	National or county-level	SO_2, ROG, NO_x, Ozone, $PM_{2.5}$, PM_{10}	The model operates at the national scale but may be applied at the county-level (although it is not clear how this adjustment should be made). It cannot provide results at a project-level. The tool is also not commercially available. Therefore, the tool is not recommended for project-level CEQA analysis.

[1] See: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[2] Note: May require additional software to estimate the level of each specific pollutant at the modeled receptors.

[3] See: https://www.abtassociates.com/tools

[4] See: https://public.tepper.cmu.edu/nmuller/APModel.aspx

TOOL	CREATED BY	DESCRIPTION	RESOLUTION	POLLUTANTS ANALYZED	PROJECT-LEVEL CEQA APPLICABILITY
CALINE3/ CAL3QHC/ CAL3QHCR[1, 2]	USEPA	A steady-state Gaussian dispersion model designed to determine air pollution concentrations at receptor locations downwind of highways located in relatively uncomplicated terrain. CALINE3 is incorporated into the more refined CAL3QHC and CAL3QHCR models. CAL3QHCR is a more refined version based on CAL3QHC that requires local meteorological data.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
Complex Terrain Dispersion Model Plus Algorithms for Unstable Situations (CTDMPLUS)[1, 2]	USEPA	A refined point source gaussian air quality model for use in all stability conditions for complex terrain. The purpose of the model is to provide a practical, refined plum model for elevated point sources near complex terrain.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
Co-Benefits Risk Assessment (COBRA)[5]	USEPA	Preliminary screening tool that contains baseline emission estimates of a variety of air pollutants for a single year. COBRA is targeted to state and local governments as a screening assessment for clean energy policies. EPA's CO–Benefits Risk Assessment (COBRA) screening model is a free tool that helps state and local governments: • Explore how changes in air pollution from clean energy policies and programs; • Estimate the economic value of the health benefits associated with clean energy policies and programs to compare against program costs; • Map and visually represent the air quality, human health, and health-related economic benefits from reductions in emissions of particulate matter ($PM_{2.5}$), sulfur dioxide ($S0_2$), nitrogen oxides (NO_X), ammonia (NH_3), and volatile organic compounds (VOCs) that result from clean energy policies and programs.	National, regional, state, or county-levels	$PM_{2.5}$, SO_2, NO_x, NH_3, and ROG	COBRA is a preliminary screening tool only and cannot be used at sub-county resolution. It cannot provide results at a project-level. It also does not account for secondary emission changes resulting from market responses. Accordingly, the tool is not recommended for project-level CEQA analysis.

[5] See: https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool

TOOL	CREATED BY	DESCRIPTION	RESOLUTION	POLLUTANTS ANALYZED	PROJECT-LEVEL CEQA APPLICABILITY
Environmental Benefits and Mapping Program-Community Edition (BenMAP-CE)[6]	USEPA	The USEPA's detailed model for estimating the health impacts from air pollution. It relies on input concentrations and applies concentration-response (C-R) health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint, including premature mortality, heart attacks, chronic respiratory illnesses, asthma exacerbation and other adverse health effects. Detailed inputs are required for air quality changes (concentrations from AERMOD), population, baseline incidence rates, and effect estimates.	National, County, City, and sub-regional levels	Ozone, PM, NO_2, SO_2, CO	This tool is not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Although this tool is under consideration by some California air districts for use towards project-level analysis, no air district in California has promulgated a methodology (using this tool or any other) that would correlate the expected air quality emissions of projects to the likely health consequences of the increased emissions. Accordingly, the tool is not recommended.
Fast Scenario Screening Tool (TM5-FASST)[7]	Joint Research Centre (Italy)	A tool that allows users to evaluate how air pollutant emissions affect large scale pollutant concentrations and their impact on human health (mortality and years of life lost) and crop yield from national to regional air quality policies, such as climate policies. The target policy domains are national to regional air quality policies, or air pollutant scenarios linked to other policy domains (e.g. climate policy). The tool is web-based and does not require coding or modelling. Users must gain access through publishers.	Global and national-levels	$PM_{2.5}$, Ozone, NO_x, NH_3, CO, ROG, CH_4, SO_2	This tool is applicable at national to global scales. It cannot provide results a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.
Long-range Energy Alternatives Planning System-Integrated Benefits Calculator (LEAP-IBC)[8]	Climate and Clean Air Coalition (CCAC)	A calculator that allows users to rapidly estimate the impacts of reducing emissions on health, climate, and agriculture. The tool uses sensitivity coefficients that link gridded emissions of air pollutants and precursors to health, climate and agricultural impacts at a national level. The tool is primarily used for policy analysis. The tool is currently Excel-based and is available through the developers only. A web-based interface is currently under development.	National-level	$PM_{2.5}$, Ozone, NO_2	This tool is applicable at national scale. Accordingly, the tool is not recommended for project-level CEQA analysis.
Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California[9]	California Air Resources Board	The staff report identifies a relative risk of premature death associated with $PM_{2.5}$ exposure based on a review of all relevant scientific literature, and a new relative risk factor was developed. This new factor is a 10% increase in risk of premature death per 10 $\mu g/m^3$ increase in exposure to $PM_{2.5}$ concentrations (uncertainty interval: 3% to 20%)	National	$PM_{2.5}$	The primary author of the CARB staff report notes that the analysis method is not suited for small projects and may yield unreliable results due to various uncertainties. The tool also cannot provide results on a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

[6] See: https://www.epa.gov/benmap

[7] See: http://tm5-fasst.jrc.ec.europa.eu/

[8] See: https://www.ccacoalition.org/en/resources/long-range-energy-alternatives-planning-integrated-benefits-calculator-leap-ibc-factsheet

[9] See: https://ww3.arb.ca.gov/research/health/pm-mort/pmmortalityreportfinalr10-24-08.pdf

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-level CEQA Applicability
Multi-Pollutant Evaluation Method (MPEM)[10]	BAAQMD	Estimates the impacts of control measures on pollutant concentration, population exposures, and health outcomes for criteria, toxic, and GHG pollutants. Monetizes the value of total health benefits from reductions in $PM_{2.5}$, ozone, and certain carcinogens, and the social value of GHG reductions. MPEM was designed for development of a Clean Air Plan for the San Francisco Bay Area. The inputs are specific to the SF region and are not appropriate for projects outside BAAQMD.	Regional level in the SFBAAB	Ozone, PM, air toxics, GHG	This tool is designed to support the BAAQMD in regional planning and emissions analysis within the San Francisco Bay Area Air Basin (SFBAAB). The model applies changes in pollutant concentrations over a four-square kilometer grid. The tool also cannot provide results on a project-level. Additionally, this tool is only applicable for the SFBAAB. Accordingly, the tool is not recommended for project-level CEQA analysis.
Offshore and Coastal Dispersion Model Version 5 (OCD)[1, 2]	USEPA	A straight-line Gaussian model developed to determine the impact of offshore emissions from point, area or line sources on the air quality of coastal regions. OCD incorporates overwater plume transport and dispersion as well as changes that occur as the plume crosses the shoreline. Hourly meteorological data are needed from both offshore and onshore locations.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
Response Surface Model (RSM)-based Benefit-per-Ton Estimates[11]	USEPA	Consists of tables reporting the monetized $PM_{2.5}$-related health benefits from reducing $PM_{2.5}$ precursors from certain source types nationally and for 9 US cities/regions. Applying these estimates simply involves multiplying the emissions reduction by the relevant benefit per-ton metric. The resulting value is the PM mortality risk estimate at a 3% discount rate.	National or regional (San Joaquin County only) levels	SOx, VOC, NH_3, NO_x	RSM includes regional values specific to San Joaquin County. The values are also dated. Accordingly, the tool is not recommended for project-level CEQA analysis.
Sector-based Benefit-per-Ton Estimates[12]	USEPA	Two specific sets of Benefit-per-ton (BPT) estimates for 17 key source categories are available. Both are a reduced-form approach based on BenMAP modeling. Applying these factors involves multiplying the emissions reduction (in tons) by the relevant benefit (economic value) or incidence (rates of mortality and morbidity) per-ton metric. The resulting value is the economics, mortality, and morbidity of direct and indirect $PM_{2.5}$ emissions.	National-scale	$PM_{2.5}$, SO_2, NO_x	The BPT estimates do not account for project-specific emissions or receptor locations, local dispersion characteristics, or regional photochemistry. The resultant health effects are therefore reflective of national averages and may not be accurate when applied to the project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

[10] See: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/mpem_nov_dec_2016-pdf.pdf?la=en

[11] See: https://www.epa.gov/benmap/response-surface-model-rsm-based-benefit-ton-estimates

[12] See: https://www.epa.gov/benmap/sector-based-pm25-benefit-ton-estimates. The updated Technical Support Document (February 2018) is available at: https://www.epa.gov/sites/production/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf

Appendix D

Water Supply Assessment

APPENDIX D: WATER SUPPLY ASSESSMENT

A. EXECUTIVE SUMMARY

The Water Supply Assessment (WSA) will provide information for use in the California Environmental Quality Act (CEQA) analysis for the proposed Springs Specific Plan (Specific Plan). The requirements for the WSA are described in the California Water Code Sections 10910 through 10915, amended by the enactment of Senate Bill 610 (SB 610) in 2002. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by the new projects, as well as the reasonably foreseeable cumulative demand during normal year, single dry year, and multiple dry year conditions over the next 20 years.

This WSA builds on previous water demand projections created as part of the 2015 Urban Water Management Plan (UWMP) Water Demand Analysis and Water Conservation Measures Update worked on in conjunction with the eight other Sonoma-Marin Saving Water Partnership (SMSWP) Water Contractors and completed in July 2015. The projected demands with active and passive conservation savings from the SMSWP study were approved by Valley of the Moon Water District (the District) and presented in the 2015 UWMP submitted by the District in June 2016, after approval by its Board of Directors on June 7th. The supply information contained herein is based on the 2015 UWMP. [1]

[1] While the foregoing is accurate, the circumstances of the District's water supply have changed in 2019. The District lost its emergency water supply from the Sonoma Development Center (SDC). The use was authorized by the SWRCB on July 3, 2002 for fire or facility failure. The agreement with the SDC was in place by December 2002 and existed until September 2019 when the State's General Services Department decided to close the SDC water treatment plant. In the absence of that supply, the District can produce only 450 gallons per minute (gpm) through its local supply sources, which is insufficient to pressurize its system and fill its tanks in the event the Sonoma Aqueduct (Aqueduct) is damaged and Sonoma Water deliveries to the District are curtailed. The District's immediately available emergency water supply was further reduced in Fall 2019 when the use of one of well, providing 20% of its local supply, was taken out of service due to damage. The District will be evaluating the well in Winter 2019/Spring 2020 to determine if the well can be repaired and how long, if repaired, the well can reasonably remain in production.

The District is diligently acting to develop alternative local sources of water. Without the Springs Specific Plan (SSP), the District requires over 800 gpm to provide drinking water and basic sanitation. Further, based on the tests described at page 48 in the 2015 UWMP, the District requires in excess of 1700 gpm to have a survivable level of water including basic fire flow. Given the conservation achieved by District residents since 2015, the District is comfortable in stating that for current customers 1500 gpm is required to provide service adequate for human health, sanitation and fire flow - if service through the aqueduct is interrupted for any significant time. If the District's damaged well can be used for several more years, then the addition of another 400 gpm of new local water over the District's total current wells' production would current customers to have drinking water and sanitation with no outside use and little or no fire flow.

Additionally, the SSP will impact water service to existing homes along the crest of the hills above it, the top of the District's Zone 1. Currently, these homes have lower service pressure and available fire flow than that provided in other Zones and the balance of Zone 1. Allowing building as proposed in the SSP, e.g. on Verano Ave, in advance of the District putting a tank at the top of Zone 1 into operation will directly impact those customers' daily service and further reduce the already limited available fire flow.

The Springs Project is contained entirely within the service area of the District, which is located in the southeastern portion of Sonoma County, immediately north of the City of Sonoma. The WSA is based on the requirement of the Springs Project of approximately 209 acre-feet per year (AFY) of additional water demand. This project includes several land use and connection types as summarized below.

The 15 new neighborhood commercial connections include 8 new dwelling units and a net increase of 53,390 non-residential sq. ft. of development yielding approximately 17 AFY of additional demand.

The 82 new commercial connections include 120 hotel rooms and 72,245 new non-residential sq. ft. of development for an approximate net increase in demand of 39 AFY.

The 6 new commercial irrigation connections yield approximately 9 AFY of additional demand.

The 50 new mixed-use connections include 138 new dwelling units and a net increase of 123,621 non-residential sq. ft. of development yielding approximately 50 AFY of additional demand.

The 3 mixed-use irrigation connections will yield approximately 5 AFY of additional demand.

The 3 new recreational connections include a reduction of 3 dwelling units and a net increase of 26,648 sq. ft. of recreational use yielding approximately 9 AFY of additional demand.

The 131 medium density residential connections include 119 single family and 113 multifamily dwelling units for an additional demand of approximately 45 AFY.

The 31 high density residential connections include 310 new multifamily dwelling units yielding approximately 35 AFY of additional demand.

The Springs Project is estimated to be developed according to the following approximate schedule:

- 25 percent between 2020 and 2025
- 25 percent between 2025 and 2030
- 25 percent between 2030 and 2035

Some of the foregoing requires immediate action, some can be managed over time.

The District appreciates the County's assistance and looks forward to the County's further direct assistance - in developing additional local sources of water to meet District emergency demands, and storage at the top of the eastern hills [Zone 1] to deliver and maintain adequate pressure and fire flow for customers in that area - as buildings are added within the Plan's around the base of the eastern hills. With the proposed infrastructure improvements in place, the District would then be in a position to provide adequate normal service and emergency service water to support the SSP, and pressures to maintain service pressure and fire flows to existing Zone 1 customers and the SSP.

- 25 percent between 2035 and 2040

The analysis concluded that the Springs Project will add a total of 209 AFY (project and demand values also summarized in Table G-1). In addition, it concludes that the District will have sufficient water supply to serve all the proposed projects as well as existing customers in the 20-year time horizon assuming current conservation programs and water shortage plan remain in effect.

All future development projects are required to maximize the efficient use of water by installing water-saving plumbing fixtures and complying with the Sonoma County Water Efficient Landscape Regulations[2] to reduce water demand.

B. INTRODUCTION

This section presents the purpose and scope of this Water Supply Assessment.

1. Purpose and Authorization

The purpose of the Water Supply Assessment (WSA) is to determine whether there is adequate water supply to meet the water needs of future projects proposed within the Valley of the Moon Water District (the District) service area, in accordance with the Specific Plan. The WSA was developed by the collaborative efforts of the project team consisting of the County of Sonoma, De Novo Planning Group, Maddaus Water Management Inc., and the Valley of the Moon Water District Planning and Engineering Departments. De Novo Planning Group managed the project and provided the Springs development features; the County of Sonoma provided the project schedule; Maddaus Water Management assisted in estimating calculations for water demands and compiling the WSA report; and the District confirmed demand factor, demand projection and water shortage contingency information contained in the report.

2. Scope of Investigation

This WSA focuses on the potential growth due to future implementation of the Specific Plan.

3. Documents and Persons Consulted

Information in this report is supplemental to information found in the forthcoming California Environmental Quality Act Environmental Impact Report (CEQA/EIR) and is enhanced by information confirmed by the District staff from January 2019 to June 2019.

C. PROJECT DESCRIPTION

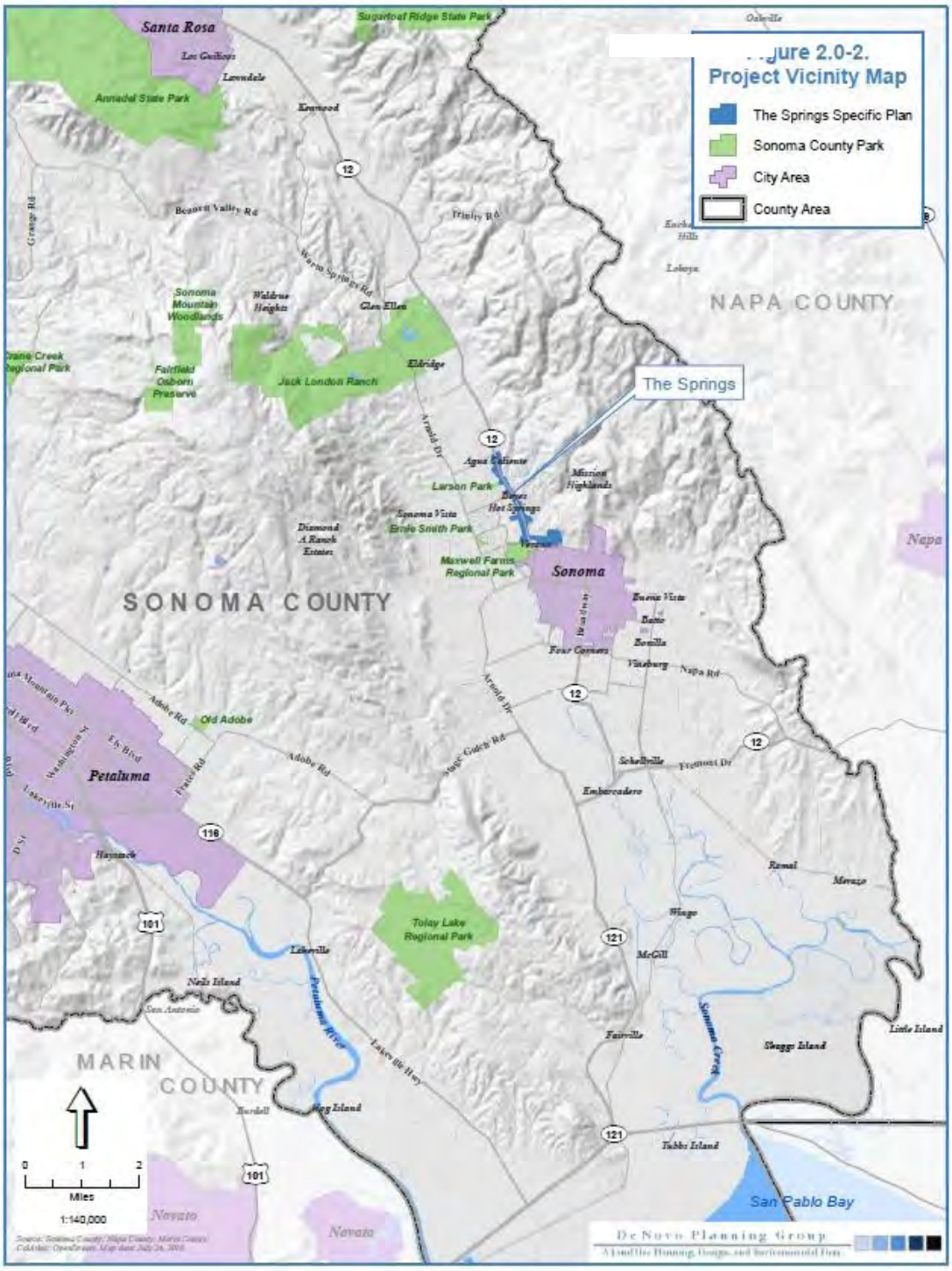
The proposed project included in this WSA is described as follows.

The Specific Plan will accommodate future growth in the area, including new businesses, expansion of existing businesses, and new residential development. The Springs area is defined as approximately 178.81-acres within the southeastern portion of Sonoma County (see Figure

[2] Sonoma County. Code of Ordinances, Chapter 7D3 – Water Efficient Landscape, accessed July 2019: https://library.municode.com/ca/sonoma_county/codes/code_of_ordinances?nodeId=CH7D3WAEFLA

G-1). The Springs is an unincorporated community located in central Sonoma Valley immediately north of the City of Sonoma. The Springs includes portions of the unincorporated communities of Agua Caliente, Fetters Hot Springs, and Boyes Hot Springs. The Specific Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor.

FIGURE G-1 SPRINGS PROJECT VICINITY MAP



The 'L'-shaped project area has several distinct settings: the 1.6-mile stretch of mixed use along Highway 12 corridor that forms the vertical stroke of the 'L', the residential neighborhoods just east and west of the highway, and the residential area that forms the base of the 'L' to the east along Donald and Harley Streets. Agua Caliente Creek crosses the project area south of Encinas Lane. Figure G-2 shows an aerial view of the project area.

FIGURE G-2 SPRINGS PROJECT AERIAL VIEW

In 2016, the Springs population was estimated to be 1,803. The Springs Project area is relatively flat at an elevation of approximately 110 to 185 feet above sea level. The area's terrain generally slopes gently down from east to west. Buildout of the Specific Plan is expected to occur gradually over the next 20 years.

The following table presents some of the Spring Project information used in the development of this WSA, specifically the proposed connection types as well as the net increase in new dwelling units, non-residential area, and projected new water connections.

TABLE G-1 SPRINGS SPECIFIC PLAN PROJECTED INCREASE IN DEMAND

Connection Type[1]	Net Increase in New Dwelling Units	Net Increase in Non-Residential Square Feet	Projected Net Increase in New Water Connections
Neighborhood Commercial	**8**	**53,390**	**15**
Live Work/Mixed Use	8	n/a	1
Commercial Use	n/a	32,034	8
Office Use	n/a	21,356	6
Commercial	**120**	**72,245**	**82**
Commercial Use	n/a	58,721	15
Hotel Room	120	n/a	63
Office Use	n/a	13,524	4
Commercial Irrigation	n/a	n/a	**6**
Mixed Use	**138**	**123,621**	**50**
Single Family	8	n/a	8
Live Work/Mixed Use	130	n/a	11
Commercial Use	n/a	76,275	19
Office Use	n/a	47,346	12
Mixed Use Irrigation	n/a	n/a	**3**
Recreational	**-3**	**26,648**	**3**
Single Family	-3	n/a	-3
Recreational Use	n/a	26,648	6
Medium Density Residential	**232**	n/a	**131**
Single Family	119	n/a	119
Multifamily	113	n/a	12
High Density Residential	**310**	n/a	**31**
Multifamily	310	n/a	31

D. THE DISTRICT AND ITS WATER SUPPLY SOURCE

This section presents information about Valley of the Moon Water District water supply sources, water infrastructure, emergency connections, service area demographics, water supply projections and water shortage plans.

1. The District Water Supplies

The District manages the distribution, operation, and maintenance of the water supply system that would serve the Springs Project. Its water sources, treatment facilities, and distribution system are described in this section.

Sonoma County Water Agency Wholesale Water

As reported in its 2015 UWMP, the District primarily relies upon surface water purchased from the Sonoma County Water Agency (SCWA) to meet customer demands. Local groundwater production from wells owned and leased by the District comprises the remaining portion of the District's water supply portfolio. Under normal conditions, approximately 85 percent of the District's water supply is surface water purchased from the SCWA. The District does not have any recycled water sources to supplement its supply.

The SCWA is currently authorized by the California State Water Resources Control Board (SWRCB) to store up to 245,000 AFY of water in Lake Sonoma and up to 122,500 AFY in Lake Mendocino. Per a series of four permits issued by the SWRCB, the SCWA may divert and redivert 180 cubic feet per second (cfs) of water, up to a maximum of 75,000 AFY, from the Russian River at the SCWA's Wohler and Mirabel facilities and other points of diversion. The SCWA has a pending application with the SWRCB to increase SCWA's Russian River diversion limit from 75,000 AFY to 101,000 AFY.

The SCWA storage and transmission system is supplied water from the natural flow of the Russian River. This water is stored in Lake Sonoma, behind Warm Springs Dam, and in Lake Mendocino, behind Coyote Dam. The design water supply pool capacities of Lake Sonoma and Lake Mendocino are 245,000 AFY and 122,500 AFY, respectively. The SCWA uses approximately 14 miles of the natural channel of Dry Creek and approximately 8 miles of the Russian River to convey water from Lake Sonoma to its diversion facilities. The diverted river water percolates through sand and gravel and only needs the addition of chlorine to meet the California Drinking Water Program quality standards.

