PUBLIC DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

2013 COTATI GENERAL PLAN UPDATE

SCH# 2013082037

SEPTEMBER 2014

Prepared for:

City of Cotati
Community Development Department
201 West Sierra Avenue
Cotati, CA 94931

Prepared by:

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De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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DRAFT EIR

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Appendices are available online at: http://cotati.generalplan.org/content/environmental-documents

Appendix A – Notice of Preparation/Initial Study and Comments Received Regarding the Notice of Preparation

Appendix B – Air Quality Calculation Sheets

Appendix C – Traffic Modeling

Appendix D – Noise Modeling

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PURPOSE

The City of Cotati (City) as lead agency, determined that the 2013 General Plan project (2013 General Plan, General Plan, or project) is a "project" within the definition of the California Environmental Quality Act (CEQA), and requires the preparation of an Environmental Impact Report (EIR). This Draft EIR has been prepared to evaluate the environmental impacts associated with implementation of the project. This EIR is designed to fully inform decision-makers in the City, other responsible and trustee agencies, and the general public of the potential environmental consequences of approval and implementation of the 2013 General Plan. A detailed description of the proposed project, including the components and characteristics of the project, project objectives, and how the EIR will be used, is provided in Chapter 2.0, Project Description.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the project that are known to the City, raised during the Notice of Preparation (NOP) scoping process, or were raised during preparation of the Draft EIR. This Draft EIR addresses the potentially significant impacts associated with aesthetics, air quality, biological resources, cultural resources, geology/soils/minerals, greenhouse gases/climate change, hazards, hydrology/water quality, land use planning/population, and agricultural resources, noise, public services/recreation, transportation/circulation, utilities, and cumulative impacts. During the NOP process, one comment was received from the California Public Utilities Commission regarding safety associated with railroad crossings. The comments are summarized in Chapter 1.0, Introduction, and are also provided in Appendix A.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require 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 accomplish the basic objectives of the proposed project. The alternatives analyzed in this EIR include the following:

- Alternative 1: No Project Alternative. Under Alternative 1, the City would not adopt the General Plan Update. The 1998 General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map (see Figure 3.9-3), Circulation Diagram, goals, policies, or actions would occur. Subsequent projects, such as amending the Municipal Code, including the Land Use Code and zoning map, and the Design Review Criteria would not occur.
-
- Alternative 2: Open Space and Parks/Reduced Development Alternative. As shown on Figure 5.0-1, Alternative 2 would revise the General Plan Update to increase the amount of open space and parks uses and reduce development associated with commercial, industrial, and residential uses. General Commercial, Commercial Industrial, and Low Medium Density Residential uses would be decreased in the City and SOI and would be

replaced with less intense uses, primarily Open Space/Parks. This alternative was developed to reduce impacts associated with scenic resources, traffic noise, traffic impacts to US 101 and SR 116, and to reduce cumulative impacts associated with development.

- Alternative 3: Reduced Land Use Intensity Alternative. Under Alternative 3, urban and industrial development under the General Plan Update Land Use Map would be focused more tightly around the City as shown on Figure 5.0-2. General Commercial, Commercial Industrial, and Low Medium Density Residential uses would be decreased in the City and SOI and would be replaced with less intense uses, such as agricultural and rural residential. This alternative was developed to reduce impacts associated with scenic resources, traffic noise, traffic impacts to US 101 and SR 116, and to reduce cumulative impacts associated with development.

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project 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 project.

As summarized in Table ES-1 below, Alternative 2 (Open Space and Parks/Reduced Development) is the environmentally superior alternative because it provides the greatest reduction of potential impacts in comparison to the other alternatives. Alternatives 3 (Reduced Land Use Intensity) and 1 (No Project) would have reduced environmental impacts compared to the proposed project.

TABLE ES-1: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	PROPOSED PROJECT	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Aesthetics	3 - Same	2 - Better	1 - Best	2 - Better
Air Quality	3 – Same	2 – Better	1 - Best	2 – Better
Biological Resources	3 – Same	2 – Better	1 - Best	2 – Better
Cultural Resources	3 – Same	2 – Better	1 - Best	2 – Better
Geology and Soils	3 – Same	2 – Better	1 - Best	2 – Better
Greenhouse Gases and Climate Change	3 – Same	2 – Better	1 - Best	2 – Better
Hazards and Hazardous Materials	3 – Same	2 – Better	1 - Best	2 – Better
Hydrology and Water Quality	3 – Same	2 – Better	1 - Best	2 – Better
Land Use, Population, and Agricultural Resources	3 – Same	2 – Better	1 - Best	2 – Better

TABLE ES-1: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT				
ENVIRONMENTAL ISSUE	PROPOSED PROJECT	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Noise	3 – Same	2 – Better	1 - Best	2 – Better
Public Services	3 – Same	2 – Better	1 - Best	2 – Better
Transportation and Circulation	3 – Same	2 – Better	1 - Best	2 – Better
Utilities	3 – Same	2 – Better	1 - Best	2 – Better
Cumulative Impacts	3 – Same	2 – Better	1 - Best	2 – Better
Irreversible Effects	3 – Same	2 - Better	1 - Best	2 - Better
SUMMARY	**45 - Same**	**30 - Better**	**15 – Best**	**30 - Better**

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations. The definition of "beneficial" effect is not defined in the CEQA Guidelines, but for purposes of this EIR a beneficial effect is one in which an environmental condition is enhanced or improved.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT 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: General Plan Implementation could result in Substantial Adverse Effects on Visual Character, including Scenic Vistas or Scenic Resources	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.1-2: General Plan Implementation could result in the Creation of New Sources of Nighttime Lighting and Daytime Glare	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
AIR QUALITY			
Impact 3.2-1: The General Plan would not conflict with or obstruct implementation of the applicable air quality plan	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.2-2: The General Plan would not cause health risks associated with toxic air contaminants	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.2-3: The General Plan would not create objectionable odors	LS	*None Required*	LS
Impact 3.2-4: The General Plan would not conflict with Regional Plans	LS	*None Required*	LS
BIOLOGICAL RESOURCES			
Impact 3.3-1: General Plan implementation could have a substantial adverse effect, either	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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*
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 Game or U.S. Fish and Wildlife Service			
Impact 3.3-2: General Plan implementation could 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 Game or U.S. Fish and Wildlife Service	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.3-3: The General Plan could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.3-4: General Plan implementation would not 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.3-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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

PS – potentially significant *SU – significant and unavoidable*

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
preservation policy or ordinance			
Impact 3.3-6: The General Plan 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	LS	*None Required*	LS
Cultural Resources			
Impact 3.4-1: Substantial Adverse Change in the Significance of a Historical or Archaeological Resource	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.4-2: Disturbance of Human Remains	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.4-3: Damage to or the Destruction of Paleontological Resources	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Geology and Soils			
Impact 3.5.1: The General Plan 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.5.2: The General Plan has the potential to result in substantial soil erosion or the loss of topsoil	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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 3.5.3: The General Plan has the potential to 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.5.4: The General Plan 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.5.5: The General Plan does not have the potential to 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	LS	*None Required*	LS
GREENHOUSE GASES AND CLIMATE CHANGE			
Impact 3.6-1: General Plan implementation could generate GHGs, either directly or indirectly, that may have a significant effect on the environment	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.6-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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

PS – potentially significant *SU – significant and unavoidable*

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
Hazards			
Impact 3.7-1: The General Plan 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.7-2: The General Plan 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.	LS	*None Required*	LS
Impact 3.7-3: The General Plan 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	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.7-4: The General Plan is not located within an airport land use plan, two miles of a public airport or public use airport, or within the vicinity of a private airstrip, and would not result in a safety hazard for people residing or working in the project area.	LS	*None Required*	LS
Impact 3.7-5: The General Plan does not have the potential to impair implementation of or physically interfere with an adopted	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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*
emergency response plan or emergency evacuation plan			
Impact 3.7-6: The General Plan does not have 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.	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
HYDROLOGY AND WATER QUALITY			
Impact 3.8-1: General Plan implementation could result in a violation of water quality standards or waste discharge requirements	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.8.2: General Plan implementation could result in the depletion of groundwater supplies or interfere substantially with groundwater recharge	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.8-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.8.4 General Plan implementation could otherwise substantially degrade water quality	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.8.5 General Plan implementation could place housing and structures within a	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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

PS – potentially significant *SU – significant and unavoidable*

Environmental Impact	*Level of Significance Without Mitigation*	*Mitigation Measure*	*Resulting Level of Significance*
100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map			
Impact 3.8-6: The General Plan would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of failure of a levee or dam, seiche, tsunami, or mudflow	LS	*None Required*	LS
Land Use, Agriculture, and Population			
Impact 3.9-1: Potential to physically divide an established community	LS	*None Required*	LS
Impact 3.9-2: Potential to 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*	LS
Impact 3.9-3: Conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.9-4: Conflict with Existing Farmlands, Agricultural Zoning, or Williamson Act Contracts	LS	*None Required*	LS
Impact 3.9-5: Potential to induce substantial population growth	LS	*None Required*	LS

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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 3.9-6: Potential to displace substantial numbers of people or existing housing	LS	*None Required*	LS
NOISE			
Impact 3.10-1: Traffic Noise Sources	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.10-2: Railroad Noise Sources	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.10-3: Stationary Noise Sources	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.10-4: Construction Noise Sources	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.10-5: Construction Vibration	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.10-6: Groundborne Vibration	LS	*None Required*	LS
Impact 3.10-7: Cumulative Noise Impacts	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
PUBLIC SERVICES AND RECREATION			
Impact 3.11-1: Adverse Physical Impacts on the Environment Associated with Governmental Facilities and the Provision of Public Services	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.11-2: Adverse Physical Impacts Associated with the Deterioration of Existing Parks and Recreation Facilities or the Construction of New Parks and Recreation	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Facilities			
TRANSPORTATION AND CIRCULATION			
Impact 3.12-1: Implementation of the proposed General Plan would result in acceptable traffic operation at the study intersections and roadway segments controlled by the City of Cotati	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.12-2: Implementation of the proposed General Plan would result in acceptable traffic operation on Gravenstein Highway, though the funding and timing of improvements needed to accommodate regional and local growth on the highway is uncertain	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.12-3: Implementation of the proposed General Plan would contribute to unacceptable operation on US 101 freeway facilities	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.12-4: The proposed General Plan would not conflict with an applicable congestion management program	LS	*None Required*	LS
Impact 3.12-5: The proposed General Plan would not result in a change in air traffic patterns	LS	*None Required*	LS
Impact 3.12-6: Implementation of the proposed General Plan would not	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
substantially increase hazards due to a design feature			
Impact 3.12-7: Emergency Access	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.12-8: The proposed General Plan would accommodate increased demand for public transit and supports a shift in trips from automobile to transit modes	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.12-9: The proposed General Plan is consistent with adopted bicycle and pedestrian plans, and supports enhancements that emphasize bicycle and pedestrian circulation	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
UTILITIES			
Impact 3.13-1: Increased Demand for Water Supply	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.13-2: Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
Impact 3.13-3: Potential to exceed wastewater treatment capacity or the requirements of the RWQCB	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU
Impact 3.13-4: Require or result in the construction of new wastewater treatment	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
facilities or expansion of existing facilities, the construction of which could cause significant environmental effects			
Impact 3.13-5: The project would be served by a landfill for solid waste disposal needs and will require compliance with various laws and regulations	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LS
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
Impact 4.2: Cumulative Impact on the Region's Air Quality	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.3: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.4: Cumulative Impacts on Known and Undiscovered Cultural Resources	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.5: Cumulative Impacts related to Geology and Soils	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.6: Increased Greenhouse Gas Emissions May Contribute to Climate Change	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.7: Cumulative impacts from hazardous materials and human health risks	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.8: Cumulative impacts to Hydrology and Water Quality	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.9: Cumulative Impact on Communities and Local Land Uses	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.10: Cumulative Impacts on Agricultural Lands	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.11: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
Impact 4.12: Cumulative Impact on Public Services and Recreation	PS	*General Plan Policies and Actions mitigate this impact to a less than significant level.*	LCC
Impact 4.13: Cumulative Impact on the Transportation Network	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
Impact 4.14: Cumulative Impact on Utilities	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	CC and SU
Impact 4.15: Irreversible Effects	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Actions. No additional feasible mitigation is available.*	SU

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1.1 INTRODUCTION

In early 2011, Cotati began a multi-year process to update the City's 1998 General Plan. State law requires every city and county in California to prepare and maintain a planning document called a general plan. A general plan is a "constitution" or "blueprint" for the future physical development of a county or city. As part of the Cotati General Plan Update process, a General Plan Background Report was prepared to establish a baseline of existing conditions in the city. Additionally, a Priorities and Issues Report was prepared to identify the challenges facing the community and to provide an opportunity for citizens and policymakers to come together in a process of developing a common vision for the future. The General Plan update includes a framework of goals, objectives, policies, and actions that will guide the community toward their common vision. The General Plan is supported with a variety of maps including a Land Use Map and Circulation Diagram.

COTATI GENERAL PLAN UPDATE

General Plan

The 2013 Cotati General Plan (General Plan, General Plan Update, or proposed project) is the overarching policy document that guides land use, housing, transportation, infrastructure, community design, and other policy decisions throughout the City of Cotati. The General Plan includes the seven elements mandated by State law, to the extent that they are relevant locally: Circulation, Conservation, Housing, Land Use, Noise, Open Space, and Safety Elements. The City may also address other topics of interest; this General Plan includes Community Health and Wellness, Community Services and Facilities, and Economic Vitality Elements. The General Plan sets out the goals, policies, and programs in each of these areas and serves as a policy guide for how the City will make key planning decisions in the future, and how the City will interact with the Sonoma County, surrounding cities, and other local, regional, State, and Federal agencies.

The General Plan contains the goals and policies that will guide future decisions within the City. It also identifies implementation programs that will ensure the goals and policies in the General Plan are carried out. As part of the 2013 Cotati General Plan Update, the City and the consultant team prepared several support documents that serve as the building blocks for the Policy Document and analyze the environmental impacts associated with implementing the General Plan.

The following paragraphs describe a summary of the key component documents that are the building blocks of the 2013 Cotati General Plan.

Background Report

The Background Report takes a "snapshot" of Cotati's current (2011) trends and conditions. It provides a detailed description of a wide range of topics within the city, such as demographic and economic conditions, land use, public facilities, and environmental resources. The Background Report provides decision-makers, the public, and local agencies with context for making policy

decisions. The Background Report also serves as the environmental setting and description contained within this Draft EIR.

Priorities and Issues Report

Based on public input from stakeholder interviews, community visioning workshops, focus group meetings, direction from City staff, and direction from the Planning Commission and City Council, the Priorities and Issues Report identified key issues and opportunities to be addressed in the General Plan and identifies land use themes and priorities for key areas within Cotati. The Priorities and Issues Report provided the Planning Commission with tools and information in order for them to provide direction for the development of the General Plan Policy Document and the General Plan Land Use Map.

Environmental Impact Report

An EIR responds to the requirements of the California Environmental Quality Act (CEQA) as set forth in Sections 15126, 15175, and 15176 of the CEQA Guidelines. The Planning Commission and City Council will use the EIR during the General Plan Update process in order to understand the potential environmental implications associated with implementing the General Plan. This EIR was prepared concurrently with the General Plan policy document in order to facilitate the development of a General Plan that is largely self-mitigating. In other words, as environmental impacts associated with the new General Plan, including the Land Use Map, are identified; policies, programs and measures may be incorporated into the General Plan policy document in order to reduce or avoid potential environmental impacts.

1.2 PURPOSE OF THE EIR

The City of Cotati, as lead agency, determined that the 2013 Cotati General Plan is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) 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]).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the 2013 Cotati General Plan. A copy of the Public Draft General Plan is located on the accompanying CD at the end of this Draft EIR. The Draft EIR also discusses alternatives to the General Plan, and proposes mitigation measures that will offset, minimize, or otherwise avoid significant environmental impacts. This Draft EIR has been prepared in accordance with CEQA, California Resources Code Section 21000 et seq.; the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Cotati.

An EIR must disclose the expected direct and indirect environmental impacts associated with a project, 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 proposed 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, and an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

1.3 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. Section 15168 states:

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 project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and the analysis in this EIR, as required under CEQA. It may be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

1.4 INTENDED USES OF THE EIR

The City of Cotati, 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 2013 Cotati General Plan and subsequent implementation of projects consistent with the General Plan. The environmental review process enables interested parties to

evaluate the proposed 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 General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other agencies within Sonoma County, including the Sonoma Local Agency Formation Commission (LAFCO), which may use this EIR during the preparation of environmental documents related to Municipal Service Reviews and Spheres of Influence relevant to Cotati.

1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

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). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the 2013 Cotati General Plan, implementation of future projects within Cotati may require permits and approvals from Trustee and Responsible Agencies, which may include the following:

- California Department of Fish and Wildlife (CDFW)
- California Department of Transportation (Caltrans)
- Regional (North Coast) Water Quality Control Board (RWQCB)
- U.S. Army Corps of Engineers (ACOE)
- U.S. Fish and Wildlife Service (USFWS)
- Sonoma Local Agency Formation Commission (LAFCO)

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 City of Cotati circulated a Notice of Preparation (NOP) of an EIR for the proposed project on August 12, 2013 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on August 19, 2013 with the Cotati Planning Commission. No public or agency comments on the NOP related to the EIR analysis were presented or submitted during the scoping meeting. However, during the 30-day public review period for the NOP, which ended on September 12, 2013, a written comment letter from the California Public Utilities Commission

(CPUC) was received. A summary of the CPUC comment is provided later in this chapter. The NOP and all comments received on the NOP are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of the project's direct and indirect impacts on the environment, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides 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 City of Cotati will file the 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

Concurrent with the NOC, the City of Cotati will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Vicki Parker, Community Development Director
City of Cotati Community Development Department
201 West Sierra Avenue
Cotati, CA 94931

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Cotati will review and consider the Final EIR. If the City finds that the Final EIR is "adequate and complete," the City Council may certify the Final EIR in accordance with CEQA. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed project that intelligently take account of environmental consequences.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or reject the project. A decision to approve the proposed project, for which this EIR identifies significant environmental effects, must be accompanied by written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. A Mitigation Monitoring and

Reporting Program (MMRP) 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. The Mitigation Monitoring and Reporting 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 City of Cotati, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed 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 proposed project.

CHAPTER 1.0 – INTRODUCTION

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

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as 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.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Mineral Resources
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use, Population, and Agricultural Resources
- Noise
- Public Services and Recreation
- Transportation and Circulation
- Utilities

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

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

CHAPTER 5.0 - ALTERNATIVES TO THE PROJECT

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

CHAPTER 6 - REPORT PREPARERS

Chapter 6.0 lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City received one comment letter on the NOP. A copy of this letter is provided in Appendix A of this Draft EIR and the comment is summarized below.

- California Public Utilities Commission (CPUC): The CPUC requested that the General Plan address traffic safety issues near at-grade railroad crossings, and provided general measures that may improve safety near railroad crossings.

2.1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities in the State to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development, and is the City's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards and public improvement plans and projects, such as a Capital Improvement Program) are required by law to be consistent with the General Plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. At the discretion of each jurisdiction, the General Plan may combine these elements and may add optional elements relevant to the physical features the jurisdiction.

The California Government Code also requires that a General Plan be comprehensive, internally consistent, and plan for the long term. The General Plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 et seq.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

GENERAL PLAN UPDATE PROCESS

The process to update the Cotati General Plan began in February 2011 and is scheduled to be completed with the adoption of the 2013 General Plan by the City Council 2014. The 2013 Cotati General Plan (General Plan or proposed project) was developed with extensive community input and reflects the community's vision for Cotati. A summary of the community outreach and public participation process is provided below.

Visioning Workshops

Between March and May 2011, the General Plan Update team held 4 public visioning workshops to help kick-off the General Plan Update process. A diverse group of city residents and stakeholders attended workshops at City Hall. The workshops provided an opportunity for the public to offer their thoughts on what they value about their community and the city and what important issues should be addressed in preparing the general plan.

Each workshop included a presentation by the consultant team and City staff that explained the role of the General Plan, an overview of the General Plan Update process, and an opportunity for the workshop participants to ask questions and seek clarification on the process and the role of the community. Workshop participants were asked to complete activities and exercises in order to provide information to the General Plan Update team. Each workshop focused on different themes and topics to be addressed in the General Plan.

Stakeholder Interviews

Between March and July 2011, the General Plan consultants and City Planning staff conducted interviews and outreach efforts with several key stakeholders in the city and surrounding areas of Sonoma County. These interviews and outreach efforts helped the General Plan Consultants gain perspectives and insights into the issues to be addressed by the General Plan Update. Key stakeholders contacted during these efforts include, but are not limited to:

- Cotati Public Works Department
- Cotati Police Department
- Sonoma County Bicycle Coalition
- Redwood Community Health Coalition
- American Lung Association (Redwood Empire)
- Legal Aid of Sonoma County
- California Rural Legal Assistance
- Burbank Housing
- Housing Land Trust of Sonoma County
- Cotati Creek Critters
- Thomas Page Elementary School (now Thomas Page Academy)
- Cotati-Rohnert Park School District
- Sonoma County Office – North Bay Regional Center
- Association of Bay Area Governments (ABAG)
- Bay Area Air Quality Management District
- Sonoma County Transportation Authority
- Sonoma County Transit Department
- Sonoma County Transportation and Public Works Department
- Sonoma County Health Services Department
- Sonoma County Human Services Department
- Sonoma County Community Development Commission
- Sonoma County Permit and Resource Management Department
- Caltrans
- City of Rohnert Park

Cotati Planning Commission

The Cotati Planning Commission worked with staff and the consultant team to develop the goals, objectives, policies and action items to be included in the 2013 General Plan, and also worked to develop and refine the Draft General Plan Land Use Map. The Planning Commission met a total of 12 times between August 2011 and October 2012 to work on the General Plan Update.

Public Outreach

For all public workshops and meetings, the Cotati Community Development Department conducted extensive outreach, using a wide variety of methods and tools, to inform and encourage the community to participate in the General Plan update process. The following is a list of methods and tools used to inform the public of meetings, workshops, and the status of the General Plan update work efforts.

- General Plan Website: The City maintains a website (www.cotati.generalplan.org) devoted to informing the public about, and encouraging participation in, the Cotati General Plan update process. The website includes all public notices, all workshop materials, presentations given to the Planning Commission and City Council, background materials, draft policy documents, and draft versions of the General Plan Land Use Map.

- General Plan Newsletters: Periodic newsletters were prepared and disseminated to the public via email, the General Plan website, and posted in locations throughout the City. The newsletters provide information regarding the status of the work efforts, upcoming meetings and workshops, and opportunities for public participation.

- Local Newspapers: Public notices, meeting notices, press releases and public service announcements were published in the local newspaper prior to each public meeting or workshop.

2.2 PROJECT LOCATION

REGIONAL SETTING

Cotati is a small historic town located 40 miles north of San Francisco, in the southern region of Sonoma's wine country (see Figure 2-1). Cotati has a population of approximately 7,310 and was established in 1892 by the Page brothers, acting as The Cotati Company on an 1877 Spanish land grant. The City incorporated in 1963. Sonoma County covers approximately 1,604 square miles, including Pacific Ocean beaches and wine country hillsides. There are nine incorporated towns and cities in Sonoma County, with a total countywide population just below 484,000. Cotati is the smallest incorporated city in the county.

Cotati is located adjacent to US 101 and the Gravenstein Highway (SR 116), which provide access to other parts of Sonoma County and the greater San Francisco Bay Area.

The city has long been considered the "Hub" of Sonoma County by virtue of its central location and its distinct and historic hexagonal plaza. Surrounded by beautiful vistas of hills, vineyards, majestic oaks and redwoods, Cotati mixes all the benefits of small town living, with the cultural advantages of a location near major urban centers and a highly acclaimed state university.

Cotati is a compact city set in a semi-rural atmosphere, and its agricultural roots are present and visible throughout downtown and the community's neighborhoods. The city radiates outward from its downtown and distinct central plaza, with two sets of surrounding streets that form concentric hexagons. The Hub is bisected by Old Redwood Highway and East Cotati /West Sierra

Avenues, which provide north-south and east-west circulation respectively. Downtown is characterized by one- to two-story buildings set in a village scale environment. Since the 1998 General Plan Update, Cotati's downtown has been improved by several projects including streetscape and pedestrian improvements as well as private mixed-use developments.

STUDY AREA

The study area for the 2013 Cotati General Plan EIR includes all land within the Cotati city limits, as well as all parcels within the sphere of influence (SOI). The Cotati city limits and SOI are shown on Figure 2-2.

2.3 DESCRIPTION OF PROPOSED GENERAL PLAN PROJECT

The 2013 Cotati General Plan is a blueprint for growth in Cotati for the next 20 years. The overall purpose of the 2013 Cotati General Plan is to create a policy framework that articulates a vision for the City's long-term physical form and development, while preserving and enhancing the quality of life for Cotati residents. The key components of the General Plan will include broad goals for the future of Cotati, objectives for meeting those goals, and specific policies and action items that will help implement the goals and objectives. Upon adoption, the 2013 General Plan will replace the City's existing General Plan, which was adopted in 1998.

The General Plan describes anticipated future growth over the long-term and is the subject of this Draft EIR, which provides technical background information for the General Plan. The General Plan is meant to express the community's goals with respect to the human-made and natural environments and to set forth the policies and implementation measures needed to achieve those goals for the welfare of those who live, work, and do business in Cotati.

The City updated the Housing Element for the 2009-2014 planning cycle separately from the rest of the General Plan update, and the full 2013 General Plan is drafted for consistency with the policies in the Housing Element, which was adopted in December 2012. Other elements contained in the 2013 General Plan are listed below. Specific goals, policies, and action items contained in each element are analyzed in the applicable topical section in this Draft EIR.

GENERAL PLAN ELEMENTS

The 2013 Cotati General Plan will include a comprehensive set of goals, objectives, policies and implementation measures, as well as a revised Land Use Map (Figure 2-3). The State requires that the General Plan contain seven mandatory elements: Land Use, Circulation, Housing, Open Space, Noise, Safety and Conservation. The Housing Element was completed ahead of the rest of the General Plan Elements, and was adopted by the City Council on December 12, 2012. The 2013 Cotati General Plan will include all of the State-mandated elements, as well as optional elements, including: Economic Vitality, Community Services and Facilities, and Community Health and Wellness.

- The **Land Use Element** designates the general distribution and intensity of residential, commercial, industrial, open space, public/quasi-public, and other categories of public and

private land uses. The Land Use Element includes the Land Use Map, which identifies land use designations for each parcel in the city limits and SOI (Figure 2-3).

- The **Circulation Element** correlates closely with the Land Use Element, and identifies the general locations and extent of existing and proposed major thoroughfares, transportation routes, and alternative transportation facilities necessary to support a multi-modal transportation system. This element is intended to facilitate mobility of people and goods throughout Cotati by a variety of transportation modes, including bicycle, pedestrian, and rail.

- The **Open Space Element** addresses the preservation of open space for the conservation of natural resources, and public health and safety related to open space and recreational opportunities. This element also includes provisions for parks and recreational facilities throughout the City.

- The **Noise Element** establishes standards and policies to protect the community from the harmful and annoying effects of exposure to excessive noise levels. This element includes strategies to reduce land use conflicts that may result in exposure to unacceptable noise levels.

- The **Safety Element** establishes policies and programs to protect the community from risk associated with geologic, flood, and fire hazards, as well as setting standards for emergency preparedness.

- The **Conservation Element** addresses the conservation, development, and use of natural resources, riparian environments, native plant and animal species, soils, mineral deposits, cultural/historical resources, air quality, and alternative energy. It also details plans and measures for preserving open space for natural resources and the managed production of resources.

- The **Economic Vitality Element** (optional element) is designed to support and enhance the City's economy, through programs to retain existing and attract new business, create jobs, to help maintain existing jobs, and to improve overall opportunities for businesses in the City.

- The **Community Services and Facilities Element** (optional element) sets forth standards for public service and utility systems including water, wastewater, solid waste, schools, medical facilities, libraries, parks, recreation, and historic preservation.

- The **Community Health and Wellness Element** (optional element) addresses a wide range of community health topics, including access to healthy foods, substance abuse, access to medical care, and maintaining healthy lifestyles.

Goals, Objectives, Policies and Actions

Each element of the 2013 Cotati General Plan contains a series of goals, objectives, policies and action items. The goals, objectives, policies and action items provide guidance to the City on how

to direct change, manage growth, and manage resources over the 20-year life of the General Plan. The following provides a description of each and explains the relationship of each:

- A **goal** is a description of the general desired result that the City seeks to create through the implementation of the General Plan.
- An **objective** further refines a goal and provides additional specificity on how a goal may be achieved by the General Plan. Each goal may have one or more objectives.
- A **policy** is a specific statement that guides decision-making as the City works to achieve its goals and objectives. Once adopted, policies represent statements of City regulations. The General Plan's policies set out the standards that will be used by City staff, the Planning Commission, and the City Council in its review of land development projects, resource protection activities, infrastructure improvements, and other City actions. Policies are on-going and require no specific action on behalf of the City.
- An **action** is an implementation measure, procedure, technique or specific program to be undertaken by the City to help achieve a specified goal or implement an adopted policy. The City must take additional steps to implement each action item in the General Plan. An action item is something that can and will be completed.

General Plan Land Use Map

The General Plan Land Use Map identifies land use designations for each parcel within the City of Cotati and the City's SOI. The 2013 Cotati General Plan Land Use Map is attached as Figure 2-3.

General Plan Land Use Designations

The Land Use Element of the 2013 General Plan defines various land use designations by their allowable uses, minimum parcel sizes, and maximum development densities. The following describes the proposed land use designations for the General Plan. Table 2-1 shows the total number of parcels and total acreages for each land use designation shown on the proposed Land Use Map.

AGRICULTURAL (A) – The Agricultural land use designation identifies rural, agricultural areas intended to serve as a buffer and community separator. The A designation provides for very low densities of residential development, small acreage intensive farming, commercial uses that directly support agricultural operations, and part-time farming. Densities up to one dwelling unit per five acres are allowed in the A designation, with site coverage of up to 10 percent.