The SCWA also owns and operates three groundwater supply wells located in the Santa Rosa Plain Subbasin of the Santa Rosa Valley Groundwater Basin. These groundwater wells are located along the Russian River-Cotati Intertie Pipeline and are used to supplement the SCWA water supply.

The District's water supply is conveyed through ten turnouts from the Sonoma Aqueduct, which is owned and operation by the SCWA. The District's distribution system contains approximately 92 miles of water mains ranging in size from less than 2 inches to 14 inches in diameter, with more than 95 percent between 4 and 12 inches in diameter.

The District's water distribution system has 11 pressure zones. The majority of the District's customers that are located on the valley floor are served from the SCWA aqueduct pressure, while customers in the higher elevations of the Sonoma Valley are served by separate pressure zones. The District's infrastructure assets include 10 turnouts from the Sonoma aqueduct owned and operated by the SCWA, 7 groundwater wells, 10 pumping stations, and 15 storage tanks. The District's water supply is conveyed through these 10 turnouts. Pressure for the aqueduct in this region is provided by Sonoma Booster Pump Stations No. 1 and No. 2, located on the east side of Spring Lake.

Groundwater

The District is located within the Sonoma Valley Groundwater Subbasin 2-02.02 and is a subbasin of the Napa-Sonoma Valley Groundwater Basin (DWR 2-02). The Basin is not adjudicated and has not been identified by the Department of Water Resources (DWR) as a critically-over-drafted groundwater basin.

The Sustainable Groundwater Management Act of 2014 (SGMA), the first comprehensive groundwater legislation in California history, was enacted on September 16, 2014 as part of a three-bill package including AB 1739 (Dickinson), SB 1169 (Pavley), and SB 1319 (Pavley). The legislation provides a framework for the sustainable management of groundwater by local

agencies, with an emphasis on the preservation of local control. The state agencies primarily responsible for implementing SGMA are DWR and the SWRCB. The Napa-Sonoma Basin is listed as a medium priority basin and is therefore subject to the requirements of SGMA. The Sonoma Valley Groundwater Sustainability Agency (GSA) is a public agency formed to sustainably manage groundwater in the Sonoma Valley Groundwater Basin. The agency was formed in June 2017 and has a Board of Directors, an administrator, and an advisory committee. The development of a Groundwater Sustainability Plan (GSP) is scheduled to be completed by June 2022 and is currently in process. More information about this agency and the draft GSP can be found here: http://sonomavalleygroundwater.org/.

An analysis of groundwater data has highlighted two groundwater depression zones in the Sonoma Valley. Management efforts in these areas to date have included informational meetings with impacted parties, community messaging, and voluntary conservation. It is expected that, as the groundwater management program moves from voluntary to mandatory, additional actions will be required to address these areas.

2. Supply Source and Contractual Provisions

The District is one of eight Water Contractors that hold water supply contracts with the SCWA, collectively known as the Restructured Agreement for Water Supply. The Restructured Agreement was executed in 2006 and generally provides for the financing, construction, and operation of existing and new diversion facilities, transmission lines, storage tanks, booster pumps, conventional wells, and appurtenant facilities. The term of the Restructured Agreement is through 2037 and can be extended by amendment.

Under the Restructured Agreement, the District is entitled to 8.5 million gallons per day (MGD) during any month and an annual maximum of 3,200 AFY. Provided the supply is available, the Restructured Agreement permits the District to take delivery of water in excess of its entitlement during a given month, provided specific conditions from the Agreement are met.

3. Emergency Connections

In accordance with the Emergency Services Act, the District has developed an Emergency Operation Plan (EOP) that guides response to unpredicted catastrophic events which might impact water delivery, including regional power outages, earthquakes, and other disasters. The EOP outlines standard operating procedures for all levels of emergency, from minor accidents to major disasters. The EOP has been coordinated with the SCWA and neighboring water purveyors. However, emergency connection infrastructure is missing and may be needed in the future.

Water transfers between SCWA's Water Contractors are authorized under the Restructured Agreement. Such transfers have been utilized in the past out of necessity and may be needed in the future.

4. Service Area Information and Population and Employment Projections

The District's service area is in Sonoma County, approximately 50 miles north of San Francisco, and is adjacent to the City of Sonoma. The service area encompasses approximately 11.8

square miles and includes residential and commercial customers. Elevations in the service area range from approximately 90 feet to 1,190 feet above mean sea level.

The District's service area climate is typical of the Napa and Sonoma County areas, characterized by summers that are dry and warm, and winters that are relatively mild with most rainfall occurring during this season. Average annual evapotranspiration (ETo) is 46.1 inches and average annual rainfall is 29.4 inches. The temperature ranges from an average minimum of 44.2 ˚F to an average maximum of 73.7 ˚F.

The demographics of the District's customers include a range of income, household size, and water demands. Typically, the more affluent households are located along the foothills and are characterized by larger lots and homes with higher water demands for irrigation. On the other end of the spectrum, there are two disadvantaged communities in the District which tend to have smaller lots and lower water use.

Due to the District's above-average tourism, the increase in the number of second homes and vacation rentals in recent years has impacted water use. This is due not only to the increase in the number of accounts, but also because these accounts tend to have higher water use overall.

This WSA uses the population projections contained in the District's 2015 UWMP, whereby the District's 2015 and 2020 service area population was estimated to be 23,782 and 24,873, respectively. The District's year 2015 and projected service area population is summarized in Table G-2 in 5-year increments through the year 2040. The percent increases for the population growth are also listed.

TABLE G-2 DISTRICT CURRENT AND PROJECTED POPULATION PER 2015 UWMP

	2015[1]	2020[2]	2025[2]	2030[2]	2035[2]	2040[2]
Service Area Population	23,782	24,873	25,229	25,586	25,943	26,300
Population Increase, %		4.6%	1.4%	1.4%	1.4%	1.4%

[1] 2015 data is calculated based on a persons-per-connection method.
[2] Projected populations are based on Sonoma County Draft General Plan 2005 estimates.

5. District Water Supply Projections

The District purchases potable water from the SCWA to meet most of the water demands within the service area. The District owns and/or operates a total of seven municipal production wells, five of which are currently active, with capacities ranging from 90 gallons per minute (gpm) to 250 gpm. The District will continue to use its wells to supplement its purchased SCWA water but plans to decrease the use of the wells over time as the District implements additional water conservation programs. Groundwater production will be expanded to meet demands in the case of a drought or a decrease in SCWA water supply.

Given the uncertainty of the implementation of the SGMA, the District plans to continue to purchase wholesale water from SCWA, while monitoring its production of groundwater. The District does not anticipate developing additional long-term water supplies from other sources in the near future. Water supplies from the SCWA through 2040 are projected to be equivalent to the District's entitlement of 3,200 AFY, established in the Restructured Agreement and

effective through 2037. The District has the capacity to meet the demands of its customers in wet and normal years based on supplies from SCWA and groundwater.

SCWA supply and District groundwater projections for normal years are presented in the following table.

TABLE G-3 DISTRICT PROJECTED WATER SUPPLIES, NORMAL YEARS

	2015[1]	2020[2]	2025[2]	2030[2]	2035[2]	2040[2]
Surface Water Supplies						
Total SCWA Supplies (AFY)	1,947	3,200	3,200	3,200	3,200	3,200
Percent Normal, %	n/a	100%	100%	100%	100%	100%
Groundwater Supplies						
Total Groundwater Supplies (AFY)	581	450	327	232	100	100
Percent Normal, %	n/a	100%	100%	100%	100%	100%
Total Supplies	**2,528**	**3,650**	**3,527**	**3,432**	**3,300**	**3,300**
Percent of Normal	n/a	**100%**	**100%**	**100%**	**100%**	**100%**

[1] 2015 data is based on actual numbers from the District's 2015 UWMP.
[2] Projections are from the District's 2015 UWMP, Table 6-2.

During periods of shortage, Section 3.5 of the SCWA Restructured Agreement provides a method for allocating water among the various Water Contractors and other customers of the SCWA water supply. On April 18, 2006, SCWA's Board of Directors adopted Resolution No. 06-0342, which approved a methodology for allocating water in the event of a water supply shortage or in the event of a temporary impairment of the capacity of SCWA's transmission system. This methodology first restricts the delivery of surplus water and then caps water deliveries to each Water Contractor at its respective annual entitlement. If further reductions are required, Section 3.5 of the Restructured Agreement provides a guaranteed supply to each Water Contractor equal to the quantity of water required for human consumption, sanitation, and fire protection. The remaining water is then allocated to each Water Contractor proportionately based up their respective annual entitlements, up to a maximum equal to its "reasonable requirement."

The SCWA and its Water Contractors are in the process of updating the water shortage allocation methodology. The water supply reliability projections presented in this Plan reflect the new methodology as it is likely to govern supply allocations during periods of water shortage over the forecast timeframe. The updated methodology utilizes the same allocation principles established under the Restructured Agreement but refines the calculation of the human health demands and reasonable requirements. Under the proposed revised methodology, the District's human health, sanitation, and fire flow needs are determined to be 1,716 AFY, whereas its reasonable requirement is 2,908 AFY. Based on the annual entitlements included in the Restructured Agreement, The District's Annual Entitlement of 3,200 AFY represents 4.1 percent of the total entitlements of all Water Contractors (77,445 AFY). Therefore, in the event of a water supply reduction imposed by SCWA, the District will receive its human health needs of 1,716 AFY plus 4.1 percent of the remaining water supply, up to a

maximum of 2,908 AFY. The SCWA provided the District with water supply reliability projections for use in its UWMP.

The District's SCWA water supply represents its anticipated supply allocations based upon the allocation methodology described previously. Per the allocation methodology, the District is expected to receive its reasonable requirement of 2,908 AFY during the projected supply reductions occurring after 2025. The District anticipates receiving between 91 and 100 percent of its total projected water supply in single dry years over the forecast timeframe.

No SCWA supply reductions and no groundwater supply reductions are projected to occur during multiple dry years over the forecast timeframe. The District anticipates receiving 100 percent of its total projected water supply in all multiple dry year scenarios during this time.

Table G-4 shows projected supply for the District for a normal year, single dry year, and for five consecutive dry years, based on the 2015 UWMP-reported allocations. During the periods of supply reductions, specifically, a single dry year, the District will have to implement the Water Shortage Contingency Plan to reduce demand. The District Water Shortage Contingency Plan describes the triggering levels and actions to be considered for each stage of demand reduction. As detailed in the next section, the plan has four stages with each stage set to respond to increasingly more severe conditions. Therefore, the system demand will decrease to meet the reduced allocations by SCWA.

TABLE G-4 DISTRICT PROJECTED ANNUAL SUPPLY ALLOCATIONS FOR SINGLE AND MULTIPLE DRY YEARS

	2015[1]	2020[2]	2025[2]	2030[2]	2035[2]	2040[2]
SINGLE DRY YEARS						
Surface Water Supplies						
Total SCWA Supplies (AFY)	1,947	3,200	2,908	2,908	2,908	2,908
Percent Normal, %	n/a	100%	91%	91%	91%	91%
Groundwater Supplies						
Total Groundwater Supplies (AFY)	581	450	327	232	100	100
Percent Normal, %	n/a	100%	100%	100%	100%	100%
Total Supplies	**2,528**	**3,650**	**3,235**	**3,140**	**3,008**	**3,008**
Percent of Normal	n/a	**92%**	**91%**	**91%**	**91%**	**91%**
MULTIPLE DRY YEARS (Years 1-4)[3]						
Surface Water Supplies						
Total SCWA Supplies (AFY)	1,947	3,200	3,200	3,200	3,200	3,200
Percent Normal, %	n/a	100%	100%	100%	100%	100%
Groundwater Supplies						
Total Groundwater Supplies (AFY)	581	450	327	232	100	100
Percent Normal, %	n/a	100%	100%	100%	100%	100%
Total Supplies	**2,528**	**3,650**	**3,527**	**3,432**	**3,300**	**3,300**
Percent of Normal	n/a	**100%**	**100%**	**100%**	**100%**	**100%**

[1] 2015 data is based on actual numbers from the District's 2015 UWMP.
[2] Projections are from the District's 2015 UWMP, Tables 6-4 and 6-6.
[3] The water supply numbers for Years 1-4 are the same and include the Multiple Dry Years first year supply.

District Water Shortage Contingency Plan

The District Water Shortage Contingency Plan (WSCP) was revised on April 7, 2015 to address day per week water restrictions that were mandated by the SWRCB. Among other revisions, the current version of the WSCP includes a new tier for residential billing and provides minor modifications to the water shortage stages. The updated WSCP also gives the District additional flexibility to address supply shortfalls that may result from, but are not limited to: droughts, extreme weather events, natural disasters, extended power outages, reduced deliveries from the SCWA, and regulatory droughts. Reduction goals for each water use sector under Stages 2, 3, and 4 of the WSCP are summarized in the following table.

TABLE G-5 WSCP REDUCTION GOALS BY CUSTOMER CLASS

Customer Class	Stage 2 Reduction Goal	Stage 3 Reduction Goal	Stage 4 Reduction Goal
Single Family Residential	25%	35%	55%
Multifamily Residential	25%	35%	42%
Commercial/Industrial/Institutional	15%	20%	27%
Dedicated Irrigation	50%	75%	90%
Total	**25%**	**35%**	**50%**

The District's increasingly stringent stages of action for responding to reduced supply in a water shortage are summarized below. Stages 2, 3, and 4 of the District's WSCP are enacted through the adoption of a resolution by the District's Board of Directors.

Stage I: This is the normal stage that includes voluntary prohibitions with the goal of up to 25 percent overall reduction. This stage is a continuing effort to conserve water and includes actions such as: (a) limiting irrigation to between 8pm and 6am; (b) requiring a hose-end shut-off nozzle for garden or utility hoses; (c) prohibiting street washing using potable water; (d) prohibiting washing of sidewalks, patios, driveways and other hardscapes, unless for public health and safety; (e) and requiring construction dust control to use recycled water.

Stage II: This stage is mandatory with the goal of 25 percent overall reduction in water use. This stage includes actions such as: (a) adopting a rationing ordinance assigning Stage 2 allotment to each water service; (b) adopting a resolution to implement Stage 2 Water Shortage Charges; (c) increasing District staffing support, including adding a temporary position to staff phone lines, performing patrols for water waste violations, and conducting customer water use audits; and (d) increasing public education and outreach campaigns.

Stage III: This stage is mandatory with the goal of 35 percent overall reduction in water use. This stage includes actions such as: (a) adopting a rationing ordinance assigning Stage 3 allotment to each water service; (b) adopting a resolution to implement Stage 3 Water Shortage Charges; (c) increasing public education and outreach campaigns; (d) establishing a construction water demand offset program; and (e) expanding efforts to patrol for water waste violations and conducting customer water use audits.

Stage IV: This stage is mandatory with the goal of 50 percent overall reduction in water use. This stage includes actions such as: (a) adopting a rationing ordinance assigning Stage 4 allotment to each water service; (b) adopting a resolution to implement Stage 4 Water Shortage Charges; (c) increasing public education and outreach campaigns; (d) promoting participation in a construction water demand offset program; and (e) expanding efforts to patrol for water waste violations and conducting customer water use audits.

Depending on the extent of the water waste, the District may, after written notification to customer and a reasonable time to correct the violation as solely determined by the District,

take action to enforce the District's water waste prevention ordinance (Ordinance No. 1007[3]) or the WSCP. Penalties, fees, and charges are established by a resolution adopted by the District's Board of Directors. While Stages 2, 3, and 4 of the WSCP are in place, customers are subject to potential enforcement action if their water use exceeds the established allotment over two consecutive billing cycles or exceeds the established allotment in three billing cycles within a twelve-month period.

Because the District has based its planning on the SCWA's current water rights and because these current water rights are more restrictive than the multiple dry year condition, a multiple dry year 3-year minimum water supply analysis would be identical to the normal water year analysis.

E. WATER DEMAND PROJECTIONS

This section presents the District's projected demands with and without the proposed project.

1. Future System Demand Projections

Table G-6 shows the future system demand projections and the difference (excess supply allocation) until 2040. As shown, available supplies are sufficient to meet system demand projections in a normal year.

The District's water demand projections were conducted as part of its 2015 Urban Water Management Plan Water Demand Analysis and Water Conservation Measures Update that was produced by Maddaus Water Management on July 1, 2015 and published in Appendix C of the District's 2015 UWMP. The land use and population assumptions that underpin the water use projections are based on the 2008 Sonoma County General Plan (General Plan)[4]. The population and job forecasts provided in the General Plan were relied upon for the demand projections conducted in the MWM demand analysis.

Projected demands include both active and passive conservation. Passive conservation refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs from the District. These savings result primarily from: (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards and (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards. Active conservation measures undertaken by the District may include rebates; these are presented in Section G of this appendix.

[3] Valley of the Moon Water District. (2000). Water Waste Prohibition Ordinance No. 1007.

[4] Sonoma County. 2008 General Plan, accessed July 2019: https://sonomacounty.ca.gov/PRMD/Long-Range-Plans/General-Plan/

TABLE G-6 FUTURE SYSTEM DEMAND PROJECTIONS (WITHOUT ADDITIONAL PROJECTS)

	2015[1]	2020	2025	2030	2035	2040
District Supplies, AFY[2]	2,528	3,650	3,527	3,432	3,300	3,300
Demand Projections with Passive and Active Conservation Savings, AFY[3]	2,528	2,937	2,905	2,850	2,846	2,850
Annual Excess, AFY	n/a	713	622	582	454	450
Percent Excess, %	n/a	20%	18%	17%	14%	14%

[1] 2015 data is based on actual demand numbers from the District's 2015 UWMP.
[2] Values are consistent with 2015 UWMP Table 5.10 Water Supplies
[3] Demand values are consistent with the District's 2015 UWMP Appendix C Water Demand Analysis and Water Conservation Measures Update.

2. Net Additional Demand from Proposed Projects

This section presents background information on the proposed project and net additional demand. The boundaries of the Specific Plan are within the service area of the District. The process of determining water demand for future development sites is a dynamic one. By the next WSA submittal, there may be actual site data available. This WSA is based on the land use proposed for the project connection types listed below.

The 15 new neighborhood commercial connections include 8 new dwelling units and a net increase of 53,390 non-residential sq. ft. of development yielding approximately 17 AFY of additional demand.

The 82 new commercial connections include 120 hotel rooms and 72,245 new non-residential sq. ft. of development for an approximate net increase in demand of 39 AFY.

The 6 new commercial irrigation connections yield approximately 9 AFY of additional demand.

The 50 new mixed-use connections include 138 new dwelling units and a net increase of 123,621 non-residential sq. ft. of development yielding approximately 50 AFY of additional demand.

The 3 mixed-use irrigation connections will yield approximately 5 AFY of additional demand.

The 3 new recreational connections include a reduction of 3 dwelling units and a net increase of 26,648 sq. ft. of recreational use yielding approximately 9 AFY of additional demand.

The 131 medium density residential connections include 119 single family and 113 multifamily dwelling units for an additional demand of approximately 45 AFY.

The 31 high density residential connections include 310 new multifamily dwelling units yielding approximately 35 AFY of additional demand.

The Springs Project is estimated to be developed according to the following approximate schedule:

- 25 percent between 2020 and 2025

- 25 percent between 2025 and 2030
- 25 percent between 2030 and 2035
- 25 percent between 2035 and 2040

The complete buildout of the Specific Plan area is estimated to require approximately 209 acre-feet per year (AFY) of additional water demand. Development is expected to occur gradually over the next 20 years.

Table G-7 shows the total projected annual additional demand generated from the Springs development project that is under review by the County of Sonoma.

TABLE G-7 ANNUAL ADDITIONAL FUTURE DEMANDS FROM PROJECT IN AFY[1]

Development Project	2020	2025	2030	2035	2040
Springs Specific Plan Area Development Project	-	52	104	157	209

[1] This is the total net increase in demand due to this project. The removal of 3 existing SF units is included in this estimate.

Table G-8 shows the total system demand projected for the District including the demand from the proposed project. The total system demand is calculated by adding the net demand generated from the proposed project from Table G-7 to the system demand projections.

TABLE G-8 TOTAL SYSTEM DEMAND WITH ADDED PROJECT, NO DROUGHT

	2015[1]	2020	2025	2030	2035	2040
Demand Projection for District with Passive and Active Conservation, AFY	2,528	2,937	2,905	2,850	2,846	2,850
Net Demand from Additional Project, AFY	n/a	-	52	104	157	209
Total System Demand, AFY	2,528	2,937	2,957	2,955	3,002	3,059
Supply Assurance, AFY	2,528	3,650	3,527	3,432	3,300	3,300
Estimated Remaining Supply, AFY	n/a	713	570	477	298	241
Est. Remaining Supply Reliability, %	n/a	20%	16%	14%	9%	7%

[1] 2015 data is based on actual numbers from the District's 2015 UWMP.

F. COMPARISON AND CONCLUSION OF SUPPLY ALLOCATION VS. WATER DEMAND PROJECTIONS

This section presents a supply versus demand comparison and conclusion.

1. Comparison of Supply Versus Demand

Table G-9 shows a comparison of the supply allocations from Table G-4 and projected total system demands from Table G-8, through the 20-year planning horizon as required by SB 610. As discussed previously, the District anticipates receiving between 91 and 100 percent of its total projected water supply in single dry years over the forecast timeframe. Furthermore, no SCWA supply reductions and no groundwater supply reductions are projected to occur during

multiple dry years over the forecast timeframe. To meet the reductions in a single dry year, the District will have to cut back its consumption in kind by implementing the WSCP based on the severity of the drought. The District's WSCP describes the triggering levels and actions to be considered for each stage of demand reduction. The plan has four stages with each stage set to respond to increasingly severe conditions.

As shown in Table G-9, there will continue to be sufficient supplies to meet all projected demand, including the additional demand generated from the proposed projects in all conditions until year 2040. This conclusion is dependent on the District implementing the mandatory demand reductions as outlined in the District's WSCP.

In the event of drought conditions, the District would implement the WSCP, which would result in reduced water demand of up to 50 percent within the service area. The WSCP thus would ensure an adequate water supply within the District service area if SCWA reduces water deliveries to the District by up to 10 percent (as could occur during a single drought year). For instance, a 2 percent reduction in water demand would reduce the overall demand during a single dry year to approximately 2,998 AFY in 2040, with the new projects built out, as shown in Table G-9. The anticipated supply that year, considering the reduction in water supplies from SCWA, would be 3,008 AFY, as shown in Table G-4. Thus, even under a single dry year scenario starting in 2040, the District would be estimated to provide adequate water to all existing and anticipated development and maintain a small estimated water surplus of 10 AFY. However, as stated, no such SCWA or groundwater supply reductions are projected to occur during multiple dry years over the forecast timeframe.

TABLE D-9 ANNUAL SUPPLY ALLOCATION VS. MULTIPLE DRY YEARS DEMAND INCLUDING DEMAND REDUCTIONS

Year		Normal Year (AFY)	Single Dry Year (AFY)	Multiple Dry Years (AFY)				
				Year 1	Year 2	Year 3	Year 4	Year 5
			Demand Reduction, %					
			2%	0%	0%	0%	0%	0%
2020	Supply Assurance	3,650	3,650	3,650	3,650	3,650	3,650	3,650
	Demand (NOT including proposed projects)	2,937	2,879	2,937	2,937	2,937	2,937	2,937
	Demand (including proposed projects)	2,937	2,879	2,937	2,937	2,937	2,937	2,937
	Excess (NOT including proposed projects)	713	771	713	713	713	713	713
	Excess (including proposed projects)	713	771	713	713	713	713	713
2025	Supply Assurance	3,527	3,235	3,527	3,650	3,650	3,650	3,650
	Demand (NOT including proposed projects)	2,905	2,847	2,905	2,905	2,905	2,905	2,905
	Demand (including proposed projects)	2,957	2,898	2,957	2,957	2,957	2,957	2,957
	Excess (NOT including proposed projects)	622	388	622	745	745	745	745
	Excess (including proposed projects)	570	337	570	693	693	693	693
2030	Supply Assurance	3,432	3,140	3,432	3,432	3,432	3,432	3,432
	Demand (NOT including proposed projects)	2,850	2,793	2,850	2,850	2,850	2,850	2,850
	Demand (including proposed projects)	2,955	2,896	2,955	2,955	2,955	2,955	2,955
	Excess (NOT including proposed projects)	582	347	582	582	582	582	582
	Excess (including proposed projects)	477	244	477	477	477	477	477

Year		Normal Year (AFY)	Single Dry Year (AFY)	Multiple Dry Years (AFY)				
				Year 1	Year 2	Year 3	Year 4	Year 5
			Demand Reduction, %					
			2%	0%	0%	0%	0%	0%
2035	Supply Assurance	3,300	3,008	3,300	3,300	3,300	3,300	3,300
	Demand (NOT including proposed projects)	2,846	2,789	2,846	2,846	2,846	2,846	2,846
	Demand (including proposed projects)	3,002	2,942	3,002	3,002	3,002	3,002	3,002
	Excess (NOT including proposed projects)	454	219	454	454	454	454	454
	Excess (including proposed projects)	298	66	298	298	298	298	298
2040	Supply Assurance	3,300	3,008	3,300	3,300	3,300	3,300	3,300
	Demand (NOT including proposed projects)	2,850	2,793	2,850	2,850	2,850	2,850	2,850
	Demand (including proposed projects)	3,059	2,998	3,059	3,059	3,059	3,059	3,059
	Excess (NOT including proposed projects)	450	215	450	450	450	450	450
	Excess (including proposed projects)	241	10	241	241	241	241	241

2. Supply and Demand Conclusion

In conclusion, as of June 2019, the water demand associated with the proposed Springs Project could be accommodated during a single dry year (such as that which could result from global climate change) through implementation of the mandatory demand reductions as outlined in the District's WSCP. The WSCP allows for up to 50 percent demand reduction. After year 2035, in a single dry year, the project may require a 2 percent reduction in demand by District customers to balance supply and demand.

The entire proposed Springs Project would generate a water demand of 209 AFY. This water demand would be within the anticipated supply range for the District and would not lead to insufficient water supplies in existing entitlements and resources or require new or expanded entitlements. Therefore, the proposed project would result in a less-than-significant impact upon the existing and anticipated potable water supply.

G. DEMAND MANAGEMENT MEASURES

Over the years, the District has implemented demand management measures to reduce the overall demand for water. Helpful water conservation tips are available online and in brochures to educate customers. Table G-10 presents the water conservation measures that the District is currently implementing or planning to implement. Measure descriptions are based on what was published in the adopted conservation program described in the 2015 UWMP Appendix C Water Demand Analysis and Water Conservation Measures Update as well as the information found on the District's conservation website (https://www.vomwd.org/conservation) and conversations with District staff as of June 2019.

TABLE G-10 DISTRICT CURRENT AND PROPOSED CONSERVATION MEASURES

Measure Name	Measure Description
Water Loss	Maintain a thorough annual accounting of water production, sales by customer class, quantity of water produced, and billed consumption (to define non-revenue water). In conjunction with system accounting, include water system audits that identify and quantify known legitimate uses of non-revenue water to determine remaining potential for reducing real (physical) water losses. Goal would be to lower the Infrastructure Leakage Index (ILI) and real water losses every year by a pre-determined amount based on cost effectiveness. These programs typically pay for themselves based on savings in operational costs (where saved rate revenue can be directed more to system repairs/replacement and other costs) and recovered revenue through addressing apparent losses. Specific goals and methods to be developed by the utility. May include accelerated main and service line replacement. Enhanced real water loss reduction may include more ambitious main replacement and active leak detection. Capture water from water main flushing and hydrant flow testing for reuse.
AMI	Retrofit system with Advanced Metering Infrastructure (AMI) meters and associated network capable of providing continuous consumption data to utility offices. Improved identification of system and customer leaks is a major conservation benefit. Some costs of these systems are offset by operational efficiencies and reduced staffing, as regular meter reading and opening and closing accounts are accomplished without the need for a site visit. Also enables enhanced billing options and ability to monitor unauthorized usage, such as use of/tampering with closed accounts or irrigation when time of day or days per week are regulated. Customer service is improved as staff can quickly access continuous usage records to address customer inquiries. Optional features include online customer access to their usage, which has been shown to improve accountability and reduce water use. A five-year change-out would be a reasonable objective and may take longer if coupled with a full meter replacement program (on the order of 10 years). Require that new, larger or irrigation customers install such AMI meters as described above and possibly purchase means of viewing daily consumption inside their home, business, or by their landscape/property managers, either through the internet (if available) or separate device. The AMI system would, on demand, indicate to the customer and utility where and how their water is used, facilitating water use reduction and prompting leak identification.
Pricing	Assumes average annual price increase of 5 percent for next 20 years. Measure converts price increases to real price increases net of inflation. Annual increase must be above user set threshold (such as assuming 2 percent inflation) to trigger demand reduction.
Public Info & School Education – SMSWP	REGIONAL MEASURE: Regional public information and school education campaign. School education includes school assembly program, classroom presentations, and other options.

Public Info & School Education – District	Public information dissemination and school education initiatives beyond those conducted by SMSWP.
Prohibit Water Waste	Adopt or modify ordinance that prohibits the waste of water defined as gutter flooding, restrictions on watering days, and failure to repair leaks in a timely manner.
HE Faucet Aerator/ Showerhead Giveaway	Utility buys high efficiency (HE) showerheads and faucet aerators in bulk and gives them away at utility offices and community events. Targets residential and non-residential customers.
HE Clothes Washer Rebate – Residential	As of June 2019, the District residential customers replacing a top-loading clothes washer with a qualifying front-loading clothes washer are eligible to receive a $50 rebate. Rebates will remain consistent with relevant state and federal regulations (Department of Energy, Energy Star) and only offer the best available technology. This measure is managed through the Sonoma-Marin High Efficiency Clothes Washer Water Rebate program run by SMSWP. More information can be found here: https://ca-santarosa.civicplus.com/DocumentCenter/View/6857/High-Efficiency-Clothes-Washer-Water-Rebate-Program-PDF?bidId=.
Turf Removal – Residential	As of June 2019, the District residential customers can receive a rebate of $0.50 per square foot of qualify turf replacement. Program and funding restrictions apply. The District can be contacted for details and to schedule the mandatory pre- and post-inspections. More information can be found here: https://docs.wixstatic.com/ugd/1be0f0_a6803b6b1b2641d993941be24f74e02f.pdf.
Water Conserving Landscape and Irrigation Codes	Develop and enforce Water Efficient Landscape Design Standards. Standards specify that development projects subject to design review be landscaped according to climate appropriate principals, with appropriate turf ratios, plant selection, efficient irrigation systems, and smart irrigation controllers. The ordinance could require certification of landscape professionals.
Require Smart Irrigation Controllers and Rain Sensors in New Development	Require Weather Adjusting Smart Irrigation Controllers per CALGreen on new development (rain sensors are optional). Require developers for all properties with greater than four residential units and all commercial development to install the weather-based irrigation controllers. May require landscaper training.

Source: The District's 2015 UWMP Water Demand Analysis and Water Conservation Measures Update, published as Appendix C in the District's 2015 UWMP. Enhancements and updates are based on the District's conservation website (https://www.vomwd.org/conservation) and conversations with District staff as of June 2019.

Appendix E

Noise Data

Environmental Noise Assessment

Sonoma County, California

November 30, 2018

jcb Project # 2016-108

Prepared for:

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Jim Brennan, INCE
President
Member, Institute of Noise Control Engineering (INCE)

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2016-108 - Springs Specific Plan
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Hwy 12	N. of Agua Caliente	11,930	84		16	2	1	40	50	
2	Hwy 12	Agua Caliente to Mountain	13,460	84		16	2	1	40	50	
3	Hwy 12	Mountain to Lichtenberg	14,680	84		16	2	1	40	50	
4	Hwy 12	Lichtenberg to Boyes	13,400	84		16	2	1	40	50	
5	Hwy 12	Boyes to Calle del Monte	16,030	84		16	2	1	40	50	
6	Hwy 12	Calle del Monte to W. Thomson	16,810	84		16	2	1	40	50	
7	Hwy 12	W. Thomson to Siesta	17,220	84		16	2	1	40	50	
8	Hwy 12	Siesta to Donald	18,240	84		16	2	1	40	50	
9	Hwy 12	Donald to Verano	18,990	84		16	2	1	40	50	
10	Hwy 12	Verano to Maxwell Village	18,770	84		16	2	1	40	50	
11	Hwy 12	Maxwell Village to W. Spain	18,160	84		16	2	1	40	50	
12	Hwy 12	S. of W. Spain	14,190	84		16	2	1	40	50	
13	Agua Caliente	W. of Hwy 12	4,160	84		16	1	0.5	25	50	
14	Boyes Blvd.	W. of Hwy 12	5,280	84		16	1	0.5	25	50	
15	Thomson Ave.	W. of Hwy 12	3,010	84		16	1	0.5	25	50	
16	Donald St.	E. of Hwy 12	980	84		16	1	0.5	25	50	
17	Donald St.	W. of Robinson	7,020	84		16	1	0.5	25	50	
18	Donald St.	E. of Robinson	6,890	84		16	1	0.5	25	50	
19	Verano	W. of Arnold	340	84		16	1	0.5	25	50	
20	Verano	Arnold to Hwy 12	9,640	84		16	1	0.5	25	50	
21	Verano	Hwy 12 to Robinson	5,760	84		16	1	0.5	25	50	
22	Verano	E. of Robinson	390	84		16	1	0.5	25	50	
23	Robinson	N. of Donald	960	84		16	1	0.5	25	50	
24	Robinson	Donald to Verano	470	84		16	1	0.5	25	50	
25	Robinson	S. of Verano	930	84		16	1	0.5	25	50	

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2016-108 - Springs Specific Plan
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Hwy 12	N. of Agua Caliente	65.5	57.5	59.3	67
2	Hwy 12	Agua Caliente to Mountain	66.0	58.0	59.9	67
3	Hwy 12	Mountain to Lichtenberg	66.4	58.4	60.2	68
4	Hwy 12	Lichtenberg to Boyes	66.0	58.0	59.8	67
5	Hwy 12	Boyes to Calle del Monte	66.7	58.8	60.6	68
6	Hwy 12	Calle del Monte to W. Thomson	66.9	59.0	60.8	68
7	Hwy 12	W. Thomson to Siesta	67.0	59.1	60.9	69
8	Hwy 12	Siesta to Donald	67.3	59.4	61.2	69
9	Hwy 12	Donald to Verano	67.5	59.5	61.4	69
10	Hwy 12	Verano to Maxwell Village	67.4	59.5	61.3	69
11	Hwy 12	Maxwell Village to W. Spain	67.3	59.3	61.2	69
12	Hwy 12	S. of W. Spain	66.2	58.3	60.1	68
13	Agua Caliente	W. of Hwy 12	55.1	46.7	51.4	57
14	Boyes Blvd.	W. of Hwy 12	56.1	47.8	52.4	58
15	Thomson Ave.	W. of Hwy 12	53.7	45.3	50.0	56
16	Donald St.	E. of Hwy 12	48.8	40.5	45.1	51
17	Donald St.	W. of Robinson	57.3	49.0	53.6	59
18	Donald St.	E. of Robinson	57.3	48.9	53.6	59
19	Verano	W. of Arnold	44.2	35.9	40.5	46
20	Verano	Arnold to Hwy 12	58.7	50.4	55.0	61
21	Verano	Hwy 12 to Robinson	56.5	48.2	52.8	58
22	Verano	E. of Robinson	44.8	36.5	41.1	47
23	Robinson	N. of Donald	48.7	40.4	45.0	51
24	Robinson	Donald to Verano	45.6	37.3	41.9	48
25	Robinson	S. of Verano	48.6	40.2	44.9	51

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2016-108 - Springs Specific Plan
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Hwy 12	N. of Agua Caliente	14	31	67	145	312
2	Hwy 12	Agua Caliente to Mountain	16	34	73	157	338
3	Hwy 12	Mountain to Lichtenberg	17	36	77	166	358
4	Hwy 12	Lichtenberg to Boyes	16	34	73	157	337
5	Hwy 12	Boyes to Calle del Monte	18	38	82	176	380
6	Hwy 12	Calle del Monte to W. Thomson	18	39	85	182	392
7	Hwy 12	W. Thomson to Siesta	19	40	86	185	399
8	Hwy 12	Siesta to Donald	19	41	89	192	414
9	Hwy 12	Donald to Verano	20	43	92	197	425
10	Hwy 12	Verano to Maxwell Village	20	42	91	196	422
11	Hwy 12	Maxwell Village to W. Spain	19	41	89	192	413
12	Hwy 12	S. of W. Spain	16	35	75	163	350
13	Agua Caliente	W. of Hwy 12	3	7	15	32	68
14	Boyes Blvd.	W. of Hwy 12	4	8	17	37	80
15	Thomson Ave.	W. of Hwy 12	3	6	12	26	55
16	Donald St.	E. of Hwy 12	1	3	6	12	26
17	Donald St.	W. of Robinson	4	10	21	45	97
18	Donald St.	E. of Robinson	4	10	21	44	96
19	Verano	W. of Arnold	1	1	3	6	13
20	Verano	Arnold to Hwy 12	6	12	26	56	120
21	Verano	Hwy 12 to Robinson	4	8	18	39	85
22	Verano	E. of Robinson	1	1	3	7	14
23	Robinson	N. of Donald	1	3	6	12	26
24	Robinson	Donald to Verano	1	2	3	7	16
25	Robinson	S. of Verano	1	3	5	12	25

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2016-108 - Springs Specific Plan
Description: Existing + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Hwy 12	N. of Agua Caliente	13,310	84		16	2	1	40	50	
2	Hwy 12	Agua Caliente to Mountain	15,830	84		16	2	1	40	50	
3	Hwy 12	Mountain to Lichtenberg	17,450	84		16	2	1	40	50	
4	Hwy 12	Lichtenberg to Boyes	16,720	84		16	2	1	40	50	
5	Hwy 12	Boyes to Calle del Monte	19,580	84		16	2	1	40	50	
6	Hwy 12	Calle del Monte to W. Thomson	20,590	84		16	2	1	40	50	
7	Hwy 12	W. Thomson to Siesta	21,160	84		16	2	1	40	50	
8	Hwy 12	Siesta to Donald	22,480	84		16	2	1	40	50	
9	Hwy 12	Donald to Verano	22,750	84		16	2	1	40	50	
10	Hwy 12	Verano to Maxwell Village	21,260	84		16	2	1	40	50	
11	Hwy 12	Maxwell Village to W. Spain	20,370	84		16	2	1	40	50	
12	Hwy 12	S. of W. Spain	16,030	84		16	2	1	40	50	
13	Agua Caliente	W. of Hwy 12	4,480	84		16	1	0.5	25	50	
14	Boyes Blvd.	W. of Hwy 12	6,010	84		16	1	0.5	25	50	
15	Thomson Ave.	W. of Hwy 12	3,520	84		16	1	0.5	25	50	
16	Donald St.	E. of Hwy 12	1,760	84		16	1	0.5	25	50	
17	Donald St.	W. of Robinson	7,800	84		16	1	0.5	25	50	
18	Donald St.	E. of Robinson	9,100	84		16	1	0.5	25	50	
19	Verano	W. of Arnold	340	84		16	1	0.5	25	50	
20	Verano	Arnold to Hwy 12	11,670	84		16	1	0.5	25	50	
21	Verano	Hwy 12 to Robinson	7,330	84		16	1	0.5	25	50	
22	Verano	E. of Robinson	570	84		16	1	0.5	25	50	
23	Robinson	N. of Donald	960	84		16	1	0.5	25	50	
24	Robinson	Donald to Verano	1,990	84		16	1	0.5	25	50	
25	Robinson	S. of Verano	930	84		16	1	0.5	25	50	

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2016-108 - Springs Specific Plan
Description: Existing + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Hwy 12	N. of Agua Caliente	65.9	58.0	59.8	67
2	Hwy 12	Agua Caliente to Mountain	66.7	58.7	60.6	68
3	Hwy 12	Mountain to Lichtenberg	67.1	59.2	61.0	69
4	Hwy 12	Lichtenberg to Boyes	66.9	59.0	60.8	68
5	Hwy 12	Boyes to Calle del Monte	67.6	59.7	61.5	69
6	Hwy 12	Calle del Monte to W. Thomson	67.8	59.9	61.7	69
7	Hwy 12	W. Thomson to Siesta	67.9	60.0	61.8	69
8	Hwy 12	Siesta to Donald	68.2	60.3	62.1	70
9	Hwy 12	Donald to Verano	68.3	60.3	62.1	70
10	Hwy 12	Verano to Maxwell Village	68.0	60.0	61.8	69
11	Hwy 12	Maxwell Village to W. Spain	67.8	59.8	61.7	69
12	Hwy 12	S. of W. Spain	66.7	58.8	60.6	68
13	Agua Caliente	W. of Hwy 12	55.4	47.1	51.7	57
14	Boyes Blvd.	W. of Hwy 12	56.7	48.3	53.0	59
15	Thomson Ave.	W. of Hwy 12	54.3	46.0	50.6	56
16	Donald St.	E. of Hwy 12	51.3	43.0	47.6	53
17	Donald St.	W. of Robinson	57.8	49.5	54.1	60
18	Donald St.	E. of Robinson	58.5	50.1	54.8	60
19	Verano	W. of Arnold	44.2	35.9	40.5	46
20	Verano	Arnold to Hwy 12	59.5	51.2	55.8	62
21	Verano	Hwy 12 to Robinson	57.5	49.2	53.8	59
22	Verano	E. of Robinson	46.4	38.1	42.7	48
23	Robinson	N. of Donald	48.7	40.4	45.0	51
24	Robinson	Donald to Verano	51.9	43.5	48.2	54
25	Robinson	S. of Verano	48.6	40.2	44.9	51

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2016-108 - Springs Specific Plan
Description: Existing + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Hwy 12	N. of Agua Caliente	16	34	72	156	336
2	Hwy 12	Agua Caliente to Mountain	17	38	81	175	377
3	Hwy 12	Mountain to Lichtenberg	19	40	87	187	402
4	Hwy 12	Lichtenberg to Boyes	18	39	84	181	391
5	Hwy 12	Boyes to Calle del Monte	20	43	94	202	434
6	Hwy 12	Calle del Monte to W. Thomson	21	45	97	208	449
7	Hwy 12	W. Thomson to Siesta	21	46	99	212	457
8	Hwy 12	Siesta to Donald	22	48	103	221	476
9	Hwy 12	Donald to Verano	22	48	103	223	480
10	Hwy 12	Verano to Maxwell Village	21	46	99	213	459
11	Hwy 12	Maxwell Village to W. Spain	21	45	96	207	446
12	Hwy 12	S. of W. Spain	18	38	82	176	380
13	Agua Caliente	W. of Hwy 12	3	7	15	33	72
14	Boyes Blvd.	W. of Hwy 12	4	9	19	41	87
15	Thomson Ave.	W. of Hwy 12	3	6	13	28	61
16	Donald St.	E. of Hwy 12	2	4	8	18	39
17	Donald St.	W. of Robinson	5	10	22	48	104
18	Donald St.	E. of Robinson	5	12	25	53	115
19	Verano	W. of Arnold	1	1	3	6	13
20	Verano	Arnold to Hwy 12	6	14	29	63	136
21	Verano	Hwy 12 to Robinson	5	10	21	46	100
22	Verano	E. of Robinson	1	2	4	8	18
23	Robinson	N. of Donald	1	3	6	12	26
24	Robinson	Donald to Verano	2	4	9	19	42
25	Robinson	S. of Verano	1	3	5	12	25

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2016-108 - Springs Specific Plan
Description: Future No Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Hwy 12	N. of Agua Caliente	16,190	84		16	2	1	40	50	
2	Hwy 12	Agua Caliente to Mountain	16,630	84		16	2	1	40	50	
3	Hwy 12	Mountain to Lichtenberg	17,650	84		16	2	1	40	50	
4	Hwy 12	Lichtenberg to Boyes	15,600	84		16	2	1	40	50	
5	Hwy 12	Boyes to Calle del Monte	18,320	84		16	2	1	40	50	
6	Hwy 12	Calle del Monte to W. Thomson	19,130	84		16	2	1	40	50	
7	Hwy 12	W. Thomson to Siesta	19,530	84		16	2	1	40	50	
8	Hwy 12	Siesta to Donald	20,550	84		16	2	1	40	50	
9	Hwy 12	Donald to Verano	21,550	84		16	2	1	40	50	
10	Hwy 12	Verano to Maxwell Village	21,510	84		16	2	1	40	50	
11	Hwy 12	Maxwell Village to W. Spain	21,080	84		16	2	1	40	50	
12	Hwy 12	S. of W. Spain	16,860	84		16	2	1	40	50	
13	Agua Caliente	W. of Hwy 12	5,900	84		16	1	0.5	25	50	
14	Boyes Blvd.	W. of Hwy 12	5,610	84		16	1	0.5	25	50	
15	Thomson Ave.	W. of Hwy 12	3,200	84		16	1	0.5	25	50	
16	Donald St.	E. of Hwy 12	1,040	84		16	1	0.5	25	50	
17	Donald St.	W. of Robinson	7,250	84		16	1	0.5	25	50	
18	Donald St.	E. of Robinson	7,110	84		16	1	0.5	25	50	
19	Verano	W. of Arnold	360	84		16	1	0.5	25	50	
20	Verano	Arnold to Hwy 12	10,240	84		16	1	0.5	25	50	
21	Verano	Hwy 12 to Robinson	6,120	84		16	1	0.5	25	50	
22	Verano	E. of Robinson	410	84		16	1	0.5	25	50	
23	Robinson	N. of Donald	990	84		16	1	0.5	25	50	
24	Robinson	Donald to Verano	500	84		16	1	0.5	25	50	
25	Robinson	S. of Verano	990	84		16	1	0.5	25	50	

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2016-108 - Springs Specific Plan
Description: Future No Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Hwy 12	N. of Agua Caliente	66.8	58.8	60.7	68
2	Hwy 12	Agua Caliente to Mountain	66.9	59.0	60.8	68
3	Hwy 12	Mountain to Lichtenberg	67.2	59.2	61.0	69
4	Hwy 12	Lichtenberg to Boyes	66.6	58.7	60.5	68
5	Hwy 12	Boyes to Calle del Monte	67.3	59.4	61.2	69
6	Hwy 12	Calle del Monte to W. Thomson	67.5	59.6	61.4	69
7	Hwy 12	W. Thomson to Siesta	67.6	59.7	61.5	69
8	Hwy 12	Siesta to Donald	67.8	59.9	61.7	69
9	Hwy 12	Donald to Verano	68.0	60.1	61.9	69
10	Hwy 12	Verano to Maxwell Village	68.0	60.1	61.9	69
11	Hwy 12	Maxwell Village to W. Spain	67.9	60.0	61.8	69
12	Hwy 12	S. of W. Spain	67.0	59.0	60.8	68
13	Agua Caliente	W. of Hwy 12	56.6	48.3	52.9	59
14	Boyes Blvd.	W. of Hwy 12	56.4	48.0	52.7	58
15	Thomson Ave.	W. of Hwy 12	53.9	45.6	50.2	56
16	Donald St.	E. of Hwy 12	49.0	40.7	45.3	51
17	Donald St.	W. of Robinson	57.5	49.2	53.8	59
18	Donald St.	E. of Robinson	57.4	49.1	53.7	59
19	Verano	W. of Arnold	44.4	36.1	40.7	46
20	Verano	Arnold to Hwy 12	59.0	50.7	55.3	61
21	Verano	Hwy 12 to Robinson	56.7	48.4	53.0	59
22	Verano	E. of Robinson	45.0	36.7	41.3	47
23	Robinson	N. of Donald	48.8	40.5	45.1	51
24	Robinson	Donald to Verano	45.9	37.5	42.2	48
25	Robinson	S. of Verano	48.8	40.5	45.1	51