RURAL RESIDENTIAL (RR) - The Rural Residential land use designation identifies areas with limited variety of agricultural and rural uses, primarily along the southern and western city borders. The RR designation allows agricultural uses such as orchards, vineyards, and grazing as well as low-density residential and associated neighborhood retail uses, where development and agricultural uses maintain existing natural vegetation and topography to the maximum extent feasible. Densities up to one dwelling unit per acre are allowed in the RR designation, with site coverage of up to 15 percent.

LOW DENSITY RESIDENTIAL (LDR) – The Low Density Residential designation allows single family residential attached or detached homes and associated neighborhood retail uses. Densities of two dwelling units per acre are allowed in the LDR designation, with site coverage of up to 40 percent.

LOW-MEDIUM DENSITY RESIDENTIAL (LMDR) - The Low-Medium Density Residential designation allows single family attached and detached units, duplexes, and associated neighborhood retail. Densities of six dwelling units per acre are allowed in the LMDR designation, with site coverage of up to 45 percent.

MEDIUM DENSITY RESIDENTIAL (MDR) – The Medium density residential designation permits up to ten units per acre of single family attached and detached units, duplexes, multiple-family units, and associated neighborhood retail. Densities of 10 dwelling units per acre are allowed in the MDR designation, with site coverage of up to 55 percent.

HIGH DENSITY RESIDENTIAL (HDR) – The High density residential land use designation permits up to 15 units per acre of single family attached and detached units, duplexes, multiple-family units, and associated neighborhood retail. Densities of 15 dwelling units per acre are allowed in the HDR designation, with site coverage of up to 75 percent.

GENERAL COMMERCIAL (GC) – The General Commercial land use designation provides for the basic business and service needs of the local community, including shopping centers, neighborhood-oriented retail, and highway-oriented commercial uses. Office and multi-family residential land uses which are easily integrated into the adjacent districts are also appropriate in the General Commercial designation. Densities of 15 dwelling units per acre are allowed in the GC designation, with site coverage of up to 100 percent.

COMMERCIAL/INDUSTRIAL (CI) - The Commercial/Industrial land use designation applies to areas appropriate for industrial parks, research/development, food processing/preparation, manufacturing, laboratories, and compatible commercial uses, including business parks, retail sales for on-site manufacturing, and professional offices, in the same district. Site coverage of up to 80 percent is allowed in the CI designation; residential uses are not allowed.

OPEN SPACE/PARKS (OSP) - The Open Space/Parks land use designation identifies land utilized or intended for open space and both active and passive community recreational purposes. Appropriate uses include recreational facilities, and conservation of areas of important aesthetic, historical, or natural resource significance. Development within the Open Space/Parks designation is limited to parks, recreational and cultural facilities, and visitor facilities, where appropriate, for passive recreation and conservation uses. One caretaker's quarter per parcel is allowed in the OSP designation, with site coverage of up to 5 percent.

PUBLIC FACILITIES (PF) - The Public Facilities designation applies to land areas reserved for government offices and facilities, public agency offices and facilities, schools, and public utility facilities. Site coverage comparable to adjacent residential uses are allowed in the PF designation; residential uses are not allowed.

SPECIFIC PLAN (SP) - The Specific Plan designation applies to lands within the Downtown Specific Plan and Santero Way Specific Plan. These areas are intended to provide a range of community- and visitor-serving uses, with an emphasis on a vibrant mix of land uses. Land uses are allowed as described by each of the applicable Specific Plans.

TABLE 2-1: GENERAL PLAN LAND USE DESIGNATIONS

LAND USE	*PARCELS*	*ACREAGE*
City Limits		
Agriculture (A)	0	0
Rural Residential (RR)	82	105.8
Low Density Residential (LDR)	143	145.7
Low/Medium Residential (LMDR)	1,143	233.0
Medium Density Residential (MDR)	791	102.2
High Density Residential (HDR)	177	29.98
General Commercial (GC)	77	110.8
Commercial Industrial (CI)	83	108.6
Open Space/Parks (OSP)	22	47.7
Public Facilities (PF)	7	16.8
Specific Plan (SP)	240	81.5
No Designation and/or Right of Way	151	238.6
TOTAL- City Limits	**2,916**	**1,220.7**
Sphere of Influence (SOI)		
Agriculture (A)	127	592.9
Rural Residential (RR)	183	490.7
Low Density Residential (LDR)	29	93.6
Low/Medium Residential (LMDR)	36	30.9
Medium Density Residential (MDR)	0	0
High Density Residential (HDR)	0	0
General Commercial (GC)	2	8.0
Commercial Industrial (CI)	14	43.2
Open Space/Parks (OSP)	4	8.7
Public Facilities (PF)	0	0
Specific Plan (SP)	0	0
No Designation and/or Right of Way	36	48.8
TOTAL- SOI	**431**	**1,316.9**

2.4 GENERAL PLAN BUILDOUT ANALYSIS

The analysis in this EIR addresses two "buildout" scenarios associated with the proposed General Plan, as described in greater detail below, and also compares the proposed General Plan to the adopted 1998 General Plan.

Table 2-2 summarizes the existing land uses in the City of Cotati based on Sonoma County Assessor's data.

TABLE 2-2: ASSESSED LAND USES- CITY OF COTATI

USE DESCRIPTION	*PARCELS*	*ACRES*	*DWELLING UNITS*	*NON-RESIDENTIAL SQUARE FOOTAGE*
Commercial	*112*	*122.32*	*42*	*414,395*
Industrial	*87*	*96.1*	*169*	*564,601*
Residential	*2,619*	*896.9*	*2,658*	*4,271*
Government	*78*	*79.68*	*1*	*25,670*
Institutional	*14*	*18.33*	*8*	*7,024*
Recreational	*2*	*2.31*	*0*	*0*
Miscellaneous	*12*	*5.02*	*0*	*0*
GRAND TOTAL	**2,924**	**1,220.66**	**2,878**	**1,015,961**

SOURCE: SONOMA COUNTY ASSESSOR'S OFFICE, 2011 AND DE NOVO PLANNING GROUP, 2011

CITY LIMITS BUILDOUT

The EIR evaluates the maximum projected development that could occur within the existing City Limits if every single parcel in the City developed at or near the higher end of densities and intensities allowed under the proposed General Plan.

Table 2-3 shows the maximum level of new development that may occur within the existing City Limits under General Plan buildout conditions.

TABLE 2-3: PROJECTED NEW DEVELOPMENT WITHIN CITY LIMITS AT GENERAL PLAN BUILDOUT

Land Use Designation	Residential (# of Units)	Commercial (sq. ft.)	Industrial (sq. ft.)	Office (sq. ft.)	Other (sq. ft.)
Commercial, Industrial, and Office					
Commercial/Industrial	-	252,363	511,230	-	-
General Commercial	221	463,120	-	710,341	-
Subtotal	*221*	*715,483*	*511,320*	*710,341*	*0*
Residential					
Rural Residential	40	-	-	-	-
Low Density Residential	143	-	-	-	-
Low Medium Density Residential	276	-	-	-	-
Medium Density Residential	269	-	-	-	-
High Density Residential	163	-	-	-	-
Subtotal	*891*	*0*	*0*	*0*	*0*
Specific Plan					
Downtown Specific Plan	331	142,230	-	94,820	-
Santero Way Specific Plan	98	52,300	-	161,545	-
Subtotal	*429*	*194,530*	*0*	*256,365*	*0*
Other Categories					
Public Facilities	-	-	-	-	-
Open Space/Parks	-	-	-	-	1,500
Agricultural	-	-	-	-	-
TOTAL	**1,541**	**910,013**	**511,320**	**966,706**	**1,500**

SOURCE: DE NOVO PLANNING GROUP, 2013

As shown in Table 2-3, buildout of the General Plan could yield up to 1,541 new residential units, 910,013 square feet of new commercial space, 511,320 square feet of new industrial space, and 966,706 square feet of new office space within the City Limits.

This new growth would increase the City's population by approximately 3,775 residents.[1] The full development of the new commercial, office, and industrial uses shown in Table 2-3 would increase the employment opportunities in Cotati by approximately 6,766 employees.[2] The jobs:housing ratio associated with new development within the City would be approximately 4.39, with full buildout of residential and employee-generating uses.

[1] Based on the 2013 California Department of Finance estimate of 2.45 persons per household in Cotati.

[2] Assumes one employee generated for: every 350 square feet of commercial space, every 295 square feet of office space, and every 575 square feet of industrial space.

CITY LIMITS AND SPHERE OF INFLUENCE BUILDOUT

The second development scenario addressed in the EIR is the maximum projected development that could occur within the existing City Limits and the City's Sphere of Influence (SOI) if every single parcel in the City and the SOI developed at or near the higher end of densities and intensities allowed under the proposed General Plan.

Table 2-4 shows the maximum level of new development that may occur within the existing City Limits and the SOI under General Plan buildout conditions.

TABLE 2-4: PROJECTED NEW DEVELOPMENT WITHIN CITY LIMITS AND SOI AT GENERAL PLAN BUILDOUT

Land Use Designation	Residential (# of Units)	Commercial (sq. ft.)	Industrial (sq. ft.)	Office (sq. ft.)	Other (sq. ft.)
Commercial, Industrial, and Office					
Commercial/Industrial	-	255,030	595,071	-	-
General Commercial	26	68,117	-	27,988	-
Subtotal	*26*	*323,147*	*595,071*	*27,988*	*0*
Residential					
Rural Residential	264	-	-	-	-
Low Density Residential	150	-	-	-	-
Low Medium Density Residential	131	-	-	-	-
Medium Density Residential	-	-	-	-	-
High Density Residential	-	-	-	-	-
Subtotal	*612*	*0*	*0*	*0*	*0*
Other Categories					
Public Facilities					
Open Space/Parks					
Agricultural	28				50,000
TOTAL SOI Development	**599**	**323,147**	**595,071**	**27,988**	**50,000**
TOTAL City Limits Development[1]	**1,541**	**910,013**	**511,320**	**966,706**	**1,500**
TOTAL Development in City and SOI	**2,140**	**1,233,160**	**1,106,391**	**994,694**	**51,500**

Notes: 1- Total development in City Limits, as shown in Table 2-3.

SOURCE: DE NOVO PLANNING GROUP, 2013

As shown in Table 2-4, buildout of the General Plan within the City Limits and the SOI could yield up to 2,140 new residential units, 1,233,160 square feet of new commercial space, 1,106,391 square feet of new industrial space, and 994,694 square feet of new office space within the City Limits and the Sphere of Influence.

This new growth would increase the City's population by approximately 5,243 residents.[3] The full development of the new commercial, office, and industrial uses shown in Table 2-4 would increase the employment opportunities in Cotati by approximately 8,819 employees.[4] The jobs:housing ratio associated with new development within the City and SOI would be approximately 4.12, with full buildout of residential and employee-generating uses.

COMPARISON TO 1998 GENERAL PLAN

The proposed General Plan would update the City's General Plan to address issues raised during the update process and would also address requirements of State law related to the content of a General Plan. Since adoption of the 1998 General Plan, state legislation has been passed requiring the City to address new safety and circulation requirements in the General Plan and to address greenhouse gas emissions. Chapter 5.0, Alternatives describes the differences between the proposed project and the 1998 General Plan and provides an analysis of the potential impacts of the proposed project compared to the 1998 General Plan (Alternative 1).

As described in Chapter 5.0, the 1998 General Plan does not include the updated goals, objectives, policies, and actions, as well as the Land Use Map changes, that address the vision and concerns of the City's residents, property owners, decision-makers, and other stakeholders that actively participated in the Visioning and goal and policy development process.

The 1998 General Plan would result in the continuation of existing conditions and development levels, as described in Chapter 5.0. As shown in Table 2-5, the proposed General Plan would result in an increase in Agriculture (592.9 acres), Commercial Industrial (43.2 acres), and Parks (28.4 acres) and a decrease in Rural Residential (-606.8 acres), General Commercial (-112.3 acres), Office (-17.4 acres), and Public Facilities (-9.6 acres). It is noted that approximately 80 acres of General Commercial in the 1998 General Plan would be redesignated to Specific Plan under the proposed General Plan, so there would only be a net change of 32.3 acres of General Commercial uses as the Specific Plan areas will develop consistent with the applicable specific plan under either version of the General Plan.

Under cumulative conditions, the 1998 General Plan would result in a reduction in industrial development of approximately 595,071 square feet, while resulting in an increase of 82 residential units, 22,735 square feet of commercial development, and 117,378 square feet of office development. Table 5-2 provides a comparison of building conditions in the City and SOI under the proposed General Plan compared to the 1998 General Plan.

[3] Based on the 2013 California Department of Finance estimate of 2.45 persons per household in Cotati.

[4] Assumes one employee generated for: every 350 square feet of commercial space, every 295 square feet of office space, and every 575 square feet of industrial space.

TABLE 2-5: PROPOSED GENERAL PLAN LAND USE DESIGNATIONS V. EXISTING GENERAL PLAN COMPARISON

Land Use Designation	Proposed Project - General Plan Update (Acres)		Existing General Plan (Acres)		Difference	
	City	SOI	City	SOI	City	SOI
Agriculture	0	592.9	0	0	0.0	592.9
Open Space/Parks	47.7	8.7	19.3	8.7	28.4	0.0
General Commercial/Highway Commercial	110.8	8.0	192.4	38.7	-81.6	-30.7
Commercial Industrial/General Industrial	108.6	43.2	108.6	0	0.0	43.2
Office	0	0	17.4	0	-17.4	0.0
Specific Plan	81.5	0	0	0	81.5	0.0
Rural Residential	105.8	490.7	120.5	1,082.8	-14.7	-592.1
Low Density Residential	145.7	93.6	137.0	97.0	8.7	-3.4
Low/Medium Density Residential	233.0	30.9	229.9	36.5	3.1	-5.6
Medium Density Residential	102.2	0	87.6	0	14.6	0.0
High Density Residential	29.8	0	27.4	0	2.4	0.0
Public Facilities	16.8	0	26.4	0	-9.6	0.0
No Label/ROW	238.6	48.8	254.22	64.93	-15.6	-16.1
TOTAL	**1,220.6**	**1,316.9**	**1,220.7**	**1,328.6**	**0.1**	**11.7[1]**

[1]The existing General Plan identifies several parcels in the SOI that were removed from the SOI as part of the 2013 update.

2.5 PROJECT OBJECTIVES

The 2013 General Plan is intended to reflect the desires and vision of Cotati's residents, businesses, Planning Commission, City Council, and decision-makers for the future development and operation of the City of Cotati. The following objectives are identified for the proposed update to the General Plan:

- Reflect the current goals and vision expressed by City residents, businesses, decision-makers, and other stakeholders;
- Address issues and concerns identified by City residents, businesses, decision-makers, and other stakeholders;
- Maintain and enhance the City's small-town character and quality of life;
- Increase opportunities for economic development, including programs that attract new business and industry to Cotati, and programs that assist and strengthen existing local businesses;
- Increase opportunities for bicycle and pedestrian connectivity; and
- Address new requirements of State law.

2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed project.

CITY OF COTATI

The City of Cotati is the lead agency for the proposed project. The 2013 General Plan will be presented to the Planning Commission for review and recommendation and to the City Council for comment, review, and consideration for adoption. The City Council has the sole discretionary authority to approve and adopt the 2013 General Plan. In order to approve the proposed project, the City Council would consider the following actions:

- Certification of the General Plan EIR;
- Adoption of required CEQA findings for the above action;
- Adoption of a Mitigation Monitoring and Reporting Program; and
- Approval of the General Plan Update.

SUBSEQUENT USE OF THE EIR

This EIR provides a review of environmental effects associated with implementation of the proposed 2013 General Plan. When considering approval of subsequent activities under the proposed General Plan, the City of Cotati would utilize this EIR as the basis in determining potential environmental effects and the appropriate level of environmental review, if any, of a subsequent activity. Projects or activities successive to this EIR may include, but are not limited to, the following:

- Approval and funding of major projects and capital improvements;
- Future Specific Plan, Planned Unit Development, or Master Plan approvals;
- Revision to the Cotati Land Use Code;
- Water, sewer, and other infrastructure master plans;
- Bicycle and Pedestrian Master Plan;
- Development Plan approvals, such as tentative subdivision maps, variances, conditional use permits, and other land use permits;
- Development Agreements;
- Property rezoning consistent with the 2013 General Plan;
- Permit issuances and other approvals necessary for public and private development projects; and

- Issuance of permits and other approvals necessary for implementation of the 2013 General Plan.

OTHER GOVERNMENTAL AGENCY APPROVALS

City approval of the proposed project would not require any actions or approvals by other public agencies. Subsequent projects and other actions to support implementation of the proposed project would require actions, including permits and approvals, by other public agencies that may include, but are not necessarily limited to:

- California Department of Fish and Wildlife (CDFW) approval of potential future streambed alteration agreements, pursuant to Fish and Game Code. Approval of any future potential take of state-listed wildlife and plant species covered under the California Endangered Species Act.
- California Department of Transportation (Caltrans) approval of projects and encroachment permits for projects affecting state highway facilities.
- Regional Water Quality Control Board (RWQCB) approval for National Pollution Discharge Elimination System compliance, including permits and Storm Water Pollution Prevention Plan approval and monitoring.
- Sonoma Local Agency Formation Commission (LAFCo) approvals for annexation of any lands into the boundaries of the City of Cotati.
- U.S. Army Corps of Engineers (ACOE) approval of any future wetland fill activities, pursuant to the Clean Water Act.
- U.S. Fish and Wildlife Service (USFWS) approvals involving any future potential take of federally listed wildlife and plant species and their habitats, pursuant to the Federal Endangered Species Act.

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COTATI GENERAL PLAN UPDATE

Figure 2-1:
Regional Location Map

0 2.5 5 10 15 Miles

1:800,000

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COTATI GENERAL PLAN UPDATE

Figure 2-2: Study Area

Planning Areas

City Boundary

Sphere of Influence/Urban Growth Boundary

N W E S

0 1,000 2,000
Feet

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Data source: USGS copyright 2013 Microsoft Corporation.
Map date: September 19, 2013.

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Cotati General Plan Update

Draft Land Use Map

- A - Agriculture
- RR - Rural Residential
- LDR - Low Density Residential
- LMDR - Low/Medium Density Residential
- MDR - Medium Density Residential
- HDR - High Density Residential
- GC - General Commercial
- P - Open Space/Parks
- PF - Public Facilities
- CI - Commercial Industrial
- SP - Specific Plan

Planning Areas

- City Boundary
- Sphere of Influence/Urban Growth Boundary
- Downtown Specific Plan Area
- Santero Way Specific Plan Boundary

N W E S

0 600 1,200 2,400 Feet

1:20,000

Data source: Cotati GIS. Map date: June 26, 2014.

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This section was prepared based on existing reports and literature for Cotati and the surrounding areas in Sonoma County. Additional sources of information included the California Department of Transportation's (Caltrans) Designated Scenic Route map for Sonoma County. A reconnaissance-level visual resource survey of the Planning Area was conducted in the spring of 2011.

This section provides a background discussion of the scenic highways and corridors, and natural scenic resources such as rivers, wildlife areas, and prominent visual features found in the Cotati Planning Area. This section is organized with an existing setting, regulatory setting, and impact analysis. No comments were 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. 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 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.

The importance of a view is related, in part, to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1983). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25–0.5 mile from the viewer, the middle ground zone is from the foreground zone to 3–5 miles from the viewer, and the background zone is from the middle ground to infinity (U.S. Forest Service 1974).

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking, or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work (U.S. Forest Service 1974; Federal Highway Administration 1983; U.S. Soil Conservation Service 1978). Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based in a regional frame of reference (U.S. Soil Conservation Service 1978). The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each

setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

3.1.1 ENVIRONMENTAL SETTING

The City of Cotati is located in the Cotati Valley, north of Petaluma, and south of Rohnert Park. The Cotati Valley is the northern portion of a north-south valley that extends from the San Pablo Bay to Santa Rosa. The southern portion of the valley is called the Petaluma Valley. The Cotati Valley is bordered by the Sonoma Mountains to the east, and a series of low hills to the west. Farther to the west are the Estero Lowlands (aka Petaluma Gap), which opens to the Pacific Ocean.

Sonoma County possesses numerous scenic resources, many of which are found in the natural areas within the unincorporated county, while they are visible from both unincorporated and incorporated areas. These resources not only enhance the quality of life for residents, but are a significant attraction that brings tourists to the region. Landscapes can be defined as a combination of four visual elements: landforms, water, vegetation, and man-made structures. Scenic resource quality is an assessment of the uniqueness or desirability of a visual element.

COMMUNITY IDENTITY

Every community has an identity. An identity distinguishes a community from its neighbors, and is an important component of the culture and history of each community. It also provides a sense of place and is what causes people to remember the community. The community identity is largely defined by the visual elements that are present, including natural features and the design of man-made amenities.

The City of Cotati is largely defined by its small town atmosphere, that combines rural character and a vibrant blend of urban amenities. Residents and visitors alike, have long appreciated Cotati for the scenic beauty of its rolling hillsides. The areas to the south and west of Cotati serve an important function by providing a visual break from Petaluma to the south and Sebastopol to the west. These open spaces areas function as community separators, and provide important open space elements to the community experience. These open space elements are both agricultural and natural.

Cotati has established itself as the "Hub" of Sonoma County. The community is showcased by its hexagonal plaza and street layout that was designed in the 1890s by Newton Smyth as an alternative to the traditional grid layout. This design is one of only two hexagonal town layouts in the United States, and is designated as a California Historical Landmark (Number 879). The hexagonal plaza serves as the center of the community and is followed by concentric zones of urban development. There is a general progression outward of decreasing development and increasing vegetative 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.

OPEN SPACE

There is a variety of open space in and around Cotati. They include: agricultural land, grassland, chaparral, woodlands, riverine, and wetlands, as well as improved urban parkland. Below is a brief description of each of these open space types.

Agricultural land is predominately intended to be used for production of food and fiber. This land can generally be broken into the following categories: cropland, dryland grain crops, irrigated grain crops, irrigated hayfield, irrigated row and field crops, rice, orchard - vineyard, deciduous orchard, evergreen orchard, and vineyard. The number of building complexes in agricultural areas is smaller and the density of the road and highway network is much lower in these areas.

Grassland occurs mostly on flat plains to gently rolling foothills. These areas are often, but not always, used for livestock grazing. Similar to agricultural lands, the number of building complexes in annual grassland areas is smaller and the density of the road and highway network is much lower in these areas.

Chaparral is dominated by shrubs, but often includes grasses, herbs, and trees. Chaparral is often the result of natural disturbance, such as fire or livestock browsing, in an area that might otherwise be a woodland or forest. Chaparral is commonly found on slopes where soils are thin with little accumulation of organic materials.

Woodlands are a low-density forest that forms from trees in open habitats with plenty of sunlight and limited shade. Woodlands often support an understory of shrubs and herbaceous plants including those found in an annual grassland.

Riverine environments can occur in association with many terrestrial habitats. Riparian areas are found adjacent to many rivers and streams. Riverine environments are also found contiguous to lacustrine (lakes) and wetlands. This environment requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward.

Wetlands occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes.

SCENIC HIGHWAYS AND CORRIDORS

Scenic Highways

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape 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.

The status of a proposed state scenic highway changes from eligible to official designation when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor

Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

The Cotati Valley offers a variety of scenic views, many of which are visible from roadways. However, there are no officially designated State Scenic Highways within the Cotati Planning Areas. 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. Below is a brief summary of each designated scenic highway, neither of which is located in the City of Cotati.

OFFICIALLY DESIGNATED SCENIC HIGHWAYS IN SONOMA COUNTY

1. SR 12 from Danielli Avenue (east of Santa Rosa) to London Way (near Aqua Caliente) (post mile 22.450 to 34.02). This segment is 11.6 miles long and was designated on December 17, 1974. This highway segment includes travel through the Valley of the Moon, where there are mountains to the north, east, and southwest, and extensive vineyards and oak trees.

2. SR 116 from SR 1 to the south city limit of Sebastopol (post mile 0.0 to 27.817). This segment is 27.8 miles long and was designated on September 20, 1988. This highway segment includes travel along the Russian River, and passes a historic resort area, redwood forests, and eucalyptus groves.

Scenic Corridors

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

Sonoma County has also designated various highways and roadways throughout the unincorporated County as Scenic Corridors. Below is a list of designated scenic corridors by Sonoma County that are located in the vicinity of Cotati.

COUNTY DESIGNATED SCENIC CORRIDORS

- State Route 101
- State Route 116 (Gravenstein Highway)
- Petaluma Hill Road

- Crane Canyon Road
- Adobe Road

NATURAL SCENIC RESOURCES

Natural scenic resources in and around Cotati consist primarily of agricultural lands, undeveloped hillsides, undeveloped watershed habitat (open space) and creek corridors.

Agricultural lands serve as a scenic resource and visual amenity to Cotati residents and visitors. Agricultural lands are located in the unincorporated portions of Sonoma County, primarily to the west and south of the Cotati city limits. Agricultural lands have limited amounts of urban development, and allow for expansive vistas of naturalized grazing land, row crops, orchards, and vineyards. These visual features are prominent from the State Route 116 corridor to the west of Cotati, and west of the Highway 101 corridor north and south of Cotati. These visual features contribute to the rural and small town character of Cotati.

The Laguna de Santa Rosa is the largest freshwater wetlands complex on the northern California coast. The Laguna's fourteen-mile channel forms the largest tributary to the Russian River, draining a 254-square-mile watershed which encompasses nearly the entire Santa Rosa Plain. This includes parts of the communities of Windsor, Santa Rosa, Rohnert Park, Cotati, Forestville, and Sebastopol. Portions of the Laguna de Santa Rosa creek traverse the northeastern portion of Cotati, and provide visual resources in the form of open space, wetland habitat, waterways, and diversified naturalized habitat within the urbanized areas of the city. Additionally, the Laguna de Santa Rosa watershed area includes extensive areas of naturalized open space habitat to the west and north of Cotati.

Hillsides and ridgelines are visible from many vantage points within the City. Moderately sloped hills are located throughout the areas to the west and south of Cotati throughout the Laguna de Santa Rosa watershed and Liberty Valley. More prominent hillsides, including the Sonoma Mountains, are visible to the east. Natural scenic resources in the Planning Area are identified on Figure 3.1-1.

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 varieties of urban land uses in the Planning Area are the main source of daytime and nighttime light and glare. They are typified by single and multi-family residences, commercial structures, industrial areas, and streetlights. 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 Planning Area. Areas outside of the city limits,

near the fringes of the Planning Area are characterized by less intense residential development and generally have lower levels of ambient nighttime lighting and daytime glare.

Sources of glare in urbanized portions of the Planning Area come from light reflecting off surfaces, including glass, and certain siding and paving materials, as well as metal roofing. The urbanized areas of Cotati contain sidewalks and paved parking areas which reflect street and vehicle lights. The existing light environment found in the project area is considered typical of suburban areas.

Sky glow is the effect created by light reflecting into the night sky. Sky glow is of particular concern in areas surrounding observatories, where darker night sky conditions are necessary, but is also of concern in more rural or natural areas where a darker night sky is either the norm or is important to wildlife. Due to the urban nature of the planning area, a number of existing light sources affect residential areas and illuminate the night sky. Isolating impacts of particular sources of light or glare is therefore not appropriate or feasible for the project.

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 Department of Transportation – California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

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.

When a local jurisdiction nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic highway designation protects the scenic values

of an area. Jurisdictional boundaries of the nominating agency are also considered, and the agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

To receive official designation, the local jurisdiction must follow the same process required for official designation of State Scenic Highways. The minimum requirements for scenic corridor protection include:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising (including a ban on billboards);
- Careful attention to and control of earthmoving and landscaping; and
- Careful attention to design and appearance of structures and equipment.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed 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;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: General Plan Implementation could result in Substantial Adverse Effects on Visual Character, including Scenic Vistas or Scenic Resources (Significant and Unavoidable)

While the Cotati Planning Area contains numerous areas and viewsheds with relatively high scenic value, there are no officially designated scenic vista points in the Planning Area. Additionally, as described above, there are no officially designated scenic highways located in the vicinity of Cotati. Significant visual resources in the Planning Area include views of the Sonoma Mountains, expansive views of agricultural lands, wildlife habitat areas, the Laguna de Santa Rosa, and various creek corridors. These resources can be viewed from public vantage points, including highways, roads, open space areas, and private residences throughout the Planning Area.

Buildout of the proposed 2013 General Plan would allow for new development to occur in areas that have historically been used for agricultural operations and areas that have been previously undeveloped. The introduction of new development into previously undisturbed areas or areas that have been historically used for agricultural operations may result in potentially significant impacts to scenic resources or result in the degradation of the Planning Area's visual character.

Buildout under the proposed 2013 General Plan and implementation of the General Plan Land Use Map has the potential to result in new and expanded development along highway corridors with high scenic values, even though these corridors are not officially designated as State Scenic Highways. Highway 101 and State Route 116 are the principal highway corridors through the Cotati Planning Area. Development under the 2013 General Plan and the land use designations identified on the Land Use Map would allow primarily for infill commercial and industrial land uses along these highway corridors, primarily in areas that are currently urbanized, but also in areas that are currently agricultural or undeveloped, including the State Route 116 corridor, east of Highway 101. New development along the Highway 101 corridor would occur exclusively as infill development in areas that are already developed and urbanized. New development along the State Route 116 corridor would occur as a combination of infill development, urban revitalization, and new development in previously undeveloped areas. There are a range of existing industrial land uses located along the State Route 116 corridor that are aging and in need of repair and rehabilitation. New development in this area has the potential to improve upon the existing urban aesthetic through the replacement and rehabilitation of existing structures. There are limited areas of undeveloped land along the State Route 116 corridor that may experience new urban development as a result of General Plan implementation.

The 2013 General Plan has been developed to preserve expansive areas of open space and to ensure that new development is located in and around existing urbanized areas, thus ensuring that new development is an extension of the existing urban landscape and minimizes interruption of views of the Laguna de Santa Rosa watershed, Sonoma Mountains, local hillsides, natural resources, open space, and agricultural lands.