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2016-108 - Springs Specific Plan
Description: Future No Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Hwy 12	N. of Agua Caliente	18	38	82	178	383
2	Hwy 12	Agua Caliente to Mountain	18	39	84	181	389
3	Hwy 12	Mountain to Lichtenberg	19	41	87	188	405
4	Hwy 12	Lichtenberg to Boyes	17	37	80	173	373
5	Hwy 12	Boyes to Calle del Monte	19	42	90	193	415
6	Hwy 12	Calle del Monte to W. Thomson	20	43	92	198	428
7	Hwy 12	W. Thomson to Siesta	20	43	93	201	434
8	Hwy 12	Siesta to Donald	21	45	97	208	448
9	Hwy 12	Donald to Verano	21	46	100	215	463
10	Hwy 12	Verano to Maxwell Village	21	46	100	215	462
11	Hwy 12	Maxwell Village to W. Spain	21	46	98	212	456
12	Hwy 12	S. of W. Spain	18	39	85	182	393
13	Agua Caliente	W. of Hwy 12	4	9	19	40	86
14	Boyes Blvd.	W. of Hwy 12	4	8	18	39	83
15	Thomson Ave.	W. of Hwy 12	3	6	12	27	57
16	Donald St.	E. of Hwy 12	1	3	6	13	27
17	Donald St.	W. of Robinson	5	10	21	46	99
18	Donald St.	E. of Robinson	5	10	21	45	98
19	Verano	W. of Arnold	1	1	3	6	13
20	Verano	Arnold to Hwy 12	6	12	27	58	125
21	Verano	Hwy 12 to Robinson	4	9	19	41	88
22	Verano	E. of Robinson	1	1	3	7	15
23	Robinson	N. of Donald	1	3	6	12	26
24	Robinson	Donald to Verano	1	2	4	8	17
25	Robinson	S. of Verano	1	3	6	12	26

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2016-108 - Springs Specific Plan
Description: Future + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Hwy 12	N. of Agua Caliente	17,570	84		16	2	1	40	50	
2	Hwy 12	Agua Caliente to Mountain	18,750	84		16	2	1	40	50	
3	Hwy 12	Mountain to Lichtenberg	20,420	84		16	2	1	40	50	
4	Hwy 12	Lichtenberg to Boyes	19,110	84		16	2	1	40	50	
5	Hwy 12	Boyes to Calle del Monte	21,870	84		16	2	1	40	50	
6	Hwy 12	Calle del Monte to W. Thomson	22,910	84		16	2	1	40	50	
7	Hwy 12	W. Thomson to Siesta	23,470	84		16	2	1	40	50	
8	Hwy 12	Siesta to Donald	24,790	84		16	2	1	40	50	
9	Hwy 12	Donald to Verano	25,310	84		16	2	1	40	50	
10	Hwy 12	Verano to Maxwell Village	23,990	84		16	2	1	40	50	
11	Hwy 12	Maxwell Village to W. Spain	23,290	84		16	2	1	40	50	
12	Hwy 12	S. of W. Spain	18,700	84		16	2	1	40	50	
13	Agua Caliente	W. of Hwy 12	6,220	84		16	1	0.5	25	50	
14	Boyes Blvd.	W. of Hwy 12	6,340	84		16	1	0.5	25	50	
15	Thomson Ave.	W. of Hwy 12	3,710	84		16	1	0.5	25	50	
16	Donald St.	E. of Hwy 12	1,820	84		16	1	0.5	25	50	
17	Donald St.	W. of Robinson	8,030	84		16	1	0.5	25	50	
18	Donald St.	E. of Robinson	9,320	84		16	1	0.5	25	50	
19	Verano	W. of Arnold	360	84		16	1	0.5	25	50	
20	Verano	Arnold to Hwy 12	12,270	84		16	1	0.5	25	50	
21	Verano	Hwy 12 to Robinson	7,690	84		16	1	0.5	25	50	
22	Verano	E. of Robinson	690	84		16	1	0.5	25	50	
23	Robinson	N. of Donald	990	84		16	1	0.5	25	50	
24	Robinson	Donald to Verano	1,920	84		16	1	0.5	25	50	
25	Robinson	S. of Verano	990	84		16	1	0.5	25	50	

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2016-108 - Springs Specific Plan
Description: Future + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Hwy 12	N. of Agua Caliente	67.1	59.2	61.0	69
2	Hwy 12	Agua Caliente to Mountain	67.4	59.5	61.3	69
3	Hwy 12	Mountain to Lichtenberg	67.8	59.9	61.7	69
4	Hwy 12	Lichtenberg to Boyes	67.5	59.6	61.4	69
5	Hwy 12	Boyes to Calle del Monte	68.1	60.2	62.0	70
6	Hwy 12	Calle del Monte to W. Thomson	68.3	60.4	62.2	70
7	Hwy 12	W. Thomson to Siesta	68.4	60.5	62.3	70
8	Hwy 12	Siesta to Donald	68.6	60.7	62.5	70
9	Hwy 12	Donald to Verano	68.7	60.8	62.6	70
10	Hwy 12	Verano to Maxwell Village	68.5	60.6	62.4	70
11	Hwy 12	Maxwell Village to W. Spain	68.4	60.4	62.2	70
12	Hwy 12	S. of W. Spain	67.4	59.5	61.3	69
13	Agua Caliente	W. of Hwy 12	56.8	48.5	53.1	59
14	Boyes Blvd.	W. of Hwy 12	56.9	48.6	53.2	59
15	Thomson Ave.	W. of Hwy 12	54.6	46.3	50.9	57
16	Donald St.	E. of Hwy 12	51.5	43.2	47.8	53
17	Donald St.	W. of Robinson	57.9	49.6	54.2	60
18	Donald St.	E. of Robinson	58.6	50.3	54.9	61
19	Verano	W. of Arnold	44.4	36.1	40.7	46
20	Verano	Arnold to Hwy 12	59.8	51.4	56.1	62
21	Verano	Hwy 12 to Robinson	57.7	49.4	54.0	60
22	Verano	E. of Robinson	47.3	38.9	43.6	49
23	Robinson	N. of Donald	48.8	40.5	45.1	51
24	Robinson	Donald to Verano	51.7	43.4	48.0	54
25	Robinson	S. of Verano	48.8	40.5	45.1	51

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2016-108 - Springs Specific Plan
Description: Future + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Hwy 12	N. of Agua Caliente	19	40	87	188	404
2	Hwy 12	Agua Caliente to Mountain	20	42	91	196	422
3	Hwy 12	Mountain to Lichtenberg	21	45	96	207	447
4	Hwy 12	Lichtenberg to Boyes	20	43	92	198	427
5	Hwy 12	Boyes to Calle del Monte	22	47	101	217	467
6	Hwy 12	Calle del Monte to W. Thomson	22	48	104	224	482
7	Hwy 12	W. Thomson to Siesta	23	49	106	227	490
8	Hwy 12	Siesta to Donald	24	51	109	236	508
9	Hwy 12	Donald to Verano	24	52	111	239	515
10	Hwy 12	Verano to Maxwell Village	23	50	107	231	497
11	Hwy 12	Maxwell Village to W. Spain	23	49	105	226	488
12	Hwy 12	S. of W. Spain	20	42	91	195	421
13	Agua Caliente	W. of Hwy 12	4	9	19	41	89
14	Boyes Blvd.	W. of Hwy 12	4	9	19	42	91
15	Thomson Ave.	W. of Hwy 12	3	6	14	29	63
16	Donald St.	E. of Hwy 12	2	4	8	18	39
17	Donald St.	W. of Robinson	5	11	23	49	106
18	Donald St.	E. of Robinson	5	12	25	54	117
19	Verano	W. of Arnold	1	1	3	6	13
20	Verano	Arnold to Hwy 12	7	14	30	65	141
21	Verano	Hwy 12 to Robinson	5	10	22	48	103
22	Verano	E. of Robinson	1	2	4	10	21
23	Robinson	N. of Donald	1	3	6	12	26
24	Robinson	Donald to Verano	2	4	9	19	41
25	Robinson	S. of Verano	1	3	6	12	26

Appendix B
Springs Specific Plan
24hr Continuous Noise Monitoring - Site A
Tuesday, November 17, 2015

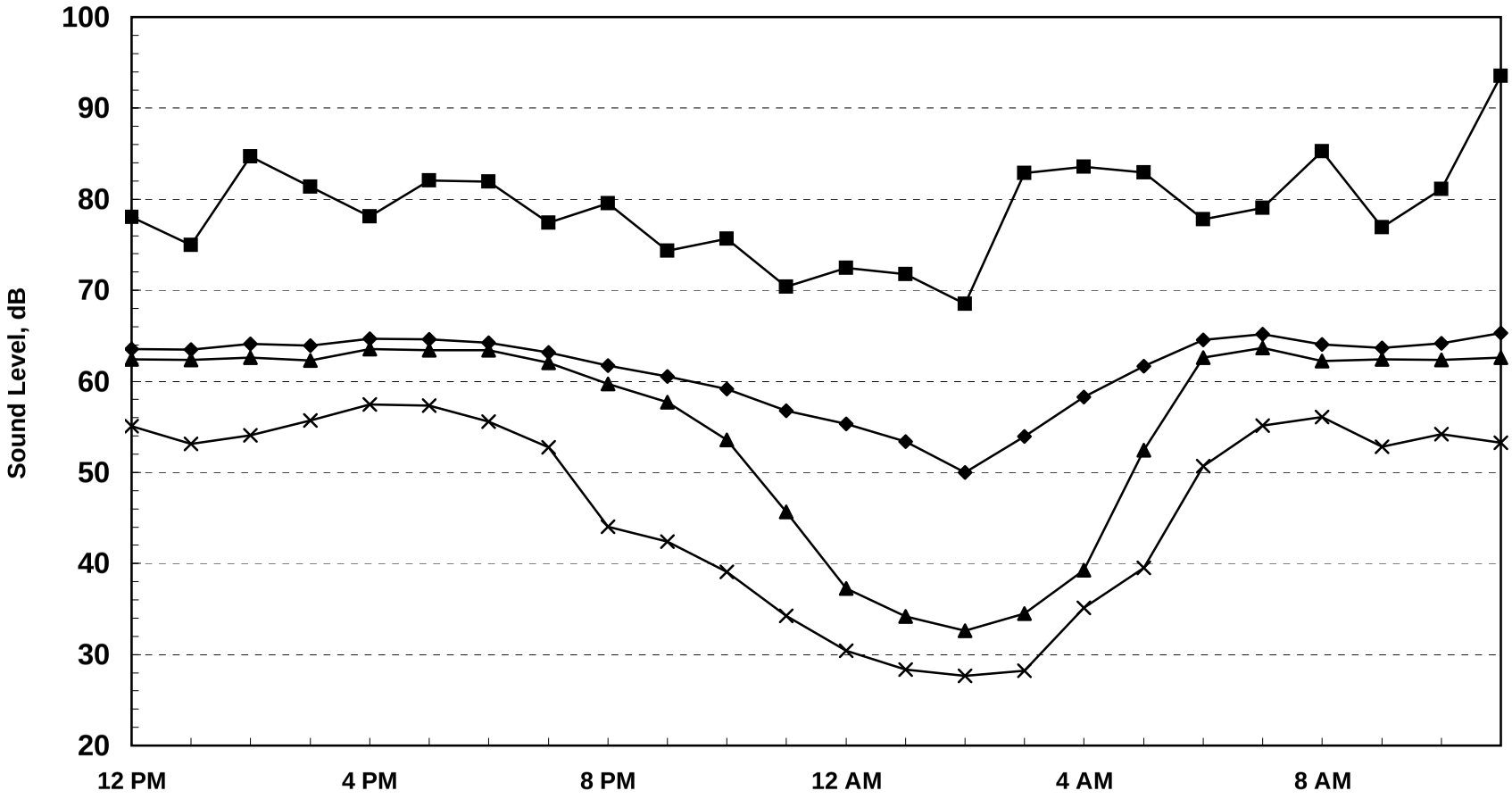
Hour	Leq	Lmax	L50	L90
12:00:00	64	78	62	55
13:00:00	63	75	62	53
14:00:00	64	85	63	54
15:00:00	64	81	62	56
16:00:00	65	78	64	57
17:00:00	65	82	63	57
18:00:00	64	82	63	56
19:00:00	63	77	62	53
20:00:00	62	80	60	44
21:00:00	61	74	58	42
22:00:00	59	76	54	39
23:00:00	57	70	46	34
0:00:00	55	72	37	30
1:00:00	53	72	34	28
2:00:00	50	69	33	28
3:00:00	54	83	34	28
4:00:00	58	84	39	35
5:00:00	62	83	52	40
6:00:00	65	78	63	51
7:00:00	65	79	64	55
8:00:00	64	85	62	56
9:00:00	64	77	62	53
10:00:00	64	81	62	54
11:00:00	65	94	63	53

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	61	64	65	50	59
Lmax (Maximum)	94	74	81	84	69	76
L50 (Median)	64	58	62	63	33	44
L90 (Background)	57	42	53	51	28	35

Computed Ldn, dB	67
% Daytime Energy	84%
% Nighttime Energy	16%

j.c. brennan & associates
consultants in acoustics

Appendix B
Springs Specific Plan
24hr Continuous Noise Monitoring - Site A
Tuesday, November 17, 2015



Ldn = 67 dB

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Appendix B
Springs Specific Plan
24hr Continuous Noise Monitoring - Site B
Tuesday, November 17, 2015

Hour	Leq	Lmax	L50	L90
12:00:00	71	87	66	59
13:00:00	68	87	62	54
14:00:00	68	88	62	57
15:00:00	69	87	62	57
16:00:00	64	85	62	57
17:00:00	64	83	61	56
18:00:00	64	83	61	55
19:00:00	65	90	61	52
20:00:00	62	86	59	47
21:00:00	60	83	56	42
22:00:00	59	77	54	42
23:00:00	55	74	44	35
0:00:00	55	77	41	32
1:00:00	53	76	35	29
2:00:00	49	68	31	28
3:00:00	53	79	33	29
4:00:00	56	77	39	31
5:00:00	66	90	55	48
6:00:00	71	86	67	51
7:00:00	74	93	74	65
8:00:00	74	93	73	63
9:00:00	75	94	73	64
10:00:00	74	92	72	66
11:00:00	73	92	71	62

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	75	60	71	71	49	63
Lmax (Maximum)	94	83	88	90	68	78
L50 (Median)	74	56	65	67	31	44
L90 (Background)	66	42	57	51	28	36

Computed Ldn, dB	72
% Daytime Energy	90%
% Nighttime Energy	10%

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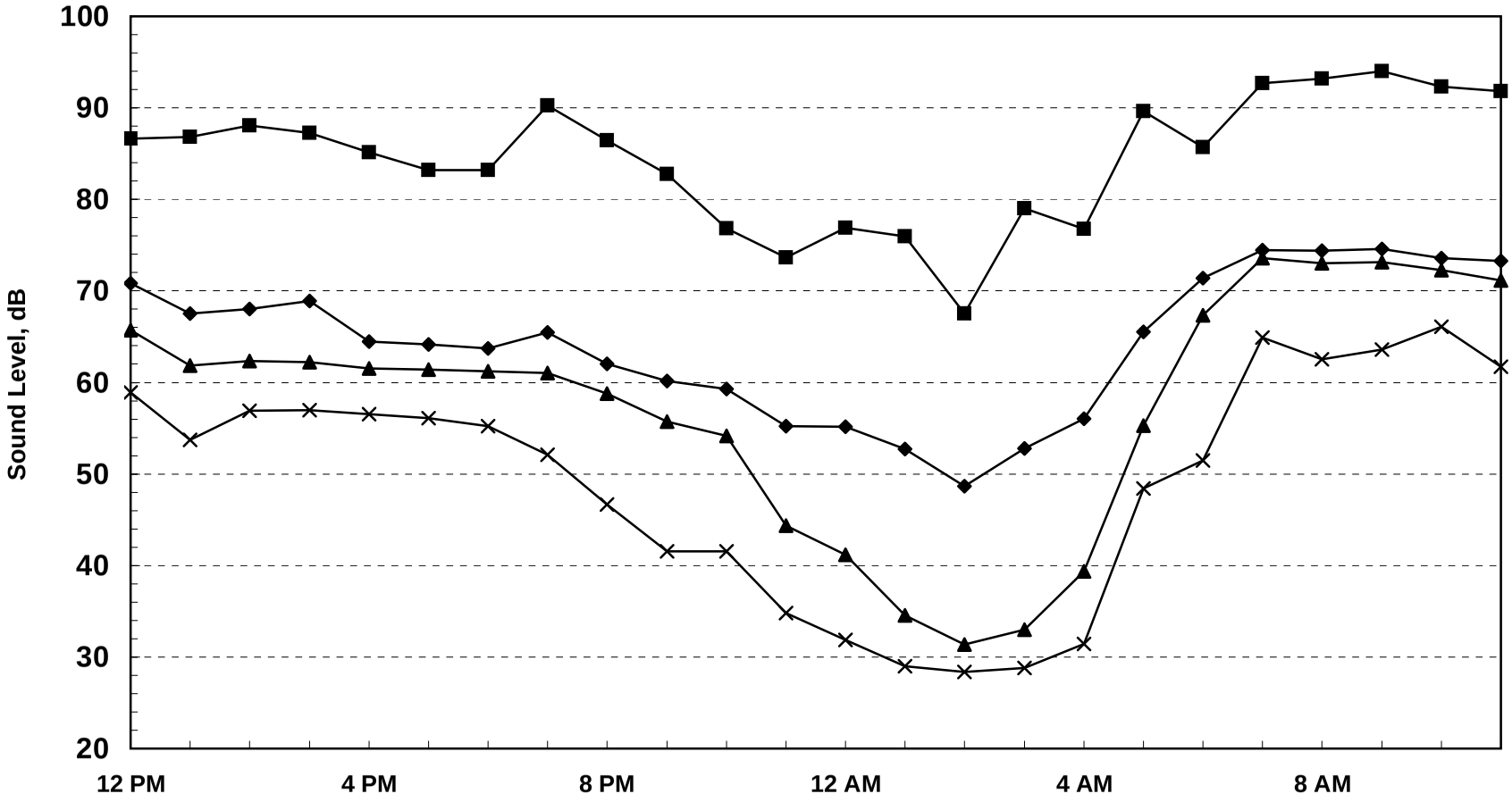
Appendix B

Springs Specific Plan

24hr Continuous Noise Monitoring - Site B

Tuesday, November 17, 2015



Ldn = 72 dB

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Appendix B
Springs Specific Plan
24hr Continuous Noise Monitoring - Site C
Tuesday, November 17, 2015

Hour	Leq	Lmax	L50	L90
12:00:00	70	78	70	64
13:00:00	70	86	69	62
14:00:00	70	87	69	63
15:00:00	68	82	68	61
16:00:00	70	84	70	64
17:00:00	69	85	68	60
18:00:00	69	82	68	61
19:00:00	70	87	70	63
20:00:00	69	86	69	59
21:00:00	68	83	66	54
22:00:00	67	79	64	50
23:00:00	64	75	58	44
0:00:00	62	84	49	38
1:00:00	60	79	43	35
2:00:00	58	75	40	35
3:00:00	57	76	39	35
4:00:00	63	79	50	38
5:00:00	67	84	61	45
6:00:00	71	79	70	59
7:00:00	72	85	72	65
8:00:00	72	81	71	66
9:00:00	71	79	71	63
10:00:00	71	83	70	64
11:00:00	71	94	70	64

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	72	68	70	71	57	65
Lmax (Maximum)	94	78	84	84	75	79
L50 (Median)	72	66	69	70	39	53
L90 (Background)	66	54	62	59	35	42

Computed Ldn, dB	73
% Daytime Energy	84%
% Nighttime Energy	16%

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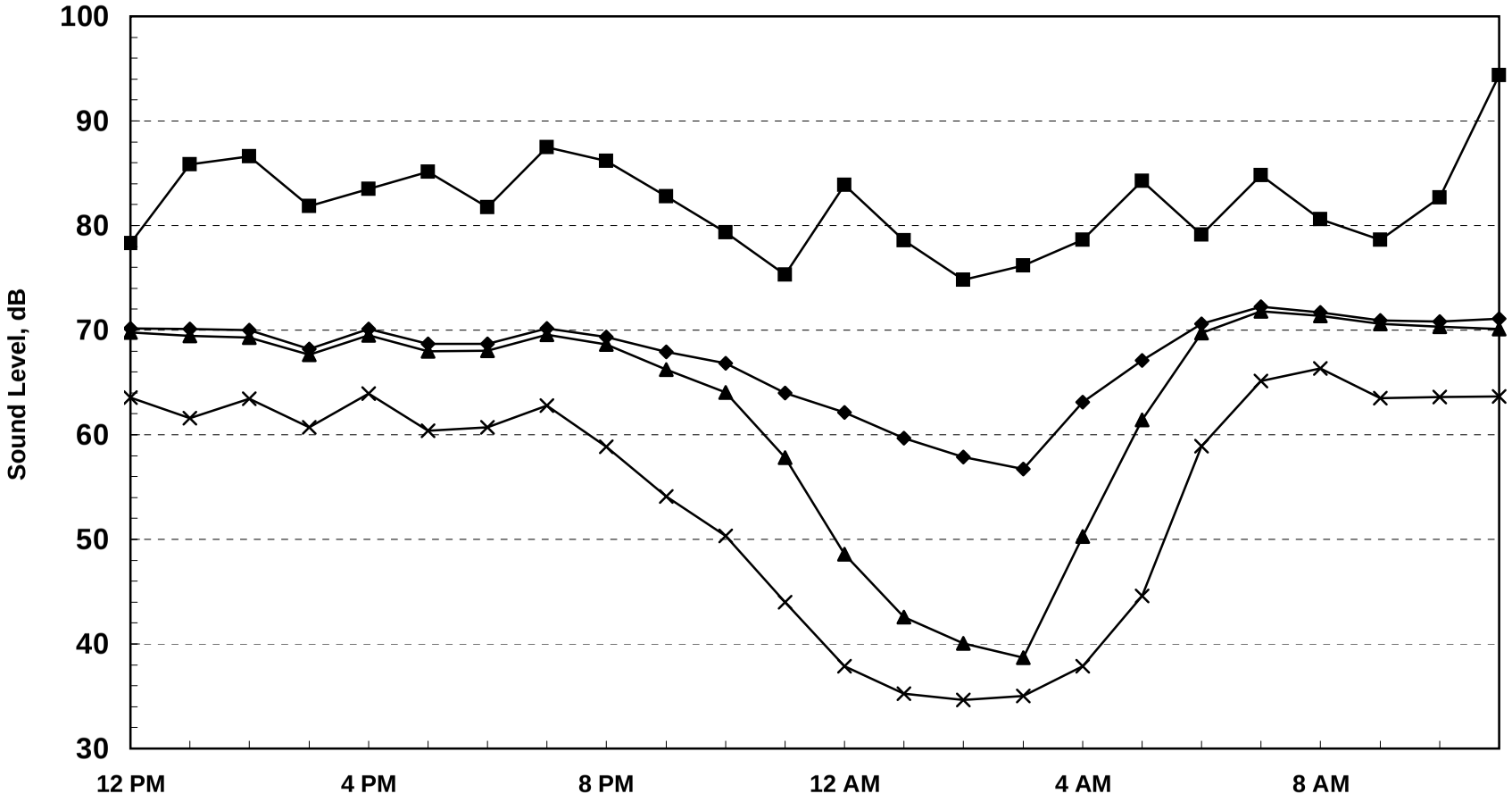
Appendix B

Springs Specific Plan

24hr Continuous Noise Monitoring - Site C

Tuesday, November 17, 2015



Ldn = 73 dB

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Appendix F

VMT Findings and Mitigation Strategy

August 18, 2021

Mr. Doug Bush
Permit Sonoma
2550 Ventura Avenue
Santa Rosa, CA 95403-2859

Springs Specific Plan VMT Findings and Mitigation Strategy

Dear Mr. Bush;

W-Trans has prepared the following summary of findings for the Springs Specific Plan Vehicle Miles Traveled (VMT) assessment to be incorporated into the Plan's programmatic EIR. The intent of this summary is to provide Permit Sonoma staff with the VMT findings to facilitate discussions about potential mitigation strategies, and to summarize the components of recommended TDM requirements.