Future development would be required to be consistent with the 2013 General Plan, the Land Use Code, including hillside development limitations and the Hillside Development Ordinance, as well as other applicable City regulations. A central theme of the 2013 General Plan is to preserve and protect the City's rural and small town character by concentrating new growth in and around existing urbanized areas, and protecting the existing visual character of the Planning Area. This is expressed in Objectives LU 1B and LU 1C in the Land Use Element and is supported by policies LU 1.4 through LU 1.8. Policy LU 1.8 supports continuation of the Urban Growth Boundary, which is an effective tool to ensure that future development does not occur beyond the Sphere of Influence, thereby protecting the most significant areas of open space lands surrounding the city. Additionally, the General Plan Land Use Map identifies the majority of lands outside of the city limits, but inside the Urban Growth Boundary, as Rural Agricultural lands. This land use designation would ensure that these areas remain relatively undeveloped, and assists in preserving the scenic value of the lands surrounding to the city limits to the west and south.

Future development would be required to be consistent with the 2013 General Plan and the General Plan Land Use Map.

In addition to the Land Use Element Objectives and Policies identified above, a range of Goals, Objectives, Policies and Action Items contained in the Open Space Element, listed below, are intended to maintain and enhance the overall visual character of the Planning Area, and to avoid the installation of structures or features that conflict with the character of the surrounding area. Goal OS 1 calls for the preservation and protection of the natural and scenic resources of Cotati. Policies OS 1.1 through OS 1.9 call for the protection of open space resources and agricultural lands, and require the integration of open space resources throughout the urban environment of the Planning Area. Objective OS 1B requires that development within and near Cotati's open spaces, scenic, and natural resources is visually unobtrusive and environmentally compatible.

The implementation of the policies and action items contained in the Land Use and Open Space Elements listed below would ensure that new urban residential and commercial development in the Cotati Planning Area is located in and around existing urbanized areas and developed to be visually compatible with nearby open space resources, which would limit impacts to scenic resources and limit visual degradation by preserving extensive areas of open space, agricultural lands and undisturbed areas surrounding the Planning Area. This holistic land use approach would reduce impacts to visual resources by concentrating new development around existing development, and maximizing opportunities for open space preservation and continued agricultural use of lands outside of established urban areas. Additionally, the implementation of the policies and action items contained in the Open Space Element would further ensure that new development is designed in a way that enhances the visual quality of the community, complements the rural character of the city, and that adverse effects on public views are minimized.

However, even with the implementation of the policies and actions in the 2013 General Plan, the potential for new development to interrupt scenic views, particularly new industrial and commercial development on agricultural or undeveloped lands, would remain. Existing scenic views may be diminished or obscured. While the 2013 General Plan policies and actions would ensure that impacts are reduced to the greatest extent feasible, the only method to completely avoid impacts to scenic resources would be to severely limit the development potential on all undeveloped lands, including development of jobs-generating uses along the State Route 116 corridor west of the city. This type of mitigation is not consistent with the objective of the 2013 General Plan to support local employment opportunities and expand the local jobs base. Therefore, the impact would be **significant and unavoidable**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy LU 1.4: *Require new development to occur in a logical and orderly manner, focusing growth on infill locations and areas designated for urbanization on the Land Use Map (see Figure 7-1), and be subject to the ability to provide urban services, including paying for any needed extension of services.*

Policy LU 1.6: *Maintain the Growth Management Ordinance (Municipal Code Chapter 17.52) in order to enable the community to develop in a planned and orderly pattern by limiting the number of residential building permits issued each year.*

Policy LU 1.8: *The Urban Growth Boundary is established. The Urban Growth Boundary is generally coterminous with the Sphere of Influence boundary as set forth in the Land Use Map, Figure LU 2. The Land Use Map shall represent the limit for the ultimate expansion of urban services and urban development.*

i. The Urban Growth Boundary shall remain in effect during the 20-year time-frame of the General Plan.

ii. No urban services (i.e. sewer, water) shall be extended beyond the Urban Growth Boundary.

iii. The City of Cotati shall work with the County to discourage subdividing of those properties adjacent to the Urban Growth Boundary.

iv. The City of Cotati shall request that LAFCO approve revised Sphere of Influence boundaries. (Note: This has been completed.)

a. The Community Development Department, through the referral process, shall maintain contact with the County. The Planning Division shall also review applications submitted on County lands for General Plan consistency.

Policy LU 2.1: *Development at the interface of residential land use designations with other designations shall be designed to ensure compatibility between the uses and to reduce any potential negative impacts associated with aesthetics, noise, and safety.*

Policy LU 2.2: *Encourage clustering of housing so that larger areas of open space may be permanently preserved*.

Policy LU 3.2: *Encourage infill development of vacant lots within existing commercial districts and the core downtown/business areas and prioritize such development.*

Policy OS 1.1: *The Open Space/Parks, Agricultural, and Rural Residential General Plan Land Use designations and waterways (Cotati Creek, Laguna de Santa Rosa, etc.) shall be considered Open Space uses.*

Policy OS 1.2: *Preserve designated open space for conservation, recreation, and agricultural uses.*

Policy OS 1.3: *Protect rural (Agricultural and Rural Residential) and natural open space lands from urbanization (see Figure 9.1).*

Policy OS 1.4*: Where possible, integrate open space and stream corridors, such as the Laguna de Santa Rosa, with trails and other recreational open space in an environmentally sustainable manner.*

Policy OS 1.5: *Recognize urban open space as essential to maintaining a high quality of life within the City limits.*

Policy OS 1.6: *Support regional and local natural resource preservation plans of public agencies that retain and protect open space within the City, Sphere of Influence, and Urban Growth Boundary.*

Policy OS 1.7: *Encourage public and private efforts to preserve open space.*

Policy OS 1.8: *Require common open space, or in-lieu contributions, to be provided in planned residential communities.*

Policy OS 1.9*: Common open space that is not City property shall be privately maintained.*

Policy OS 1.10: *Require residential development, with the exception of rural and low density residential, to be contiguous to existing urban development.*

Policy OS 1.11: *Encourage clustered development that preserves a sense of openness, particularly in areas adjacent to open spaces and scenic resources.*

Policy OS 1.12: *Consider existing scenic resources, including views of the Sonoma Mountains, the Laguna de Santa Rosa, local hills, ridgelines, and open space areas surrounding the City, as resources critical to Cotati's community identity and character.*

Policy OS 1.13: *Reduce light and glare from artificial lighting within open space and agricultural areas to ensure that such lighting does not adversely impact the County's rural character.*

Policy OS 1.14: *Ensure that the site layout and design of development adjacent to scenic roads is consistent with the natural character of such roads.*

Policy OS 1.15: *Conversion of open space lands, as defined under Policy 1.1, to Commercial, Commercial/Industrial, or other non-residential job-generating uses shall be prohibited. Undeveloped land that is designated for urban uses may be developed if the proposed development is consistent with the General Plan Land Use Map.*

Policy CON 1.15: *Protect Cotati's ridgelines (hill tops and hillsides with slopes of 15 percent or greater) from erosion, slope failure, and development. (See Figure CON-1 in the General Plan).*

Policy CON 1.16: *Preserve the topography of Cotati's hills by prohibiting unnecessary leveling/grading activities prior to site-building on hillsides where development is permitted.*

Policy CON 1.17: *Preserve and protect prominent views of scenic resources, including the Sonoma Mountains, the Laguna de Santa Rosa, local hills, ridgelines, and open space areas surrounding the City, and consider visual access and view corridors when reviewing development proposals.*

Policy CON 1.18: *Maintain hillsides with slopes of 15 percent or greater in the City as a scenic backdrop to urban development.*

Policy CON 1.19: *Prohibit development on hillsides with slopes of 15 percent or greater and ridgelines where structures would interrupt the skyline.*

Policy CON 1.20: *Require structures within new developments to step with the slope of the site. Absorb site topography through the use of split-level designs.*

Actions

Action LU 1c: Prioritize the processing of development applications for infill, underutilized, or vacant parcels designated for urban uses over those projects requiring annexation.

Action LU 1d: Annexation proposals shall be evaluated in the development review process and acted upon in accordance with the criteria set forth in this General Plan.

Action LU 2b: Update the Land Use Code to allow for the clustering of housing to protect scenic and natural resources and provide permanent open space, so long as there is no increase in density. Revisions should be consistent with standards developed as a result of Action OS 1h.

Action LU 2c: Update the Design Review Criteria for residential uses to address the following:

1. *Outdoor lighting, trash receptacles, fencing and seating space should be carefully considered as integral elements of the landscape and should be included in, and shown on, all landscape plans.*
2. *Landscaping should utilize plant materials in a logical and orderly manner to define spatial organization, relate buildings and other structures, incorporate various site elements, promote consistency throughout the development, be scaled to site structures, and to provide screening of unaesthetic features. All landscaping shall be adequately maintained.*
3. *Rooftop and ground level mechanical equipment (e.g. Satellite TV dishes, telephone and electrical boxes, heating, cooling and ventilating systems, and trash sites, etc.) should be screened from public view, unless prohibited by the utility provider.*
4. *Opportunities for community interaction, such as parks, recreation facilities, gathering areas such as gazebos, plazas, etc.*
5. *Minimize vehicular, bicycle, and pedestrian conflicts.*
6. *Maximize access to commercial uses, recreational uses, employment, public services and other destinations using a minimum of pavement.*

Action OS 1a: Work with the Sonoma County Permit and Resource Management Department to ensure that Open Space/Parks, Agricultural, and Rural Residential lands within the Sphere of Influence and Urban Growth Boundary are zoned appropriately as rural residential, agricultural, parks, and other limited development or recreational uses in order to limit growth-inducement and development.

Action OS 1b: Review all proposals involving County land, within or adjacent to the Sphere of Influence or Urban Growth Boundary, to ensure adequate preservation of community separators and resources.

Action OS 1c: Work with property owners willing to set up land trusts within the City limits.

Action OS 1d: Update the Land Use Code to require new development to provide for active and passive open space, whether directly or through in-lieu contribution.

Action OS 1e: Work in cooperation with County Permit and Resource Management Department staff to ensure land use compatibility and discourage subdivision within the areas designated as open space or community separators (see Figure 9.1).

Action OS 1f: Review all development proposals, planning projects, and infrastructure projects to ensure that open space and scenic resource impacts are reduced by maximizing design features that preserve a sense of open space and by minimizing off-site and night sky impacts of outdoor lighting consistent, with the requirements of the Land Use Code.

Action OS 1g: Revise the Design Review Guidelines to require clustering or other measures to preserve a sense of openness in new developments that are adjacent to open space or scenic resource areas.

> *Action CON 1l: Require assessment of public views and ridgelines as part of the project review process to assure that projects protect natural resources through proper site planning, building design, and landscaping.*

Impact 3.1-2: General Plan Implementation could result in the Creation of New Sources of Nighttime Lighting and Daytime Glare (Less than Significant)

The primary sources of daytime glare are generally sunlight reflecting from structures and other reflective surfaces and windows. Implementation of the proposed 2013 General Plan would introduce new sources of daytime glare into previously undeveloped areas of the Planning Area and increase the amount of daytime glare in existing urbanized areas. The General Plan Land Use Map identifies areas for the future development of residential, commercial, industrial, recreational, and public uses. Such uses may utilize materials that produce glare. 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 101 corridor and areas around existing residential development.

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 rural quality of life in Cotati.

Future development would be required to be consistent with the 2013 General Plan, as well as lighting requirements in the Municipal Code. The proposed 2013 General Plan contains policies and action items related to the regulation and reduction of daytime glare and nighttime lighting. Implementation of Action Item OS 1f would continue to require the review of all development proposals, planning projects and infrastructure projects in order to reduce lighting impacts on adjacent properties and to reduce lighting impacts to the night sky.

Additionally, Policy OS 1.13 (identified above under Impact 3.1-1) continues to require a reduction in light and glare from artificial lighting within open space and agricultural areas.

Through the implementation of these policies and action items during the development review process, the City can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy OS 1.13: *Reduce light and glare from artificial lighting within open space and agricultural areas to the extent that it does not adversely impact the City's rural character.*

Actions

Action OS 1f: *Review all development proposals, planning projects, and infrastructure projects to ensure that open space and scenic resource impacts are reduced by maximizing design features that preserve a sense of open space and by minimizing off-site and night sky impacts of outdoor lighting consistent, with the requirements of the Land Use Code.*

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Cotati General Plan Update

Figure 3.1-1: Scenic Resources

Scenic Resources

- California State Scenic Highways (inset only)
- Sonoma County Designated Scenic Corridor
- Sonoma County Designated Scenic Landscape

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 0.25 0.5 1 Miles

1:60,000

Data sources: Sonoma County Permit and Resource Management Dept; CalTrans; Cotati GIS; USGS National Hydrography Dataset;Map date: May 13, 2011. Revised January 15, 2013.

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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.

3.2.1 EXISTING SETTING

SAN FRANCISCO BAY AREA AIR BASIN

The City of Cotati is located within the San Francisco Bay Area Air Basin (Air Basin). The Air Basin encompasses approximately 5,600 square miles and includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties, and portions of southwestern Solano and southern Sonoma counties. The Air Basin is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Air Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys and bays.

Cotati and Petaluma Valleys

The valley that stretches from Santa Rosa to the San Pablo Bay is known as the Cotati Valley at the north end and the Petaluma Valley at the south end. Some maps show the whole area as the Petaluma Valley. The largest city in the Cotati Valley is Santa Rosa and in the Petaluma Valley is Petaluma. To the east, the valley is bordered by the Sonoma Mountains, with the San Pablo Bay at the southeast end of the valley. To the immediate west are a series of low hills and further west are the Estero Lowlands, which opens to the Pacific Ocean. The region from the Estero Lowlands to the San Pablo Bay is known as the Petaluma Gap. This low-terrain area is a major transport corridor allowing marine air to pass into the Bay Area. (BAAQMD, 2011).

Air Patterns: Air patterns in the Petaluma and Cotati Valleys are strongly influenced by the Petaluma Gap. The predominant wind pattern in this region is for marine air to move eastward through the Petaluma Gap, then to split into northward and southward paths as it moves into the Cotati and Petaluma valleys. The southward path crosses the San Pablo Bay and moves eastward through the Carquinez Straits. Consequently, although Santa Rosa and Petaluma are only 16 miles apart, their predominate wind patterns are quite different. Santa Rosa's prevailing winds are out of the south and southeast, while Petaluma's prevailing winds are out of the northwest. When the ocean breeze is weak, a bay breeze pattern can also occur, resulting in east winds near the bay. Strong winds from the east occur as part of a larger scale pattern and often carry pollutants picked up along the trajectory through the Central Valley and the Carquinez Straits. During these periods, upvalley flows can carry the polluted air as far north as Santa Rosa. (BAAQMD, 2011).

Winds are usually stronger in the Petaluma Valley than the Cotati Valley because it is part of the Petaluma Gap. The low terrain in the Petaluma Gap does not offer much resistance to the marine air as it flows to the San Pablo Bay. Consequently, even though Petaluma is 28 miles from the ocean, its climate is similar to areas closer to the coast. Average annual wind speeds at the

Petaluma Airport are seven mph. This is almost identical to the average annual wind speed measured in Valley Ford, 5 miles from the coast. Winds are light in the morning in the Petaluma Valley, and become windy in the afternoon as the sea breeze arrives. The Cotati Valley, being slightly north of the Petaluma Gap experiences lower wind speeds. In Santa Rosa, the annual average wind speed is 5.4 mph. (BAAQMD, 2011).

Inversions: During summer afternoons, the fetch across the Petaluma Gap is sufficiently long so that the marine air is warmed and the fog evaporated before it reaches the Petaluma and Cotati valleys. As the surface heating weakens in the late afternoon, the marine layer becomes less heated with distance, and eventually fog is able to form in these valleys. The fog may then persist until late in the morning the next day. (BAAQMD, 2011).

Temperatures: Air temperatures are very similar in the two valleys. Summer maximum temperatures for this region are in the low 80's, while winter maximum temperatures are in the high 50s to low 60s. Summer minimum temperatures are 50-51 degrees, and wintertime minimum temperatures are 36-40 degrees. (BAAQMD, 2011).

Precipitation: Rainfall averages range from 24 to 30 inches. Rainfall in the Cotati Valley is higher because the air is lifted and cooled in advance of the Sonoma Mountains, thereby causing condensation of the moisture. Consistent with the Bay Area Mediterranean climate, over 80 percent of the annual rainfall occurs from November through March. (BAAQMD, 2011).

Air Pollution: The Cotati Valley lacks a gap to the sea, accommodates a larger population, and has a natural barrier at its northern and eastern ends; therefore it has a higher pollution potential than does the Petaluma Valley. During stagnant conditions, polluted air carried up the Cotati Valley by diurnal upvalley flow, and added to by local emissions, could be trapped against the mountains to the north and east. (BAAQMD, 2011).

CRITERIA POLLUTANTS

The 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). Each criteria pollutant is described below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 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 O_3 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 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.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability and performance of complex tasks.

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. 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. 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 O_3. 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.

Sulfur dioxide (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. This is especially noticeable in national parks. 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.

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.

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.

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 in Colusa County is caused primarily by dust from grading and excavation activities, from agricultural uses (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 small 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 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 soils and damages materials, and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. 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.

ODORS

Typically odors are regarded as an annoyance 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.

NATURALLY OCCURRING ASBESTOS

The EPA Region 9 office is working in areas of California to address concerns about potential effects of naturally occurring asbestos. Naturally occurring asbestos can take the form of long, thin, separable fibers. Natural weathering or human disturbance can break naturally occurring asbestos down to microscopic fibers, easily suspended in air. There is no health threat if asbestos fibers in soil remain undisturbed and do not become airborne. When inhaled, these thin fibers irritate tissues and resist the body's natural defenses. Asbestos, a known carcinogen, causes cancers of the lung and the lining of internal organs, as well as asbestosis and other diseases that inhibit lung function.

Asbestiform minerals occur naturally in rock and soil as the result of natural geologic processes, often in veins near earthquake faults in the coastal ranges and the foothills of the Sierra Nevada mountains. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in bodies of ultramafic rock or along their boundaries. Asbestos is much less likely to be associated with non-ultramafic rock types.

Ultramafic rocks are igneous rocks that form in high temperature environments well below the surface of the earth. By the time they are exposed at the surface by uplift and erosion, ultramafic rocks may be partially to completely altered to serpentinite, a type of metamorphic rock. Asbestos is the generic term for the naturally occurring fibrous (asbestiform) varieties of six silicate minerals, including chrysotile which is found in serpentinite and is the most common in California.

Serpentinite is an ultramafic rock that has a greasy or waxy appearance and may be dark to light green, brown, yellow or white. Small amounts of chrysotile asbestos are common in serpentinite. Other forms of asbestos such amphibole asbestos also occur with serpentinite, but such occurrences are less common than chrysotile asbestos.

Because of the correlation of asbestos and ultramafic rocks, the location of ultramafic rocks provides insight to the potential for naturally occurring asbestos in each county. The California Department of Conservation, Division of Mines and Geology mapped the location of ultramafic rocks within California, which is limited to the foothill regions of the Sierra Nevada, Coastal Range, and Cascade Range. Ultramafic rocks are known to occur in the foothill regions of Sonoma County, although none are mapped within the City of Cotati.

SENSITIVE RECEPTORS

A sensitive receptor is a location 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 and schools.

AMBIENT AIR QUALITY

Both the EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and 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 state standards are more stringent. This is particularly true for ozone and particulate matter between 2.5 and 10 microns in diameter.

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

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.075 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	-- 0.53 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm --	-- 0.04 ppm 0.25 ppm
PM10	Annual 24-Hour	-- 150 ug/m3	20 ug/m3 50 ug/m3
PM2.5	Annual 24-Hour	35 ug/m3 15 ug/m3	12 ug/m3 --
Lead	30-Day Avg. 3-Month Avg.	-- 1.5 ug/m3	1.5 ug/m3 --

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2011. NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

The State of California regularly reviews scientific literature regarding the health effects and exposure to PM and other pollutants. On May 3, 2002, CARB staff recommended lowering the level of the annual standard for PM_{10} and establishing a new annual standard for $PM_{2.5}$. The new standards became effective on July 5, 2003, with another revision on November 29, 2005.

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 Sonoma County and the entire BAAQMD are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, 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 EPA designates areas for ozone (O_3), carbon monoxide (CO), and nitrogen dioxide (NO_2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (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.

The City of Cotati has a national designation of Nonattainment for ozone and PM2.5, and either Unclassified or Attainment for all criteria pollutants. The City has a state designation as non-attainment for ozone, PM10, and PM2.5, and either attainment or unclassified for all criteria pollutants.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS		
CRITERIA POLLUTANTS	STATE DESIGNATIONS	NATIONAL DESIGNATIONS
8-Hour Ozone	**Nonattainment**	**Nonattainment**
PM10	**Nonattainment**	Unclassified
PM2.5	**Nonattainment**	**Nonattainment**
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Attainment
Sulfates	Attainment	No Federal Standard
Lead	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2011). WWW.ARB.CA.GOV/DESIG/ADM/ADM.HTM

Air Quality Monitoring

The Bay Area Air Quality Management District and CARB maintain two air quality monitoring site in Sonoma County. The first is located on Fifth Street in the City of Santa Rosa. This monitoring station monitors Ozone (1-hr and 8-hr), PM10, and PM2.5. The second is located at the Healdsburg Airport. This monitoring station monitors Ozone (1-hr and 8-hr) only. 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 5th Street monitoring site over the last 3-year period is shown in **Tables 3.2-3 and 3.2-4.**

TABLE 3.2-3: AMBIENT AIR QUALITY MONITORING DATA (SANTA ROSA - 5TH STREET)					
POLLUTANT	CAL.	FED.	YEAR	MAX	DAYS (SAMPLES) STATE/FED
	PRIMARY STANDARD			CONCENTRATION	STANDARD EXCEEDED
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2007 2008 2009	0.071 0.076 0.086	0/NA 0/NA 0/NA
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2007 2008 2009	0.060 0.065 0.066	0/0 0/0 0/0
Particulate Matter (PM10)	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2007 2008 2009	37.2 49.9 NA	0/0 0/0 */*
Particulate Matter (PM2.5)	NA	35 ug/m3 for 24 hours	2007 2008 2009	32.0 30.8 29.0	NA/0 NA/0 NA/0

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2007, 2008, AND 2009.

NOTES:

PPM = PARTS PER MILLION.

UG/M3 = MICRONS PER CUBIC METER.

NA= NOT APPLICABLE

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

TABLE 3.2-4: AMBIENT AIR QUALITY MONITORING DATA (HEALDSBURG AIRPORT)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS (SAMPLES) STATE/FED STANDARD EXCEEDED
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2007	0.070	0/NA
			2008	0.080	0/NA
			2009	0.070	0/NA
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2007	0.067	0/0
			2008	0.065	0/0
			2009	0.064	0/0

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2007, 2008, AND 2009.

NOTES:

PPM = PARTS PER MILLION.

UG/M3 = MICRONS PER CUBIC METER.

NA= NOT APPLICABLE

BUILDOUT EMISSIONS (SUMMER AND WINTER)

The California Emission Estimator Model (CalEEMod)™ (v.2013.2.2) was used to estimate total operational emissions from General Plan build out. Table 3.2-5 shows the emissions, which include mobile source, area source, and energy emissions of criteria pollutants that would result from operations of development under the General Plan build out. The full calculations, inputs, and assumptions are provided in Appendix B. The total emissions are presented below for informational purposes.

TABLE 3.2-5: OPERATIONAL EMISSIONS

	ROG		NOx		PM_{10}		$PM_{2.5}$	
Category	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated
Summer (maximum daily lbs/day)								
Area	450.3772	188.0493	779.5041	2.1077	439.3443	4.2826	124.3789	4.2476
Energy	3,990.7129	2.9246	52.4006	25.5303	646.6580	2.0207	646.6387	2.0207
Mobile	3.3750	435.4432	29.4732	703.7975	2.3318	387.6156	2.3318	109.8057
Total	4,444.4650	626.4171	861.3779	731.4355	1,088.3341	393.9188	773.3494	116.0739
Winter (maximum lbs/day)								
Area	3,990.7129	188.0493	52.4006	2.1077	646.6580	4.2826	646.6387	4.2476
Energy	3.3750	2.9246	29.4732	25.5303	2.3318	2.0207	2.3318	2.0207
Mobile	474.0147	458.8065	875.8340	790.4065	439.4162	387.6875	124.4450	109.8718
Total	4,468.1026	649.7804	957.7079	818.0445	1,088.4059	393.9907	773.4155	116.1400

SOURCES: CALEEMOD (V.2013.2.2)

As shown in the table above, operational ROG, PM_{10}, and $PM_{2.5}$ emissions can be significantly reduced through the implementation of basic mitigation measures such as the following:

Area Source:

- Natural gas fireplaces/stoves.
- Low Volatile Organic Compound architectural coatings (150 g/L).

Energy Source

- Install high efficiency appliances (refrigerator, fans, washers)

Indoor Water Use

- Install low-flow faucets, toilets, showers
- Use water-efficient irrigation systems

Each individual project would require an individual air quality analysis to determine if the project exceeds the BAAQMD thresholds of significance.

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.

The 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 U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), 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 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 USDOT 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 by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

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

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The federal government's goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

STATE

California Clean Air Act

The California Clean Air Act (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. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the California Health and Safety Code [§39606(b)], which are similar to the federal standards.

Air Quality Standards

NAAQS are determined by the EPA. The standards include both primary and secondary ambient air quality standards. Primary standards are established with a safety margin. Secondary standards are more stringent than primary standards and are intended to protect public health and welfare. 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. The state and federal primary standards for major pollutants are shown in Table 3.2-1.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant in air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment.

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.

Tanner Air Toxics Act

California regulates Toxic Air Containments (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 CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then

adopts an Airborne Toxics Control Measure (ATCM) 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 (BACT) 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. 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). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

California Strategy to Reduce Petroleum Dependence (AB 2076)

In response to the requirements of AB 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non- petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require 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. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce

carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, 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 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.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan – Executive Order #S-06-06

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

Governor's Low Carbon Fuel Standard (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 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by CARB pursuant to AB 32.

Climate Action Program at Caltrans

The California Department of Transportation, Business, Transportation, and Housing Agency, prepared a Climate Action Program in response to new regulatory directives. The goal of the Climate Action Program is to promote clean and energy efficient transportation, and provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO2 from transportation is twofold: (1) reduce congestion and improve efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems; and (2) institutionalize energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

The reasoning underlying the Climate Action Program is the conclusion that "the most effective approach to addressing GHG reduction, in the short-to-medium term, is strong technology policy and market mechanisms to encourage innovations. Rapid development and availability of alternative fuels and vehicles, increased efficiency in new cars and trucks (light and heavy duty), and super clean fuels are the most direct approach to reducing GHG emissions from motor vehicles (emission performance standards and fuel or carbon performance standards)."

Senate Bill 97 (SB 97)

Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

SB 375 requires the CARB to develop regional greenhouse gas emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. The 18 MPOs in California will prepare a "sustainable communities strategy" to reduce the amount of greenhouse gas emission in their respective regions and demonstrate the ability for the region to attain CARB's reduction targets. CARB would later determine if each region is on track to meet their reduction targets. In addition, cities would get extra time -- eight years instead of five -- to update housing plans required by the state.

LOCAL

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the San Francisco Bay Area. The BAAQMD's jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties. The BAAQMD 's

responsibilities in improving air quality in the region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

BAAQMD takes on various roles in the CEQA process, depending on the nature of the proposed project. For projects in the City of Cotati they generally serve as a Responsible or Commenting Agency as described below:

- Responsible Agency – BAAQMD acts as a Responsible Agency when it has limited discretionary authority over a portion of a project, but does not have the primary discretionary authority of a lead agency. As a Responsible Agency, BAAQMD may coordinate the environmental review process with the lead agency regarding BAAQMD's permitting process, provide comments to the lead agency regarding potential impacts, and recommend mitigation measures.

- Commenting Agency – BAAQMD may act as a Commenting Agency when it is not a Lead or Responsible Agency (i.e., it does not have discretionary authority over a project), but when it may have concerns about the air quality impacts of a proposed project or plan. As a Commenting Agency, BAAQMD may review environmental documents prepared for development proposals and plans in the region, such as local general plans, and provide comments to the lead agency regarding the adequacy of the air quality impact analysis, determination of significance, and mitigation measures proposed.

BAAQMD CEQA Guidelines

The Bay Area Air Quality Management District (BAAQMD) has adopted California Environmental Quality Act (CEQA) Guidelines to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin (SFBAAB). The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated for project-level and plan-level activities. The Guidelines focus on criteria air pollutant, greenhouse gas (GHG), toxic air contaminant, and odor emissions generated from plans or projects. The Guidelines are intended to help lead agencies navigate through the CEQA process. The Guidelines offer step-by-step procedures for a thorough environmental impact analysis of adverse air emissions in the Bay Area.

This assessment is based on BAAQMD's 2010 CEQA Guidelines. BAAQMD's adoption of its 2010 Guidelines was overturned by an order issued March 5, 2012, in California Building Industry Association v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires BAAQMD to set aside its approval of the Guidelines until it has conducted environmental review under CEQA. The claims made in the case concerned the environmental impacts of adopting the Guidelines, that is, how the Guidelines would indirectly affect land use development patterns. Those issues are not relevant to the scientific basis of BAAQMD's analysis of what levels of

pollutants should be deemed significant. This assessment considers the science informing the Guidelines as being supported by substantial evidence. Scientific information supporting the thresholds was documented in BAAQMD's proposed thresholds of significance analysis. Accordingly, this assessment uses the 2010 Guidelines and methodologies from BAAQMD's May 2011 CEQA Air Quality Guidelines to determine the potential impacts of the project on the existing environment.

Bay Area 2010 Clean Air Plan

The Bay Area 2010 Clean Air Plan (CAP) provides a comprehensive plan to improve Bay Area air quality and protect public health. The 2010 CAP was been prepared in close collaboration with the Air District's regional agency partners, and was informed by extensive outreach to the public and interested stakeholders.