Significance Thresholds

As directed by Permit Sonoma, significance thresholds for the project are set at 15 percent below regional average VMT performance metrics. Based on modeling completed by the Metropolitan Transportation Commission (MTC), the existing average home-based VMT per capita in the nine-county Bay Area is 15.0. The applicable significance threshold for residential uses is 15 percent below this value, or 12.8 home-based VMT per capita. For employment uses, MTC's reported average home-based commute VMT in the nine-county Bay Area is 21.8 VMT per employee, which translates to an applicable significance threshold of 18.5 home-based commute VMT per employee.

VMT Findings

Results produced by the Sonoma County Transportation Authority's SCTM\15 travel demand model indicate that the added residential units associated with the Project would generate approximately 14.7 VMT per capita, which exceeds the applied 12.8 VMT per capita threshold and is considered a significant impact. Residential VMT would need to be reduced by 12.9 percent to meet the significance threshold. With respect to nonresidential uses, the Plan's added employment uses would generate approximately 15.8 VMT per employee, which falls below the applied threshold of 18.5 VMT per employee and indicates a less-than-significant impact. A summary of the VMT analysis is shown in Table 1.

The Springs Specific Plan EIR identifies three alternatives to the proposed project that may result in reduced environmental impacts in one or more CEQA subject areas. VMT analysis results for the three project alternatives are summarized in Table 1. All three alternatives would result in significant VMT impacts, though in the case of Alternative 1 (which has the least amount of population growth), the impact would be associated with employment rather than residential VMT. Overall, Alternative 3 would have the least impact, with nonresidential VMT meeting the significance threshold and residential VMT requiring the least amount of mitigation (8.2 percent). Given the uncertainty of being able to fully mitigate VMT for the Project and all three alternatives, the impacts would be considered significant and unavoidable.

Table 1 – VMT Summary

Land Use	Threshold	Project	Alt 1	Alt 2	Alt 3
Residential					
Home-Based VMT		29,062	3,168	20,735	16,119
Population		1,977	412	1,453	1,156
VMT per Capita	12.8[1]	14.7	7.7	14.3	13.9
Meets Threshold?		No	Yes	No	No
% VMT Reduction Needed		-12.9%	n/a	-10.3%	-8.2%
Nonresidential					
Home-Based Commute VMT		9,988	5,700	7,396	6,796
Employees		632	271	429	382
VMT per Employee	18.5[2]	15.8	21.0	17.2	17.8
Meets Threshold?		Yes	No	Yes	Yes
% VMT Reduction Needed		n/a	-12.0%	n/a	n/a

[1] Source: http://analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerCapita
[2] Source: http://analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerWorker

Mitigation Strategies

The VMT analysis indicates that new residential development facilitated through implementation of the plan would generally result in significant VMT impacts, while nonresidential development generally would not. VMT mitigation for residential uses is quite challenging, particularly for single-family and smaller multi-family development where VMT reductions strategies cannot easily be overseen by common ownership or management entities. These challenges are exacerbated by the Plan area's suburban context and regional location. Following are several key VMT reduction strategies and potential policies that may prove most effective for the Springs Specific Plan area.

Route 32 Subsidy

The most effective mitigation strategy in the Springs may be to continue providing no-cost bus rides on Sonoma County Transit Route 32 (the Sonoma Shuttle). Route 32 serves the Springs community, connecting to shopping, employment, school, and recreational uses within the Springs and the City of Sonoma, and providing transfers to other regional transit routes to Santa Rosa and Petaluma. While the route clearly does not serve all destinations, it serves many of the day-to-day destinations made by residents and plays an important role in VMT reduction. The subsidized route provides a valuable amenity for residents and employees both in terms of improving mobility and promoting equity, as those most likely to use a fare-free system are those with lower incomes and more heavily transit-dependent. As feasible, increasing the frequency of service on Route 32 as identified in Specific Plan Policy SC-3a would also increase its convenience and utility to those living and working in the Springs, helping to further reduce VMT.

The SCTA travel demand model accounts for the presence of transit routes but does not account for the current fare subsidy on Route 32. Methodologies outlined in the publication *Quantifying Greenhouse Gas Mitigation Measures*, California Air Pollution Control Officers Association (CAPCOA), 2010, were therefore used to estimate the potential VMT reductions associated with provision of free rides on the route. The calculated VMT reduction

is 5.9 percent. This level of VMT reduction is unlikely to be matched by any other mitigation strategy. Accordingly, it is recommended that the Springs Specific Plan document be updated to include the following policy:

Policy SC-3g: *Maintain fare-free service on the Sonoma County Transit local route serving the Springs area (currently Route 32 Sonoma Shuttle).*

While implementation of Policy SC-3g would reduce VMT by approximately 5.9 percent, additional VMT reduction measures will be required to achieve significance thresholds. Per CAPCOA, a slight "dampening" occurs as multiple mitigation strategies are combined. Accordingly, the assumed effectiveness of subsidized transit should be reduced by a percentage point to 4.9 percent. With the free transit subsidy, measures would therefore still be needed to reduce VMT per capita associated with future residential development in the Plan area by another 8.0 percent (12.9 percent minus the dampened 4.9 percent VMT reduction associated with the transit subsidy).

Transportation Demand Management

For many people in the Springs Specific Plan area, the automobile is the primary mode of travel. However, as the area continues to develop and more housing is built, traffic and parking demand will continue to increase, and the use of alternative modes is critical in providing greater mobility options. Transportation Demand Management (TDM) is typically categorized as a set of strategies aimed at encouraging transit use, walking, biking, and carpooling while reducing single occupant vehicle trips, vehicle miles traveled, and parking demand. TDM primarily focuses on programmatic elements as opposed to physical infrastructure to cost-effectively reduce congestion and address broader community concerns such as sustainability and equity goals.

The recommended approach for addressing VMT impacts associated with the Springs Specific Plan is to require a "foundational" level of TDM measures for development projects, excluding smaller projects that may be of insufficient size to feasibly implement measurable TDM benefits. A list of "additional" TDM strategies would also be identified, providing flexibility for individual projects. By adopting this approach, there will be a common goal of reducing vehicle traffic and parking demand while providing options for those developments that experience more acute transportation needs. It is recommended that the following policy be added to the Springs Specific Plan document:

Policy SC-1h: *Require implementation of travel demand management (TDM) measures for all residential development exceeding ten (10) units and any non-residential development exceeding 5,000 square feet.*

Additional information related to the structure and components of a TDM strategy is included in the "Transportation Demand Management Strategy Descriptions" section of this letter.

Physical Non-Auto Mode Improvements

The Springs Specific Plan includes extensive improvements to the area's pedestrian and bicycle network. Identified pedestrian improvements include enhanced crossings on Sonoma Highway incorporating elements such as warning lights, high-visibility markings, bulb-outs, shorter distances between crossings, and filling of gaps in the sidewalk network. Bicycle improvements include adding buffered bike lanes and green bike lane markings along Sonoma Highway, constructing new off-street bike paths that roughly parallel Sonoma Highway (as part of the Central Sonoma Valley Bikeway), and designating new on-street bicycle routes. Each of these improvements will enhance the walking and biking network, making travel by non-auto modes both more convenient and more appealing, thereby reducing auto travel and VMT.

Many of the pedestrian and bicycle improvements envisioned in the Specific Plan will need to be funded through private development. Individual development projects should be responsible for completing identified improvements within and abutting their sites; in addition to onsite improvements, developments could construct

offsite improvements as a means of reducing VMT impacts. Such offsite improvements can typically be expected to reduce a development's VMT by 1 to 3 percent.

Participation in Future VMT Reduction Programs

Effective VMT mitigation may require regional strategies in many locations and jurisdictions. Such strategies may include countywide TDM programs or ordinances, VMT-based impact fees, and/or VMT exchanges and mitigation banks. While these types of programs do not yet exist in Sonoma County, they may be implemented in the future, and would be applicable to future development in the Springs Specific Plan area.

VMT Significance Finding in Specific Plan EIR

Draft Mitigation Measure

Following is draft wording of the EIR mitigation measure for review by Staff.

Mitigation Measure 3.14-1 Transportation Demand Management

New development in the Plan area shall be required to reduce VMT through implementation of a Transportation Demand Management (TDM) plan; construction or funding of offsite pedestrian, bicycle, and transit infrastructure; and/or participation in future regional or countywide VMT reduction programs. Development projects shall be subject to the TDM conditions below, which require applicable projects to provide a foundational set of strategies plus one additional measure. This mitigation measure would be applicable to any residential development exceeding ten (10) units and any non-residential development exceeding 5,000 square feet.

A. Foundational Measures: Development projects must implement all of the following TDM measures at a minimum:

- On-site or contracted TDM coordinator
- TDM marketing
- Rideshare matching
- Onsite bicycle amenities
- Emergency Ride Home Program (applies to nonresidential uses)

B. Additional Measures: Development projects must implement at least one additional TDM measure to achieve vehicle miles traveled (VMT) and trip reduction goals. The measure must be approved by the County and can be chosen from the strategies below. The enumerated list does not preclude a project from implementing other TDM measures if desired or required by County Code.

<u>Nonresidential development</u>

- Transit/vanpool subsidies
- Parking cash-out
- VMT Mitigation Bank (if available)
- Off-Site Physical Non-Auto Mode Improvement(s)

<u>Residential development</u>

- Transit subsidies
- School-pool matching
- Unbundled parking
- VMT Mitigation Bank (if available)
- Off-Site Physical Non-Auto Mode Improvement(s)

Significance after Mitigation

Implementation of Mitigation Measure 3.14-1, in addition to Specific Plan Policy SC-3g (which would maintain fare-free service on the Sonoma Shuttle Route 32) and Specific Plan Policy SC-1h (specifying TDM requirements), would reduce the VMT generated by new development in the Springs, including residential home-based VMT per capita. Uncertainty remains, however, as to whether implementation of these measures can achieve the 12.0 percent reduction in residential VMT per capita required to reduce impacts to a level of less than significant. Continuation of subsidized rides on Route 32 in perpetuity would require a substantial funding commitment from the County of Sonoma or private development that may not realistically be achievable all years. Beyond the subsidized transit, the ability for residential development to achieve an additional 8.0 percent reduction in VMT per capita may also be infeasible, as the effectiveness of TDM can be limited outside of major urbanized areas, and some projects (particularly smaller developments) may be unable to fund offsite improvements to non-auto networks. Further, while regional strategies such as VMT mitigation fees, exchanges, and banks hold much promise, they have yet to be implemented and their structures and resulting effectiveness remain uncertain. As a result, impacts would remain significant and unavoidable.

Alternative 3 Assessment

As shown in Table 1, Specific Plan Alternative 3 would have less of a residential VMT impact than the Project. Residential development would need to reduce its VMT per capita by 8.2 percent to fall below the significance threshold. With continuation of subsidized Route 32 transit as specified in proposed Policy SC-3g, the required VMT reduction for residential developments would be 3.3 percent. This level of reduction would generally be achievable through TDM and construction of offsite non-auto mode improvements. However, the strategy still relies upon provision of subsidized transit service in perpetuity which as discussed above may be infeasible. Accordingly, while mitigation of residential VMT impacts under Alternative 3 is likely to be more achievable than with the Project, substantial uncertainty remains as to whether impacts can be fully alleviated, and the impact would remain significant and unavoidable.

Transportation Demand Management Strategy Descriptions

As noted above, TDM strategies are organized into two sections – foundational and additional measures. Foundational measures are those that would comprise a base TDM plan for all applicable development and represent some of the most basic and necessary elements of an effective TDM program. Additional measures are effective best practices that should be applied selectively based on needs, resources, project location, and project type.

Each measure should be weighed carefully against the objectives of the development and those to be implemented chosen as appropriate. Several measures described here can also be tailored to suit the project if desired.

Foundational TDM Measures

- **On-Site or Contracted TDM Coordinator.** TDM Coordinators are key resources in providing education, outreach, and marketing of TDM services for both residential and commercial land uses. A person can serve as a Coordinator full-time for a large population or this role can be part of the part-time duties of someone who is employed by the company, home-owners association (HOA), or other organization in question. The Coordinator performs a key role in marketing, implementing, and monitoring the various TDM strategies intended to reduce single-occupant vehicle trips and parking demand. The TDM Coordinator is in charge of providing up-to-date information to residents and employees regarding mobility options.

- **TDM Marketing.** The TDM Coordinator provides materials to residents and employees to increase awareness of programs available, including the benefits of trip and parking reduction, alternative mode options, and local street parking restrictions. Marketing materials include welcome packets to new residents and employees. An alternative mode kiosk to provide information about (1) transit routes and schedules, (2) carpooling and vanpooling, and (3) bicycle lanes, routes, paths and facilities can encourage residents, employees, and visitors to use alternative modes of transportation by reducing uncertainty in their travel. The Applicant may partner with a vendor, such as TransitScreen, to provide video screens displaying real-time arrival and departure times for nearby transit stops using a Google Transit feed. An example is shown in Plate 1. This information is typically maintained by the designated TDM Coordinator. Additionally, residents are provided with welcome packets that include information on transit passes, bike share options, transit maps and schedules, as well as contact information for the TDM Coordinator.

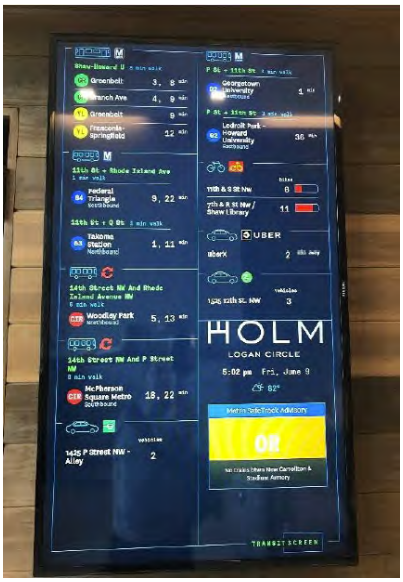


Plate 1 TransitScreen Display in Holm Apartments, Washington, D.C.

- **Rideshare Matching.** Carpooling and vanpooling are some of the most common and cost-effective alternative modes of transportation and are measures that both employees and residents can adopt. There are numerous benefits to ridesharing. Carpooling can reduce peak-period vehicle trips and increase commuters' travel choices. Further, it reduces congestion, road and parking facility costs and pollution emissions. Carpooling tends to have the lowest cost per passenger-mile of any motorized mode of transportation as it makes use of a vehicle seat that would otherwise be empty. Carpooling also provides financial savings to consumers by decreasing fuel and parking costs.

  The greatest barrier to carpooling is often simply being able to identify other employees or residents with the same travel route. The most effective approach is to create personalized trip planning information, regardless of mode, for employees and residents. However, personalized trip planning is often expensive. An alternative are services that can assist in ride-matching that are less customized. The most basic publicly available service is 511.org's free ridematching service, *Merge*. There are also various private ridematching providers (e.g., Zimride, RideAmigos, Via, Scoop) that can effectively create carpool networks while making them safe and convenient for their users. Information on a variety of programs is offered through *Go Sonoma* and 511.org.

- **Onsite Bicycle Amenities.** There are various kinds of facilities available to enhance bicycle use.

  a. **Bicycle Repair Station.** Bicycle repair stations, consisting of tools and amenities, make it convenient for residents and employees to repair bicycles on-site. These repair stations often provide basic amenities such as tire pumps and patches as shown in Plate 2.

b. **Long- and Short-Term Bicycle Storage.** Multifamily residential projects shall provide long-term bike parking, including facilities such as lockers or secure on-site parking areas. These sorts of storage provide a greater level of security for bicycle users traveling frequently and parking for longer periods of time. Nonresidential long-term bike parking shall be provided per Section 26-86-020 of the County zoning code. Short-term bicycle parking shall also be provided at multifamily and nonresidential uses and includes racks or other relatively simple facilities that allow users such as guests or visitors the opportunity to park their bikes for short periods using padlocks or other basic security measures. In general, bicycle storage has a minimal effect on trip generation and parking demand but supports the greater trip reduction program by providing opportunities for non-motorized travel. For reference, Table 2 lists sample bicycle parking requirements as recommended by the Association for Pedestrian and Bicycle Professionals.

Plate 2 Example of Bicycle Repair Station

Table 2 – Sample Bicycle Parking Requirements

Land Use	Long-Term Parking Requirement	Short-Term Parking Requirement
Multifamily Residential	0.5 spaces per bedroom	0.1 spaces per bedroom
Retail	1 space per 10,000 square feet	1 space per 5,000 square feet
Office	1.5 spaces per 10,000 square feet	1 space per 20,000 square feet

- **Emergency Ride Home Program.** Emergency Ride Home (ERH) is a program that provides a "back-up" ride to employees who use transit, carpooling, biking/walking, or other alternatives as their commute mode; in Sonoma County, it is provided by the SCTA free of charge. If an employee who carpools to work, so does not have their own vehicle, needs to leave work for an emergency, such as a sick child or other unexpected need, they will be redeemed for up to four ERH trips per year. This is an important supportive measure to encourage employees to not drive alone to work and often goes as a welcome, but unused benefit.

Additional TDM Measures

As described above, the following TDM strategies are best practices, but should be applied selectively based on needs and resources. The measures presented are intended to be used as a toolbox of additional strategies to manage transportation demand.

Transit and Bicycle Amenities

- **Subsidized Transit Passes.** To encourage transit use, residents and employees can be provided transit subsidies for use on transit operators such as Sonoma County Transit (SCT) through their HOA or employer. Benefits can be loaded onto a reusable Clipper Card that is eligible for service across multiple transit providers including SCT, Petaluma Transit, and Sonoma Marin Area Rail Transit (SMART). Such transit subsidies would cover additional routes beyond the Sonoma Shuttle (Route 32) which currently provides free rides.

Ridesharing Program

- **Vanpooling Program.** Vanpooling can provide several advantages. Vans are defined as vehicles able to carry at least six adults and in addition to reducing VMT by consolidating employee trips, can reduce the cost of

commuting for employees by removing the need for workers to put mileage on their own vehicles and, depending on the level of subsidy, they may not need to pay for gas. For tax purposes, employers may be able to deduct the costs of vans as a "qualified transportation fringe benefit."

- **School Pool Matching Program.** Residential uses generate a substantial amount of traffic associated with school pick-up and drop-off trips. A school pool program seeks to match families in carpools for these trips, thereby reducing school-related VMT. Such a program could be overseen by an HOA or potentially outsourced to a company that manages TDM programs. Although individual school pool matching programs can be implemented, a school pool matching program designed to connect project residents with others in the neighborhood would be expected to substantially increase participation.

Parking

- **Unbundled Parking.** Typically, the cost of parking that is provided with leased or owned residences is combined with the price of the unit. By doing so, it encourages auto-ownership since residents must pay for parking regardless of whether they are using it or not. In order to reduce auto-ownership and auto use, projects could "unbundle" the cost of parking from the price of residential units by charging separately for parking. In this way, residents can opt to pay for parking based on their need, in turn encouraging households with fewer vehicles to locate there based on its affordability.

- **Parking Cash-Out.** As noted above, many residential buildings offer free parking for residents and the same is often given as a fringe benefit to employees. This serves as a strong disincentive for employees to not drive to work. Instead, the project should both price parking for employees on a daily basis and offer a "cash-out" to those who do not drive to work. Under a parking cash-out program, an employer offers the cash value of the parking subsidy to any employee who does not drive to work. Offering employees the option of a "cash out" incentive to use an alternative mode of transportation (transit, bike, walk, or carpool to work) will help to reduce vehicle commute trips, emissions, and parking demand.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Brian Canepa, TDM-CP
Principal

Zack Matley, AICP
Principal

JZM/bac/SOX933-1.L1

Appendix G

Utility Infrastructure
Needs Report

Utility Infrastructure Needs Report

For The Springs Specific Plan

County of Sonoma

September 23, 2019

EBA ENGINEERING

825 Sonoma Avenue
Santa Rosa, CA 95404
707-544-0787

EBA Project No. 16-2265

Table of Contents

1.0 - Introduction

EBA Engineering (EBA) has prepared this technical review to provide existing utility infrastructure information for use in developing The Springs Specific Plan (SSP). The intent of this document is to review the land use density increases proposed by the SSP and evaluate the infrastructure improvements for water distribution, sewer collection, and storm water conveyance to services within the SSP area. In addition, a cursory survey of available dry utilities including electric, gas, and telecommunications is included.

The SSP area consists of approximately 179 acres located in the County of Sonoma. The area is located just northwest of City of Sonoma. The information contained within this report is based on available information obtained from various agencies and municipalities servicing the area. These include the Valley of the Moon Water District (VOMWD), the Sonoma Valley County Sanitation District (SVCSD), Sonoma County Water Agency (SCWA), the County of Sonoma, PG&E, AT&T, Comcast, and the Sonoma County Department of Transportation and Public Works (SCDTPW).

The SSP Land Use Map and Springs Zoning Map, included in the greater Spring Specific Plan document as Figure 2 and Figure 3 respectively, delineates the proposed growth, boundaries, and zoning of parcels within the SSP.

Disclaimer

Dry utility information is based on mapping information provided by each supplier and field reconnaissance. This information is approximate and should be individually verified with each utility provider before any development proceeds.

1.1 - Existing Conditions

Existing Utility Infrastructure Location

EBA worked with the VOMWD, SVCSD, SCWA, SCDTPW, PG&E, AT&T, and Comcast to review the existing utility infrastructure within the limits of the SSP boundary; which included gathering base mapping, existing improvement plans, and existing master utility plans.

The following tables, found in Appendix A, summarize the compiled information:

Table 1-1 Existing Wet Utility Infrastructure Availability Summary (12/2016)

Table 1-2 Existing Water System Infrastructure Summary (12/2016)

Table 1-3 Existing Sewer System Infrastructure Summary (12/2016)

Table 1-4 Existing Storm Drain Infrastructure Summary (12/2016)

Table 1-1, Existing Wet Utility Infrastructure Availability Summary, provides a summary of the availability of water, sewer, and storm drain for each road located within the SSP boundary. Table 1-2, Existing Water System Infrastructure Summary, provides a summary of the size and material type of each water main for each road located within the SSP boundary. Table 1-3, Existing Sewer System Infrastructure Summary,

provides a summary of the size and material type of each sewer main for each road located within the SSP boundary. Table 1-4, Existing Storm Drain System Infrastructure Summary, provides a summary of the size and material type of each storm drain for each road located within the SSP boundary.

To further clarify the existing water, sewer, and storm drain infrastructure; base maps were prepared for each of these utilities and over laid onto a map with the SSP boundary outlined.

The following figures, found in Appendix A, summarize the compiled information:

Figure 1-1 Water System Base Map December 2016

Figure 1-2 Sanitary Sewer Base Map December 2016

Figure 1-3 Storm Drain Base Map December 2016

1.2 - General Overview of Infrastructure Needs

Based on the information reviewed, there appears to be wet utility infrastructure available to serve the area within the SSP Boundary. Water and sanitary sewer infrastructure is available within streets and/or easements adjacent to all parcels but there may be areas where this infrastructure will need to be upsized.