The CAP defines a control strategy that the Air District and its partners will implement to: (1) reduce emissions and decrease ambient concentrations of harmful pollutants; (2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily impacted by air pollution; and (3) reduce greenhouse gas (GHG) emissions to protect the climate.

The legal impetus for the CAP is to update the most recent ozone plan, the Bay Area 2005 Ozone Strategy, to comply with state air quality planning requirements as codified in the California Health & Safety Code. Although steady progress in reducing ozone levels in the Bay Area was made, the region is designated as non-attainment for both the one-hour and eight-hour state ozone standards. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, state law requires the CAP to include all feasible measures to reduce emissions of ozone precursors and to reduce transport of ozone precursors to neighboring air basins.

The Bay Area was recently designated as non-attainment for the national 24-hour fine particulate matter (PM2.5) standard, and was required to prepare a PM2.5 State Implementation Plan (SIP) pursuant to federal air quality guidelines by December 2012. The 2010 CAP is not a SIP document and does not respond to federal requirements for PM2.5 or ozone planning. However, in anticipation of future PM2.5 planning requirements, the CAP control strategy also aims to reduce PM emissions and concentrations. In addition, U.S. EPA is currently reevaluating national ozone standards, and is likely to tighten those standards in the near future. The control measures in the CAP will also help in the Bay Area's continuing effort to attain national ozone standards.

Cities for Climate Protection Program

The City of Cotati passed Resolution 02-21 in April 2002 endorsing the Cities for Climate Protection Campaign which includes a five milestone program to reduce greenhouse gas and air pollution emissions. The five milestones are as follows:

1. Conduct a baseline greenhouse gas emissions inventory and forecast to determine the sources and quantity of greenhouse gas emissions in the jurisdiction;

2. Establish a greenhouse gas emissions reduction target;
3. Develop a climate action plan consisting of both existing and future actions which, when implemented, will meet the local greenhouse gas reduction target;
4. Implement the action plan; and
5. Monitor and report progress.

The City fulfilled these five milestones as follows:

1. In September 2003 the City reported their municipal baseline emissions in *Standing Together for the Future: Greenhouse Gas Emission Inventories for Eight Cities in Sonoma County, California*.
2. In October 2004 the City passed Resolution 04-88, which adopted a goal of a 20% Reduction in Greenhouse Gas Emissions from City of Cotati Municipal Operations from 2000 to 2010. In August 2005 the City adopted Resolution 05-66 which established a community-wide reduction goal of 30 percent below 1990 levels by 2015.
3. In May 2008 the City finalized the City of Cotati Greenhouse Gas Emissions Reduction Action Plan Analysis.
4. The City continues to take actions in accordance with their plans and programs that support the reduction of greenhouse gas emissions.

City of Cotati Greenhouse Gas Emissions Reduction Action Plan Analysis

The City of Cotati developed a Greenhouse Gas Emissions Reduction Action Plan Analysis as a way to reduce GHG emissions, reduce energy costs, address equipment problems, and reduce the uncertainty of the city's future annual energy costs.

CALGreen

CALGreen is a set of mandatory green building standards for new construction that went into effect throughout California on January 1, 2011 and continued with the triennial update of the Uniform Building Code in 2013, which the City Council adopted on November 12, 2013. These building standards apply to all new public and significantly altered privately-constructed commercial and residential buildings. CALGreen is referred to officially as the California Green Building Standards Code and includes a matrix of mandatory requirements tailored to residential and non-residential building classifications, as well as two sets of voluntary measures (CALGreen Tier 1 and Tier 2) that provide a host of more stringent sustainable building practices and features. Among the key mandatory provisions are requirements that new buildings:

- reduce indoor potable water use by at least 20% below current standards;
- recycle or salvage at least 50% of construction waste;
- utilize low VOC-emitting finish materials and flooring systems;
- install separate water meters tracking non-residential buildings' indoor and outdoor water use;
- utilize moisture-sensing irrigation systems for larger landscape areas;

- receive mandatory inspections by local officials of building energy systems, such as HVAC and mechanical equipment, to verify performance in accordance with specifications in non-residential buildings exceeding 10,000 square feet; and
- earmark parking for fuel-efficient and carpool vehicles.

Cotati's City Council rescinded Cotati's Sustainable Building Program and replaced it with CALGreen Mandatory Tier 1, which includes a detailed list of green building features that address energy efficiency, water efficiency, waste reduction, material conservation and indoor air quality. The requirements apply to newly constructed and significantly altered residential and non-residential facilities. Additions, alterations, repairs and existing structures may be subject to the requirements of CALGreen. Existing site and landscaping improvements that are not otherwise disturbed are not subject to the requirements of CALGreen.

Water Conservation Program

The City of Coati developed a Water Conservation Program in 2003 that includes free indoor/outdoor water use surveys, free efficiency showerheads and faucet aerators, residential clothes washer rebate program, residential and nonresidential toilet replacement program, and education on outdoor water conservation and watershed protection. Additionally, the City implemented the Cash for Grass Turf rebate program where the City offers residential and commercial customers rebates in return for reducing the amount of lawn area in their landscapes and replacing with low water use landscapes. Ancillary benefits to the water conservation program includes electricity savings at the City's water and wastewater facilities.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with the 2010 Bay Area Air Quality Management District CEQA Guidelines, the proposed project 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;
- Cause health risks associated with toxic air contaminants;
- Create objectionable odors;
- Conflict with regional plans.

(Note: Greenhouse gas emissions are addressed in a separate chapter of this EIR.)

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The General Plan would not conflict with or obstruct implementation of the applicable air quality plan (Less than Significant)

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. The Bay Area Air Quality District's most current plan is the 2010 Clean Air Plan. The BAAQMD CEQA Guidelines recommends that lead agencies consider the following questions relative to this consistency determination:

1. Does the project support the primary goals of the 2010 Clean Air Plan?
2. Does the project include applicable control measures from the 2010 Clean Air Plan?
3. Does the project disrupt or hinder implementation of any 2010 Clean Air Plan control measures?

The primary goals of the 2010 Clean Air Plan are to:

- Attain air quality standards;
- Reduce population exposure and protect public health in the Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

The 2010 Clean Air Plan's first primary goal is to protect air quality. The 2010 Clean Air Plan contains 55 control measures aimed at reducing air pollution in the Bay Area. Along with the traditional stationary, area, mobile source and transportation control measures, the 2010 Clean Air Plan contains a number of new control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. The BAAQMD encourages lead agencies to incorporate these Land Use and Local Impact (LUM) measures and Energy and Climate measures (ECM) into proposed project designs and plan elements.

The 2013 Cotati General Plan Conservation Element includes an extensive list of policies and action measures that are specifically aimed at improving air quality. These policies and action measures, which are presented below, are consistent with the intent of the BAAQMD's control measures. Additionally, the General Plan Land Use Element and Land Use Map provides further implementation of the BAAQMD's control measures by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns to not expose sensitive receptors to pollutant concentrations.

Additionally, the Circulation Element includes a wide range of policies and action items that would effectively reduce vehicle miles travelled throughout the Planning Area, through the use of complete streets and multi-modal transportation systems. These applicable policies and actions items are described in greater detail in Section 3.12, Transportation and Circulation.

The policies and action items included throughout the 2013 Cotati General Plan, most specifically within the Conservation, Land Use, and Circulation Elements, cover the full breadth of air quality

issues as recommended in the 2010 Clean Air Plan. The 2010 Clean Air Plan's second primary goal is to address public health. The 2010 Clean Air Plan addresses public health through identifying control measures to maximize the reduction in population exposure to air pollutants and by including a category titled Land Use and Local Impacts Measures that is intended to address localized impacts of air pollution and to help local jurisdictions to pursue transit-oriented infill development in priority areas.

The 2010 Clean Air Plan's final primary goal of protecting the climate is to reduce greenhouse gases to protect the climate. The General Plan Conservation Element includes an extensive list of policies and action measures that are specifically aimed at reducing greenhouse gas emissions/climate change. These policies and action measures are presented below and discussed in more detail in Section 3.6 Greenhouse Gas Emissions.

If approval of the General Plan would not cause the disruption, delay or otherwise hinder the implementation of any air quality plan control measure, it may be considered consistent with the 2010 CAP. The General Plan does not cause the disruption, delay or otherwise hinder the implementation of any air quality plan control measure; therefore, it is consistent with the 2010 CAP. Implementation of the General Plan, with the following policies and action items, would have a **less than significant** impact relative to this topic.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 2.1: *Improve air quality through continuing to require a compact development pattern that focuses growth in and around existing urbanized areas, locating new housing near places of employment, encouraging alternative modes of transportation, and requiring projects to mitigate significant air quality impacts.*

Policy CON 2.2: *Minimize exposure of sensitive receptors to concentrations of air pollutant emissions and toxic air contaminants.*

Policy CON 2.3: *Require discretionary projects involving sensitive receptors such as children, the elderly, or people with respiratory diseases proposed within 500 feet of the Highway 101 corridor to include an analysis of mobile source toxic air contaminant health risks. The analysis, if necessary, shall identify feasible mitigation measures to reduce health risks to acceptable levels.*

Policy CON 2.4: *Require new development or significant remodels to install fireplaces, stoves, and/or heaters which meet current BAAQMD standards.*

Policy CON 2.5: *Continue to require all construction projects and ground disturbing activities to implement BAAQMD dust control and abatement measures.*

Policy CON 2.6: *Reduce greenhouse gas (GHG) emissions from City facilities and operations to 30 percent below 1990 levels by 2015, consistent with the goals stated in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan.*

Policy CON 2.7: *Continue to aggressively implement the greenhouse gas (GHG) reduction measures contained in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan.*

Policy CON 2.8: *Support the development and implementation of a GHG reduction plan, or Climate Action Plan, that addresses and reduces GHG emissions associated with community operations, including but not limited to: mobile sources (vehicle traffic), energy consumption, and solid waste.*

Policy CON 2.9: *Coordinate with Sonoma County and nearby cities to implement regional GHG reduction plans and consolidate efforts to reduce GHGs throughout the County.*

Policy CON 2.10: *Encourage local businesses and industries to engage in voluntary efforts to reduce GHG emissions and energy consumption.*

Policy CON 2.11: *Preserve, protect and enhance, as appropriate, the City's carbon sequestration resources, also referred to as "carbon sinks," to improve air quality and reduce net carbon emissions.*

Policy CON 2.12: *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 CON 3.1: *Continue to require all new public and privately constructed buildings to meet and comply with CALGreen Tier 1 standards.*

Policy CON 3.2: *Support innovative and green building best management practices, including LEED certification, for all new development, and encourage project applicants to exceed CALGreen Tier 1 standards, if feasible.*

Policy CON 3.3: *Promote the use of alternative energy sources in new development.*

Policy CON 3.4: *Incorporate innovative green building techniques and best management practices in the site design, construction, and renovation of all public projects.*

Policy CON 3.5: Ensure *protection of solar access.*

Policy CON 3.6: *Ensure that street layout and design minimizes the use of pavement to the greatest extent feasible in order to reduce cooling energy needs.*

Policy CON 3.7: *Encourage tree planting, including widespread use of trees as windbreaks to maximize the effects of cooling westerly winds and planting of deciduous trees to help reduce summer temperatures, either in conjunction with new development or through private sector participation.*

Policy CON 3.8: *Promote water conservation among water users.*

Policy CON 3.9: *Require the use of drought-tolerant and regionally native plants in landscaping.*

Policy CON 3.10: *Ensure that the layout and design of new development and significant remodels encourages the use of transportation modes other than automobiles and trucks.*

Policy CON 3.11: *Continue the City-wide recycling program and actively encourage recycling.*

Policy CON 3.12: *Continue efforts to reduce solid waste generation throughout the life of the General Plan.*

Policy CON 3.13: *Continue to implement the City's Tree Preservation and Protection Ordinance (Chapter 17.**54** of the Municipal Code).*

Policy CON 3.14: *Continue to require landscaping to provide visual screening of parking areas, outdoor storage, loading docks, equipment, and similar uses.*

Policy CON 3.15: *Plant and maintain deciduous native trees along Old Redwood Highway in such a way that the deciduous trees will eventually provide a canopy for the street.*

Policy CON 3.16: *Improve and maintain landscaping around commercial areas in order to minimize the "heat island" effect, provide shade, soften the harshness of such commercial areas, and create a more leisurely ambience.*

Policy CON 3.17: *Plant a combination of deciduous native trees and more flower beds consisting of native flowers, if possible, so that there is a continuous show of flowers throughout the year in La Plaza Park.*

Policy CON 3.18: *The natural paths of creeks should not be disrupted as a consequence of development.*

Policy CON 3.19: *Utilize trees, both new and existing, to provide visual screening of power lines and other infrastructure within public right-of-ways, without compromising the safety and function of above-ground utility lines.*

Policy CON 3.20: *Encourage and promote programs that teach Cotati residents about native and low-water use plants and landscaping materials, and encourage the use of such plants and materials throughout the City.*

Policy LU 1.4: *Require new development to occur in a logical and orderly manner, focusing growth on infill locations and areas designated for urbanization on the Land Use Map (see Figure 7-1), and be subject to the ability to provide urban services, including paying for any needed extension of services.*

Policy LU 1.5: *Use sustainable, best management practices in green building, stormwater management, and conservation to mitigate infrastructure impacts, while minimizing effects on water, sewer, and energy resources.*

Policy LU 2.3: *Locate residences away from areas of excessive noise, smoke, or dust, and ensure that adequate provisions, including a buffer or transitional uses, are made to ensure the health and well-being of existing and future residents.*

Policy LU 2.5: *Locate medium and higher density housing within easy walking or bicycling distance of public facilities, services, transit, and major employers.*

Policy LU 2.9: *Encourage a concentration of neighborhood, community, and retail amenities and services within walking distance of residential areas.*

Policy LU 2.10: *Encourage mixed-use, pedestrian-, and transit-oriented development, with a focus on the Hub and major corridors.*

Policy LU 3.2: *Encourage infill development of vacant lots within existing commercial districts and the core downtown/business areas and prioritize such development.*

Policy LU 3.8: *Design future commercial retail with a pedestrian and bicyclist orientation.*

Policy CI 1.2 *Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, and bicycle/pedestrian paths that effectively accommodates vehicular and non-vehicular traffic in a manner that considers the context of surrounding land uses and the needs of all roadway users.*

Policy CI 1.6 *When analyzing impacts to the circulation network created by new development or roadway improvements, consider the needs of all users including those with disabilities, ensuring that pedestrians, bicyclists, and transit riders are considered at an equal level to the needs of automobile drivers.*

Policy CI 1.9 *Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.*

Policy CI 1.17 *Consider alternatives to traffic signals where appropriate conditions exist to maximize intersection efficiency, maintain traffic flow, reduce accident severity, and enhance pedestrian and bicyclist circulation.*

Policy CI 1.18 *Intersections shall be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities.*

Policy CI 1.19 *Require new development to include effective linkages to the surrounding circulation system for all modes of travel, to the extent feasible.*

Policy CI 1.20 *Require new development to contribute its fair share cost of circulation improvements necessary to address cumulative transportation impacts on roadways throughout the City as well as the bicycle and pedestrian network.*

Policy CI 1.21 *Require development projects to provide land dedications or pay fees in order to provide bike paths, sidewalks, and walkways.*

Policy CI 2.17 *Safe and continuous pedestrian, vehicular, and bicycle access shall be provided at all transit park-and-ride facilities.*

Policy CI 2.18 *Pursue improvements and funding to increase transit ridership, increase transit frequencies on key corridors, increase the hours of transit operation, and expand regular transit service in portions of Cotati that currently have no public transit.*

Policy CI 2.19 *Establish the SMART multi-modal transit station on East Cotati Avenue and Santero Way to provide a link between commuter rail, bus, pedestrian, and bicycle travel and to provide retail and services to serve SMART transit users.*

Actions

Action CON 2a: Review all new industrial and commercial development projects for potential air quality impacts to residences and other sensitive receptors. Staff shall ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants.

Action CON 2b: Refer development, infrastructure, and planning projects to the Bay Area Air Quality Management District (BAAQMD) for review. Require project applicants to prepare air quality analyses to address BAAQMD and General Plan requirements, which include analysis and identification of:

a. *Air pollutant emissions associated with the project during construction, project operation, and cumulative conditions.*

b. *Potential exposure of sensitive receptors to toxic air contaminants.*

c. *Significant air quality impacts associated with the project for construction, project operation, and cumulative conditions.*

d. *Mitigation measures to reduce significant impacts to less than significant or the maximum extent feasible where impacts cannot be mitigated to less than significant.*

Action CON 2c: Adequate buffers between new industrial uses and sensitive receptors shall be required to avoid potential air quality and nuisance impacts.

Action CON 2d: Provide a Conservation Page (or Environmental Page) on the City's website provides links to resource agencies (ARB, BAAWMD, EPA, etc.) and provides information, regarding local and regional conservation and environmental programs, to the extent the City has readily available information, including methods for pollution prevention, including reduced air pollutant and greenhouse gas emissions through use of alternative forms of transportation (bicycling, pedestrian, transit), through reducing wood-burning activities using EPA-certified wood-burning devices, etc.

Action CON 2e: Continue to review new development, significant remodels, and infrastructure projects for consistency with the Sonoma County Community Climate Action Plan and Greenhouse Gas Reduction and Implementation Plan (GRIP).

Action CON 2f: Regularly monitor and track the City's progress towards meeting the municipal GHG reduction goals contained in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan.

Action CON 2g: Update the City's 2008 Greenhouse Gas Emissions Reduction Action Plan every five years, or more frequently if the City Council deems appropriate, to make progress towards the City's GHG reduction goals.

Action CON 3a: Continue to review development projects to ensure that all new public and privately development complies with CALGreen Tier 1 standards as well as the energy efficiency standards established by the General Plan and Land Use Code.

Action CON 3b: Amend the Land Use Code to include a requirement that all new swimming pools be solar heated.

Action CON 3c: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

Action CON 3d: Amend the Municipal Code to incentive the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.

Action CON 3e: Amend the Land Use Code to include provisions for alternatives to traditional paved surfaces, e.g. turf block, where appropriate.

Action CON 3f: Review development applications consistency with the solar access, building orientation, shade tree, and other climate-related provisions in the General plan, Land Use Code, and Design Review Standards.

Action CON 3g: Establish an annual tree planting day, making every effort to collaborate with and engage civic and community groups and local nurseries to assist with providing trees, outreach, and coordination.

Action CON 3h: Update the Design Guidelines to encourage the use of trees for windbreaks and wind channeling in new development and to ensure that deciduous trees do not interfere with solar access.

Action CON 3i: Provide a Conservation Page (or Environmental Page) on the City's website provides links to resource agencies and provides information, regarding local and regional conservation and environmental programs, to the extent the City has readily available information, including recycling guidance for single family residences, businesses, and apartments, opportunities for reuse of materials, a description of how to compost, and a description of methods to reduce water use, such as appropriate re-use and recycling of water, water conservation measures, and xeriscaping

Action CON 3j: Develop a list of drought-tolerant and native plants appropriate for use in Cotati and review development projects for adherence to this list.

Action CON 3k: Continue implementing the City Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code).

Action CON 3l: Periodically undertake a citywide notification program to notify the citizens and arborists doing business within the City limits of the tree preservation requirements.

Action CON 3m: Through the use of public funds, where available, provide for the screening of public parking areas through the use of trees, shrubs, berms, and evergreen plants

Action CON 3n: Through the development review process, the City shall encourage the use of deciduous trees to promote energy conservation.

Action CON 3o: During the development review process, discourage the loss of native trees in accordance with the Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code).

Action CON 3p: The City shall continue to implement the landscape and tree ordinance to give preference to native and drought tolerant species. The Planning Division shall review and revise as necessary.

Action CON 3q: Design Review criteria shall be prepared to require that creeks, trees, views and features unique to the site be preserved and incorporated into design proposals. The Design Review Committee shall insure that new development meets the criteria.

Action CON 3r: Through the use of public funds, where available, provide educational plant and tree labeling in City parks and City-maintained plant demonstration areas to educate and inform residents of native plant and tree species planted and maintained in Cotati.

Impact 3.2-2: The General Plan would not cause health risks associated with toxic air contaminants (Less than Significant)

Controlling toxic air contaminants (TACs) became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The 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, 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 an FHWA 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 MSAT 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 ARB monitors toxics throughout California from 15 monitoring sites; however, there are no toxic air monitoring sites located in the City of Cotati. The closest toxic air monitoring site to Cotati is in San Rafael. 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 the freeway segments (i.e. U.S. 101 and S.R. 92). Under the Community Air Risk Evaluation (CARE) 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. The City of Cotati is not mapped by the BAAQMD as an Impacted Community under the CARE program.

Regardless of the existing health risks associated with TACs, the BAAQMD CEQA Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The General Plan includes policies that are intended to minimize exposure of TACs to sensitive receptors (listed below). These policies and actions are consistent with the BAAQMD recommendations that are intended to reduce health risks associated with TACs. It is also noted that the General Plan Land Use Map does not place additional housing in close proximity to the Highway 101 corridor, and adoption of the Land Use Map would not increase sensitive receptors to increase TAC exposure. Implementation of the General Plan, including the policies and actions that are intended to mitigate TACs impacts, would ensure that this impact is reduced to a ***less than significant*** level.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy CON 2.1: *Improve air quality through continuing to require a compact development pattern that focuses growth in and around existing urbanized areas, locating new housing near places of employment, encouraging alternative modes of transportation, and requiring projects to mitigate significant air quality impacts.*

Policy CON 2.2: *Minimize exposure of sensitive receptors to concentrations of air pollutant emissions and toxic air contaminants.*

Policy CON 2.3: *Require discretionary projects involving sensitive receptors such as children, the elderly, or people with respiratory diseases proposed within 500 feet of the Highway 101 corridor to include an analysis of mobile source toxic air contaminant health risks. The analysis, if necessary, shall identify feasible mitigation measures to reduce health risks to acceptable levels.*

Policy CON 2.5: *Continue to require all construction projects and ground disturbing activities to implement BAAQMD dust control and abatement measures.*

Actions

Action CON 2a: Review all new industrial and commercial development projects for potential air quality impacts to residences and other sensitive receptors. Staff shall ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants.

Action CON 2b: Refer development, infrastructure, and planning projects to the Bay Area Air Quality Management District (BAAQMD) for review. Require project applicants to prepare air quality analyses to address BAAQMD and General Plan requirements, which include analysis and identification of:

a. *Air pollutant emissions associated with the project during construction, project operation, and cumulative conditions.*

b. *Potential exposure of sensitive receptors to toxic air contaminants.*

c. *Significant air quality impacts associated with the project for construction, project operation, and cumulative conditions.*

d. *Mitigation measures to reduce significant impacts to less than significant or the maximum extent feasible where impacts cannot be mitigated to less than significant.*

Action CON 2c: Adequate buffers between new industrial uses and sensitive receptors shall be required to avoid potential air quality and nuisance impacts.

Action CON 2d: Provide a Conservation Page (or Environmental Page) on the City's website provides links to resource agencies (ARB, BAAWMD, EPA, etc.) and provides information, regarding local and regional conservation and environmental programs, to the extent the City has readily available information, including methods for pollution prevention, including reduced air pollutant and greenhouse gas emissions through use of alternative forms of transportation (bicycling, pedestrian, transit), through reducing wood-burning activities using EPA-certified wood-burning devices, etc.

Impact 3.2-3: The General Plan would not create objectionable odors (Less than Significant)

Objectionable odors can be generated from certain types of commercial and/or industrial land uses. In general, residential land uses are not associated with odor generation, but they do serve as sensitive receptors.

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." There are not any existing or planned sources of odors within the City of Cotati. Implementation of the General Plan would have a ***less than significant*** impact relative to this topic.

Impact 3.2-4: The General Plan would not conflict with Regional Plans (Less than Significant)

The *Transportation 2035 Plan* (MTC 2009) is the most recently adopted Regional Transportation Plan prepared by the Metropolitan Transportation Commission (MTC) for the San Francisco Bay Area region. One of the visions for *Transportation 2035* is to support a prosperous and globally competitive Bay Area economy, provide for a healthy and safe environment, and promote equitable mobility opportunities for all residents. Among the cornerstones of the plan are a joint regional planning initiative known as FOCUS, which provides incentives for cities and counties to promote future growth near transit in already urbanized portions of the Bay Area. The plan also launches a Transportation Climate Action Campaign to reduce transportation-related greenhouse gas emissions. The *Transportation 2035 Plan* is a component of a regional effort between MTC and the BAAQMD to reduce mobile source air emissions throughout the greater Bay Area.

The *Transportation Air Quality Conformity Analysis for the Transportation 2035 Plan* (MTC 2009) was prepared using population forecasts for each local jurisdiction as inputs into the regional travel demand model.

Cotati is the smallest incorporated city in the county with a current population of Cotati approximately 7,310. General Plan buildout is anticipated to result in new growth of approximately 3,506 residents within the City limits and up to 5,202 residents within the entire Planning Area. The new population growth that would occur under the Cotati General Plan Update would not exceed the growth anticipated by the MTC in the *Transportation 2035 Plan*. The General Plan, including its anticipated population growth, does not conflict with the latest adopted and conforming Regional Transportation Plan, and adoption of the General Plan would not conflict with the Regional Transportation Plan or impede efforts to reduce air quality emissions at the regional level. This is a ***less than significant*** impact.

This section describes biological resources in the Planning Area from both a qualitative and quantitative perspective. This section provides a background discussion of the geomorphic provinces, bioregions, natural and agricultural communities, regionally important habitat and wildlife, watersheds, and special status species found in the vicinity of Cotati. This section is organized with an existing setting, regulatory setting, and impact analysis.

KEY TERMS

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three wetland identification parameters, according to the federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, are structurally complex, or are in other ways of special concern to local, state, or federal agencies. CEQA identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Game (CDFG) tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term “special status” includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);

- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the U.S. Fish and Wildlife Service (USFWS) or the CDFG as a species of concern (USFWS), rare (CDFG), or of special concern (CDFG);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

Waters of the U.S. The federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. 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. §328.3(e)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The federal government defines wetlands 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. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

3.3.1 ENVIRONMENTAL SETTING

The City of Cotati is located in Sonoma County, California approximately 20 miles east of the Pacific Ocean, and 45 miles north of San Francisco. The Cotati city limits encompass approximately 1,217 acres. The biological diversity within the city limits includes agriculture (63 acres), annual grassland (87 acres), and freshwater emergent wetland (2 acres). Approximately 1,064 acres of the City is developed (87 percent).

The City's Sphere of Influence covers an additional 1,010 acres, of which approximately 646 acres are developed (64 percent). There is slightly more biological diversity within the Sphere of Influence, relatively speaking, which has agriculture (85 acres), annual grassland (279 acres), and freshwater emergent wetland (<1 acre).

The climate is mild with average high temperatures ranging from 58-83 degrees Fahrenheit (F), and average lows ranging from 38-52. The average annual precipitation is 25 inches, most of which

comes in the form of winter rain. Summer coastal fog often reaches Cotati through the coastal valleys to the west.

GEOMORPHIC PROVINCES

California's geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform. Earth scientists recognize eleven provinces in California. Each region displays unique, defining features based on geology, faults, topographic relief and climate. These geomorphic provinces are remarkably diverse. They provide spectacular vistas and unique opportunities to learn about earth's geologic processes and history. (California Department of Conservation, 2002). The City of Cotati is located in portions of the Coast Range and Great Valley geomorphic provinces of California.

Coast Ranges: The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. Strata dip beneath alluvium of the Great Valley. To the west is the Pacific Ocean. The coastline is uplifted, terraced and wave-cut. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields. The Coast Ranges are subparallel to the active San Andreas Fault. The San Andreas is more than 600 miles long, extending from Pt. Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands. (California Department of Conservation, 2002).

BIOREGIONS

The City of Cotati is located within the Bay Area/Delta bioregion. A brief description of the Bay Area/Delta bioregion is presented below.

Bay Area/Delta Bioregion: The Bay Area/Delta Bioregion extends from the Pacific Ocean to the Sacramento Valley and San Joaquin Valley bioregions to the northeast and southeast, and a short stretch of the eastern boundary joins the Sierra Bioregion at Amador and Calaveras counties. The bioregion is bounded by the Klamath/North Coast on the north and the Central Coast Bioregion to the south. The Bay Area/Delta Bioregion is one of the most populous areas of the state, encompassing the San Francisco Bay Area and the Sacramento-San Joaquin River Delta. The water that flows through the Delta supplies two-thirds of California's drinking water, irrigating farmland, and sustaining fish and wildlife and their habitat. The bioregion fans out from San Francisco Bay in a jagged semi-circle that takes in all or part of 12 counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, Sonoma, and parts of Sacramento, and Yolo. The habitats and vegetation of the Bay Area/Delta Bioregion are as varied as the geography.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationship (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.

According to the California Wildlife Habitat Relationship System there are four cover types (wildlife habitat classifications) in the City of Cotati out of 59 found in the state. These include: Agricultural, Annual Grassland, Fresh Emergent Wetland, and Urban. An additional three cover types are located in the vicinity, but outside the City Sphere of Influence. These include: Barren, Eucalyptus, and Riverine. Table 3.3-1 identifies the total area by acreage for each cover type (wildlife habitat classification) found in the City of Cotati. Figure 3.3-1 illustrates the location of each cover type (wildlife habitat classification) within the City of Cotati. A brief description of each cover type follows.

TABLE 3.3-1: COVER TYPES - CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

COVER TYPES	ACRES WITHIN CITY	ACRES WITHIN SOI	ACRES WITH UGB
Agriculture	63.46	148.89	324.75
Annual Grassland	87.29	366.01	523.17
Freshwater Emergent Wetland	1.97	2.47	2.47
Urban	1064.80	1710.29	1723.56
Total Acres	**1217.53**	**2227.66**	**2573.95**

SOURCE: SOURCE: CASIL GIS DATA, 2011, CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM, 2011

Developed

Agricultural land may be defined broadly as land used primarily for production of food and fiber. This habitat can generally be broken into the following categories: cropland, dryland grain crops, irrigated grain crops, irrigated hayfield, irrigated row and field crops, rice, orchard - vineyard, deciduous orchard, evergreen orchard, and vineyard. On satellite imagery, the chief indications of agricultural activity are distinctive geometric field and road patterns on the landscape and the traces produced by livestock or mechanized equipment. However, pasture and other lands where such equipment is used infrequently may not show as well-defined shapes as other areas. The number of building complexes is smaller and the density of the road and highway network is much lower in Agricultural land than in Urban land.

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.

Herbaceous

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. 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 (18 to 21 fortnights). Annual precipitation is highest in northern California.

Fresh emergent wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing.

Other Habitats in the Vicinity of Cotati

Barren habitat is defined by the absence of vegetation. Any habitat with <2% total vegetation cover by herbaceous, desert, or nonwildland species and <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.

Eucalyptus habitats have been extensively planted throughout the state since their introduction in 1856. They are found in highly variable site characteristics, but generally on relatively flat or gently rolling terrain, occasionally in the foothills. Climatic conditions are typically Mediterranean, characterized by hot, dry summers and cool, mild winters. Precipitation ranges from approximately 12 to 24 inches. Temperature regimes range from a 43 F to 73 F.

Riverine habitats can occur in association with many terrestrial habitats. Riparian habitats are found adjacent to many rivers and streams. Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats. This habitat requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved oxygen will decrease and the bottom will change from rocky to muddy.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within 10 miles of the City of Cotati.

Special Status Plants

The search revealed documented occurrences of the 51 special status plant species (including one non-vascular plant) within 10 miles of the City of Cotati. Table 3.3-2 provides a list of special-status plant species that are documented within 10 miles of the City of Cotati, their habitat, and current protective status. Figure 3.3-2 illustrates the special status species located within one mile of the City of Cotati. Figure 3.3-3 illustrates the special status species located within 10 miles of the City of Cotati.

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
PLANTS		
Allium peninsulare var. franciscanum Franciscan onion	--;--;1B	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine. Dry hillsides. 100-300M.
Alopecurus aequalis var. sonomensis Sonoma alopecurus	FE;--;1B	Freshwater marshes and swamps, riparian scrub. Wet areas, marshes, and riparian banks with other wetland species. 5-360M.
Amorpha californica var. napensis Napa false indigo	--;--;1B	Broadleaved upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 150-2000M
Amsinckia lunaris bent-flowered fiddleneck	--;--;1B	Cismontane woodland, valley and foothill grassland. 50-500M.
Astragalus tener var. tener alkali milk-vetch	--;--;1B	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 1-170M.
Arctostaphylos canescens ssp. *sonomensis* Sonoma canescent manzanita	--;--;1B	Chaparral, lower montane coniferous forest. Sometimes found on serpentine. 180-1700M.
Arctostaphylos densiflora Vine Hill manzanita	--;CE;1B	Chaparral. Acid marine sand. 50-100M.
Arctostaphylos stanfordiana ssp. decumbens	--;--;1B	Chaparral. Highly restricted endemic to red rhyolites in Sonoma County. 75-310M.

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
Rincon Ridge manzanita		
Balsamorhiza macrolepis var. macrolepis Big-scale balsamroot	--; --;1B	Chaparral, cismontane woodland, and valley and foothill grassland (Open, grassy slopes, and valleys, sometimes on serpentine soils)
Blennosperma bakeri Sonoma sunshine	FE;CE;1B	Vernal pools, valley and foothill grassland. Vernal pools and swales. 10-100M.
Brodiaea californica var. leptandra narrow-anthered California brodiaea	--;--;1B	Broadleaved upland forest, chaparral, lower montane coniferous forest. 110-915M.
California macrophylla round-leaved filaree	--;--;1B	Cismontane woodland, valley and foothill grassland. Clay soils. 15-1200M.
Campanula californica swamp harebell	--;--;1B	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows, freshwater marsh, N. Coast coniferous forest. Bogs and marshes in a variety of habitats; uncommon where it occurs. 1-405M.
Carex albida white sedge	FE;CE;1B	Freshwater marsh, bogs and fens, meadows and seeps. Wet meadow and marshes. 35-55M.
Ceanothus confusus Rincon Ridge ceanothus	--;--;1B	Closed-cone coniferous forest, chaparral, cismontane woodland. Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065M.
Ceanothus divergens Calistoga ceanothus	--;--;1B	Chaparral, cismontane woodland. Rocky, serpentine or volcanic sites. 165-950M.
Ceanothus foliosus var. vineatus Vine Hill ceanothus	--;--;1B	Chaparral. Sandy, acidic soil in chaparral. 45-85M.
Ceanothus masonii Mason's ceanothus	--;CR;1B	Chaparral. Serpentine ridges or slopes in chaparral or transition zone. 180-460M.
Ceanothus purpureus holly-leaved ceanothus	--;--;1B	Chaparral. Rocky, volcanic slopes. 120-640M.
Ceanothus sonomensis Sonoma ceanothus	--;--;1B	Chaparral. Sandy, serpentine or volcanic soils. 210-800M.
Centromadia parryi ssp. parryi pappose tarplant	--;--;1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 2-420M.

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
Chorizanthe valida Sonoma spineflower	FE;CE;1B	Coastal prairie. Sandy soil. 10-50M.
Delphinium bakeri Baker's larkspur	FE;CE;1B	Coastal scrub, grasslands. Only occurs on NW-facing slope, on decomposed shale. Historically known form grassy areas along fence lines too. 90-205M.
Delphinium luteum golden larkspur	FE;CR;1B	Chaparral, coastal prairie, coastal scrub. North-facing rocky slopes. 0-100M.
Downingia pusilla dwarf downingia	--;--;2	Valley and foothills grasslands (mesic sites), vernal pools. Erna Lake and pool margins with a variety of associates. In several types of vernal pools. 1-485M.
Erigeron greenei Greene's narrow-leaved daisy	--;--;1B	Chaparral. Serpentine and volcanic substrates, generally in shrubby vegetation. 75-1060M.
Fritillaria liliacea fragrant fritillary	--;--;1B	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410M.
Gilia capitata ssp. tomentosa woolly-headed gilia	--;--;1B	Coastal bluff scrub. Rocky outcrops on the coast. 15-155M.
Hemizonia congesta ssp. congesta seaside tarplant	--;--;1B	Coastal scrub, valley and foothill grassland. Grassy valleys and hills, often in fallow fields. 25-200M.
Horkelia tenuiloba thin-lobed horkelia	--;--;1B	Coastal scrub, chaparral. Sandy soils; mesic openings. 45-500M.
Lasthenia burkei Burke's goldfields	FE;CE;1B	Vernal pools, meadows and seeps. Most often in vernal pools and swales. 15-580M.
Lasthenia californica ssp. bakeri Baker's goldfields	--;--;1B	Closed-cone coniferous forest, coastal scrub. Openings. 60-520M.
Lasthenia conjugens Contra Costa goldfields	FE;--;1B	Valley and foothill grassland, vernal pools, cismontane woodland. Extirpated from most of its range; Extremely endangered. Vernal pools, swales, low depressions, in open grassy areas. 1-445M.
Legenere limosa legenere	--; --;1B	Vernal pools. Many historical occurrences are extirpated. In beds of vernal pools. 1-880M.
Leptosiphon jepsonii	--;--;1B	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanic or the periphery of serpentine

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
Jepson's leptosiphon		substrates. 100-500M.
Lilium pardalinum ssp. pitkinense Pitkin Marsh lily	FE;CE;1B	Cismontane woodland, meadows and seeps, freshwater marsh. Saturated, sandy soils w/ grasses and shrubs. 35-65M.
Limnanthes vinculans Sebastopol meadowfoam	FE;CE;1B	Mesic meadows, vernal pools, valley and foothill grassland. Swales, wet meadows and marshy areas in valley oak savanna; on poorly drained soils of clay and sandy loam. 15-115M.
Microseris paludosa marsh microseris	--;--;2	Closed-cone coniferous forest cismontane woodland, coastal scrub, valley and foothill grassland. 5-300M.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	--;--;1B	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales, adobe or alkaline soils. 5-950M.
Plagiobothrys mollis var. vestitus Petaluma popcorn-flower	--;--;1A	Presumed extinct. Valley and foothill grassland, coastal salt marsh. Wet sites in grassland, possibly coastal marsh margins. 10-50M.
Pleuropogon hooverianus North Coast semaphore grass	--;CT;1B	Broadleaved upland forest, meadows and seeps, north-coast coniferous forest. Wet grassy, usually shady areas, sometimes freshwater marsh; associated with forest environments. 10-1150M.
Potentilla uliginosa Cunningham Marsh cinquefoil	--;--;1A	Presumed extinct. Freshwater marshes and swamps. Found in oligotrophic wetlands.30-40 M.
Rhynchospora californica California beaked-rush	--;--;1B	Bogs and fens, marshes and swamps, lower montane coniferous forest, meadows and seeps. Freshwater seeps and open marshy areas. 45-1000M.
Rhynchospora capitellata brownish beaked-rush	--;--;2	Lower montane coniferous forest, meadows and seeps, marshes and swaps, upper montane coniferous forest. Mesic sites. 455-2000M.
Rhynchospora globularis var. globularis round-headed beaked-rush	--;--;2	Marshes and swamps, freshwater marsh. 45-60M.
Sidalcea calycosa ssp. rhizomata Point Reyes checkerbloom	--;--;1B	Marshes and swamps. Freshwater marshes near the coast. 5-75(245)M.
Sidalcea oregana ssp. valida Kenwood Marsh	FE;CE;1B	Marshes and swamps. Edges of freshwater marshes. 115-150M.

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
checkerbloom		
Triquetrella californica coastal triquetrella	--;--;1B	Coastal bluff scrub, coastal scrub, valley and foothill grasslands. Grows within 30 M from the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, and rocky slopes.
Trifolium amoenum showy rancheria clover	FE;--;1B	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently sited on roadside and eroding cliff face. 5-560M.
Trifolium hydrophilum saline clover	--;--;1B	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0-300M.
Viburnum ellipticum oval-leaved viburnum	--;--;2	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400M.

SOURCE: DFG CNDDB 2011

ABBREVIATIONS:

FE *FEDERAL ENDANGERED*
FT *FEDERAL THREATENED*
CE *CALIFORNIA ENDANGERED SPECIES*
CT *CALIFORNIA THREATENED*
CR *CALIFORNIA RARE (PROTECTED BY NATIVE PLANT PROTECTION ACT)*
1B *CNPS - RARE, THREATENED, OR ENDANGERED*
2 *CNPS - RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE*
4 *CNPS - PLANTS OF LIMITED DISTRIBUTION - A WATCH LIST*

Special Status Animals

The search revealed documented occurrences of the 26 special status animal species within 10 miles of the City of Cotati. This includes: three amphibians, eight birds, two fish, eight invertebrates, four mammals, and one reptile. Table 3.3-3 provides a list of the special-status animal species that are documented within 10 miles of the City of Cotati, their habitat, and current protective status; these species are considered present or potentially present in Cotati. Figure 3.3-3 illustrates the location of each occurrence documented by the CNDDB.

TABLE 3.3-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
AMPHIBIANS		
Ambystoma californiense California tiger salamander	FT/CT	Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.
Rana aurora draytoni California red-legged frog	FT/CSC	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.

TABLE 3.3-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
Rana boylii foothill yellow-legged frog	FSC;CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
BIRDS		
Agelaius tricolor tricolored blackbird	FSC;CSC	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 km of the colony.
Athene cuniculari Burrowing owl	FSC; CSC	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.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FSC/FC; CE	Nesting restricted to river bottoms and other mesic habitats where humidity is high.
Elanus leucurus white-tailed kite	MBTA; CP	Rolling foothills and valley margins with scattered oaks & 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.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	FSC; CSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.
Laterallus jamaicensis coturniculus California black rail	--/CT	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations
Melospiza melodia samuelis San Pablo song sparrow	--; CSC	Resident of salt marshes along the north side of San Francisco and San Pablo Bays. Inhabits tidal sloughs in the salcornia marshes; nests in grindelia bordering slough channels.
Rallus longirostris obsoletus California clapper rail	FE;CE	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.
FISH		
Pogonichthys macrolepidotus Sacramento splittail	--/CSC	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

TABLE 3.3-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
		vegetation for spawning and foraging for young.
Oncorhynchus mykiss irideus steelhead - central California coast DPS	FT/--	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.
INVERTEBRATES		
Andrena blennospermatis Blennosperma vernal pool andrenid bee	--;--	This bee is oligolectic on vernal pool blennosperma. Bees nest in the uplands around vernal pools.
Caecidotea tomalensis Tomales isopod	--;--	Inhabits localized fresh-water ponds or streams with still or near-still water in several Bay Area Counties.
*Hydrochara ricksecker*i Ricksecker's water scavenger beetle	--;--	Aquatic.
Hydroporus leechi Leech's skyline diving beetle	--;--	Aquatic.
Linderiella occidentalis California linderiella	--;--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and TDS.
Syncaris pacifica California freshwater shrimp	FE;FE	Shallow Pools away from main streamflow. Winter: undercut banks w/exposed roots. Summer: leafy branches touching water. Endemic to Marin, Napa, and Sonoma Counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy.
Speyeria zerene myrtleae Myrtle's silverspot	FE;--	Restricted to the foggy, coastal dunes/hills of the Point Reyes Peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be Viola adunca.
Tryonia imitator mimic tryonia (=California brackishwater snail)	--;--	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.
MAMMALS		
Arborimus pomo Sonoma tree vole	--;CSC	North coast fog belt from Oregon border to Sonoma Co. in Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles or grand-fir, hemlock or spruce.

TABLE 3.3-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT IN COTATI

SPECIES	STATUS	HABITAT
Antrozous pallidus Pallid bat	--;CSC	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts.
Reithrodontomys raviventris salt-marsh harvest mouse	FE;CE	Only in saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat. Do not burrow, build loosely organized nests. Require higher areas for flood escape.
Taxidea taxus American badger	--;CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils and open, uncultivated ground. Prey on burrowing rodents. Dig burrows.
REPTILES		
Actinemys marmorata *western pond turtle*	--;CSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat for egg-laying.

SOURCE: DFG CNDDB 2011

ABBREVIATIONS:
FE *FEDERAL ENDANGERED*
FT *FEDERAL THREATENED*
FC *FEDERAL CANDIDATE*
FSC *FEDERAL SPECIES OF CONCERN*
FD *FEDERAL DELISTED*
MBTA *PROTECTED BY MIGRATORY BIRD TREATY ACT*
CE *CALIFORNIA ENDANGERED SPECIES*
CT *CALIFORNIA THREATENED*
CP *CALIFORNIA FULLY PROTECTED UNDER §3511, 4700, 5050 AND 5515 FG CODE*
CSC *CDFG SPECIES OF SPECIAL CONCERN*

Sensitive Natural Communities

The search revealed 16 documented occurrences of the five sensitive natural communities within 10 miles of the City of Cotati. This includes Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Northern Hardpan Vernal Pool, Northern Vernal Pool, and Valley Needlegrass Grassland. Of these 16 documented occurrences, none are located within the Urban Growth Boundary for the City of Cotati. A brief description of each sensitive natural community follows. Figure 3.3-3 illustrates the location of each sensitive natural community.

Coastal and Valley Freshwater Marsh. Coastal and Valley Freshwater Marsh is found along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, and they are the most extensive in the upper portion of the Sacramento-San Joaquin River Delta. This

natural community is common in the river oxbows and other areas of a flood plain. This natural community is found in areas that lack significant stream/river current and are permanently flooded by fresh water (rather than brackish, alkaline, or variable). Prolonged saturation permits accumulation of deep, peaty soils. Perennial, emergent monocots up to 4-5m tall dominate this habitat. They often form completely closed canopies. (Holland, 1986).

There are no documented occurrences of Coastal and Valley Freshwater Marsh within the City of Cotati, or its Urban Growth Boundary. While this sensitive natural community is not documented within the CNDDB, it occurs throughout the region along the margins of creeks sometimes as small isolated marshes, and sometimes as a more expansive marsh. The more expansive marshes are generally well documented, while the smaller isolated marshes can be discovered in areas that have not been previously surveyed, which may include parcels within the Urban Growth Boundary.

Coastal Brackish Marsh. Coastal brackish marsh is usually at the interior edges of coastal bays and estuaries or in coastal lagoons, and adjacent to salt marshes. They are most extensive around Suisun Bay at the mouth of the Sacramento-San Joaquin Delta. This natural community is dominated by perennial, emergent, herbaceous monocots to 2m tall. Cover is often complete and dense with some plants characteristic of freshwater marsh and salt marsh. Water salinity may vary considerably, and may increase at high tide or during seasons of low freshwater runoff. (Holland, 1986).

There are no documented occurrences of Coastal Brackish Marsh within the City of Cotati, or it's Urban Growth Boundary. The absence of saltwater in Cotati precludes this sensitive natural community from occurring in the City of Cotati.

Northern Hardpan Vernal Pool. Northern hardpan vernal pool is typically found on old, very acidic, Fe-Si cemented hardpan soils. The microrelief on these soils typically is hummocky, with mounds intervening between localized depressions. Winter rainfall perches on the hardpan, forming pools in the depressions and evaporation empties the pools in spring. Vegetation is a low, amphibious, herbaceous plant community that is dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation that colorfully encircle the drying pool. (Holland, 1986).

There are no documented occurrences of Northern Hardpan Vernal Pool within the City of Cotati, or its Urban Growth Boundary. While this sensitive natural community is not documented within the CNDDB, it occurs throughout the region and can vary in size (small isolated vernal pools to large vernal pool complexes). The larger complexes are generally well documented, while the smaller isolated vernal pools can be discovered in areas that have not been previously surveyed, which may include parcels within the Urban Growth Boundary.

Northern Vernal Pool. Northern vernal pool is a general classification of vernal pools that may occur on a variety of soil types and in a variety of plant communities. Northern vernal pool can occur singly or in complexes, but requires an impervious substrate that varies from hardpan or claypan to basalt or other materials that prevent percolation of water. Winter rainfall perches on

the impervious substrate, forming pools in the depressions and evaporation empties the pools in spring. Vegetation varies, but is typically low, amphibious, herbaceous plant community that is dominated by annual herbs. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation that encircle the drying pool. (Holland, 1986).

There are no documented occurrences of Northern Vernal Pool within the City of Cotati, or its Urban Growth Boundary. Similar to the Northern Hardpan Vernal Pool, the Northern Vernal Pool occurs throughout the region and can vary in size (small isolated vernal pools to large vernal pool complexes). The larger complexes are generally well documented, while the smaller isolated vernal pools can be discovered in areas that have not been previously surveyed, which may include parcels within the Urban Growth Boundary.

Valley Needlegrass Grassland. Valley Needlegrass Grassland is a mid-height (to 2 feet) grassland dominated by perennial, tussock-forming purple needlegrass (*Nassella pulchra*). Native and introduced annuals occur between the perennials, often exceeding the bunchgrasses in cover. They are usually found on fine-textured (often clay) soils, moist or even waterlogged during the winter, but very dry in the summer. Often associated with Oak Woodlands on moister, better drained sites. (Holland, 1986).

There are no documented occurrences of Valley Needle Grassland within the City of Cotati, or its Urban Growth Boundary. While Valley Needle Grassland is not documented within the CNDDB, there are 523.17 acres of annual grassland documented within the Urban Growth Boundary, and it is not uncommon to find small patches of Valley Needle Grassland in areas that are documented as annual grassland. This sensitive natural community may be present in the Urban Growth Boundary where the ground is relatively undisturbed and has not been surveyed on foot.

Other Special Habitat

Laguna de Santa Rosa. The Laguna de Santa Rosa is the largest freshwater wetlands complex on the northern California coast. The Laguna's fourteen-mile channel forms the largest tributary to the Russian River, draining a 254-square-mile watershed which encompasses nearly the entire Santa Rosa Plain. This includes parts of the communities of Windsor, Santa Rosa, Rohnert Park, Cotati, Forestville, and Sebastopol.

Laguna de Santa Rosa is important in maintaining water quality and flood control for the region. It provides an important overflow area for the Russian River during periods of heavy winter rain, serving as a natural holding basin which captures and slows floodwaters, easing their impact on lower Russian River communities. Additionally, Laguna de Santa Rosa provides a unique ecological system for the region. With over 30,000 acres, the Laguna provides a mosaic of creeks, open water, perennial marshes, seasonal wetlands, riparian forests, oak woodland and grassland. It is home to hundreds of species of birds, mammals, fish, amphibians, reptiles, and invertebrates. The Laguna de Santa Rosa provides habitat for a range of species, including several rare and endangered species. (Laguna de Santa Rosa Foundation, 2011).

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 CDFG, USFWS, 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 implementing the General Plan.

FEDERAL REGULATIONS

Federal Endangered Species Act

The Federal Endangered Species Act, passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the United States Fish and Wildlife Service. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, posses, 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., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protect these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews federal agency actions that may affect these species.

Clean Water Act – Section 404

Section 404 of the 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. §323.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows [33 C.F.R. §328.3(a)]. 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. §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. §328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

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. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the state.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

> *It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the Federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.*

STATE REGULATIONS

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

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. 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. 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 §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 Game 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 CDFG 10 days in advance of approving a building site.

Fish and Game Code §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 §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFG 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 CDFG prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFG may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFG warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code § 21000 - California Environmental Quality Act

The California Environmental Quality Act (CEQA) identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. 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 CDFG. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, 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. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

Public Resources Code § 21083.4 - Oak woodlands conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a County to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a County determines that there may be a significant effect to oak woodlands, the County must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include: conservation through the use of conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the County.

California Oak Woodland Conservation Act

The California Legislature passed Assembly Bill 242, known as the California Oak Woodland Conservation Act, in 2001 as a result of widespread changes in land use patterns across the landscape that were fragmenting oak woodland character over extensive areas. The Act created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. The legislation provides funding and incentives to ensure the future viability of California's oak woodland resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. The Act acknowledged that the conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the state.

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.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- 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 Game 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 Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native 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: General Plan implementation could 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 Game or U.S. Fish and Wildlife Service (Less than Significant)

Approval of the proposed project would not directly approve or entitle any development or infrastructure projects. However, implementation of the General Plan and Land Use Map would allow and facilitate future development in Cotati, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors.

Special-Status Plant Species

The search of the California Natural Diversity Data Base revealed documented occurrences of the 51 special status plant species (including one non-vascular plant) within 10 miles of the City of Cotati. Table 3.3-2 provides a list of special-status plant species that are documented within 10 miles of the City of Cotati, their habitat, and current protective status. Figure 3.3-2 illustrates the special status species located within one mile of the City of Cotati. Figure 3.3-3 illustrates the special status species located within 10 miles of the City of Cotati.

Subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special-status plant species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special-status plant species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality.

Special-status plant species receive protection from various federal and state laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of the plant species without a special permit. Additionally, the proposed General Plan includes numerous policies and action measures intended to reduce or avoid impacts to special-status plant species. These policies and action measures are listed below.

Special-Status Wildlife Species

The search revealed documented occurrences of the 26 special status animal species within 10 miles of the City of Cotati. This includes: three amphibians, eight birds, two fish, eight invertebrates, four mammals, and one reptile. Table 3.3-3 provides a list of the special-status animal species that are documented within 10 miles of the City of Cotati, their habitat, and current protective status; these species are considered present or potentially present in Cotati. Figure 3.3-3 illustrates the location of each occurrence documented by the CNDDB.

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

Special-status animal species receive protection from various federal and state laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of a species or direct impact to foraging and breeding habitat without a special permit. Additionally, the proposed General Plan includes numerous policies and action measures intended to reduce or avoid impacts to special-status animal species. These policies and action measures are listed below.

Conclusion

Construction and maintenance activities associated with future development projects under the proposed General Plan could result in the direct and indirect loss or indirect disturbance of special-status wildlife or plant 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;
- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- 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;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

Subsequent development projects will be required to comply with the General Plan and adopted state, federal, and local regulations for the protection of special-status species. Policy CON 1.1 defines sensitive habitats to include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws. Policy CON 1.2 requires preservation and enhancement of those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.

Policy CON 1.3 directs the City to attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses. Policy CON 1.4 requires the City to focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

Policy CON 1.5 requires the City to conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate. Policy CON 1.6 requires the City to avoid removal of large, mature trees that provide wildlife habitat or contribute to the visual quality of the environment to the greatest extent feasible through appropriate project design and building siting. If full avoidance is not possible, prioritize planting of replacement trees on-site over off-site locations. Policy CON 1.7 directs the City to consult with all resource agencies during the CEQA review process for proposed developments to help identify wetland and vernal pool habitat that has candidacy for restoration, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat and provides opportunities for mitigation banking.

Policy CON 1.8 requires the conservation of riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species. Policy CON 1.9 requires protection and enhancement of streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning. Policy CON 1.10 requires the City to support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. It also requires the City to avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.

Policy CON 1.11 requires the City to support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration. Policy CON 1.12 requires discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.

Policy CON 1.13 requires the City to prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters. Policy CON 1.14 requires new development adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways. Policy OS 1.1 designates Cotati Creek, Laguna de Santa Rosa, etc. and other waterways as Open Space uses. Policy OS 1.4 requires integration of

open space and stream corridors, such as the Laguna de Santa Rosa, with trails and other recreational open space in an environmentally sustainable manner.

Subsequent development projects will be required to comply with the General Plan and adopted state, federal, and local regulations for the protection of special status plants and wildlife, including habitat. While future development has the potential to result in significant impacts to special status plants and wildlife, including habitat, the implementation of the policies and action measures listed below, as well as federal and state regulations, would reduce impacts to these resources to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.1: *Sensitive habitats include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws.*

Policy CON 1.2: *Preserve and enhance those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.*

Policy CON 1.3: *Attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses.*

Policy CON 1.4: *Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.*

Policy CON 1.5: *Conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.*

Policy CON 1.6: *Avoid removal of large, mature trees that provide wildlife habitat or contribute to the visual quality of the environment to the greatest extent feasible through appropriate project design and building siting. If full avoidance is not possible, prioritize planting of replacement trees on-site over off-site locations.*

Policy CON 1.7: *Consult with all resource agencies during the CEQA review process for proposed developments to help identify wetland and vernal pool habitat that has candidacy for restoration, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat and provides opportunities for mitigation banking.*

Policy CON 1.8: *Conserve riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.*

Policy CON 1.9: *Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.*

Policy CON 1.10: *Support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.*

Policy CON 1.11: *Where feasible, support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.*

Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Policy OS 1.1: *The Open Space/Parks, Agricultural, and Rural Residential General Plan Land Use designations and waterways (Cotati Creek, Laguna de Santa Rosa, etc.) shall be considered Open Space uses.*

Policy OS 1.4: *Where possible, integrate open space and stream corridors, such as the Laguna de Santa Rosa, with trails and other recreational open space in an environmentally sustainable manner.*

Actions

Action CON 1a: Require development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to submit a biological resources evaluation which determines whether significant adverse impacts will occur. Evaluations shall be carried out under the direction of the Community Development Department and consistent with applicable state and federal guidelines. Projects shall be designed to avoid or reduce impacts to the maximum extent feasible. Where adverse impacts cannot be feasibly reduced or avoided through project design, projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with state or federal resource agencies with jurisdiction (if applicable) that may include, but are not limited to, the following strategies:

a. *Preservation of habitat and connectivity of adequate size, quality, and configuration to support the special-status species. Connectivity shall be determined based on the specifics of the species' needs.*

b. *Project design measures, such as clustering of structures or locating project features to avoid known locations of special-status species and/or sensitive habitats.*

c. *Provision of supplemental planting and maintenance of grasses, shrubs, and trees of similar quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife.*

d. *Protection for habitat and the known locations of special-status species through adequate buffering or other means.*

e. *Provision of replacement habitat of like quantity and quality on- or off-site for special-status species. Preference shall be given to the preservation of habitat as close to the area of impact as feasible, so long as that habitat is of comparable quality.*

f. *Enhancement of existing special-status species habitat values through restoration and replanting of native plant species.*

g. *Provision of temporary or permanent buffers of adequate size (based on the specifics of the special-status species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.*

h. *Incorporation of the provisions or demonstration of compliance with applicable recovery plans for federally listed species.*

i. *Monitoring of construction activities by a qualified biologist to avoid impacts to on-site special status species.*

Action CON 1b: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

a. *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*

b. *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*

c. *Employees shall be trained by a qualified biologist to identify and avoid protected species and habitat*

Action CON 1c: Develop CEQA Thresholds of Significance to assist staff, project applicants, and decision-makers in determining whether a project may have a significant effect on the environment under Section 21082.2 of the California Environmental Quality Act (CEQA).

Action CON 1d: Through coordination with the U.S. Fish and Wildlife Service, California Department of Fish and Game, and Sonoma County develop and maintain a map of sensitive biological communities and habitat within the Cotati Urban Growth Boundary. Ensure that this map and associated information is readily available to potential developers and the public.

Action CON 1e: Revise the Zoning Map to add the coordinated planning overlay zone to the Commercial/Industrial and General Commercial areas south of Helman Lane that are located within the critical habitat designation for the California tiger salamander.

Action CON 1f: Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. *Avoidance of wetlands and riparian habitat through site design;*
b. *Clustered development;*
c. *Transfer of development rights; and/or*
d. *Compensatory mitigation, such as habitat restoration or habitat creation.*

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent that the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Action CON 1k: Continue to identify which stormwater and drainage facilities are in need of repair and address these needs through the CIP process.

Impact 3.3-2: General Plan implementation could 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 Game or U.S. Fish and Wildlife Service (Less than Significant)

A CNDDB search revealed 16 documented occurrences of the five sensitive natural communities within 10 miles of the City of Cotati. This includes Coastal and Valley Freshwater March, Coastal Brackish Marsh, Northern Hardpan Vernal Pool, Northern Vernal Pool, and Valley Needlegrass Grassland. Descriptions of these sensitive natural communities are provided previously in this section. Of these 16 documented occurrences, none are located within the Urban Growth Boundary for the City of Cotati.