Storm drain infrastructure is available mainly along the State Highway 12 corridor, Donald Street, and Verano Avenue with some minor infrastructure available in other streets. Storm drain infrastructure will likely need to be extended to service parcels that do not have storm drain infrastructure readily available adjacent to their parcel. For the storm drain infrastructure it should be noted that there are areas along the westerly side of State Highway 12 corridor where topography will most likely require extensive storm drain infrastructure improvements.

Upon review of various dry utility information received, there appears to be an established network of services adequate to support the proposed SSP boundary. It is recommended that overhead utilities continue to be placed underground with future infill development projects. In addition, there may be streets where infrastructure upgrades are needed to meet demand requirements of the SSP.

1.3 – Special Concerns Related to Infrastructure Improvements

Potential Issues with Existing Utility Infrastructure:

Many streets with the Specific Plan Area are serviced by Asbestos Cement Pipe (ACP). Use of this product was abandoned in the 1970s and the installed pipe is believed to be approaching the end of its 50-year design lifespan. Replacement of the Existing ACP pipe is recommended on a project by project basis. The industry consensus is that ACP use does not pose a health risk to the public, but crushing, cutting, or removal of the pipe must meet applicable standards for hazardous waste.

ACP Pipe Replacement Methods

Three potential construction methods for ACP pipe replacement are evaluated in the following section.

Lining:
Upgrade consists of a new liner by trenchless construction methods which commonly uses a process called cured-in-place pipe (CIPP). A resin saturated felt tube is inverted or pulled through an existing main and cured to a hardened state by hot water or steam. This method is commonly used to rehabilitate sewer mains and large diameter water mains with few bends and service connections.

Pipebursting/Reaming:
Upgrades consist of pulling a bursting device through the existing pipeline and at the same pulling a new pipeline into place. Since pipebursting would leave all ACP materials in place, the U.S Environmental Protection Agency has determined that this process could create an active asbestos waste disposal site. Therefore, pipebursting is not recommended for use within the SSP Boundary.

Open Cut Excavation:
There are two options for the construction of a new water main by open cut excavation. One option consists of the removal and proper disposal of the existing ACP water main and replacement with a new water main in the same trench. The other option is to construct a new parallel water main and abandon the existing ACP water main in place.

2.0 - Water Distribution Collection Facilities

EBA Engineering (EBA) reviewed existing reports and studies relevant to the Springs Specific Plan (SSP) boundary along with available assessor's parcel data and compiled mapping information. The following information served as the basis of this evaluation:

- County of Sonoma. Sonoma County Assessor's Parcel Data & GIS
- County of Sonoma. General Plan and Existing Zoning Maps
- Valley of the Moon Water District (VOMWD). Standard Plans, 2015.
- Valley of the Moon Water District. 2015 Urban Water Management Plan (UWMP), June 2016.
- Valley of the Moon Water District. 2015 Urban Water Management Plan Water Demand
- Valley of the Moon Water District. 2019 Water Master Plan, April 2019.
- Analysis and Water Conservation Measures Update (UWMP), July 2015.
- Valley of the Moon Water District. Urban Water Shortage Contingency Plan (UWSCP), 2014.
- Sonoma Local Agency Formation Commission (LAFCO), Municipal Services Review (MSR), November 2004.
- Maddaus Water Management Inc. Springs Specific Plan Water Supply Assessment, August 2019.

Existing Infrastructure Summary

Water to the SSP Area is supplied to the VOMWD by the SCWA, a regional wholesaler, through the Sonoma Aqueduct. Turnout points are spread out along the Highway 12 corridor where the water is supplied by metered connections to VOMWD. In addition, VOMWD owns six wells of which five are in operation and support their supply. The VOMWD system is comprised of water mains ranging in size from 4" to 12" diameter.

Existing Supply Connections and Municipal Production Wells within or adjacent to the SSP area:

Hanna Turnout – 10" SCWA meter at 16" SCWA Aqueduct

Agua Caliente Turnout – 6" SCWA meter at 16" SCWA Aqueduct

Altimira Turnout – 6" SCWA meter at 16" SCWA Aqueduct

Boyes Boulevard Turnout – 6" SCWA meter at 16" SCWA Aqueduct

Verano and Main Turnout – 6" SCWA meter at 16" SCWA Aqueduct

Verano and Fifth Turnout– 6" SCWA meter at 16" SCWA Aqueduct

Agua Caliente – Well and pump station (active, 120 gpm)

Park Avenue – Well (active, 90gpm)

Mountain Avenue – Well (not in service)

Donald Street – Well, tanks, and pump station (active)

Appendix A, Table 1-2 provides a summary of the existing water infrastructure available within each public street of the SSP Boundary. This table summarizes pipe sizes and materials information, based on

information from VOMWD, 12/2016. Further verification should be performed on a project by project basis before new infrastructure design is performed.

According to the Urban Water Management Plan a significant number of smaller mains have been replaced in the last 10 years due to aggressive capital improvement programs, which are ongoing. Most properties within the SSP Boundary are supplied from the Sonoma Aqueduct's pressure, with parcels located at higher elevation are served by one of the twelve VOMWD pressure zones.

2.1 – Water Demand Projections

The Water Supply Assessment (WSA) created by Maddaus Water Management Inc., dated August 2019, documents the projected net increase in demand by connection type resulting from the SSP, as summarized in the following table:

Table 2-1 Actual and Projected Water Demand per Customer Connection

Connection Type	Net Increase in New Dwelling Units	Net Increase in Non-Residential Sq. Feet	Projected Net Increase in New Water Connections	Net Increase in Water Demand
Neighborhood Commercial	**8**	**53,390**	**15**	**17 afy**
Live Work/Mixed Use	*8*		*1*	
Commercial Use		*32,034*	*8*	
Office Use		*21,356*	*6*	
Commercial	**120**	**72,245**	**82**	**39 afy**
Commercial Use		*58,721*	*15*	
Hotel Room	*120*		*63*	
Office Use		*13,524*	*4*	
Commercial Irrigation			**6**	**9 afy**
Mixed Use	**138**	**123,621**	**50**	**50 afy**
Single Family	*8*		*8*	
Live Work/Mixed Use	*130*		*11*	
Commercial Use		*76,275*	*19*	
Office Use		*47,346*	*12*	
Mixed Use Irrigation			**3**	**5 afy**
Recreational	***-3***	**26,648**	**3**	**9 afy**
Single Family	*-3*		-3	
Recreational Use		*26,648*	6	
Medium Density Residential	***232***		**131**	**45 afy**
Single Family	*119*		119	
Multi Family	*113*		12	
High Density Residential	***310***		**31**	**35 afy**
Multi Family	*310*		31	
		Total Projected Net Increased Demand:		**209 afy**

The complete buildout of the SSP is estimated to demand 209 acre-feet per year, (AFY), of additional water. This assumes buildout of the Springs Project according to the following schedule: 25 percent between 2020 and 2025, 25 percent between 2025-2030, 25 percent between 2030-2035, and 25 percent between 2035-2040. These demand projections take into account active and passive

conservation as detailed in the WSA. The WSA states that, “there will continue to be sufficient supplies to meet all projected demand, including the additional demand generated from the proposed projects in all conditions until year 2040.”

2.2 – Water Infrastructure Needs

The Valley of the Moon Water District has summarized the recommended capital improvement projects (CIPs) needed within their service area boundary in the 2019 Water Master Plan (WMP). The recommended CIPs are defined to solve supply and storage deficiencies, hydraulic capacity deficiencies, and replace infrastructure that has reached the end of its useful life to facilitate the SSP. Five of the 24 connections associated with recommended CIP P1 of the 2019 WMP will be replaced within the SSP area. Table 2-2 summarizes the recommended capital improvement projects located within the SSP area.:

Table 2-2 Recommended Water Infrastructure Utility Capital Improvement Projects (2019 WMP)

Project #	Project	Improvement Description	Priority	Recommended Pipe Diameter (in)	Pipe Length (Linear Feet)
Pipeline Projects					
CIP-2967	Boyes Blvd. Bridge Pipeline Replacement	Existing District CIP with a total remaining 5-year budget of $375,000	1	--	--
Portion of P-1	Steel Pipe Replacement	Repacement of one 2" and one 6" steel water main and conversion of steel laterals to customer service connections at three locations	1	--	--
P-3	East Thomson Avenue Commercial Fire Flow Improvement	Replace existing 4-inch steel water mains with new 8-inch PVC water mains, and replace one existing fire hydrant along East Thomson Avenue	1	8	200
P-18	Arroyo Road Commercial Fire Flow Improvement	Install new 8-inch PVC water main between HWY 12 and Madera Road along Arroyo Road.	3	8	200
P-19	Hooker Avenue Fire Flow Improvement	Install new 8-inch PVC water main between HWY 12 and Hooker Ave.	3	8	550
P-20	Lomita Avenue Commercial Fire Flow Improvement	Replace existing 6-inch ACP water main with new 12-inch PVC water main along Lomita Avenue, replace two service connections, and replace one hydrant.	3	12	300

2.3 - CONCLUSION

Existing water utility infrastructure generally appears adequate to support the increased density of the SSP Land Use over the next twenty-years. The VOMWD has evaluated their water system, identified recommended capital improvement projects, and produced cost estimates on a CIP project by project basis in their 2019 WMP for the district as a whole. The recommended project data for CIP's relevant to the SSP area are summarized in this report based on the data in the 2019 WMP.

Design Criteria

In general, water system facilities will be designed in accordance with accepted engineering principles and will conform to the Valley of the Moon Water Districts' Standard Plans and Specifications.

Recommendations

Upgrades to existing aging pipe networks and appurtenances should be considered along with future capital improvement projects and with individual developments.

Table 2-3 summarizes further recommendations and notes where existing infrastructure is adequate or where new infrastructure should be considered to adequately service the proposed land use plan. As development occurs throughout the SSP, each project will need to be analyzed on a project by project basis to determine the extents of water infrastructure upgrades needed. Factors that will determine the extents of the improvements will include at a minimum:

- The type and size of the project;
- Any known pressure issues associated with the greater area where a project is proposed;
- The location of the project in relation to the existing infrastructure; and
- The capacity of the existing infrastructure to account for the planned development.

Table 2-3 Suggested Water Infrastructure Improvements

Street Name	Proposed Improvements	Notes
Agua Caliente Road	• The 8" Water main in road is adjacent to the Specific Plan Boundary. Assess Condition of ACP main and develop replacement strategy for future failures.	2
Academy Lane	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Balsam Avenue		3
Bernhard Avenue	• No service available on Bernhard Avenue withing the Specific Plan boundary. Suggest connection between Hwy 12 and Balsam Street be installed with future buildout to complete grid distribution system.	1, 2
Bonita Way		2
Calle Del Monte	• The 8" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Cedar Street	• The ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Central Avenue		
Depot Road		2
Donald Street	• The ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	
Encinas Lane		2
Fairview Lane	• The portion of ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Abbreviations: ACP = Asbestos Cement, PVC = Polyvinyl Chloride, N/A = Not Available, UNK = Unknown DIP = Ductile Iron Pipe, PSI = Pound Per Square Inch		
Notes: 1) Infrastructure improvements may require the extension of existing infrastructure to developed location. Extents of improvements will be determined based on project type and location. 2) Pressure data not availavle, within the Specific Plan area, at the time of this evaluation. 3) Low pressure my be encountered depending a variety of factors. Private deveopment to install booster pumps or possible CIP to increase system pressure.		

Table 2-3 cont. Suggested Water Infrastructure Improvements

Street Name	Proposed Improvements	Notes
Fetters Avenue		2
First Avenue	• The portion of ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Greger Street		2
Harley Street		2
Hawthorne Avenue		2
Johnson Avenue	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Keaton Avenue		2
Litchenberg Avenue		2
Lomita Avenue	• The portion of ACP main located in the road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Madera Road		2
Main Street		2
Malek Road		2
Manzanita Road		
Marin Avenue		2
Monterey Avenue		2
Mountain Avenue	• The 8" ACP main located in Mountain Avenue is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Mulford Lane		2
Old Maple Lane	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Robinson Road	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	

Abbreviations:
ACP = Asbestos Cement, PVC = Polyvinyl Chloride, N/A = Not Available, UNK = Unknown
DIP = Ductile Iron Pipe, PSI = Pound Per Square Inch

Notes:
1) Infrastructure improvements may require the extension of existing infrastructure to developed location. Extents of improvements will be determined based on project type and location.
2) Pressure data not availavle, within the Specific Plan area, at the time of this evaluation.
3) Low pressure my be encountered depending a variety of factors. Private deveopment to install booster pumps or possible CIP to increase system pressure.

Table 2-3 cont. Suggested Water Infrastructure Improvements

Street Name	Proposed Improvements	Notes
Sierra Drive	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Siesta Way	• The portion of ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
State Highway 12	• The portion of ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	3
Sunnyside Avenue		2
Vailetti Drive	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2
Vallejo Avenue		2
Verano Avenue		
Waterman Avenue	• The 6" ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	3
West Thomson Ave.	• The portion of ACP main located in thg road is nearing the end of its design lifespan. Assess Condition of ACP and develop replacement strategy for future failures/ upgrades. Recommend replacement with PVC C-900 or equal.	2

Abbreviations:

ACP = Asbestos Cement, PVC = Polyvinyl Chloride, N/A = Not Available, UNK = Unknown

DIP = Ductile Iron Pipe, PSI = Pound Per Square Inch

Notes:

1) Infrastructure improvements may require the extension of existing infrastructure to developed location. Extents of improvements will be determined based on project type and location.

2) Pressure data not availavle, within the Specific Plan area, at the time of this evaluation.

3) Low pressure my be encountered depending a variety of factors. Private deveopment to install booster pumps or possible CIP to increase system pressure.

3.0 - Sanitary Sewer Collection Facilities

EBA Engineering (EBA) reviewed existing reports and studies relevant to the Springs Specific Plan (SSP) area along with available assessor's parcel data and compiled mapping information. The following information served as the basis of this evaluation:

- County of Sonoma. Sonoma County Assessor's Parcel Data & GIS.
- County of Sonoma. Sonoma County General Plan and Existing Zoning Maps.
- Sonoma Valley County Sanitation District (SVCSD). Sanitation Code, December 2013.
- SVCSD. Sewer System Management Plan (SSMP), June 2016.
- SVCSD. Sanitary Sewer Capacity Assessment and Master Plan Final Report (MPFR), April 2016.
- SVCSD. Sphere of Influence (SOI) Expansion Master Plan, December 2013.
- Sonoma Local Agency Formation Commission (LAFCO). Municipal Services Review (MSR), November 2004.
- Sonoma County Water Agency (SCWA). Design and Construction Standards for Sanitation Facilities, updated February 2009.
- SCWA. Capital Projects Plan FY 2016/2017 - 2020/2021, 2016.
- SCWA, SVCSD, RRCSD, & OCSD. Sewer System Overflow Emergency Response Plan, June 2016.
- SCWA. Collection System Hydraulic Modeling Support, February 2019.

Existing Infrastructure Summary

The SSP area is located with the Urban Services Area of the Sonoma Valley Sanitation District (SVCSD).

The SVCSD treatment plant is located south of the City of Sonoma in Schellville. The plant is currently treating an Average Dry Weather Flow (ADWF) of 2.7 million gallons per day (mgd), and a winter average Wet Weather Maximum Flow (WWMF) of 11 mgd.

Inflow and Infiltration

The SVCSD has indicated that they have issues with Inflow & Infiltration (I&I) in their existing sewer infrastructure throughout the Sonoma Valley, including areas within the limits of the SSP.

Per the SCVSD many of the pipes in the SSP area are more than 50 years old. During heavy rain events the system overloads and sewage can flow into local creeks. One of the major contributing factors to sewer system overflow is I&I of storm water runoff and groundwater through seepage into existing deteriorated laterals and sewer mains, resulting in an increase in the amount of water flowing to the SCVSD treatment facility.

According to the Sonoma Valley County Sanitation District Sanitary Sewer Capacity Assessment and Master Plan Final Report (MPFR) created by RMC Water and Environment Inc., dated April 2016, the existing collection system base wastewater flow, (BWF), estimate for peak flow on a non-rainfall wintertime day including groundwater infiltration is 4.9 mgd and peak wet weather flow for a 10-year 24-hour design storm event is approximately 20.7 mgd.

Under current conditions, during wet weather flow, sewer often overflows into creeks that flow into San Pablo Bay. As a result, the SVCSD was required to create the 2016 MPFR and include a System Evaluation and Capacity Assurance Plan (SECAP) as part of the SSMP. The MPFR updated the SECAP element of the SSMP and the SVCSD now has a Private Sewer Lateral Ordinance from the District Board

of Directors. The ordinance, which went into effect on March 8, 2017, helps address I&I from private homes and businesses. The Private Sewer Lateral Ordinance requires property owners of homes and businesses that are 30 years or older to have private sewer laterals inspected and repaired if necessary to prevent sewer overflows. Under the ordinance, the SVCSD facilitates free inspections of private sewer laterals, rebates of up to $1,000 for repairs, and a low interest loan program to aid property owners in paying for repairs.

3.1 – Analysis

The SSP growth estimates for the SSP area were analyzed and documented by Woodard and Curran in the Sonoma County Water Agency Collection System Hydraulic Modeling Support technical memorandum (SHMS), dated March, 2019. Table 3-1 summarizes their projected 'Net Growth Within the Springs Specific Plan Area' as calculated and summarized in the SHMS:

Table 3-1 Net Growth within the Springs Plan Area

Development Type	Single Family	Multi-Family	Mixed-Use	Commercial	Hotel	Office	Recreation
Unit Flow Factors	200 GPD/Unit	160 GPD/Unit	160 GPD/Unit	0.19 GPD/SF	100 GPD/Room	0.076 GPD/SF	N/A
Net Growth SSP[2]	+124 Units	+423 Units	+138 Units	+167,030 SF	+120 Units	+82,226 SF	+26,648 SF
Boyes Food Center Modifications			+15 Units	+1,002 SF		-975 SF	
Other Growth in Model[3]		+100 Units	+2 Units			+2,315 SF	

1. Unit flow factors are based on Exhibit A of the SVCSD Sanitation Rate Ordinance

2. Net growth over existing conditions according to Springs Specific Plan. This growth replaces any future growth attributed to the relevant parcels in the 2016 Master Plan.

3. Growth on parcels previously included in the 2016 Master Plan future scenario, but not included in SSP, that was identified by Water Agency staff as recently constructed or under construction. This growth remains in the model.

4. Recreational uses assumed to be non-contributing

Table 3-2 compares the estimated future development loads resulting from the 2016 SVCSD MPFR and the future Development Plan, which includes the SSP growth as documented in the 2019 SHMS:

Table 3-2 System-Wide Comparison of Estimated Future Development Loads

Description	Residential Flow[1] (GPD)	Non-Residential Flow[1] (GPD)
2016 MPFR Development	372,000	336,000
2019 SHMS Development (includes SSP)	489,000	360,000
Total Change in Flow[2]	117,000	24,000
% Change in Flow	+31%	+7%

1. System-wide flows attributed to future development (net over existing)

2. Change in flow results from SSP growth, per Table 3-1, but also removes previously attributed future growth on select parcels within the SSP area.

The sewer system model previously analyzed in the 2016 SVCSD MPFR was used to analyze the SSP area in the 2019 CSHMS. The sewer system model analyzed existing and future system capacity needs for a 10-year, 24-hour design storm event under peak dry weather flow (PDWF) and peak wet weather flow (PWWF) conditions.

According to the 2016 SVCSD MPFR no deficiencies were identified within the system under PDWF conditions, but several recommended Capital Improvement Projects (CIPs), were proposed to correct capacity deficiencies identified under PWWF conditions. Of the recommended CIP projects identified, #'s 1, 3, 4, 5, and 14 are within the vicinity of the SSP area.

The 2019 CSHMS technical memo analyzed the system under the future scenario conditions which included additional growth due to the SSP. No deficiencies were found under future PDWF conditions. Under future PWWF conditions no new deficiencies were identified with minor exception to CIP Project #5. Deficiencies associated with CIP project #5, has now been identified as impacting 164 additional feet of pipe for a total impact of 1144 feet of the system.

The following table lists the capital improvement projects that were originally identified in the 2016 SVCSD MPFR and updated in the 2019 CSHMS as being necessary to accommodate future buildout of the SSP area under future growth conditions, including the SSP:

Table 3-3 Proposed SVCSD Capital Improvement Projects

Project ID	Priortity /Phase	Project Name	U/S MH ID	D/S MH ID	Description
P1	6	Depot Road Diversion	M67-4	M66-4	Install 280 lf of new 10" pipe in Depot Rd. from Mountain Ave. to Malek Rd.
P3	5	Boyes Boulevard Diversion	M86-4	M79-9	Replace 414 lf of 8" pipe with 10" pipe in Sonoma Hwy. and install ~1,330 lf of 10" pipe in Boyes Blvd. from Sonoma Hwy. to Mulberry Ave.
P4	4	Fairview Lane	M104-10	M103-15	Replace 1,100 lf of 8" pipe with 10" and 12" pipe in Fairview Lane and easement west of Sonoma Hwy.
P5	6	West Spain Street	M126-13	M126-3	Replace 980 lf of 10" pipe with 15" pipe on north side of West Spain St. from Junipero Serra Dr. to Broadway; abandon 8" sewer on south side of West Spain St., reconnect laterals and install ~70 lf of 8" pipe to divert flow to new sewer.
P5 Extension	6	Junipero Serra Dr.	M126-14	M126-13	Replace 164 lf of 10" pipe with 15" pipe on the southern portion of Junipero Serra Dr.
P14	5	5th Street West	M127-11	M136-10	Replace 570 lf of 6" pipe with 8" pipe in 5th Street West from W. Spain St. to W. Napa St.

3.3 - Conclusion

The sewer system Capital Improvement Projects (CIPs) scheduled/identified within the SSP Area in the 2016 SVCSD MPFR were sized to accommodate the projected growth at that time. The subsequent 2019 CSHMS analysis of the SSP area, under a future growth scenario from the SSP, confirmed that the recommended MPFR CIP #'s 1, 3, 4, 5, and 14 within the SSP area with an additional extension to CIP #5, will be sufficient to accommodate the increased flow from buildout of the SSP.

Limited research indicates the SVCSD's Wastewater Treatment Plant had adequate capacity to accept increased flows from the SSP. This should be confirmed with the SCWA and SVCSD prior to the SSP land use plan finalization.

As development occurs throughout the SSP, each project will need to be analyzed on a project by project basis to determine the extents of the localized sanitary sewer infrastructure upgrades needed. Factors that will determine the extents of the improvements will include at a minimum:

- Age and type of existing laterals/infrastructure;
- The type and size of the project;
- Any known I&I issues associated with the greater area where a project is proposed;
- The location of the project in relation to the existing infrastructure; and
- The capacity of the existing infrastructure to account for the planned upstream development.

In general, sewer system conveyance shall be designed in accordance with accepted engineering principles and will conform to the Sonoma County Valley Sanitation District's Standard Plans and specifications. Per SVCSD and SCWA Sanitation Code and Design and Construction Standards public sewer main size shall be a minimum eight (8) inches diameter.

4.0 - Storm Drain Infrastructure and Collection Facilities

EBA Engineering (EBA) reviewed existing reports and studies relevant to the Springs Specific Plan (SSP) area along with USGS topographic information, assessor's parcel data and complied land use information. The following information served as the basis of this evaluation:

- U.S. Geological Survey. Sonoma, CA 7.5 Minute Quadrangle Map, 2015.
- Sonoma County Water Agency. Flood Control Design Criteria manual, November 1966 revised August 1983.
- Sonoma Valley Storm Water Management and Groundwater Recharge Scoping Study, October 2011.
- Sonoma County Water Agency. Boyes Springs/ Agua Caliente Master Drainage, June 1987.
- County of Sonoma Department of Transportation and Public Works. Drainage Report for the State Route 12 Corridor Improvement Project Phase II Stage 2, October 2011.
- Federal Emergency Management Agency. Flood Insurance Study - Volume 3, Study Number 06097CV003A, December 2008.
- National Flood Insurance Program. Flood Insurance Rate Map (FIRM) 06097C0930E, 06097C0936E, December 2008.