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. For instance, the Laguna de Santa Rosa is the largest freshwater wetlands complex on the northern California coast. The Laguna's fourteen-mile channel forms the largest tributary to the Russian River, draining a 254-square-mile watershed which encompasses nearly the entire Santa Rosa Plain. This includes parts of the communities of Windsor, Santa Rosa, Rohnert Park, Cotati, Forestville, and Sebastopol.

The Laguna de Santa Rosa is important in maintaining water quality and flood control for the region. It provides an important overflow area for the Russian River during periods of heavy winter rain, serving as a natural holding basin which captures and slows floodwaters, easing their impact on lower Russian River communities. Additionally, the Laguna de Santa Rosa provides a unique ecological system for the region. With over 30,000 acres, the Laguna provides a mosaic of creeks, open water, perennial marshes, seasonal wetlands, riparian forests, oak woodland and grassland. It is home to hundreds of species of birds, mammals, fish, amphibians, reptiles, and invertebrates. The Laguna de Santa Rosa provides habitat for a range of species, including several rare and endangered species. Cotati Creek, its tributaries, and drainages are connected to the Laguna de Santa Rosa.

The General Plan Conservation Element includes numerous policies designed to address sensitive natural communities, including the Laguna de Santa Rosa and Cotati Creek. Policy CON 1.8 requires the conservation of riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species. Policy CON 1.9 requires protection and enhancement of streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning. Policy CON 1.10 requires the City to support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. It also requires the City to avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare. Policy CON 1.11 requires the City to support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration. Policy CON 1.12 requires discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare. Policy CON 1.13 requires the City to prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters. Policy CON 1.14 requires new development adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.

Subsequent development projects will be required to comply with the General Plan and adopted state, federal, and local regulations for the protection of sensitive natural communities, including riparian habitat. While future development has the potential to result in significant impacts to sensitive natural communites, the implementation of the policies and action measures listed below, as well as federal and state regulations, would reduce impacts to these resources to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.1: *Sensitive habitats include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws.*

Policy CON 1.2: *Preserve and enhance those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.*

Policy CON 1.3: *Attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses.*

Policy CON 1.7: *Consult with all resource agencies during the CEQA review process for proposed developments to help identify wetland and vernal pool habitat that has candidacy for* ***restoration****, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat and provides opportunities for mitigation banking.*

Policy CON 1.8: *Conserve riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.*

Policy CON 1.9: *Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.*

Policy CON 1.10: *Support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.*

Policy CON 1.11: *Where feasible, support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.*

Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Actions

Action CON 1a: Require development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to submit a biological resources evaluation which determines whether significant adverse impacts will occur. Evaluations shall be carried out under the direction of the Community Development Department and consistent with applicable state and federal guidelines. Projects shall be designed to avoid or reduce impacts to the maximum extent feasible. Where adverse impacts cannot be feasibly reduced or avoided through project design, projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with state or federal resource agencies with jurisdiction (if applicable) that may include, but are not limited to, the following strategies:

a. *Preservation of habitat and connectivity of adequate size, quality, and configuration to support the special-status species. Connectivity shall be determined based on the specifics of the species' needs.*
b. *Project design measures, such as clustering of structures or locating project features to avoid known locations of special-status species and/or sensitive habitats.*
c. *Provision of supplemental planting and maintenance of grasses, shrubs, and trees of similar quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife.*
d. *Protection for habitat and the known locations of special-status species through adequate buffering or other means.*
e. *Provision of replacement habitat of like quantity and quality on- or off-site for special-status species. Preference shall be given to the preservation of habitat as close to the area of impact as feasible, so long as that habitat is of comparable quality.*
f. *Enhancement of existing special-status species habitat values through restoration and replanting of native plant species.*
g. *Provision of temporary or permanent buffers of adequate size (based on the specifics of the special-status species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.*

h. Incorporation of the provisions or demonstration of compliance with applicable recovery plans for federally listed species.

i. Monitoring of construction activities by a qualified biologist to avoid impacts to on-site special status species.

Action CON 1b: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

a. Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;

b. Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and

c. Employees shall be trained by a qualified biologist to identify and avoid protected species and habitat

Action CON 1f: Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. Avoidance of wetlands and riparian habitat through site design;

b. Clustered development;

c. Transfer of development rights; and/or

d. Compensatory mitigation, such as habitat restoration or habitat creation.

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent that the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Action CON 1k: Continue to identify which stormwater and drainage facilities are in need of repair and address these needs through the CIP process.

Impact 3.3-3: The General Plan could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (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 City of Cotati contains numerous aquatic habitats that qualify as federally protected wetlands and jurisdictional waters. The most prominent aquatic habitats in Cotati are the Cotati Creek and Laguna de Santa Rosa. There are also various tributaries and drainages to Cotati Creek and Laguna de Santa Rosa within the planning area.

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.

Construction activities associated with individual future projects could result in the disturbance or loss of waters of the United States. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities.

Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. There is a reasonable 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 General Plan and adopted state, federal, and local regulations for the protection of sensitive natural communities, including

riparian habitat. The City of Cotati has prepared the General Plan to include numerous policies and action measures intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects.

The General Plan Conservation Element includes numerous policies specifically designed to address water features. Policy CON 1.8 requires the conservation of riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species. Policy CON 1.9 requires protection and enhancement of streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning. Policy CON 1.10 requires the City to support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. It also requires the City to avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare. Policy CON 1.11 requires the City to support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration. Policy CON 1.12 requires discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare. Policy CON 1.13 requires the City to prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters. Policy CON 1.14 requires new development adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.

While future development has the potential to result in significant impacts to protected water features, the implementation of the policies and action measures listed below, as well as federal and state regulations, would reduce impacts to these resources to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.1: *Sensitive habitats include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws.*

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Policy CON 1.3: *Attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses.*

Policy CON 1.7: *Consult with all resource agencies during the CEQA review process for proposed developments to help identify wetland and vernal pool habitat that has candidacy for* ***restoration****, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat and provides opportunities for mitigation banking.*

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Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Actions

Action CON 1a: Require development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to submit a biological resources evaluation which determines whether significant adverse impacts will occur. Evaluations shall be carried out under the direction of the

Community Development Department and consistent with applicable state and federal guidelines. Projects shall be designed to avoid or reduce impacts to the maximum extent feasible. Where adverse impacts cannot be feasibly reduced or avoided through project design, projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with state or federal resource agencies with jurisdiction (if applicable) that may include, but are not limited to, the following strategies:

a. *Preservation of habitat and connectivity of adequate size, quality, and configuration to support the special-status species. Connectivity shall be determined based on the specifics of the species' needs.*

b. *Project design measures, such as clustering of structures or locating project features to avoid known locations of special-status species and/or sensitive habitats.*

c. *Provision of supplemental planting and maintenance of grasses, shrubs, and trees of similar quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife.*

d. *Protection for habitat and the known locations of special-status species through adequate buffering or other means.*

e. *Provision of replacement habitat of like quantity and quality on- or off-site for special-status species. Preference shall be given to the preservation of habitat as close to the area of impact as feasible, so long as that habitat is of comparable quality.*

f. *Enhancement of existing special-status species habitat values through restoration and replanting of native plant species.*

g. *Provision of temporary or permanent buffers of adequate size (based on the specifics of the special-status species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.*

h. *Incorporation of the provisions or demonstration of compliance with applicable recovery plans for federally listed species.*

i. *Monitoring of construction activities by a qualified biologist to avoid impacts to on-site special status species.*

<u>Action CON 1b:</u> Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

a. *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*

b. *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*

c. *Employees shall be trained by a qualified biologist to identify and avoid protected species and habitat*

<u>Action CON 1f:</u> Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and

riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. *Avoidance of wetlands and riparian habitat through site design;*
b. *Clustered development;*
c. *Transfer of development rights; and/or*
d. *Compensatory mitigation, such as habitat restoration or habitat creation.*

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Action CON 1k: *Continue* to identify which stormwater and drainage facilities are in need of repair and address these needs through the CIP process.

Impact 3.3-4: General Plan implementation would not 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 (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 disjunctive 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 re-colonization 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.

Movement corridors for wildlife through Cotati include creeks, drainages, open space, as well as various low density or rural developed areas. Species using these areas include aquatic, terrestrial, and avian species. Many of the policies already presented have ancillary benefits of protecting movement habitat for wildlife. For instance, Policy CON 1.1 defines sensitive habitats to include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws. Policy CON 1.2 requires preservation and enhancement of those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.

Policy CON 1.3 directs the City to attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses. Policy CON 1.4 requires the City to focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses. Policy CON 1.5 requires the City to conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate. Policy CON 1.6 requires the City to avoid removal of large, mature trees that provide wildlife habitat or contribute to the visual quality of the environment to the greatest extent feasible through appropriate project design and building siting. If full avoidance is not possible, prioritize planting of replacement trees on-site over off-site locations. Policy CON 1.8 requires the conservation of riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.

Policy CON 1.9 requires protection and enhancement of streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning. Policy CON 1.10 requires the City to support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. It also requires the City to avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare. Policy CON 1.11 requires the City to support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration. Policy CON 1.12

requires discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.

Policy CON 1.13 requires the City to prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters. Policy CON 1.14 requires new development adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways. Policy OS 1.1 designates Cotati Creek, Laguna de Santa Rosa, etc. and other waterways as Open Space uses. Policy OS 1.4 requires integration of open space and stream corridors, such as the Laguna de Santa Rosa, with trails and other recreational open space in an environmentally sustainable manner.

Implementation of the policies and action measures listed below would ensure that all future projects are designed to facilitate the movement of wildlife to the greatest extent feasible. Where full design mitigation is not feasible, compliance with state and federal permit requirements would offset any potential impacts associated with project implementation through requirements to provide habitat connectivity and compensatory mitigation required by any applicable state or federal regulations. Adherence to the requirements of these policies would reduce this impact to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.1: *Sensitive habitats include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws.*

Policy CON 1.2: *Preserve and enhance those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.*

Policy CON 1.3: *Attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses.*

Policy CON 1.4: *Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.*

Policy CON 1.8: *Conserve riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.*

Policy CON 1.9: *Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.*

Policy CON 1.10: *Support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.*

Policy CON 1.11: *Where feasible, support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.*

Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Policy OS 1.1: *The Open Space/Parks, Agricultural, and Rural Residential General Plan Land Use designations and waterways (Cotati Creek, Laguna de Santa Rosa, etc.) shall be considered Open Space uses.*

Policy OS 1.4: *Where possible, integrate open space and stream corridors, such as the Laguna de Santa Rosa, with trails and other recreational open space in an environmentally sustainable manner.*

Actions

Action CON 1a: *Require development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to submit a biological resources evaluation which determines whether significant adverse impacts will occur. Evaluations shall be carried out under the direction of the Community Development Department and consistent with applicable state and federal guidelines. Projects shall be designed to avoid or reduce impacts to the maximum extent feasible. Where adverse impacts cannot be feasibly reduced or avoided through project design, projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with state or federal resource agencies with jurisdiction (if applicable) that may include, but are not limited to, the following strategies:*

a. *Preservation of habitat and connectivity of adequate size, quality, and configuration to support the special-status species. Connectivity shall be determined based on the specifics of the species' needs.*

b. *Project design measures, such as clustering of structures or locating project features to avoid known locations of special-status species and/or sensitive habitats.*

c. *Provision of supplemental planting and maintenance of grasses, shrubs, and trees of similar quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife.*

d. *Protection for habitat and the known locations of special-status species through adequate buffering or other means.*

e. *Provision of replacement habitat of like quantity and quality on- or off-site for special-status species. Preference shall be given to the preservation of habitat as close to the area of impact as feasible, so long as that habitat is of comparable quality.*

f. *Enhancement of existing special-status species habitat values through restoration and replanting of native plant species.*

g. *Provision of temporary or permanent buffers of adequate size (based on the specifics of the special-status species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.*

h. *Incorporation of the provisions or demonstration of compliance with applicable recovery plans for federally listed species.*

i. *Monitoring of construction activities by a qualified biologist to avoid impacts to on-site special status species.*

Action CON 1b: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

a. *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*

b. *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*

c. *Employees shall be trained by a qualified biologist to identify and avoid protected species and habitat*

Action CON 1d: Through coordination with the U.S. Fish and Wildlife Service, California Department of Fish and Game, and Sonoma County develop and maintain a map of sensitive biological communities and habitat within the Cotati Urban Growth Boundary. Ensure that this map and associated information is readily available to potential developers and the public.

Action CON 1e: Revise the Zoning Map to add the coordinated planning overlay zone to the Commercial/Industrial and General Commercial areas south of Helman Lane that are located within the critical habitat designation for the California tiger salamander.

Action CON 1f: Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. *Avoidance of wetlands and riparian habitat through site design;*
b. *Clustered development;*
c. *Transfer of development rights; and/or*
d. *Compensatory mitigation, such as habitat restoration or habitat creation.*

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent that the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Impact 3.3-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

The proposed project is a policy document, in which local policies are established. This EIR presents the numerous policies of the General Plan, many of which are intended to protect biological resources, including special status species, habitat, creeks, wetlands, and trees. The General Plan itself does not conflict with its policies. In addition, the General Plan supports the existing Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code) through its policies. For instance, Policy CON 3.13 requires the City to continue to implement the City's Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code).

Subsequent development projects will be required to comply with the General Plan policies, as well as the Municipal Code. Implementation of the policies and action measures listed below would ensure consistency with already established ordinances. This is a **less than significant** impact.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 3.13: *Continue to implement the City's Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code).*

Actions

Action CON 3k: Continue implementing the City Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code).

Action CON 3l: Periodically undertake a citywide notification program to notify the citizens and arborists doing business within the City limits of the tree preservation requirements.

Action CON 3o: During the development review process, discourage the loss of native trees in accordance with the Tree Preservation and Protection Ordinance (Chapter 17.54 of the Municipal Code).

Action CON 3p: The City shall continue to implement the landscape and tree ordinance to give preference to native and drought tolerant species. The Planning Division shall review and revise as necessary.

Impact 3.3-6: The General Plan 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 (Less than Significant)

There are no adopted habitat conservation plans or natural community conservation plans that are applicable to the proposed project. As such, implementation of the General Plan 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. The General Plan would have a **less than significant** impact relative to this topic.

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Cotati General Plan Update

Figure 3.3-1: Land Cover Map

Wildlife-Habitat Relationship System

WHR Name

- Agriculture
- Annual Grassland
- Barren
- Eucalyptus
- Freshwater Emergent Wetland
- Urban
- Water

USGS Hydrography

- Stream or River
- Canal or Ditch

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

N W E S

0 600 1,200 2,400 3,600 Feet

1:36,000

Data sources: USGS National Hydrography Dataset; CalWater 2.1.1, National Resources Conservation Service, IWMC; Cotati GIS. Map date: May 12, 2011.

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Cotati General Plan Update

Figure 3.3-2: Special Status Species 1-mile Radius

CNDDB Species and Occurrence Count

- 1: American badger (1)
- 2: Burke's goldfields (1)
- 3: California red-legged frog (4)
- 4: California tiger salamander (15)
- 5: foothill yellow-legged frog (1)
- 6: Pitkin Marsh lily (1)
- 7: seaside tarplant (2)
- 8: Sebastopol meadowfoam (1)
- 9: showy rancheria clover (1)
- 10: Sonoma sunshine (1)
- 11: tricolored blackbird (1)
- 12: western pond turtle (4)
- 13: western yellow-billed cuckoo (1)
- Areas of Multiple Species Occurrence (2)

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 600 1,200 2,400 3,600 4,800 Feet

1:48,000

Data sources: California Natural Diversity Database, Biogeographic Data Branch, Department of Fish and Game, May 3, 2011; Cotati GIS. Map date: May 9, 2011.

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Cotati General Plan Update

Figure 3.3-3: Special Status Species 10-mile Radius

CNDDB Species Type

- Amphibian
- Mammal
- Bird
- Invertebrate
- Fish
- Reptile
- Community
- Vascular Plant
- Non-Vascular Plant

Planning Areas

- Cotati City Limits
- Urban Growth Boundary

0 0.5 1 2 3 4 Miles

1:220,000

Data sources: California Natural Diversity Database, Biogeographic Data Branch, Department of Fish and Game, May 3, 2011; Cotati GIS. Map date: May 5, 2011.

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Cultural Resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the City's cultural heritage should be considered when planning for the future.

This section provides a background discussion of the prehistory, ethnology, historical period background, and cultural resources found in Cotati. This section is organized with an existing setting, regulatory setting, and impact analysis. No comments regarding cultural resources were received during the Notice of Preparation scoping period for the EIR.

Key Terms

Archaeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Paleontology. The science of the forms of life existing in former geologic periods, as represented by their fossils.

Ethnography. The study of contemporary human cultures.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

3.4.1 ENVIRONMENTAL SETTING

PREHISTORY

Archeological evidence shows that California was inhabited at least 12,000 years ago and possibly as much as 15,000 years ago (Erlandson et al. 2007), with people living along the Laguna de Santa Rosa west of Cotati by 11,000 years ago (Dowdall and Origer 1997).

Information generated by numerous regional site investigations provided Fredrickson (1974, 1994) with data used to develop one of the more recent chronologies applicable to this portion of California's North Coast Ranges. The following chronology is based largely on Fredrickson's (1974, 1994) research with modifications based on recent research.

Paleo-Indian Period (ca. 8,000 – 12,000+ years ago)

This is the time when humans first entered California. Lakeside sites established with probable emphasis on hunting. Milling technology is lacking. Exchange of goods on a one to one basis and not regularized. Social units consisted of extended families that were largely self-reliant, and moved to resources as they became available and were needed.

Archaic Period (ca. 1,000 – 8,000 years ago)

Lower Archaic Period characteristics include lakes drying due to climatic changes. Abundant milling stones suggest emphasis on plants/small seeds for food, and little hunting occurred. Limited exchange took place, and there was a reliance on the use of local materials. Wealth was not emphasized, and the dominant social unit appears to be the extended family.

Middle Archaic Period characteristics include a change in the climate, which became more benign. Economy became more diverse. Acorn use was introduced as suggested by mortars and pestles. Hunting was important as evidence by the abundance of dart tips. Sedentism began along with increased population and expansion.

Upper Archaic Period characteristics include the growth of social-political complexity with status distinctions based on wealth. Shell beads gain importance and they appear to serve as indicators of both exchange and wealth. Group-oriented religious organizations emerge with possible origin of Kuksu religious system. Exchange systems became more complex with regularized sustained exchanges occurring between groups. Territorial boundaries were fluid.

Emergent Period (ca. 200 – 1,000 years ago)

Lower Emergent Period characteristics included the introduction of the bow and arrow, which largely replaced the dart and atlatl. South coast marine adaptations flourished. Territorial boundaries became well established, and regularized exchange between groups continued with increased goods being exchanged. Increasing evidence is found of distinctions in social status linked to wealth.

Upper Emergent Period characteristics include the appearance of the clam disk bead money economy. Increasingly, more goods were moved farther. Local specialization with regard to production and exchange of goods grew. South and central exchange systems were interpenetrated.

ETHNOLOGY

Coast Miwok

At the time of European incursion, the Coast Miwok occupied a territory that extended from the Golden Gate north into southern Sonoma County, and from the Pacific Ocean to the ridge dividing Sonoma and Napa counties. Over 40 named villages were identified within this territory during the early 20th century (Kroeber 1925). This area encompassed what is now the City of Cotati, which takes its name from the Miwok village that was located north of the current town (Barrett 1908).

Politically, the Coast Miwok were organized in “territorial, multi-family, landholding communities” or tribelets, each with multiple villages of relatively even size (Milliken 2010). Territories were vaguely defined, but included fishing and gathering areas used by the group. Tribelets had a headman, who advised the people. This was not a hereditary position. Two female leaders saw to the coordination and execution of major group activities such as dances, ceremonial activities, and

construction of a new dance house. One of these was said to be in charge of everyone, even the headman (Kelly 1978:419).

Fish, mussels, clams, and seaweeds were major food sources, with winter runs of salmon and steelhead being especially important. Land mammals including deer, bears, rabbits, wood rats, and gophers were also eaten. Acorns were a staple food source, with tan oak (*Lithocarpus densiflora*) being preferred for mush, and valley oak (*Quercus lobata)* for bread.

HISTORIC PERIOD BACKGROUND

The earliest attempt at non-native settlement in the area was by John Reed in 1827, who built a house and planted a grain crop. However, his crop fell victim to the Native American practice of seasonally burning the grassland to improve the seed production. Reed left the area, settling in Marin County and becoming quite successful.

The Cotate Rancho was a large land grant, given by the Mexican government to Captain Juan Castaneda, that changed hands several times until it was purchased by Dr. Thomas Page in 1849. The Cotate Rancho remained relatively intact during Page's lifetime despite the fact that some 4,500 acres of land was siphoned off by squatters, some of whom eventually paid Page for their land. Upon his death in 1872, Page left his heirs the Cotate grant stipulating that the rancho could not be divided until his youngest son, William, reached the age of 25. When William Page reached the appointed age in 1892 the sons were ready to begin dividing the rancho. Settlement in this southern Sonoma County community centered on newly formed Cotati, whose town plan was designed by Newton Smyth circa 1892. Unique for its hexagonal form, this was one of only two such town plats in the United States. In the 1898 county atlas (Reynolds and Proctor 1898:36), the San Francisco-based Cotati Company advertised 8,000 acres of the rancho for sale.

During the latter part of the nineteenth century, there was a notable trend toward division of large holdings in and around the Cotati General Plan area. The earliest of these subdivisions broke large tracts of land into smaller farm parcels "large enough to accommodate a successful farming venture" (Praetzellis *et al.* 1989:18). The Cotati Company capitalized on this trend beginning in 1892 as the Page heirs divided the rancho lands into progressively smaller farm lots, with town lots focused around the plaza.

A boon to the Cotati Company was the chicken ranching phenomenon that swept southern Sonoma County at the end of the 19th and beginning of the 20th centuries. While it was always a farming community, many families were drawn to the area by contemporary booster literature proclaiming poultry raising to be a profitable and near effortless pursuit. During the early part of the twentieth century, small-scale family-owned chicken ranches appeared throughout the southern part of the county and Cotati, as well as Petaluma, was a prime poultry area. The following excerpt appeared in a brochure published by The California Promotion Committee during the early part of the twentieth century.

> *"Cotati's chief industry is poultry and eggs. Cotati ships over 500 cases of eggs weekly, while from her outskirts and suburbs, many other hundreds are shipped. On every side and slope, in sun and shade, by brook and glade, can be heard and*

> *seen the lay of the Leghorn hen. In Cotati every phase of the chicken industry is carried on as its profitable side appeals to the person so engaged. Here can be seen ranches varying in size from 5 to 50 acres, and from 500 to 10,000 or 12,000 hens. The widow, the spinster, the bachelor, the man of family can all be found in Cotati, and all engaged in the poultry business [The California Promotion Committee circa 1900]."*

As the twentieth century progressed, lots created through the subdivisions of the rancho lands were generally too small to provide a family's primary source of income. Work outside the home became increasingly necessary to sustain a family' economic viability, and there was greater reliance on goods sold at retail outlets. While in the past, large farms and ranches were relatively self-sufficient, families living on these small farms could now not meet all of their own needs.

Division of rural lands also brought with it an increase in the number of people living in areas isolated from amenities readily found in town. As families began moving into the newly created rural subdivisions, the need for nearby groceries and supplies also grew. It was during this time frame that many small rural stores and shops opened their doors to provide needed supplies and services.

During the early years of the 20th century, the nearest railroad access for Cotati farmers was the Petaluma and Santa Rosa electric railroad that traveled along Stony Point Road, west of town. Farmers were forced to leave their products on the side of the track to await shipment because there was no depot. A group known as The Cotati Progressive League convinced the Northwestern Pacific Railroad that a depot was needed in Cotati, and in 1907 the Cotati Depot was opened at the former Page's Station (Breen 1914). For a while, it looked like the Petaluma & Santa Rosa line might send a spur into Cotati but the plan eventually was dropped.

In the next decade, work on State Highway 1 (now 101) commenced, and by 1929 the Redwood Highway was paved from the Sausalito Ferry terminal to Cloverdale (LeBaron and Mitchell 1993:35). For a while it was not clear whether Cotati would profit from the highway, as an alternate route was proposed that would have shifted the present-day alignment to the east. Once the decision was made to route the new road through Cotati, local businesses rallied to make the town an interesting, if not the largest, stop along the Redwood Highway. Old businesses were expanded, and new shops sprang up in Cotati, many incorporating the Spanish Revival architecture promoted for use along the highway.

In the early 1960s, two important events occurred in the Cotati area: the state chose a tract of land at the end of East Cotati Avenue as the site of a new state college, and Cotati incorporated as a city. When Sonoma State University opened the doors of its new campus in 1966, Cotati saw an immediate increase in its population, and the town became a popular gathering area for students. During the 1970s, it was a magnet for counter culture groups, and many downtown businesses catered to the student crowd.

CULTURAL RESOURCES IN COTATI

There have been 75 cultural resources studies completed within the Sphere of Influence (SOI). These studies cover approximately ten percent of the Planning Area. Twenty-three buildings in downtown Cotati are considered noteworthy by local residents, and have been included in a self-guided walking tour brochure produced by the Cotati Chamber of Commerce. These buildings are not sufficiently closely grouped or thematically related to be considered as a historic district; however, they do comprise a substantial concentration of early 20th century structures in a relatively localized area. Additional buildings old enough to be potentially eligible for inclusion on the California Register are found in the greater downtown area. Only the Plaza has been formally designated an historical resource. La Plaza is listed as a California Historical Landmark (number 879) for its hexagonal shape. It is one of only two town centers in the U.S designed on the six-sided form.

Table 3.4-1 lists 47 buildings from the late 19th and early 20th centuries that have the potential to meet criteria for inclusion on the California Register of Historical Resources. Those with an HPD notation in the 'Notes' column have been evaluated for the National Register of Historic Places, but have not been considered for state or local listing. The buildings at 100 Valparaiso were evaluated and the house appeared eligible for listing on the California Register, however, a fire destroyed much of the historic fabric, and its eligibility has been compromised. The remaining buildings have not been evaluated for any form of listing. In each case, these buildings should be formally evaluated prior to substantial changes or development of the properties. In addition, the land surrounding these buildings (the "toft" or area around the building complex) should be considered sensitive for historical archaeological deposits.

TABLE 3.4-1: BUILDINGS POTENTIALLY ELIGIBLE FOR THE CALIFORNIA REGISTER

HOUSE	STREET	YEAR BUILT	NOTES
8167	Arthur Street	1920	Not evaluated
8186	Arthur Street	1920	Not evaluated
7582	Commerce Blvd	1927	Not evaluated
7560	Commerce Blvd	1947	HPD 6Y
7600	Commerce Blvd	1920	HPD 6Y
8779	Cypress Ave	1885	Not evaluated
7400	Gravenstein Hwy	1909	HPD 6Y
7960	Gravenstein Hwy	1927	HPD 6Y
8028	Gravenstein Hwy	1910	HPD 6Y
8260	Gravenstein Hwy	1900	Not evaluated
363	Helman Lane	1910	Not evaluated
45	Henry Street	1904	Not evaluated
85	La Plaza	1910	7N
8140	La Plaza	1910	Not evaluated
8150	La Plaza	1910	Not evaluated
8200	La Plaza	1954	Not evaluated
896	Madrone Ave	1905	Not evaluated
355	Maple Ave	1915	Not evaluated
8154	Olaf Street	1910	Not evaluated
8156	Olaf Street	1920	Not evaluated
800	Old Redwood Hwy	1905	Not evaluated

TABLE 3.4-1: BUILDINGS POTENTIALLY ELIGIBLE FOR THE CALIFORNIA REGISTER

HOUSE	STREET	YEAR BUILT	NOTES
8015	Old Redwood Hwy	1910	Not evaluated
8045	Old Redwood Hwy	1910	Not evaluated
8201	Old Redwood Hwy	1915	Not evaluated
8220	Old Redwood Hwy	1923	Not evaluated
8480	Park Ave	1905	HPD 6J
855	Richardson Lane	1920	Not evaluated
490	School Street	1910	Not evaluated
550	School Street	1921	Not evaluated
100	Valparaiso Ave	1914	Severely damaged by fire
301	Valparaiso Ave	1925	Not evaluated
50	W Cotati Ave	1910	Not evaluated
65	W Cotati Ave	1916	Not evaluated
70	W Cotati Ave	1905	Not evaluated
79	W Cotati Ave	1905	Not evaluated
683	W Cotati Ave	1924	Not evaluated
36	W Sierra Ave	1924	Not evaluated
61	W Sierra Ave	1914	Not evaluated
78	W Sierra Ave	1920	Not evaluated
175	W Sierra Ave	1905	Not evaluated
425	W Sierra Ave	1910	Not evaluated
8655	Water Road	1903	HPD 6Y
8750	Water Road	1914	Not evaluated
21	William Street	1910	Not evaluated
50	William Street	1915	Not evaluated
58	William Street	1914	Not evaluated
70	William Street	1908	Not evaluated

SOURCE: NORTHWEST INFORMATION CENTER, SONOMA STATE UNIVERSITY, 2011

Thirty-six cultural resources have been recorded within the SOI. The specific location of these cultural resources is confidential pursuant to the requirements of the California Historic Resources Information System, which maintains statewide records of historical resources through regional Information Centers. Of the 36 cultural resources, seven are prehistoric Native American archaeological sites, two are historic-period archaeological sites, and 27 are built environment resources. All but five of these resources are within the city limits.

It has been generally held that prehistoric Native American sites are most likely to occur where several environmental factors combine to provide readily available resources, such as at the interface between valley and hills. However, recent work has shown that sites do occur on the plain between US 101 and Petaluma Hill Road, where the soil drains poorly, and previous wisdom would not have anticipated such deposits. This suggests that the entire Planning Area should be considered sensitive for prehistoric Native American archaeological sites.

Figure 3.4-1 shows the area considered sensitive for prehistoric Native American archaeological deposits, and the segment of the downtown area considered to have potential for historical interpretation.

CONSULTATION

Letters were sent to the Native American Heritage Commission, the Federated Indians of Graton Rancheria, and the Cotati Historical Society to request information regarding the Planning Area. The Native American Heritage Commission responded with a letter dated May 25, 2011 indicating that they had no specific information regarding cultural resources within the Planning Area.

The Federated Indians of Graton Rancheria responded in a letter dated May 23, 2011 indicating that because the General Plan Update falls under SB18 they would initiate consultation directly with the City. City staff and the General Plan Update team met with the Federated Indians of Graton Rancheria to discuss possible mitigation approaches to ensure avoidance and protection of Native American cultural resources within the Planning Area.

The General Plan Update team met with the Cotati Historical Society, which identified its concern for preservation of the historical character of downtown Cotati.

3.4.2 REGULATORY SETTING

FEDERAL REGULATIONS

National Historic Preservation Act

Most regulations at the federal level stem from the National Environmental Policy Act (NEPA) and historic preservation legislation such as the National Historic Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and NEPA requirements concerning cultural resources. Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Department of Transportation Act - Section 4(f)

The Department of Transportation (DOT) Act of 1966, is set forth in Title 49 United States Code (U.S.C.). This law established that it is the policy of the United States Government to make a special effort to preserve historic sites. The Secretary of Transportation may approve a transportation program or project that requires the use of a historic site of national, state, or local significance only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

STATE REGULATIONS

California Register of Historic Resources (CRHR)

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in documents prepared pursuant to the California Environmental Quality Act (CEQA). Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR. Historic properties listed, or formally designated for eligibility to be listed, on The National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed. The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

California Environmental Quality Act (CEQA)

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet significance criteria qualifying them as “unique,” “important,” listed on the California Register of Historical Resources (CRHR), or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- identify cultural resources,
- evaluate the significance of the cultural resources found,
- evaluate the effects of the project on cultural resources, and
- develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

California Public Resources Code

Section 5097 of the Public Resources Code specifies the procedures to be followed in the event of the unexpected discovery of historic, archaeological, and paleontological resources, including human remains, historic or prehistoric resources, paleontological resources on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the California Native American Heritage Commission (NAHC). Section 5097.5 of the Code states the following:

> *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.*

California Health and Safety Code

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also

requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Assembly Bill 978

In 2001, Assembly Bill (AB) 978 expanded the reach of 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.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed 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 §15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines §15064.5;
- Directly or indirectly destroy a unique paleontological resource; or
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Substantial Adverse Change in the Significance of a Historical or Archaeological Resource (Less than Significant)

A substantial adverse change in the significance of an historic resource is defined at Section 15064.5 (b)(1) of the CEQA Guidelines as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Known historic and prehistoric resource sites are located throughout Cotati and the Planning Area, and it is expected that additional undiscovered sites may be located in various areas of the city as well. While the 2013 General Plan does not directly propose any adverse changes to any historic or archaeological resources, future development allowed under the General Plan could affect known historical and archaeological resources or unknown historical and archaeological resources which have not yet been identified. Thirty-six

resources have been recorded within the Planning Area. Of these, seven are prehistoric Native American archaeological sites, two are historic-period archaeological sites, and 27 are built environment resources. All but five of these resources are within the city limits.

It has been generally held that prehistoric Native American sites are most likely to occur where several environmental factors combine to provide readily available resources, such as at the interface between valley and hills. However, recent work has shown that sites do occur on the plain between US 101 and Petaluma Hill Road, where the soil drains poorly, and previous wisdom would not have anticipated such deposits. This suggests that the entire Planning Area should be considered sensitive for prehistoric Native American archaeological sites.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's General Plan, Land Use Code, and other applicable state and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The 2013 Cotati General Plan includes policies and actions that would reduce impacts to cultural, historic, and archaeological resources, as well as policies and actions for the conservation of cultural, historic, and archaeological resources.

Policies CON 4.1, CON 4.3, and CON 4.4 encourage the protection and preservation of cultural and historic resources and consultation with Native American representatives to identify and appropriately address cultural resources and sacred sites during the development review process. Action CON 4c addresses the discovery of significant archaeological and historic resources during construction and grading activities, requiring that development work be stopped in the event of a discovery and that appropriate measures be implemented to protect the resource. Policies CON 4.5 and CON 4.6 encourage the preservation and reuse of historic buildings and structures to maintain their historical significance. Action CON4b requires development projects that would affect potentially significant historic buildings and structures to evaluate potential impacts to the resources and to institute appropriate measures, such as avoidance or documentation, to reduce the significance of potential impacts to a less than significant level.

Adoption and implementation of the policies and actions listed below would ensure that adverse effects on significant historic and archaeological resources are reduced to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 4.1: *Review proposed developments and work in conjunction with the California Historical Resources Information System, Northwest Information Center at Sonoma State University, to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.*

Policy CON 4.3: *Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process.*

Policy CON 4.4: *Consistent with State local and tribal intergovernmental consultation requirements such as SB18, the City shall consult with Native American tribes that may be interested in proposed new development and land use policy changes.*

Policy CON 4.5: *Encourage the voluntary identification, conservation, and re-use of historical structures, properties, and sites with special and recognized historic, architectural, or aesthetic value.*

Policy CON 4.6: *Encourage historic resources to remain in their original use whenever possible. The adaptive use of historic resources is preferred, particularly as museums, educational facilities, or visitor-serving uses, when the original use can no longer be sustained. Older residences may be converted to office/retail use in commercial areas and to tourist or business use, so long as their historical authenticity is maintained or enhanced.*

Actions

Action CON 4a: Work with the Federated Indians of the Graton Rancheria to prepare a narrative description of the Native American background of the Cotati area and request the Federated Indians of the Graton Rancheria provide pictorial examples of the types of Native American resources present in the vicinity. Place this description on the City's website as a link under the History of Cotati section.

Action CON 4b: Require a cultural and archaeological survey prior to approval of any development project where a potential or known historical, archaeological, or other cultural resource is located or which would require excavation in an area that is sensitive for cultural or archaeological resources. If significant cultural or archaeological resources, including historic and prehistoric resources, are identified, the project shall be required to implement appropriate measures, such as avoidance, capping of the resource site, or documentation and conservation, to reduce adverse impacts to the resource to a less than significant level.

Action CON 4c: Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

a. *If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Community Development Department shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Community Development Department.*

b. *If human remains are discovered during any ground disturbing activity, work shall stop until the Community Development Department and the County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Community Development Department.*

Action CON 4f: *Develop guidelines for remodels of potentially historic residential structures to ensure that the character and individuality of such residences is maintained. The guidelines should address:*

1. *Design styles, age of home, and other criteria to determine applicability of the guidelines;*
2. *Exterior features that are important and covered by the guidelines (e.g., siding and exterior finishes, windows, doors, roofs, porches, garages, outbuildings, streetscapes);*
3. *Standards for modifications and renovation, including the extent of changes that can occur;*
4. *Activities that are exempt from the guidelines, such as interior improvements and routine maintenance and repair.*

Impact 3.4-2: Disturbance of Human Remains (Less than Significant)

Indications are that humans have occupied areas along the Laguna de Santa Rosa, west of Cotati, for at least 11,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities allowed under the 2013 General Plan may yield human remains that may not be marked in formal burials.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's General Plan, Land Use Code, and other applicable state and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that Native American human remains are inadvertently discovered during development activities. The 2013 General Plan includes Policy CON 4.2, which requires that human remains are treated with sensitivity and dignity, and ensures compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. Action CON 4c includes specific provisions that must be enacted if human remains are inadvertently discovered during construction activities. Implementation of these policies and actions ensures that potential adverse impacts to human remains would be **less than significant**.

2013 GENERAL PLAN POLICIES THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 4.2: *Ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.*

Actions

<u>Action CON 4c</u>: Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

c. If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the Community Development Department shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the Community Development Department.

d. If human remains are discovered during any ground disturbing activity, work shall stop until the Community Development Department and the County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the Community Development Department.

Impact 3.4-3: Damage to or the Destruction of Paleontological Resources (Less than Significant)

There are no known paleontological resources located in the Cotati Planning Area. However, development allowed under the 2013 General Plan could result in the discovery and disturbance of previously unknown or undiscovered paleontological resources. Geologic formations, including the Upper Cretaceous marine sedimentary rocks and various Quaternary subunits, that have a high to moderate potential for paleontological resources are present throughout many areas in California. As future development and infrastructure projects are considered by the City, subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The 2013 General Plan provides guidance regarding the conservation of paleontological resources, ensuring that any unique paleontological resources discovered during implementation of the General Plan are conserved appropriately. The implementation of Action CON 4b, listed above, would ensure potential impacts to paleontological resources are reduced to **less than significant**.

Cotati General Plan Update

Figure 3.4-1: Sensitive Archaeological Areas

Areas consdiered sensitive for prehistoric archaeological sites

Historic Corridor

Planning Areas

Downtown Special Plan Area

Cotati City Limits

Urban Growth Boundary/SOI

0 500 1,000 2,000 Feet

1:30,000

Data sources: Tom Origer and Associates, USGS National Hydrography Dataset; Cotati GIS. Map date: July 15, 2011. Revised November 19, 2013.

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A Land Use Planning, Design, and Environmental Firm

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Geology is the science and study of the solid Earth and the processes by which it is shaped and changed. Modern geology is publicly important for predicting and understanding natural hazards, including risks from seismicity, erosion, and landslides.

This section provides a background discussion of the seismic and geologic hazards, and other geologic hazards, and mineral resources found in the City of Cotati and the regional vicinity. This section is organized with an existing setting, regulatory setting, and impact analysis.

3.5.1 ENVIRONMENTAL SETTING

The City of Cotati is located in Sonoma County, approximately 20 miles east of the Pacific Ocean, and 45 miles north of San Francisco. The Cotati City limits encompass approximately 1,217 acres. The City's Sphere of Influence covers an additional 1,010 acres.

GEOMORPHIC PROVINCE

California's geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform. Earth scientists recognize eleven provinces in California. Each region displays unique, defining features based on geology, faults, topographic relief and climate. These geomorphic provinces are remarkably diverse. They provide spectacular vistas and unique opportunities to learn about earth's geologic processes and history (California Department of Conservation, 2002).

The City of Cotati lies within the Coast Range Geomorphic Province, which are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. Strata dip beneath alluvium of the Great Valley. To the west is the Pacific Ocean. The coastline is uplifted, terraced and wave-cut. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields. The Coast Ranges are subparallel to the active San Andreas Fault. The San Andreas is more than 600 miles long, extending from Pt. Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands (California Department of Conservation, 2002).

REGIONAL GEOLOGY

The topography in Sonoma County is complex, which is directly correlated to the complex geology within the region. The County has several prominent mountain ranges and valleys, as well as coastal terraces. The Cotati and Petaluma Valleys are an important region within Sonoma County. These Valleys form a wide basin that stretches from the San Pablo Bay in the south to Santa Rosa in the north. The southern portion of the basin is called the Petaluma Valley, while the northern

portion is the Cotati Valley. The City of Cotati is in the southern portion of the Cotati Valley, which is bordered by the Sonoma Mountains to the east, and a series of low hills to the west. Farther to the west are the Estero Lowlands (aka Petaluma Gap), which opens to the Pacific Ocean.

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 15 miles west of the City of Cotati. The San Andreas fault system is responsible for the structural alignment and orientation of the mountains and valleys in the Coast Range, which includes the Cotati Valley. (Sonoma County Water Agency, 2011).

Lithology and Stratigraphy

The region is predominantly marine and nonmarine sediments of the Pliocene and Quaternary with recent alluvium. The oldest geologic units in the region are the Franciscan Complex, which is Jurassic (208 to 146 million years ago) (mya) to Early Cretaceous (146 to 106 mya). The Franciscan Complex consists of folded and faulted sandstones, shale, conglomerates, chert, greenstone, and serpentinite rocks. In some areas these rocks occur as large intact blocks, and in others may occur as a mixture of rocks. Much younger Miocene (5 to 23 mya) to Pliocene (1.8 to 5 mya) sedimentary rocks, including the Wilson Grove Formation (marine sandstone, conglomerate, and tuff) and the Petaluma Formation (mostly non-marine claystone, mudstone, and siltstone) were deposited on top of the Franciscan Complex. During Pliocene time volcanic activity created widespread deposits of the Sonoma Volcanics (basalt, andesite, rhyolite, tuff, and other volcanic rocks) in the eastern portion of the County. Pleistocene (1.8 mya to 11,000 years ago) to Holocene (<11,000 years ago) alluvium constitutes the youngest geologic unit in the region. (California Department of Water Resources, 2004).

Hydrogeology

The City of Cotati is within the Santa Rosa Plain subbasin, which is the subject of recent and continuing studies. Recent studies by the USGS have revealed that the basin is subdivided into two primary compartments termed the Windsor sub-basin in the north and the Cotati sub-basin in the south, which are separated by the Trenton fault. These two areas represent the deepest parts of the basin and range from 6,000 to 10,000 feet deep.

Both unconfined and confined aquifers are found within the Santa Rosa Plain subbasin depending upon locations in the basin with respect to relatively continuous clay layers, folding and faulting. The waterbearing deposits underlying the basin include the Wilson Grove Formation, the Glen Ellen Formation, the Petaluma Formation, and a younger and older alluvium. The Wilson Grove Formation is the major water-bearing unit in the western part of the basin and ranges in thickness from 300 feet to 1,500 feet. Deposited during the Pliocene, it is a marine deposit of fine sand and sandstone with thin interbeds of clay, silty-clay and some lenses of gravel. Interbedded and interfingered with the Wilson Grove Formation are Sonoma Volcanic sediments in the eastern

basin separating the water-bearing units. Aquifer continuity and water quality are considered good based on the most current and detailed reference on the hydrogeology of the subbasin. (Sonoma County Water Agency, 2011).

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.
- **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 Planning Area. However, there are numerous faults located in the region. Figure 3.5-1 illustrates the location of these faults. Below is a brief summary of the most notable faults in the region:

- **San Andreas Fault System**: The San Andreas Fault system is an active fault located approximately 15 miles west of the City of Cotati. The fault generally follows a northwest to southeast line and is capable of an 8.0 magnitude earthquakes. The fault is characterized as a right-lateral strike-slip fault. 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 epicenter was on the San Andreas fault roughly 56 miles south of San Francisco and 10 miles northeast of Santa Cruz, near Mt. Loma Prieta in the Santa Cruz Mountains. The focal depth was 11 miles (typical California earthquake focal depths are 4 to 6 miles). Loma Prleta ruptured the southernmost 30 miles of the break that caused the 1906 San Francisco Earthquake. 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 east of the City of Cotati. The fault generally follows a path that is parallel to the San Andreas Fault and is capable of a 7.0 magnitude earthquake. This fault is considered a northern extension of the Hayward Fault System, although there is no evidence that they connect under the San Pablo Bay. The fault is characterized as a right-lateral strike slip fault. There are no historical reports of land rupture; however, geologists estimate the most recent rupture to have occurred sometime between 1670 and 1776. (California Geological Survey, 2002).

- **Healdsburg Fault:** The Healdsburg Fault is an active fault located to the northwest of the City of Cotati. The fault generally follows a path that is parallel to the San Andreas Fault and is capable of a 7.5 magnitude earthquake. This fault is considered to be a northern extension of the Rodgers Creek Fault, which is part of the Hayward Fault System. The fault is characterized as a right-lateral strike slip fault. The last reported event was recorded on 1969. (California Geological Survey, 2002).

- **Mayacama Fault**: The Mayacama Fault is an active fault located to the northwest of the City of Cotati. The fault generally follows a path that is parallel to the San Andreas Fault and is capable of a 7.5 magnitude earthquake. This fault is considered to be the northern-most extension of Hayward Fault System. The fault is characterized as a right-lateral slip fault. There are no historical reports of land rupture; however, geologists estimate the most recent rupture to have occurred sometime between 1520 and 1660. (California Geological Survey, 2002).

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 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
5.4 – < 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 (g). 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 we think will occur during a 50-year interval, which will make buildings safer than if they were only designed for the ground motions that we expect to occur in the next 50 years. The California Geological Survey estimates a 10% probability of exceeding 40-50 percent of gravity at peak ground acceleration over the next 50 years in the Cotati Planning Area, as well as other communities within the Cotati and Petaluma Valleys. As you move east toward the Rodgers Creek Fault, or west toward the San Andres Fault, the estimates increase up to 60-70 percent of gravity at peak ground acceleration. The following table represents the California Geological Survey's estimates of the 10 percent probability of exceedance in 50 years for City of Cotati, as well as the foothill and mountainous regions to the east and west of the Cotati Valley.

TABLE 3.5-2: 10 PERCENT PROBABILITY OF EXCEEDANCE IN 50 YEARS (%G)

COTATI PLANNING AREA	FOOTHILLS	MOUNTAINS
40-50%	50-60%	60-70%

SOURCE: CALIFORNIA GEOLOGICAL SURVEY, 2006

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. While there are no known active faults located within the City of Cotati, the area could experience considerable ground shaking generated by faults outside City of Cotati. For example, the City of Cotati could experience intensities of MM VII to VIII generated by seismic

events occurring in the region (ABAG, 2011). The following table represents the potential effects of an earthquake based on the Modified Mercalli Intensities.

TABLE 3.5-3: 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.

The Significant United States Earthquakes 1568 – 2004 data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within City of Cotati. However, significant earthquakes are documented in the regional vicinity, as identified in the following tables.

The City of Cotati could also be subject to major earthquakes along currently inactive or unrecognized faults. Two examples include the 1983 Coalinga Quake (6.5 magnitude) and the 1994 Northridge Quake (6.7 magnitude), which was an unknown fault, and a “blind” thrust fault over 10 miles below the surface, respectively.

TABLE 3.5-4: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	LOCATION	YEAR
5.2	Yountville	2000
6.9	Loma Prieta (San Andreas)	1989
5.6	Santa Rosa (Rodgers Creek)	1969
5.7	Santa Rosa (Rodgers Creek)	1969
7.9	San Francisco (San Andreas)	1906
4.0 – 5.0	Santa Rosa	1899
6.8	Mendocino (San Andreas?)	1898
6.2	Mare Island	1898
5.1	Santa Rosa	1893
6.2	Winters	1892
6.4	Vacaville	1892
5.5	Napa – Sonoma	1891

TABLE 3.5-4: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	LOCATION	YEAR
4.0 – 5.0	Petaluma	1888
6.8	East San Francisco Bay (Hayward)	1868
6.5	Santa Cruz Mountains	1865
4.0 – 5.0	Santa Rosa	1865
6.8	San Francisco Peninsula	1838

SOURCE: CALIFORNIA GEOLOGICAL SURVEY, 2009.

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 City of Cotati; however, approximately 3.5 miles to the east lies the Rodgers Creek Fault, which is delineated as an Alquist-Priolo Fault Zone. Additionally, approximately 15 miles to the west lies the San Andres Fault, which is also delineated as an Alquist-Priolo Fault Zone. Figure 3.5-1 illustrates the location of the closest Alquist-Priolo Earthquake Fault Zone.

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. Currently, there are no seismic hazard zones 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 (CGS) produces liquefaction Susceptibility Maps and identifies "Zones of Required Investigation" per the state's Seismic Hazard Zonation Program.

The article *Mapping Liquefaction-Induced Ground Failure Potential* (Youd and Perkins, 1978) provides a generalized matrix to demonstrate the relationship between liquefaction potential and

depositional landscapes. The following table, which is recreated from Youd and Perkins, demonstrates the general relationship between the nature and age of sediment and the anticipated liquefaction potential.

TABLE 3.5-5: LIQUEFACTION POTENTIAL BASED ON SEDIMENT TYPE AND AGE OF DEPOSIT

SEDIMENT	SUSCEPTIBILITY BASED ON AGE OF DEPOSITS (YEARS BEFORE PRESENT)			
	MODERN (< 500 YEARS)	HOLOCENE (< 10,000)	PLEISTOCENE (< 2MILLION)	PRE-PLEISTOCENE (> 2 MILLION)
River Channel	Very High	High	Low	Very Low
Flood Plain	High	Moderate	Low	Very Low
Alluvial Fan/Plain	Moderate	Low	Low	Very Low
Lacustrine/Playa	High	Moderate	Low	Very Low
Colluvium	High	Moderate	Low	Very Low
Talus	Low	Low	Very Low	Very Low
Loess	High	High	High	- ? -
Glacial Till	Low	Low	Very Low	Very Low
Tuff	Low	Low	Very Low	Very Low
Tephra	High	High	- ? -	- ? -
Residual Soils	Low	Low	Very Low	Very Low
Sebka	High	Moderate	Low	Very Low
Un-compacted Fill	Very High	NA	NA	NA
Compacted fill	Low	NA	NA	NA

SOURCE: YOUD AND PERKINS, 1978

The CGS Liquefaction Susceptibility Maps and "Zones of Required Investigation" are produced per the state's Seismic Hazard Zonation Program. In Northern California, the areas of high liquefaction potential identified by the CGS are confined to the nine counties comprising the Bay Area, which includes Sonoma County. Figure 3.5-2 illustrates the liquefaction potential in the vicinity of the Planning Area.

Liquefaction potential in the Planning Area includes designations of "Very Low" and "Moderate" potential. The area designated "Moderate" potential for liquefaction is located along the northern and eastern edge of the Planning Area, generally associated with the channelized Laguna de Santa Rosa. There is also a small area located west of US 101 and south of SR 116 that is designated "Moderate" potential for liquefaction. The remainder of the Planning Area is designated "Very Low" potential for liquefaction.

Structural Damage

There are four seismic zones in the United States. The zones are numbered one through four, with Zone 4 representing the highest level of seismic hazard. There are more stringent design and construction standards for areas within Zones 3 and 4, which includes all of California. The City of Cotati is located in Seismic Zone 4, the most seismically active of the four seismic zones in the United States. As such, building design in the City of Cotati is subject to more stringent seismic design standards.

The susceptibility of a structure to damage from ground shaking is related to the structural design and construction quality, as well as the underlying foundation material. Newer buildings in California have generally been built to a seismic design standard that is anticipated to withstand ground shaking. However, seismic events can have particularly negative effects on 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. In most cases, these older buildings require retrofit, or they risk significant structural damage during an earthquake.

OTHER GEOLOGIC HAZARDS

Soils

The soils in the Planning Area are predominately sediments and recent alluvium. The sediments are Haploxerults, Pelloxererts, and Palexeralfs, and the recent alluvium are Fluvaquentic Haploxerolls and Pelloxererts. The soil temperature regimes are mesic and thermic. Soil moisture regimes are xeric (nearly ustic) and aquic on the Santa Rosa Plain and vicinity. (Natural Resource Conservation Service, 2011).

According to the Natural Resource Conservation Service (2011), there are six different soil series located in the Cotati Planning Area. These include the Blucher, Clear Lake, Cotati, Haire, Los Osos, and Sebastopol series. Figure 3.5-3 presents a map of the soils located in the Planning Area. Information from the NRCS official soil description for these series is provided below.

- **Blucher:** The Blucher series consists of deep, somewhat poorly drained soils that formed in alluvium from mixed sources. Blucher soils are in basins and on alluvial fans and have slopes of 2 to 5 percent. The mean annual precipitation is about 40 inches. The mean annual temperature is about 60 degrees F.

- **Clear Lake**: The Clear Lake series consists of very deep, poorly drained soils that formed in fine textured alluvium derived from sandstone and shale. Clear Lake soils are in basins and in swales of drainage ways. Slopes are 0 to 2 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 60 degrees F.

- **Cotati**: The Cotati series consists of deep and very deep, moderately well drained soils formed in material weathered from soft sedimentary rocks. Cotati soils are on terraces and have slopes of 2 to 30 percent. The mean annual precipitation is 30 inches and the mean annual temperature is 59 degrees F.

- **Haire**: The Haire series consists of moderately well drained soils on old terraces and alluvial fans. Slope is 0 to 30 percent. These soils formed from alluvium derived from sedimentary rock. The mean annual precipitation is 25 to 30 inches, and the mean annual air temperature is 60 degrees F.

- **Los Osos**: The Los Osos series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Los Osos soils are on uplands and have slopes of 5 to 75 percent. The mean annual precipitation is about 25 inches and the mean annual air temperature is about 60 degrees F.

- **Sebastopol**: The Sebastopol series consists of deep, well drained soils formed in material weathered from soft sandstone. Sebastopol soils are on old coastal terraces and have slopes of 2 to 30 percent. The mean annual precipitation is 40 inches and the mean annual temperature is 55 degrees F.

Erosion

The U.S. Natural Resources 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 erodibiity of the fine soils. The estimates are modified by the presence of rock fragments.

Soil erosion data for the City of Cotati were obtained from the NRCS. Figure 3.5-4 depicts the soil erosion susceptibility in the Planning Area. As identified in the table below, the erosion factor Kf varies from 0.24 to 0.32, which is considered moderately low to moderate potential for erosion.

TABLE 3.5-6: SOIL EROSION FACTORS

MAP SYMBOL AND SOIL NAME	KF	REPRESENTATIVE VALUE		
		% SAND	% SILT	% CLAY
BcA—BLUCHER FINE SANDY LOAM, OVERWASH, 0 TO 2 PERCENT SLOPES	0.32	68.8	16.2	15
CeA—CLEAR LAKE CLAY, 0 TO 2 PERCENT SLOPES	0.24	22.1	27.9	50
CeB—CLEAR LAKE CLAY, 2 TO 5 PERCENT SLOPES	0.24	22.1	27.9	50
CfA—CLEAR LAKE CLAY, PONDED, 0 TO 2 PERCENT SLOPES	0.24	22.1	27.9	50
CtC—COTATI FINE SANDY LOAM, 2 TO 9 PERCENT SLOPES	0.32	68.8	16.2	15
CtD—COTATI FINE SANDY LOAM, 9 TO 15 PERCENT SLOPES	0.32	68.8	16.2	15
CtE—COTATI FINE SANDY LOAM, 15 TO 30 PERCENT SLOPES	0.32	68.8	16.2	15
HaB—HAIRE FINE SANDY LOAM, HUMMOCKY, 0 TO 5 PERCENT SLOPES	0.32	68.8	16.2	15
LoD—LOS OSOS CLAY LOAM, 2 TO 15 PERCENT SLOPES	0.32	35.4	33.6	31
LoE—LOS OSOS CLAY LOAM, 15 TO 30 PERCENT SLOPES	0.32	35.4	33.6	31
LsD—LOS OSOS CLAY LOAM, THIN SOLUM, 5 TO 15 PERCENT SLOPES	0.32	35.4	33.6	31
SbD—SEBASTOPOL SANDY LOAM, 9 TO 15 PERCENT SLOPES	0.24	65.9	19.1	15
SbE—SEBASTOPOL SANDY LOAM, 15 TO 30 PERCENT SLOPES	0.24	65.9	19.1	15

SOURCE: NATURAL RESOURCE CONSERVATION SERVICE, 2011.

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 (aka 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 City of Cotati ranges from Low to High. Figure 3.5-5 illustrates the shrink-swell potential of soils in the Planning Area. Approximately 80 percent of the Planning Area has low expansive soils, including most of the undeveloped land. A small area in the western portion of the Planning Area has moderate expansive soils. The majority of the high expansive soils are located along the northern and eastern edge of the Planning Area. Most of the high expansive soils are located within the city limits in areas that are already developed. Only a small portion of the high expansive soils are located in undeveloped areas of the Planning Area. The areas with high expansive soils would require special design considerations due to shrink-swell potentials.

Landslide

The California Geological Survey classifies landslides with a two-part designation based on Varnes (1978) and Cruden and Varnes (1996). The designation captures both the type of material that failed and the type of movement that the failed material exhibited. Material types are broadly categorized as either rock or soil, or a combination of the two for complex movements. Landslide movements are categorized as falls, topples, spreads, slides, or flows.

Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc.

Within Sonoma County, the hillsides have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Figure 3.5-6 illustrates the landslide potential in the vicinity of the Planning Area. Given the relatively level slopes throughout the City of Cotati, the landslide potential is very low. This is not a significant constraint in the Planning Area. The landslide potential increases in the foothills and mountains to the east a west of the Planning Area.

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 in mountainous areas. There is no naturally occurring asbestos mapped within the City of Cotati. Figure 3.5-7 illustrates the nearest areas that are more likely to contain naturally occurring asbestos.

Subsidence

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years.

The Natural Resource Conservation Service maps expected "initial subsidence," which usually is a result of drainage, and "total subsidence," which results from a combination of factors. While subsidence is an issue of concern in some areas of California, the Natural Resource Conservation Service does not identify it as an issue of concern in the City of Cotati.

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 California Geological Survey notes 51 recorded tsunamis in central and southern California from 1812 to 2000. In northern California, Crescent City has had 17 recorded tsunamis in the past 60 years. Recorded tsunamis in California have ranged from less than a meter to six meters (approximately 20 feet). The most devastating tsunami to affect California in recent history was from the magnitude 9.2 Alaskan earthquake of 1964, which cause a 20-foot tall tsunami wave in northern California that flooded low-lying communities, and river valleys, killing 11 people.

An earthquake in the Cascadia subduction zone (northern California) is more likely to create tsumamis compared to the strike-slip faults south of Cape Mendocino because water is not typically thrust upward in the lateral movements caused by strike-slip faults. The City of Cotati is not within a Tsunami or Seiche hazard area.

Volcanism

The USGS identifies two principal areas of volcanic hazards in Northern California: the Shasta, Medicine Lake Highland, and Lassen Peak Area and the Clear Lake Area. Mount Shasta and Lassen Peak are located at the southern terminus of the Cascade Range and the associated subduction zones along the west coast of North America. The Clear Lake Volcanic Field is markedly different in its origins and topographic characteristics. Relative to tectonic activity, the Coast Range has been subjected primarily to the lateral faulting of the San Andreas system. The largest volcanic feature within the Clear Lake Field is Mount Konocti, located along the south shore of Clear Lake.

Relative to City of Cotati, the Clear Lake Volcanic Field is the nearest source of documented volcanic hazards. In contrast to the volcanoes of the southern Cascades, such as Lassen and Shasta, the Clear Lake Field is not associated with subduction. The Clear Lake and Sonoma volcanic phenomena are within the San Andreas Fault system. According to Wood and Kienle (1990), the field is lacking eruptive centers and volcanism tends to be non-explosive.