The Sonoma County Department of Transportation and Public Works (SCDTPW) is responsible for constructing and maintaining drainage channels, storm drains, inlets, and culverts located and related to all County roadways. Storm drainage facilities, within the Highway 12 right of way is under the responsibility of the State of California and The California Department of Transportation. In general, the County of Sonoma is not responsible for drainage problems occurring on private property.

The SSP area is located within the Phase 2, Term 1 National Pollutant Discharge Elimination System (NPDES) boundary. This boundary indicates the area is subject to NPDES storm water requirements to improve water quality through the use of Low Impact Development post-construction best management practices (LID BMPS). The greater watershed is regulated by the San Francisco Bay Regional Water Quality Control Board and (LID) design should be implemented complying with County requirements and the Bay Area Stormwater Management Agencies Association's (BASMAA) Post-Construction Manual. The BASMAA manual provides design guidance for storm water treatment and engineered controls that, in general, closely mimic pre-development hydrology and utilize on-site natural features.

All construction sites disturbing 1 or more acres of soil must obtain an NPDES General Permit for Discharges of Storm Water Associated with Construction Activity from the State Water Resources Control Board (SWRCB). Construction activities that are subject to this permit include clearing, grading and ground disturbances.

Existing Infrastructure Summary

The existing storm drain infrastructure and collection facilities contained within the limits of the SSP area consist of a mixture of roadside ditches and swales, drain inlets, culverts, underground drainage facilities, and creeks; which collects and routes sheet flow storm water flowing in a northeast to southwest direction and into Sonoma Creek. The existing infrastructure is distributed throughout the limits of the SSP and appears to have been installed as development occurred within the area. The areas where the majority of the existing infrastructure is present include the corridor directly adjacent to Highway 12, the area

directly adjacent to Boyes Boulevard, and the areas directly adjacent to Donald Street and Verano Avenue. Even though these areas contain drainage infrastructure, they appear to have been planned to improve drainage for the existing development conditions within the area at the time of their construction. With potential build out of the area and current drainage regulations and ordinances; such as Phase 2, Term 1 NPDES and LID, the existing infrastructure appears to be inadequate for potential future development conditions within the Specific Plan.

Table 4-1 provides a summary of the existing storm drain infrastructure available to each of the watersheds delineated in Figure 4-1. In addition, a more general street by street summary of the existing infrastructure can be found in Appendix A, Table 1-4. This information is based on record plan information and field reconnaissance. Further verification should be performed on a project by project basis before new infrastructure design is performed.

FEMA Flood Areas

The Springs Specific Plan area is generally located outside of the FEMA 100 year floodplain defined as Floodway Areas in Zone AE per FIRM 06097C0930E and 06097C0936E. However, parcels located along Aqua Caliente Creek, south of Encinas Lane and Meadowbrook Avenue, but north of Donald Street are flood prone areas subject to periodic inundation (1% Annual Chance Flood). These parcels are currently occupied by mobile homes and any redevelopment in this area will require special review and possible federal permitting.

4.1 - Analysis

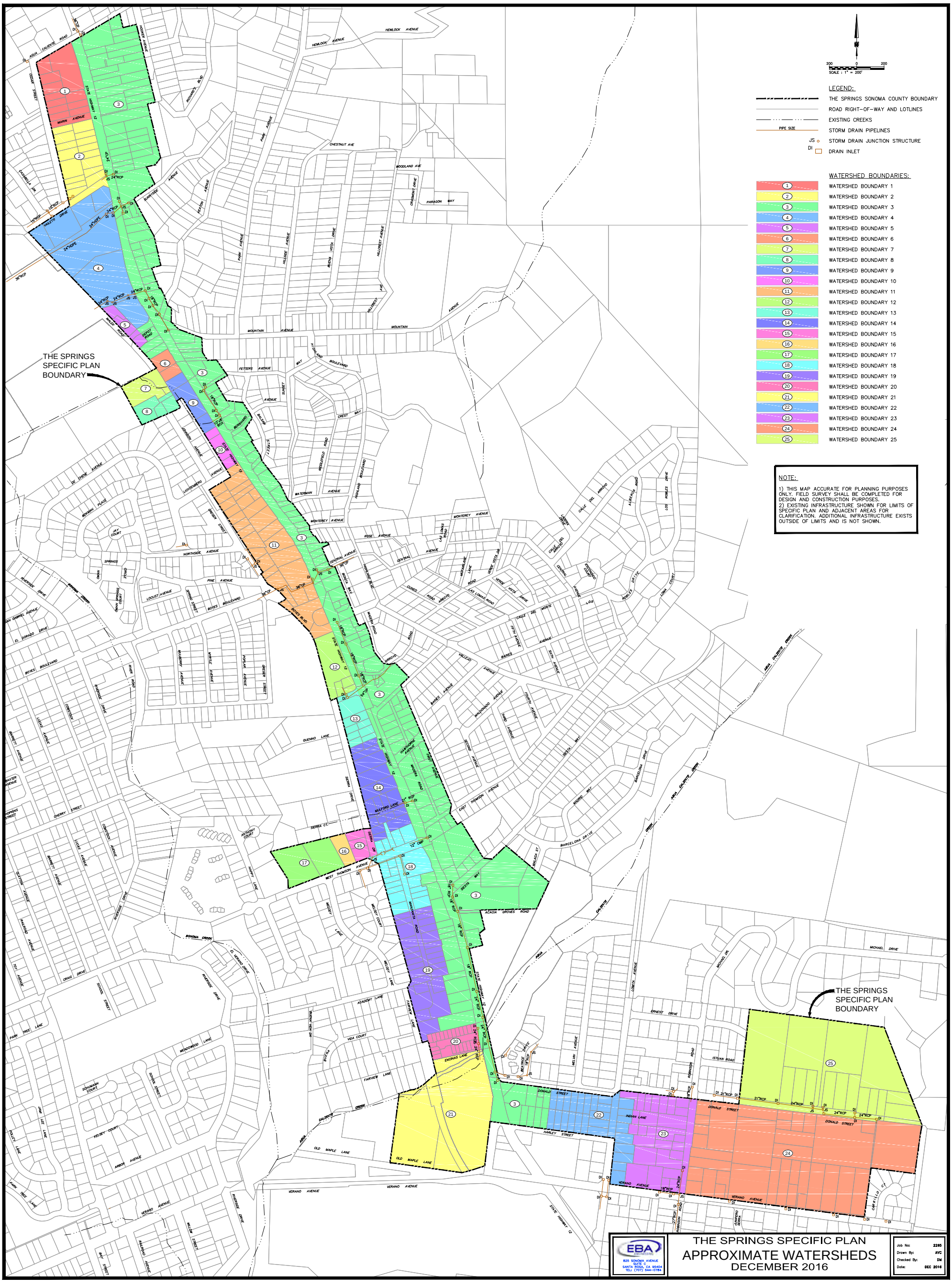
Using available existing hydrology, hydraulic calculations, and record improvement drawing information obtained from the County of Sonoma Permit and Resource Management Department (PRMD) and the Sonoma County Department of Transportation and Public Works (SCDTPW), EBA reviewed and analyzed the existing drainage infrastructure within the SSP. By using the record drawing information and performing field reconnaissance, EBA was able to determine approximate watershed boundaries, to locate existing infrastructure within those watersheds, and provide general recommendations for future storm drainage infrastructure and collection facility improvements that would support the SSP.

Watershed Delineation

To establish a base condition for the SSP, a review of each watershed was performed to analyze existing site conditions (current conditions) for the SSP. Figure 4-1 provides a graphical representation of each of the watersheds which was used to analyze the existing storm drain infrastructure. These watersheds are based on existing infrastructure available in which new infrastructure could be developed to adequately service the SSP. The watersheds depicted in Figure 4-1 are for graphical representation and should not be used for a basis of future hydrology and hydraulic design calculations.

In general the majority of watersheds are substantially developed, with most of the area being gently sloping/ flat with a range of 5 to 15 percent slopes. The majority of current storm water conveyance is by sheet flow across multiple private properties to the Public Right of Way. Storm water is then transported by limited storm drain piping or road side ditches to existing outfalls at Sonoma Creek or its tributaries.

Figure 4-1


THE SPRINGS SPECIFIC PLAN BOUNDARY
THE SPRINGS SPECIFIC PLAN BOUNDARY
200 0 200
SCALE : 1" = 200'
LEGEND:
THE SPRINGS SONOMA COUNTY BOUNDARY
ROAD RIGHT-OF-WAY AND LOTLINES
EXISTING CREEKS
PIPE SIZE
STORM DRAIN PIPELINES
JS STORM DRAIN JUNCTION STRUCTURE
DI DRAIN INLET
WATERSHED BOUNDARIES:
WATERSHED BOUNDARY 1
WATERSHED BOUNDARY 2
WATERSHED BOUNDARY 3
WATERSHED BOUNDARY 4
WATERSHED BOUNDARY 5
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WATERSHED BOUNDARY 24
WATERSHED BOUNDARY 25
NOTE:
1) THIS MAP ACCURATE FOR PLANNING PURPOSES ONLY. FIELD SURVEY SHALL BE COMPLETED FOR DESIGN AND CONSTRUCTION PURPOSES.
2) EXISTING INFRASTRUCTURE SHOWN FOR LIMITS OF SPECIFIC PLAN AND ADJACENT AREAS FOR CLARIFICATION. ADDITIONAL INFRASTRUCTURE EXISTS OUTSIDE OF LIMITS AND IS NOT SHOWN.
EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784
THE SPRINGS SPECIFIC PLAN
APPROXIMATE WATERSHEDS
DECEMBER 2016
Job No: 2285
Drawn By: AVC
Checked By: DM
Date: DEC 2016

Table 4-1 Available Storm Drain Infrastructure

Watershed Area	Nearest Available Location
1	Existing underground storm drain system located at the northeast corner of the intersection of Agua Caliente Road and Cedar Street.
2	Existing underground storm drain system located at the northeast corner of the intersection of Vailetti Drive and Cedar Street.
3	Existing underground storm drain systems located at multiple locations along Highway 12.
4	Existing underground public and private storm drain systems located on private property.
5	Existing underground private storm drain system located within Rancho Drive.
6	Fetters Creek drainage located on adjacent private parcel towards the west.
7	Fetters Creek drainage located within parcel.
8	Fetters Creek drainage located at the easterly side of the parcel.
9	Fetters Creek drainage located on the westerly side of parcels
10	Existing underground storm drain system located at the northeast corner of De Chene Avenue and Northside Avenue
11	Existing underground storm drain system located near Greger Street and Northside Avenue, which connects to an existing underground storm drain
12	Existing underground storm drain system located within private parcel.
13	Existing underground storm drain system located near the intersection of Highway 12 and Sierra Drive.
14	Existing unnamed drainage channel located near the intersection of Mulford Lane and Sierra Drive.
15	Existing unnamed drainage channel located near the intersection of Mulford Lane and Sierra Drive.
16	Existing underground storm drain system located near the intersection of Sierra Drive and West Thompson Avenue.
17	Existing unnamed drainage channel located on the westerly side of APN 056-433-027.
18	Existing underground storm drain system located near the intersection of Manzanita Road and West Thompson Avenue.
19	Agua Caliente Creek drainage located south of Fairview Lane.
20	Existing underground storm drain system located within Encinas Lane.
21	Agua Caliente Creek drainage located on the northerly side of the parcels.
22	Existing underground storm drain system located near the intersection of Verano Avenue and Lomita Avenue.
23	Existing underground storm drain system located near the intersection of Verano Road and Robinson Road.
24	Existing underground storm drain system located within Verano Avenue.
25	Existing underground storm drain system located within Donald Street.

Table 4-1 cont. Available Storm Drain Infrastructure

Notes:
1) Watershed boundaries as shown and described were determined from field observations and may vary from actual conditions. Topographic surveys and design calculations should be compiled to determine actual boundaries for final design of any future storm drain infrastructure.
2) Available hydrology/hydraulic calculations on existing drainage infrastructure is minimal and may require additional calculations to determine capacities of the existing infrastructure.

4.2 - CONCLUSION

Storm drainage facilities within the SSP area should be designed to prevent localized flooding by collecting surface runoff through properly sized inlets and conveyance systems. Storm water ditches, swales and pipes should discharge to existing outfalls at natural waterways wherever possible.

Design Criteria

Storm drain facilities shall be designed in accordance with accepted engineering principles and shall conform to the Sonoma County Water Agency's Flood Control Design Criteria manual, Sonoma County Construction Standards, and applicable NPDES and California State Water Resources Control Board (SWRCB) requirements.

Recommendations

Recommended infrastructure improvements for the SSP are described in Table 4-2. These recommendations summarize areas where existing infrastructure appears to be adequate and areas where new infrastructure is suggested to adequately service the SSP. As development occurs throughout the SSP, each project will need to be analyzed on a project by project basis to determine the extents of the new infrastructure needed to develop the project. Factors that will determine the extents of the improvements will include, at a minimum:

- The type and size of the project;
- The amount of impervious and pervious surfaces associated with the project;
- The location of the project in relation to the existing infrastructure; and
- The capacity of the existing infrastructure to account for the planned development.

Table 4-2 SSP - Recommended Storm Drain Infrastructure Improvements

Watershed Area	Recommended Improvements	Notes
1	• Public underground drainage infrastructure as required within Cedar Avenue and Marin Avenue. • Connection to existing drainage infrastructure near the intersection of Agua Caliente Road and Cedar Street.	1, 4, 5, 6
2	• Public underground drainage infrastructure as required within Cedar Avenue and Marin Avenue. • Connection to existing drainage infrastructure located near the intersection of Vailetti Drive and Cedar Street.	1, 4, 5, 6
3	• Extension of existing underground drainage systems as required within Highway 12, Sunnyside Avenue, Keaton Avenue, Mountain Avenue, Fetters Avenue, Bernhard Avenue, Vallejo Avenue, Arroyo Avenue Hawthorn Avenue, Siesta Way, and Donald Street. • Connect to existing drainage infrastructure at various locations along Highway 12.	1, 3, 4, 5, 6
4	• Area considered to be built out. • Existing private and public drainage infrastructure serving the area.	3, 4, 5
5	• Public/private underground drainage infrastructure as required within Malek Road. • Drainage easement(s) with connection to existing private drainage infrastructure within Rancho Drive.	1, 4, 5, 6
6	• Private underground drainage infrastructure as required. • Drainage easement(s) through neighboring parcel(s) with new outlet(s) into Fetters Creek as required.	1, 2, 4, 5, 6
7	• Private underground drainage infrastructure as required. • New outlet(s) into Fetters Creek as required.	1, 2, 4, 5, 6
8	• Private underground drainage infrastructure as required. • Drainage easements through neighboring parcel(s) with new outlet(s) into Fetters Creek as required.	1, 2, 4, 5, 6
9	• Private underground drainage infrastructure as required. • New outlet(s) into Fetters Creek as required.	1, 2, 4, 5
10	• Public underground drainage infrastructure as required within Lichtenberg Avenue and De Chene Avenue. • Connection to existing drainage infrastructure located near the intersection of De Chene Avenue and Northside Avenue.	1, 4, 5
11	• Public/private underground drainage infrastructure as required within Greger Street and Boyes Boulevard. • Connection to existing public drainage infrastructure within Greger Street and Boyes Boulevard.	1, 4, 5
12	• Area considered to be built out. • Existing private and public drainage infrastructure serving the area.	

Table 4-2 cont. SSP - Recommended Storm Drain Infrastructure Improvements

Watershed Area	Recommended Improvements	Notes
13	• Public underground drainage infrastructure as required within Sierra Dr. • Connection to existing drainage infrastructure located near the intersection of Sierra Drive and Highway 12.	1, 4, 5
14	• Public underground drainage infrastructure as required within Sierra Drive and Mulford Lane. • New outlet(s) into unnamed drainage channel near the Mulford Lane.	1, 2, 4, 5
15	• Public underground drainage infrastructure as required within Sierra Drive. • New outlet into unnamed drainage channel near the Mulford Lane.	1, 4, 5
16	• Public underground drainage infrastructure as required within West Thompson Avenue. • Connection to existing drainage infrastructure located within West Thompson Avenue.	1, 4, 5
17	• Public underground drainage infrastructure as required within West Thompson Lane and/or private underground infrastructure located on private property. • Drainage easement(s) with new outlet(s) to an unnamed drainage channel located on the westerly side of APN 056-433-027.	1, 2, 4, 5, 6
18	• Public underground drainage infrastructure as required within Manzanita Road. • Connection to existing public drainage infrastructure located near the intersection of Manzanita Road and West Thompson Avenue.	1, 4, 5
19	• Public underground drainage infrastructure as required within Manzanita Road and Fairview Lane. • New outlet into Agua Caliente Creek through a drainage easement across APN 056-611-045.	1, 2, 4, 5, 6
20	• Area considered to be built out. • Existing private drainage infrastructure serving the area.	
21	• Private underground drainage infrastructure as required. • Drainage easements through neighboring parcel(s) with new outlet(s) into Agua Caliente Creek as required.	1, 2, 4, 5, 6
22	• Curent land use for this area is low density residential and drainage infrastructure is considered to be adequate for this area.	
23	• Public underground drainage infrastructure as required within Donald Street, Robinson Road, and Verano Avenue. • Connection to existing drainage infrastructure located near the intersection of Verano Avenue and Robinson Road.	1, 4, 5, 6
24	• Public underground drainage infrastructure as required within Robinson Road, and Verano Avenue. • Connection to existing drainage infrastructure located in Verano Avenue.	1, 4, 5, 6
25	• Current land use for this area is low density residential and drainage infrastructure is consider to be adequate for this area.	

Table 4-2 cont. SSP - Recommended Storm Drain Infrastructure Improvements

Notes:
1) Drainage infrastructure improvements may require the extension of existing infrastructure to developed location. Extents of improvements will be determined based on project type and location within the drainage watershed.
2) Drainage infrastructure improvements will require new outfall into existing creek/drainage channel and may require permitting agency permitting.
3) Hydrology/hydraulic information on existing drainage infrastructure is available.
4) Topographic survey will be required to determine watershed boundaries.
5) Hydrology/hydraulic calculations will be required to determine capacity of proposed and existing storm drain infrastructure.
6) Drainage easements may be required depending upon the extents of the development.

5.0 – Dry Utility Infrastructure and Facilities

EBA Engineering (EBA) reviewed existing utility information supplied by the utility service providers within the SSP area. The following information served as the basis of this review:

- AT&T. External Map Request for EBA Engineering, March 2016.
- Comcast. Facility Request Project SR-12, Agua Caliente to Fetters ASAG/ Sonoma, March 2016.
- Comcast. Facility Request Project SR-12, Fetters to Hawthorne ASAE/ Sonoma, March 2016.
- Comcast. Facility Request Project SR-12, Hawthorne to Verano ASAD/ Sonoma, March 2016.
- Comcast. Facility Request Project SR-12, Lomita to 5th Street West ASAC/ Sonoma, March 2016.
- Pacific Gas & Electric Company. Springs SP Sonoma Electric Distribution Maps 1-4, March 2016.
- Pacific Gas & Electric Company. Springs Specific Plan, Sonoma County Index 8399 Gas Maps, March 2016.

Dry utility facilities within the SSP area should be extended/upgraded to provide complete coverage of services at area buildout. It is anticipated that existing facilities will need to be extended/upgraded on a project by project basis to meet the demands of the SSP with input of the utility service providers. The utility service providers within the SSP are PG&E (electric and gas), AT&T (communications), and Comcast (communications/cable).

Existing Infrastructure Summary

The existing AT&T utility infrastructure and facilities contained within the limits of the SSP consist of a mixture of underground and aerial transmission lines. The existing infrastructure is distributed throughout the limits of the SSP area and appears to have been installed as development occurred within the area.

An existing Comcast underground fiber line is located within the Highway 12 right of way with overhead lines servicing the remaining SSP area.

Pacific Gas & Electric Company's (PG&E) main electrical transmission lines are located underground within the Highway 12 corridor with overhead lines servicing the remaining SSP area.

Pacific Gas & Electric Company's (PG&E) main gas transmission lines are located underground within Highway 12, W. Agua Caliente Road, Manzanita Road, Donald Street, Lomita Avenue, and Verano Avenue. Distribution mains can be found in the majority of other streets with service lines branching to individual parcels.

Table 5-1 provides a summary of the existing infrastructure available to each street. This information is based on record plan information and field reconnaissance. Further verification should be performed on a project by project basis before new infrastructure design is performed.

5.1 - Analysis

In the existing, pre-buildout condition of the SSP area, the majority of parcels are substantially developed and have already received dry utility services. The SSP will increase intensity of dry utility service demand at select locations, including the area along Highway 12 just south of Aqua Caliente Road which will increase in density from low density (single family) residential to High Density

Residential, and a pocket south of Donald Street just west of Robinson Road which will increase in density from low density residential to high density residential.

5.2 - Conclusion

In general, existing PG&E (gas and electric), AT&T, and Comcast infrastructure is available to service the buildout of the SSP. Upgrades to existing infrastructure will need to be considered on a project by project basis with each utility service provider evaluating the extents of improvements required to service the development.

Recommendations

The following recommendations summarize areas where existing infrastructure upgrades should be evaluated along with general recommendations. However, this list is cursory overview and should not be considered all inclusive.

- Project developer shall contact each utility provider to discuss infrastructure improvements required to service their project;
- The location of future projects in relation to existing infrastructure should be evaluated with each service provider;
- The capacity of the existing infrastructure to account for the planned development as well as the future development of the surrounding area should be considered;
- Landlocked parcel should be provided private connections to relevant services as area build out occurs;
- Parcels without services should be provided private connection points to relevant services as area build out occurs and infrastructure is extended or upgraded.

Table 5-1 Existing Dry Utility Infrastructure

Street Name	Electric	Gas	Cable	Telecom.
Academy Lane	1, partial	✓	✓	1, partial
Agua Caliente Road	✓	✓	✓	N/A
Arroyo Road	✓	1, partial	✓	tbd
Balsam Avenue	✓	✓	✓	tbd
Bernhard Avenue	✓	✓	✓	tbd
Bonita Way	1, partial	✓	✓	tbd
Boyes Boulevard	1, partial	tbd		tbd
Calle Del Monte	✓	✓	✓	tbd
Cedar Street	1, partial	✓	✓	✓
Central Avenue	✓	tbd	✓	tbd
Depot Road	1, partial	tbd	tbd	✓
Donald Street	✓	✓	✓	✓
East Thomson Avenue	✓	✓	✓	✓
Encinas Lane	1	tbd	✓	tbd
Fairview Lane	1, partial	✓	tbd	tbd
Fetters Avenue	✓	✓	✓	✓
First Avenue	✓	✓	✓	tbd
Greger Street	✓	✓	tbd	✓
Harley Street	✓	✓	✓	✓
Hawthorne Avenue	✓	✓	✓	tbd
Hooker Avenue	✓	✓	✓	✓
Johnson Avenue	1, partial	tbd	✓	✓
Keaton Avenue	1, partial	✓	✓	✓
Litchenberg Avenue	✓	1, partial	✓	✓
Lomita Avenue	✓	✓	tbd	✓
Madera Road	✓	✓	✓	tbd
Main Street	1, partial	✓	✓	✓
Malek Road	✓	✓	1, partial	1, partial
Manzanita Road	✓	✓	✓	✓
Marin Avenue	✓	1	1, partial	1
Monterey Avenue	✓	✓	✓	tbd
Mountain Avenue	✓	✓	tbd	✓
Mulford Lane	✓	tbd	tbd	tbd
Old Maple Lane	✓	✓	✓	tbd
Robinson Road	✓	✓	tbd	✓
Sierra Drive	✓	✓	✓	tbd
Siesta Way	✓	✓	✓	✓
State Highway 12	✓	✓	✓	✓
Sunnyside Avenue	✓	✓	✓	✓
Vailetti Drive	1, partial	tbd	✓	tbd
Vallejo Avenue	✓	✓	✓	tbd
Verano Avenue	1, partial	✓	1, partial	1, partial
Waterman Avenue	✓	✓	✓	tbd
West Thomson Avenue	✓	✓	✓	tbd

✓ = Available, N/A = Not Available

1) Utiltiy is not existing in street; utility may not be needed due to service connection point.

Appendix A

EBA Engineering reviewed existing reports and studies relevant to the Springs Specific Plan area along with available assessor's parcel data and compiled mapping information. The following information served as the basis of this evaluation:

Tables – Existing Wet Utility Infrastructure

Figures – Base Maps

Table 1-1 Existing Wet Utility Infrastructure Availability Summary (12/2016)

Street Name	Water	Sewer	Storm Drain	Notes
Agua Caliente Road	✓	✓	✓	
Arroyo Road	✓	✓	✓	
Balsam Avenue	✓	✓	N/A	
Bernhard Avenue	✓	✓	N/A	
Bonita Way	✓	✓	N/A	
Boyes Boulevard	✓	✓	N/A	
Calle Del Monte	✓	✓	✓	
Cedar Street	✓	N/A	✓	
Central Avenue	✓	✓	✓	
Depot Road	✓	✓	N/A	
Donald Street	✓	✓	✓	
East Thomson Avenue	✓	✓	N/A	
Encinas Lane	✓	✓	N/A	
Fairview Lane	✓	✓	N/A	
Fetters Avenue	✓	✓	✓	
First Avenue	✓	✓	N/A	
Greger Street	✓	✓	✓	
Harley Street	✓	✓	N/A	
Hawthorne Avenue	✓	N/A	N/A	
Hooker Avenue	✓	✓	N/A	
Johnson Avenue	✓	✓	N/A	
Keaton Avenue	✓	✓	✓	
Litchenberg Avenue	✓	✓	N/A	
Lomita Avenue	✓	✓	✓	
Madera Road	N/A	✓	N/A	
Main Street	✓	✓	✓	
Malek Road	✓	✓	N/A	
Manzanita Road	✓	✓	N/A	
Marin Avenue	✓	N/A	N/A	
Monterey Avenue	✓	N/A	N/A	
Mountain Avenue	✓	✓	✓	
Mulford Lane	✓	✓	N/A	
Old Maple Lane	✓	✓	N/A	
Robinson Road	✓	✓	✓	
Sierra Drive	✓	✓	N/A	
Siesta Way	✓	✓	✓	
State Highway 12	✓	✓	✓	
Sunnyside Avenue	✓	✓	✓	
Vailetti Drive	✓	✓	✓	
Vallejo Avenue	✓	✓	✓	
Verano Avenue	✓	✓	✓	
Waterman Avenue	✓	✓	N/A	
West Thomson Avenue	✓	✓	✓	
✓ = Available, N/A = Not Available				

Table 1-2 Existing Water System Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
Agua Caliente Road	8”	ACP	
Arroyo Road	6”	DIP	
Balsam Avenue	UNK	UNK	
Bernhard Avenue	N/A	N/A	No water available in street within Specific Plan Area.
Bonita Way	6”	PVC	
Boyes Boulevard	6”	ACP	
Calle Del Monte	8”	ACP	
Cedar Street	Varies 4”-6”	ACP	Refer to Water System Base Map for approximate locations.
Central Avenue	6”	PVC	
Depot Road	6”	PVC	
Donald Street	Varies 6”-8”	ACP	Refer to Water System Base Map for approximate locations.
East Thomson Avenue	6”	ACP	Refer to Water System Base Map for approximate locations.
Encinas Lane	8”	PVC	
Fairview Lane	6”	ACP PVC	Refer to Water System Base Map for approximate locations.
Fetters Avenue	8”	PVC	
First Avenue	Varies 6”-8”	ACP (6”) PVC (8”)	Refer to Water System Base Map for approximate locations.
Greger Street	6”	ACP	
ACP = Asbestos Cement, PVC = Polyvinyl Chloride, N/A = Not Available DIP = Ductile Iron Pipe, UNK = Unknown			

Table 1-2 cont. Existing Water System Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
Harley Street	6”	DIP PVC	Refer to Water System Base Map for approximate locations.
Hawthorne Avenue	6”	PVC	
Hooker Avenue	6”	PVC ACP	Refer to Water System Base Map for approximate locations.
Johnson Avenue	6”	ACP	
Keaton Avenue	6”	DIP	
Litchenberg Avenue	6”	ACP	
Lomita Avenue	6”	ACP PVC	Refer to Water System Base Map for approximate locations.
Madera Road	N/A	N/A	Units are served off either State Highway 12 or First Avenue.
Main Street	12”	PVC	
Malek Road	3”	UNK	
Manzanita Road	6”	PVC	
Marin Avenue	6”	PVC	
Monterey Avenue	6”	PVC	
Mountain Avenue	8”	ACP	
Mulford Lane	6”	PVC	
Old Maple Lane	6”	ACP	
Robinson Road	6”	ACP	
Sierra Drive	6”	ACP	
Siesta Way	Varies 6” – 10”	ACP (6”) PVC (10”)	
State Highway 12	Varies 6” – 12”	ACP (6”) PVC (12”)	
Sunnyside Avenue	6”	DIP	
Vailetti Drive	6”	ACP	
Vallejo Avenue	6”	PVC	
Verano Avenue	8”	PVC ACP	
Waterman Avenue	6”	ACP	
West Thomson Avenue	6”	ACP PVC	
ACP = Asbestos Cement, PVC = Polyvinyl Chloride, N/A = Not Available DIP = Ductile Iron Pipe, UNK = Unknown			

Table 1-3 Existing Sewer System Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
Agua Caliente Road	6”	VCP	Refer to Sanitary Sewer Base Map for approximate location.
Arroyo Road	6”	VCP	
Balsam Avenue	6”	VCP	
Bernhard Avenue	6”	VCP	
Bonita Way	6”	VCP	
Boyes Boulevard	6”	VCP	
Calle Del Monte	6”	VCP	
Cedar Street	N/A	N/A	Units adjoining street frontage are serviced through backyard sewer.
Central Avenue	6”	VCP	
Depot Road	6”	VCP	
Donald Street	6”	ACP/VCP	Refer to Sanitary Sewer Base Map for approximate location.
East Thomson Avenue	6”	VCP	
Encinas Lane	8”	PVC	
Fairview Lane	6”	ACP	Refer to Sanitary Sewer Base Map for approximate location.
Fetters Avenue	6”	VCP	
First Avenue	6”	VCP	Refer to Sanitary Sewer Base Map for approximate location.
Greger Street	6”	VCP	Refer to Sanitary Sewer Base Map for approximate location.
Harley Street	6”	VCP	
Hawthorne Avenue	N/A	N/A	No sewer available in street within Specific Plan Area.
Hooker Avenue	6”	ACP	
Johnson Avenue	6” & 18”	VCP (6”) RCP (18”)	18” is trunk main. Existing sewer lateral connections are to 6”.
Keaton Avenue	6”	VCP	
Litchenberg Avenue	18”	RCP	Trunk main. No sewer lateral connections.
Lomita Avenue	6”	VCP	
Madera Road	6”	VCP	Refer to Sanitary Sewer Base Map for approximate location.
VCP = Vitrified Clay Pipe, ACP = Asbestos Cement Pipe, N/A = Not Available			

Table 1-3 cont. Existing Sewer System Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
Main Street	6”	VCP	
Malek Road	6” & (2)18”	VCP (6”) RCP (18”)	18” are trunk main & bypass. Existing sewer later connections
Manzanita Road	6”	VCP	
Marin Avenue	N/A	N/A	No sewer available in street within Specific Plan Area.
Monterey Avenue	N/A	N/A	No sewer available in street within Specific Plan Area.
Mountain Avenue	8”	VCP	
Mulford Lane	6”	VCP	
Old Maple Lane	6”	VCP	
Robinson Road	6”	ACP	
Sierra Drive	6”	VCP	
Siesta Way	Varies 6” – 8”	PVC/VCP	Refer to Sanitary Sewer Base Map for approximate location.
State Highway 12	Varies 6” – 8”	VCP	Refer to Sanitary Sewer Base Map for approximate location.
Sunnyside Avenue	6”	VCP	
Vailetti Drive	8”	VCP	
Vallejo Avenue	6”	VCP	
Verano Avenue	Varies 6” – 8”	ACP/ VCP	Refer to Sanitary Sewer Base Map for approximate location.
Waterman Avenue	6”	VCP	
West Thomson Avenue	6”	VCP	
Misc. Easements	6” & 18”	VCP (6”) ACP (6”) RCP (18”)	Refer to Sanitary Sewer Base Map for approximate location.
VCP = Vitrified Clay Pipe, ACP = Asbestos Cement Pipe, N/A = Not Available			

Table 1-4 Existing Storm Drain Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
Agua Caliente Road	UNK	UNK	Roadside ditches w/ (2) catch basins located of the easterly side of intersection with State Highway 12.
Arroyo Road	UNK	UNK	Roadside ditches w/ (1) catch basin located of the southeasterly side of intersection with State Highway 12.
Balsam Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Bernhard Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area
Bonita Way	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Boyes Boulevard	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Calle Del Monte	UNK	UNK	Mainly sheet flow conditions with (1) catch basin located near the intersection with State Highway 12.
Cedar Street	UNK	UNK	Mainly sheet flow conditions with (2) catch basin located near the intersection with Vailetti Drive.
Central Avenue	36”	RCP	36” underground storm drain and (3) catch basins located near the intersection with State Highway 12.
Depot Road	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Donald Street	Varies 18”-24”	RCP	Refer to Storm Drain Base Map for approximate locations.
East Thomson Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Encinas Lane	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Fairview Lane	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Fetters Avenue	UNK	UNK	Mainly sheet flow conditions with (1) catch basin located near the intersection with State Highway 12.
First Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Greger Street	UNK	UNK	Mainly sheet flow conditions with (1) catch basin located near the intersection with Pine Avenue.
Harley Street	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.

N/A = Not Available, UNK = Unknown, RCP = Reinforced Concrete Pipe

Table 1-4 cont. Existing Storm Drain Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
Hawthorne Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Hooker Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Johnson Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Keaton Avenue	UNK	UNK	Roadside ditches w/ (1) catch basin located of the northeasterly side of intersection with State Highway 12.
Litchenberg Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Lomita Avenue	UNK	UNK	Roadside ditches w/ (2) catch basins located of the northerly side of intersection with Verano Avenue
Madera Road	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Main Street	UNK	UNK	Curb and gutter w/ (1) catch basin located of the northeasterly side of intersection with Verano Avenue
Malek Road	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Manzanita Road	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Marin Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Monterey Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Mountain Avenue	UNK	UNK	Roadside ditches w/ (1) catch basin located of the southeasterly side of intersection with State Highway 12.
Mulford Lane	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Old Maple Lane	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Robinson Road	UNK	UNK	Roadside ditches w/ (2) catch basins located of the northerly side of intersection with Verano Avenue and Donald Street.
Sierra Drive	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
Siesta Way	UNK	UNK	Curb and gutter w/ (2) catch basin located near the intersection with State Highway 12.

N/A = Not Available, UNK = Unknown, RCP = Reinforced Concrete Pipe

Table 1-4 cont. Existing Storm Drain Infrastructure Summary (12/2016)

Street Name	Size	Pipe Type	Notes
State Highway 12	Varies	Varies	Refer to Storm Drain Base Map for approximate locations.
Sunnyside Avenue	UNK	UNK	Roadside ditches w/ (2) catch basins located of the easterly side of intersection with State Highway 12.
Vailetti Drive	Varies	Varies	Refer to Storm Drain Base Map for approximate locations.
Vallejo Avenue	UNK	UNK	Sheet flow with (1) catch basin located of the southeasterly side of intersection with State Highway 12.
Verano Avenue	Varies	Varies	Refer to Storm Drain Base Map for approximate locations. Need further record drawings for unknown area.
Waterman Avenue	N/A	N/A	No known underground storm drain available in street within Specific Plan Area.
West Thomson Avenue	UNK	UNK	Underground drainage system present near the intersection with State Highway 12.
N/A = Not Available, UNK = Unknown, RCP = Reinforced Concrete Pipe			

Figure 1-1

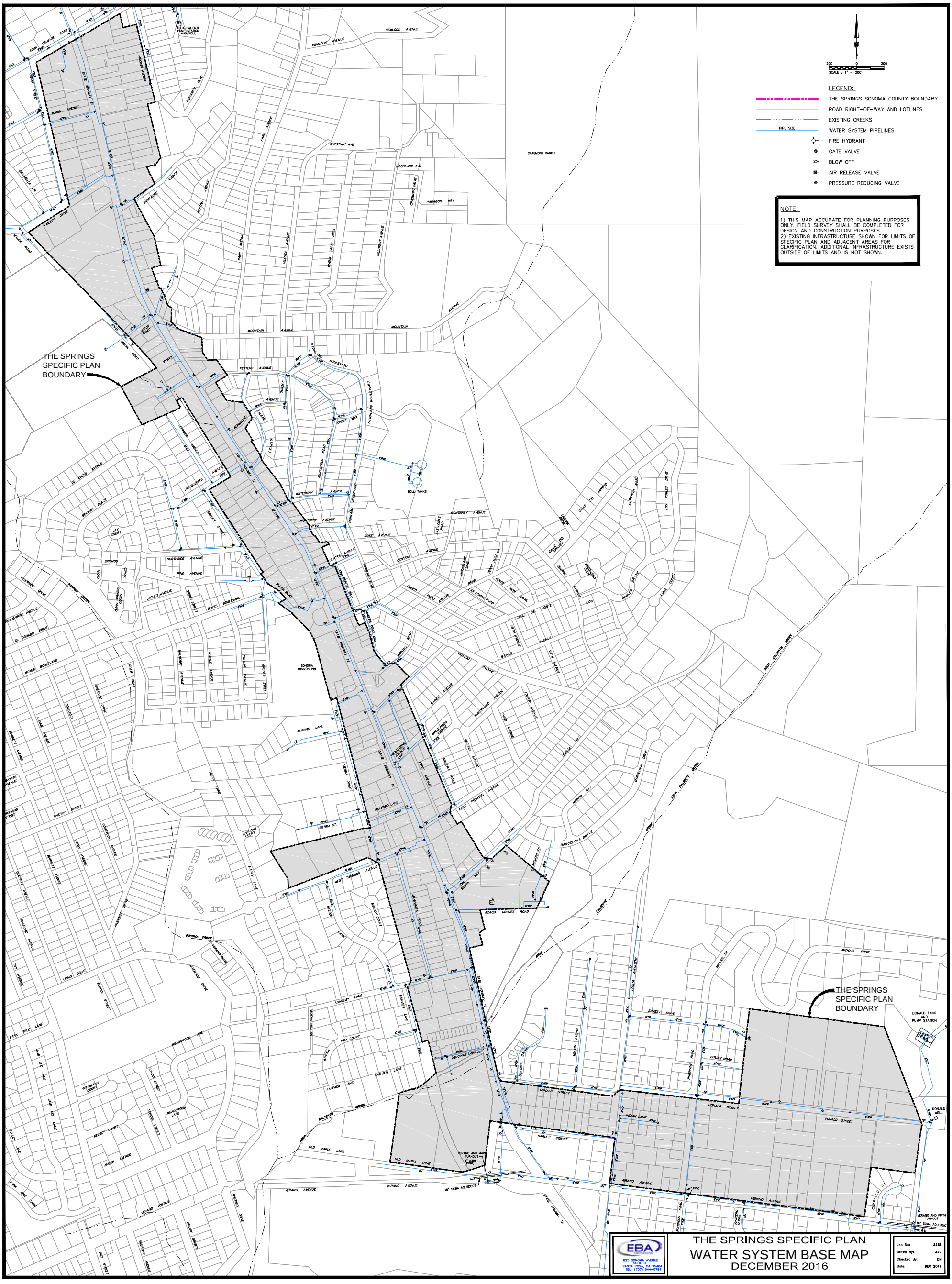
THE SPRINGS SPECIFIC PLAN BOUNDARY
THE SPRINGS SPECIFIC PLAN BOUNDARY
SCALE : 1" = 200'
LEGEND:
THE SPRINGS SONOMA COUNTY BOUNDARY
ROAD RIGHT-OF-WAY AND LOTLINES
EXISTING CREEKS
WATER SYSTEM PIPELINES
FIRE HYDRANT
GATE VALVE
BLOW OFF
AIR RELEASE VALVE
PRESSURE REDUCING VALVE
NOTE:
1) THIS MAP ACCURATE FOR PLANNING PURPOSES ONLY. FIELD SURVEY SHALL BE COMPLETED FOR DESIGN AND CONSTRUCTION PURPOSES.
2) EXISTING INFRASTRUCTURE SHOWN FOR LIMITS OF SPECIFIC PLAN AND ADJACENT AREAS FOR CLARIFICATION. ADDITIONAL INFRASTRUCTURE EXISTS OUTSIDE OF LIMITS AND IS NOT SHOWN.
SONOMA MISSION INN
CRAGMONT RANCH
BOLLI TANKS
DONALD TANK AND PUMP STATION
DONALD WELL
16" SCWA AQUEDUCT
VERANO AND MAIN TURNOUT
VERANO AND FIFTH TURNOUT
EBA ENGINEERING
825 SONOMA AVENUE SUITE C SANTA ROSA, CA 95404 TEL: (707) 544-0784
THE SPRINGS SPECIFIC PLAN
WATER SYSTEM BASE MAP
DECEMBER 2016
Job No: 2285
Drawn By: AVC
Checked By: DM
Date: DEC 2016

Figure 1-2


THE SPRINGS SPECIFIC PLAN BOUNDARY
THE SPRINGS SPECIFIC PLAN BOUNDARY
SCALE : 1" = 200'
LEGEND:
THE SPRINGS SONOMA COUNTY BOUNDARY
ROAD RIGHT-OF-WAY AND LOTLINES
EXISTING CREEKS
SANITARY SEWER PIPELINES AND DIRECTION OF FLOW
SANITARY SEWER MANHOLE
SANITARY SEWER CLEAN-OUT
SANITARY SEWER SERVICE CONNECTION
NOTE:
1) THIS MAP ACCURATE FOR PLANNING PURPOSES ONLY. FIELD SURVEY SHALL BE COMPLETED FOR DESIGN AND CONSTRUCTION PURPOSES.
2) EXISTING INFRASTRUCTURE SHOWN FOR LIMITS OF SPECIFIC PLAN AND ADJACENT AREAS FOR CLARIFICATION. ADDITIONAL INFRASTRUCTURE EXISTS OUTSIDE OF LIMITS AND IS NOT SHOWN.
EBA ENGINEERING
825 SONOMA AVENUE SUITE C SANTA ROSA, CA 95404 TEL: (707) 544-0784
THE SPRINGS SPECIFIC PLAN
SANITARY SEWER BASE MAP
DECEMBER 2016
Job No: 2285
Drawn By: AVC
Checked By: DM
Date: DEC 2016

Figure 1-3


THE SPRINGS SPECIFIC PLAN BOUNDARY
THE SPRINGS SPECIFIC PLAN BOUNDARY
SCALE : 1" = 200'
LEGEND:
THE SPRINGS SONOMA COUNTY BOUNDARY
ROAD RIGHT-OF-WAY AND LOTLINES
EXISTING CREEKS
WATER SYSTEM PIPELINES
FIRE HYDRANT
GATE VALVE
BLOW OFF
AIR RELEASE VALVE
PRESSURE REDUCING VALVE
NOTE:
1) THIS MAP ACCURATE FOR PLANNING PURPOSES ONLY. FIELD SURVEY SHALL BE COMPLETED FOR DESIGN AND CONSTRUCTION PURPOSES.
2) EXISTING INFRASTRUCTURE SHOWN FOR LIMITS OF SPECIFIC PLAN AND ADJACENT AREAS FOR CLARIFICATION. ADDITIONAL INFRASTRUCTURE EXISTS OUTSIDE OF LIMITS AND IS NOT SHOWN.
EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784
THE SPRINGS SPECIFIC PLAN
STORM DRAIN BASE MAP
DECEMBER 2016
Job No: 2285
Drawn By: AVC
Checked By: DM
Date: DEC 2016

Appendix B

Sonoma County Water Agency Sanitary Sewer – Sanitary Area Flow Characteristics

SCWA Standard Drawing Number 138

EFFECTIVE JANUARY 1, 2009

SANITATION AREA ZONE or DISTRICT	A PEOPLE PER ESD	B FLOW per ESD gpd	C ADWF per ESD	D PDWF PER ESD	E PEAK TO AVERAGE RATIO	F CONNECTED ESD LOAD	G ESTIMATED EQUIVALENT POPULATION
AIRPORT SZ	2.50	280	280	790	2.82	3,613.42	9,034
GEYSERVILLE SZ	2.30	200	200	574	2.87	344.03	791
PENNGROVE SZ	2.50	180	180	432	2.74	512.49	1,281
SEA RANCH SZ	2.50	200	200	542	2.71	572.60	1,432
OCCIDENTAL CSD	2.30	66	66	193	2.92	283.09	651
RUSSIAN RIVER CSD	2.30	120	120	277	2.31	3,185.74	7,327
SONOMA VALLEY CSD	2.60	200	200	388	1.94	17,282.74	44,935
SOUTHPARK CSD	2.60	233	233	522	2.24	4,012.76	10,433

A. THIS PLAN IS BASED UPON NUMBERS FOUND IN THE 2000 U.S. CENSUS.

B. THIS IS THE FLOW FOUND IN THE BILLING BASIS TABLES FOR EACH SANITATION AREA.

C. THIS IS THE AVERAGE DRY WEATHER FLOW PER ESD BASED UPON FLOW RECORDS.

D. THE PEAK DRY WEATHER FLOW IS DETERMINED BY MULTIPLYING THE ADWF (C) BY THE PEAK TO AVERAGE RATIO (E).

E. THE PEAK TO AVERAGE RATIO WAS DETERMINED BY MULTIPLYING THE ADWF (C) BY A CONSTANT K PRODUCED BY THE FORMULA:
$K=5.453/P^{0.0963}$ WHERE P=ESTIMATED POPULATION

F. THIS NUMBER COMES FROM THE AGENCY'S MASTER LIST OF BILLING RECORDS AND IS THE TOTAL NUMBER OF ESDs LISTED FOR EACH SANITATION AREA.

G. THIS IS ARRIVED AT BY MULTIPLYING THE NUMBER OF PEOPLE PER ESD (A) TIMES THE CONNECTED ESD LOAD (F)

H. PDWF PLUS 800 GALLONS PER ACRE PER DAY RAINFALL DERIVED INFLOW AND INFILTRATION PRODUCES THE DESIGN PEAK WET WEATHER FLOW (DWWF).

NOTES:

1. THE NUMBERS AND FORMULAS USED IN THIS TABLE ARE SUBJECT TO CHANGE.

2. PDWF PLUS 800 GALLONS PER ACRE PER DAY RAINFALL DERIVED INFLOW AND INFILTRATION PRODUCES THE DESIGN PEAK WET WEATHER FLOW (PWWF).

SCALE: NONE

SANITARY SEWER - SANITARY AREA FLOW CHARACTERISTICS

DATE: 02/03/09	REVIEWED BY:	APPROVED:	SONOMA COUNTY WATER AGENCY	DRAWING NUMBER: 138

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