The following table is recreated from the Summary of Holocene eruptive activity and probable greatest hazards from future eruptions at volcanic centers in California (USGS Cascade Volcano Observatory, 2000), with citations from Berry et al (1976); Hearn et al (1976); and Sims & Rymer (1975).

TABLE 3.5-7: CLEAR LAKE VOLCANIC CENTER HOLOCENE ERUPTIONS

RECOGNIZED PRODUCTS OF RECENT ERUPTIONS	
Lava Flows/Cinder Cones	--
Domes	--
Tephra	Mafic tephras from eruptions ±10,000 YBP
Pyroclastic Flows	--
Blasts and Pyroclastic Surges	Phreatic eruptions, hydro-magmatic explosions, base-surges
Debris Flows/Avalanches	--

SOURCE: USGS CASCADE VOLCANO OBSERVATORY, 2000

Sims and Rymer (1975) estimate the most recent eruption for the Clear Lake Field occurred approximately 10,000 years before present. That event is thought to have produced mafic tephra generated by phreato-magmatic explosions. The USGS identifies the Clear Lake Field's "most probable" potential hazards as phreatic explosions, phreato-magmatic explosions and base surges. These events could result in "small-volume" tephra eruptions. Therefore, given the nature of the most probable potential volcanic hazards and the distance from City of Cotati, the Clear Lake Field is not likely to generate significant impacts in the City of Cotati.

3.5.2 REGULATORY SETTING

FEDERAL REGULATIONS

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.

STATE REGULATIONS

California Building Standards Code (CBSC)

The CBSC is set forth in Title 24 of the California Code of Regulations (CCR). 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. A local jurisdiction may establish more restrictive building standards reasonably necessary because of local climatic, geological or topographical conditions.

CA 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 (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces.

Cities and counties must regulate certain development projects within the zones, which include withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement (Hart, 1997). Surface fault rupture is not necessarily restricted to the area within an Alquist-Priolo Zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong groundshaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site has to be conducted and appropriate mitigation measures incorporated into the project design.

California Department of Transportation Highway Design Manual

The California Department of Transportation (Caltrans) sets forth roadway design standards for seismic safety in the latest version of the *Highway Design Manual* (originally published in 1995).

Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

Surface Mining and Reclamation Act of 1975

The California Department of Conservation Surface Mining and Reclamation Act of 1975 (§ 2710), also known as SMARA, provides a comprehensive surface mining and reclamation policy that permits the continued mining of minerals, as well as the protection and subsequent beneficial use of the mined and reclaimed land. The purpose of SMARA is to ensure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition and readily adaptable for alternative land uses. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, wildlife, range and forage, as well as aesthetic enjoyment. Residual hazards to public health and safety are eliminated. These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

If a use is proposed that might threaten the potential recovery of minerals from an area that has been classified MRZ-2, SMARA would require the jurisdiction to prepare a statement specifying its reasons for permitting the proposed use, provide public notice of these reasons, and forward a copy of the statement to the State Geologist and the State Mining and Geology Board (Cal. Pub. Res. Code Section 2762).

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

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.

LOCAL REGULATIONS

Geotechnical Investigations

City of Cotati regulates construction activities through a process that requires the preparation of a site-specific geotechnical investigation in order to assess the design limitations. The purpose of a site-specific geotechnical investigation is to provide a geologic basis for the development of appropriate construction design. Geotechnical investigations typically assess bedrock and Quaternary geology, geologic structure, soils, and the previous history of excavation and fill placement. Proponents of the individual projects may need to prepare geotechnical investigations prior to project design.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and hazards if it will:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault; or
    - Strong seismic ground shaking; or
    - 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; or
- 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;

IMPACTS AND MITIGATION MEASURES

Impact 3.5.1: The General Plan 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 (Less than Significant)

There are no known active or potentially active faults, or Alquist-Priolo Earthquake Fault Zones, located within the Planning Area. However, there are numerous faults located in the region. Figure 3.5-1 illustrates the location of these faults. These include the San Andreas Fault System, the Rodgers Creek Fault, the Healdsburg Fault, and the Mayacama 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 City of Cotati may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

Currently, there are no seismic hazard zones mapped in Sonoma County; however, the California Geological Survey estimates a 10% probability of exceeding 40-50 percent of gravity at peak ground acceleration over the next 50 years in the Cotati Planning Area, as well as other communities within the Cotati and Petaluma Valleys. As you move east toward the Rodgers Creek Fault, or west toward the San Andres Fault, the estimates increase up to 60-70 percent of gravity at peak ground acceleration.

The Association of Bay Area Governments (2011) estimates that the City of Cotati could experience Modified Mercalli Intensities of VII to VIII generated by seismic events occurring in the region. The effect of this intensity level includes: VII) Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks, VIII) Difficulty steering vehicles; Houses may shift on foundations.

All projects would be required to comply with the provisions of the California Building Standards Code, which requires development projects to: perform geotechnical investigations in accordance with state law, engineer improvements to address potential seismic and ground failure issues, and to 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 City, each project will be evaluated for conformance with the California Building Code, the City's General Plan, Land Use Code, and other regulations. Subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. In addition to the requirements associated with the CBC and the Land Use Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

The General Plan policies (listed below) 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 City to ensure conformance with applicable 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. 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 are subject to CEQA review to address seismic safety issues and provide adequate mitigation for existing and potential hazards identified. With the implementation of the policies and actions in the General Plan, as well as applicable state and county codes, potential impacts as associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CSF 1.8: *Require new utility infrastructure to be designed and constructed to meet the most current State standards for seismic safety.*

Policy SA 2.1: *Require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction, and expansive soils.*

Policy SA 2.2: *Ensure that all development and construction proposals are reviewed by the City to ensure conformance with applicable building standards.*

Policy: SA 2.3 *Require geotechnical investigations to be completed prior to approval of any schools, hospitals, fire stations, and police stations, as a means to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic and/or geological hazards.*

Policy SA 2.4: *Development in areas subject to liquefaction, such as along East and West Cotati Avenues and Gravenstein Highway shall be reviewed by qualified soils engineers and geologists prior to development in order to ensure the safety and stability of all construction. (See Figure 7.1-2 in the General Plan Background Report).*

Policy SA 2.5: *Ensure that development on slopes over 10% grade complies with special building and grading restrictions specified in Chapter 17.53 of the Municipal Code.*

Policy SA 2.6: *Development and grading on slopes greater than 15% shall be prohibited, unless the conditions specified in Chapter 17.53 of the Municipal Code are met.*

Policy SA 2.7: *Natural slopes should be maintained and existing vegetation preserved to the greatest extent feasible, especially in areas with a slope greater than 15%.*

Policy SA 2.8: *Where alterations such as grading and tree removal are made to hillside sites, rendering slopes unstable, planting of vegetation shall be required to protect structures at lower elevations.*

Policy SA 2.9: *The use of drought-tolerant plants for landscaping in hillside areas shall be required as a means to eliminate the need for supplemental watering, which can promote erosion and earth movement.*

Policy SA 2.11: *Prior to the development of any new structures and any addition greater than 500 square feet in areas of moderate to high potential for expansive soils as identified in Figure 7.1-5 of the General Plan Background Report, a site-specific soils study shall be prepared. All structures and building foundations located within areas containing expansive soils shall be designed and engineered to comply with the most current version of the California Building Standards Code.*

Actions

Action SA 2a: Require a geotechnical analysis for construction in areas with potential geological hazards and require that recommendations from the geotechnical analysis are incorporated into the project's design and engineering.

Action SA 2b: All building code requirements shall be adhered to so as to provide for maximum safety requirements. Inspections for compliance shall be made by the Building Division prior to approval for occupancy.

Action SA 2c: Maintain and enforce standards in the Cotati Municipal Code which specify maximum permissible vegetation removal, soil compaction, and site coverage. Inspections by the Building Division and Engineering Department will ensure compliance.

Action SA 2e: Require the submission of geologic and soils reports for all new developments. The geologic risk areas that are determined from these studies shall have standards established and recommendations shall be incorporated into development.

Action SA 2g: Review, and amend if necessary, the Land Use Code to allow only those uses compatible with site specific geologic conditions in areas of liquefaction or slope instability. The Planning Division shall develop appropriate development standards and review and amend as necessary.

Action SA 2h: Enforce the Municipal Code to ensure the implementation of measures and standards that will insure compatibility with site specific geologic conditions. The Community Development and Public Works Departments will evaluate and amend the criteria as necessary.

Action SA 2i: Annually review revisions to the California Building Standards Code (CBSC) and consider adoption of updates to the CBSC that include new or revised measures to avoid or reduce the potential for damage to structures and facilities caused by groundshaking and other geologic hazards.

Action SA 2j: As applications for building permits are received, identify and inspect seismically unsafe buildings and structures, including unreinforced masonry buildings.

Action SA 2k: Explore programs and funding sources that would encourage, assist, or provide incentives to property owners to retrofit their buildings for seismic safety, such as the Unreinforced Masonry (URM) program.

Impact 3.5.2: The General Plan has the potential to result in substantial soil erosion or the loss of topsoil (Less than Significant)

The General Plan would allow development and improvement projects that would involve some land clearing, mass 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 City of Cotati were obtained from the NRCS. Figure 3.5-4 depicts the soil erosion susceptibility in the Planning Area. The erosion factor Kf varies from 0.24 to 0.32, which is considered moderately low to moderate potential for erosion.

As future development and infrastructure projects are considered by the City of Cotati, each project will be evaluated for conformance with the California Building Code, the General Plan, Land Use Code, and other regulations. In addition to compliance with City standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each projects that disturbs an area of one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The General Plan includes a range of policies and actions related to development on slopes, revegetation of slopes, requirements for erosion and sediment control plans, drainage and erosion requirements, and requirements for the stabilization of slopes after grading. With the implementation of the policies and actions in the General Plan, as well as applicable state and local requirements, potential impacts associated with erosion and loss of topsoil would be **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy SA 2.5: *Ensure that development on slopes over 10% grade complies with special building and grading restrictions specified in Chapter 17.53 of the Municipal Code.*

Policy SA 2.6: *Development and grading on slopes greater than 15% shall be prohibited, unless the conditions specified in Chapter 17.53 of the Municipal Code are met.*

Policy SA 2.7: *Natural slopes should be maintained and existing vegetation preserved to the greatest extent feasible, especially in areas with a slope greater than 15%.*

Policy SA 2.8: *Where alterations such as grading and tree removal are made to hillside sites, rendering slopes unstable, planting of vegetation shall be required to protect structures at lower elevations.*

Policy SA 2.9: *The use of drought-tolerant plants for landscaping in hillside areas shall be required as a means to eliminate the need for supplemental watering, which can promote erosion and earth movement.*

Policy SA 2.10: *An erosion and sediment control plan prepared by a civil engineer or other professional who is qualified to prepare such a plan, shall be submitted as part of a grading permit application. The erosion and sediment control plan shall delineate measures to appropriately and effectively minimize soil erosion and sedimentation, and shall comply with the design standards and construction site control measures contained in Chapter 14.36 of the Municipal Code.*

Actions

Action SA 2d: As part of the development review process, ensure development applications incorporate drainage and erosion standards identified in the Cotati Municipal Code. Inspections by the Building Division and Engineering Department will ensure compliance.

Action SA 2f: When a change in natural grade or removal of existing vegetation is necessary, appropriate vegetative cover to stabilize slopes and reduce erosion will be required. This shall be accomplished through the development and design review process.

Impact 3.5.3: The General Plan has the potential to 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 (Less than Significant)

Development allowed under the General Plan could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. As described in the Existing Setting discussion, soils and geologic conditions in the City of Cotati have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

Landslide: Within Sonoma County, the hillsides have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Figure 3.5-6 illustrates the landslide potential in the vicinity of the Planning Area. Given the relatively level slopes throughout the City of Cotati, the landslide potential is very low. This is not a significant constraint in the Planning Area. The landslide potential increases in the foothills and mountains to the east and west of the Planning Area.

Lateral Spreading: Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is also directly associated with areas of liquefaction. Given the relatively level slopes throughout the City of Cotati, the potential for lateral spreading is very low. This is not a significant constraint in the Planning Area. The potential for lateral spreading increases in the foothills and mountains to the east and west of the Planning Area.

Subsidence: While subsidence is an issue of concern in some areas of California, the Natural Resource Conservation Service does not identify it as an issue of concern in the City of Cotati.

Liquefaction: Liquefaction potential in the Planning Area includes designations of "Very Low" and "Moderate" potential. The area designated "Moderate" potential for liquefaction is located along the northern and eastern edge of the Planning Area, generally associated with the channelized Laguna de Santa Rosa. There is also a small area located west of US 101 and south of SR 116 that is designated "Moderate" potential for liquefaction. The remainder of the Planning Area is designated "Very Low" potential for liquefaction. Figure 3.5-2 illustrates the liquefaction potential in the vicinity of the Planning Area.

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. Historically, collapsible soils has not been an issue of concern in Cotati.

The Planning Area does not have a significant risk of becoming unstable as a result landslide, lateral spreading, subsidence, liquefaction or collapse. These geotechnical concerns are not a significant concern in the Plan Area. Therefore, the General Plan would have a ***less than significant*** impact relative to this topic.

Conclusion: As future development and infrastructure projects are considered by the City of Cotati, each project will be evaluated for conformance with the California Building Code, the General Plan, Land Use Code, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of state and local codes. In addition to the requirements associated with the CBC and the Land Use 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. With the implementation of the policies and actions in the General Plan, as well as applicable state and local codes, potential impacts as associated ground instability or failure would be **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy SA 2.1: *Require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction, and expansive soils.*

Policy SA 2.2: *Ensure that all development and construction proposals are reviewed by the City to ensure conformance with applicable building standards.*

Policy: SA 2.3 *Require geotechnical investigations to be completed prior to approval of any schools, hospitals, fire stations, and police stations, as a means to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic and/or geological hazards.*

Policy SA 2.4: *Development in areas subject to liquefaction, such as along East and West Cotati Avenues and Gravenstein Highway shall be reviewed by qualified soils engineers and geologists prior to development in order to ensure the safety and stability of all construction. (See Figure 7.1-2 in the General Plan Background Report).*

Policy SA 2.5: *Ensure that development on slopes over 10% grade complies with special building and grading restrictions specified in Chapter 17.53 of the Municipal Code.*

Policy SA 2.6: *Development and grading on slopes greater than 15% shall be prohibited, unless the conditions specified in Chapter 17.53 of the Municipal Code are met.*

Policy SA 2.7: *Natural slopes should be maintained and existing vegetation preserved to the greatest extent feasible, especially in areas with a slope greater than 15%.*

Policy SA 2.8: *Where alterations such as grading and tree removal are made to hillside sites, rendering slopes unstable, planting of vegetation shall be required to protect structures at lower elevations.*

Policy SA 2.9: *The use of drought-tolerant plants for landscaping in hillside areas shall be required as a means to eliminate the need for supplemental watering, which can promote erosion and earth movement.*

Actions

Action SA 2a: Require a geotechnical analysis for construction in areas with potential geological hazards and require that recommendations from the geotechnical analysis are incorporated into the project's design and engineering.

Action SA 2b: All building code requirements shall be adhered to so as to provide for maximum safety requirements. Inspections for compliance shall be made by the Building Division prior to approval for occupancy.

Action SA 2c: Maintain and enforce standards in the Cotati Municipal Code which specify maximum permissible vegetation removal, soil compaction, and site coverage. Inspections by the Building Division and Engineering Department will ensure compliance.

Action SA 2d: As part of the development review process, ensure development applications incorporate drainage and erosion standards identified in the Cotati Municipal Code. Inspections by the Building Division and Engineering Department will ensure compliance.

Action SA 2e: Require the submission of geologic and soils reports for all new developments. The geologic risk areas that are determined from these studies shall have standards established and recommendations shall be incorporated into development.

Action SA 2f: When a change in natural grade or removal of existing vegetation is necessary, appropriate vegetative cover to stabilize slopes and reduce erosion will be required. This shall be accomplished through the development and design review process.

Action SA 2g: Review, and amend if necessary, the Land Use Code to allow only those uses compatible with site specific geologic conditions in areas of liquefaction or slope instability. The Planning Division shall develop appropriate development standards and review and amend as necessary.

Action SA 2h: Enforce the Municipal Code to ensure the implementation of measures and standards that will insure compatibility with site specific geologic conditions. The Community Development and Public Works Departments will evaluate and amend the criteria as necessary.

Action SA 2i: Annually review revisions to the California Building Standards Code (CBSC) and consider adoption of updates to the CBSC that include new or revised measures to avoid or reduce the potential for damage to structures and facilities caused by groundshaking and other geologic hazards.

Impact 3.5.4: The General Plan 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)

Expansive soil properties can cause substantial damage to building foundations, piles, pavements, underground utilities, and/or 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 City of Cotati ranges from Low to High. Figure 3.5-5 illustrates the expansion potential of soils in the Planning Area. Approximately 80 percent of the Planning Area has low expansive soils, including most of the undeveloped land. A small area in the western portion of the Planning Area has moderate expansive soils. The majority of the high expansive soils are located along the northern and eastern edge of the Planning Area. Most of the high expansive soils are located within the city limits in areas that are already developed. Only a

small portion of the high expansive soils are located in undeveloped areas of the Planning Area. The areas with high expansive soils would require special design considerations due to shrink-swell potentials.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the California Building Code, City's General Plan, Land Use Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The Safety Element of the General Plan establishes policies and programs that are designed to protect from geologic hazards, including expansive soils. Consistency with the General Plan policies and programs will require a site-specific design-level geotechnical investigation, prepared by a licensed professional, and submitted to the City 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.

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 associated with expansive soils. Therefore, this impact is considered **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy SA 2.1: *Require new land development proposals to avoid unreasonable exposure to geologic hazards, including earthquake damage, subsidence, liquefaction, and expansive soils.*

Policy SA 2.2: *Ensure that all development and construction proposals are reviewed by the City to ensure conformance with applicable building standards.*

Policy: SA 2.3 *Require geotechnical investigations to be completed prior to approval of any schools, hospitals, fire stations, and police stations, as a means to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic and/or geological hazards.*

Policy SA 2.11: *Prior to the development of any new structures and any addition greater than 500 square feet in areas of moderate to high potential for expansive soils as identified in Figure 7.1-5 of the General Plan Background Report, a site-specific soils study shall be prepared. All structures and building foundations located within areas containing expansive soils shall be designed and engineered to comply with the most current version of the California Building Standards Code.*

Actions

Action SA 2a: Require a geotechnical analysis for construction in areas with potential geological hazards and require that recommendations from the geotechnical analysis are incorporated into the project's design and engineering.

Action SA 2b: All building code requirements shall be adhered to so as to provide for maximum safety requirements. Inspections for compliance shall be made by the Building Division prior to approval for occupancy.

Action SA 2c: Maintain and enforce standards in the Cotati Municipal Code which specify maximum permissible vegetation removal, soil compaction, and site coverage. Inspections by the Building Division and Engineering Department will ensure compliance.

Action SA 2e: Require the submission of geologic and soils reports for all new developments. The geologic risk areas that are determined from these studies shall have standards established and recommendations shall be incorporated into development.

Action SA 2h: Enforce the Municipal Code to ensure the implementation of measures and standards that will insure compatibility with site specific geologic conditions. The Community Development and Public Works Departments will evaluate and amend the criteria as necessary.

Action SA 2i: Annually review revisions to the California Building Standards Code (CBSC) and consider adoption of updates to the CBSC that include new or revised measures to avoid or reduce the potential for damage to structures and facilities caused by groundshaking and other geologic hazards.

Impact 3.5.5: The General Plan does not have the potential to 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 (Less than Significant)

The City of Cotati owns and operates a sanitary sewer collection system that provides sanitary sewer, or wastewater, service to approximately 1,200 acres in and around the City's limits. The sanitary sewer system is comprised of four lift stations, approximately 140,300 lineal feet of collection piping ranging in size from six inches to 24 inches, approximately 484 manholes, approximately 150 cleanouts, and a 24-inch transfer interceptor which carries wastewater to the Santa Rosa Subregional Treatment Plant (also referred to as the Laguna Wastewater Treatment Plant LWWTP) for treatment. All new waste water generated from General Plan land uses will be collected and transmitted to this Treatment Plant for treatment. There will be no septic tanks or alternative waste water disposal systems utilized for new development. 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**.

Cotati General Plan Update

Figure 3.5-1: Faults and Alquist-Priolo Zones

- Healdsburg Fault
- Mayacama Fault
- Rodgers Creek Fault
- San Andreas Fault
- Other Quaternary Faults
- Alquist-Priolo Fault Zones
- City Areas

0 2.5 5 10 Miles

1:500,000

Data sources: California Geological Survey, USGS National Hydrography Dataset, Cotati GIS. Map date: May 3, 2011.

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Cotati General Plan Update

Figure 3.5-2: Liquefaction Susceptibility

Susceptibility

- Very High
- High
- Moderate
- Low
- Very Low
- Water

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 750 1,500 3,000 4,500 Feet

1:60,000

Data sources: U.S. Geological Survey in cooperation with the California Geologic Survey Open File Report 06-1037: Liquefaction Susceptibility, 2000. Cotati GIS. Map date: June 23, 2011.

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Cotati General Plan Update

Figure 3.5-3: Soils Map

Label	Description
1	Blucher fine sandy loam, overwash, 0-2% slopes
2	Clear Lake clay, 0-2% slopes
3	Clear Lake clay, 2-5% slopes
4	Cotati fine sandy loam, 15-30% slopes
5	Cotati fine sandy loam, 2-9% slopes
6	Cotati fine sandy loam, 9-15% slopes
7	Haire fine sandy loam, hummocky, 0-5% slopes
8	Los Osos clay loam, 15-30% slopes
9	Los Osos clay loam, thin solum, 5-15% slopes
10	Sebastopol sandy loam, 15-30% slopes
11	Sebastopol sandy loam, 9-15% slopes

Planning Areas

Cotati City Limits

SOI/Urban Growth Boundary

0 500 1,000 2,000 Feet

1:30,000

Data sources: National Resource Conservation Service Soil Data Mart; USGS National Hydrography Dataset; Cotati GIS. Map date: May 12, 2011.

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Cotati General Plan Update

Figure 3.5-4: Soil Erosion Susceptibility

Susceptibility to Soil Erosion (Kf)

- Very Low (0.05 - 0.10)
- Low (0.10 - 0.20)
- Moderately Low (0.20 - 0.30)
- Moderate (0.30 - 0.40)

Kf values from 0.40 to 0.69 are considered to have moderately high to very high susceptibility to erosion, however there are no soils with values greater than 0.37 within the map extent

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 600 1,200 2,400 3,600 4,800 Feet

1:48,000

Data sources: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Survey Geographic (SSURGO) Database for Sonoma, California, available online at http://soildatamart.nrcs.usda.gov, accessed June 2011; USGS National Hydrography Dataset; Cotati GIS.
Map date: July 15, 2011.

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Cotati General Plan Update

Figure 3.5-5: Shrink-Swell Potential of Soils

Shrink-Swell Potential (Linear Extensibility)

- Low potential (<3%)
- Moderate potential (3%-6%)
- High potential (6%-9%)

Planning Areas

- Downtown Special Plan Area
- Cotati City Limits
- SOI/Urban Growth Boundary

0 500 1,000 2,000 3,000 Feet

1:30,000

Data sources: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Survey Geographic (SSURGO) Database for Sonoma, California, available online at http://soildatamart.nrcs.usda.gov, accessed June 2011; USGS National Hydrography Dataset; Cotati GIS. Map date: June 27, 2011.

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Cotati General Plan Update

Figure 3.5-6: Landslide Potential

- Very High
- High
- Moderate
- Low
- Very Low
- Water

0 0.5 1 2 Miles

1:100,000

Data sources: U.S. Department of the Interior, U.S. Geological Survey Open File Report 97-745 C; Sonoma County GIS.
Map date: June 27, 2011.

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Cotati General Plan Update

Figure 3.5-7: Areas More Likely to Contain Naturally Occurring Asbestos

Ultra-Mafic Rocks*

City Areas

0 1 2 4 6 8 10 Miles

1:550,000

Data sources: "A General Guide for Ultra-Mafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos," published by California Department of Conservation, Division of Mines and Geology, August, 2000. Map date: June 23, 2011.

* Ultramafic rocks are dunite, peridotite, pyroxenite, and less common in California, hornblendite (IUGS classification of ultramafic rocks, in Philpotts, 1990*). These igneous rocks contain 90 percent or more of the dark colored iron-magnesiumsilicate minerals olivine, augite, hypersthene, or less commonly hornblende. Ultramafic rocks form in high temperature environments well below the surface of the earth. By the time they are exposed at the surface by uplift and erosion, ultramafic rocks may be partially to completely altered to serpentinite, a type of metamorphic rock. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in bodies of ultramafic rock or along their boundaries. Note--occurrences of non-ultramafic rock types, such as gabbro or diabase, may be included within some of the ultramafic rock areas shown on this map. Asbestos is much less likely to be associated with these non-ultramafic rock types.

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This section discusses regional greenhouse gas (GHG) emissions and climate change impacts that could result from implementation of the proposed project. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis and discussion of the GHG and climate change impacts in this section focuses on the proposed project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed project.

As described in greater detail below, emissions of greenhouse gases (GHGs) have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change, however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change is presented in terms of the proposed project's contribution to cumulative impacts related to GHGs and climate change.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. In determining the significance of a proposed project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the *combined* effects from *both* the proposed project *and* other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the proposed project's *incremental* effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list 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.

3.6.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases 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 greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases 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 2005, concentrations of these three greenhouse gases have increased globally by 36, 148, and 18 percent, respectively (IPCC 2007)[1].

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, commercial, and agricultural sectors (California Air Resources Board, 2012)[2]. In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (California Air Resources Board, 2012).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 492 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2004 (California Energy Commission 2006a) [3]. By 2020, California is projected to produce 507 $MMTCO_2e$ per year.[4]

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also

1 Intergovernmental Panel on Climate Change. 2007. "Climate Change 2007: The Physical Science Basis, Summary for Policymakers." http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm

2 California Air Resources Board. 2012. "Greenhouse Gas Inventory Data, 2000-2009. http://www.arb.ca.gov/cc/inventory/data/data.htm

3 California Energy Commission. 2006a. Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004. http://www.arb.ca.gov/cc/inventory/archive/archive.htm

4 California Air Resources Board. 2010. "Functional Equivalent Document prepared for the California Cap on GHG Emissions and Market-Based Compliance Mechanisms."

dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2008, accounting for 36.9% of total GHG emissions in the state (California Air Resources Board, 2012). This category was followed by the electric power sector (including both in-state and out of-state sources) (24.8%) and the industrial sector (21.1%) (California Air Resources Board, 2012).

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 coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. 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 70% to 90% by the end of the 21st century (California Climate Change Center (CCCC), 2006)[5]. This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (CCCC 2006). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (CCCC 2006). As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (CCCC 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following:

5 California Climate Change Center. 2006. Scenarios of Climate Change in California: An Overview. http://www.climatechange.ca.gov/climate_action_team/reports/

PUBLIC HEALTH

Temperatures in California are projected to rise significantly over the twenty-first century (CCCC 2006). The estimates in the magnitude of warming vary due to uncertainties in climate sensitivity, differences in modeling approaches, and differences in future emissions scenarios (CCCC 2006). Given the range in projected emissions and temperature increases, the California Climate Change Center has presented temperature increase estimates in the low range, medium range, and high range to reflect the variations in the modeling of future conditions. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100, which provides a contextual background for understanding temperature increases throughout all areas of California. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

WATER RESOURCES

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. 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.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply to significant population centers throughout California, and a key water supply for much of California's agricultural economy, which provides food sources for much of the state. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and

precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. 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, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

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 carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand 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 threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds 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. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

FORESTS AND LANDSCAPES

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout

the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 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.

ENERGY CONSUMPTION

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 ultimately result in global climate change. Alternative fuels such as natural gas, 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.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Approximately 71 percent of the electrical power needed to meet California's demand is produced in the state. Approximately 29 percent of its electricity demand is imported from the Pacific Northwest and the Southwest (California Energy Commission, 2012)[6]. In 2010, California's in-state generated electricity was derived from natural gas (53.4 percent), large hydroelectric resources (14.6 percent), coal (1.7 percent), nuclear sources (15.7 percent), and renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (14.6 percent) (California Energy Commission, 2012).

According to the California Energy Commission (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 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (California

6 California Energy Commission (2012). Energy Almanac. Retrieved August 2012, from http://energyalmanac.ca.gov/overview/index.html

Energy Commission Energy Almanac, 2012). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010.

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 2009, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (The World Factbook 2009, Washington, DC: Central Intelligence Agency, 2009). The transportation sector relies heavily on oil. In California, petroleum based fuels currently provide approximately 96 percent of the state's transportation energy needs (California Energy Commission, 2012).

Natural Gas

Natural gas supplies are derived from underground sources and brought to the surface at gas wells. Once it is extracted, gas is purified and the odorant that allows gas leaks to be detected is added to the normally odorless gas. Natural gas suppliers, such as PG&E, then send the gas into transmission pipelines, which are usually buried underground. Compressors propel the gas through the pipeline system, which delivers it to homes and businesses.

The state produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012).

GHG MEASUREMENT

Carbon dioxide equivalents (CO_2e) provide a universal standard of measurement against which the impacts of releasing, or avoiding the release of, different GHGs can be evaluated. Every greenhouse gas has a Global Warming Potential (GWP), a measurement of the impact that particular gas has on radiative forcing; that is, the amount of heat/energy that is retained in the Earth's atmosphere through the addition of this gas to the atmosphere. The GWP of a given gas describes its effect on climate change relative to a similar amount of carbon dioxide (the GWP of CO_2 is 1.0 by definition).

The GWP of a gas depends on two factors, the ability of the gas to absorb energy, and the lifetime of the gas in the atmosphere. GWPs can be expressed on an instantaneous basis, which reflects only the relative ability of the gas to absorb energy, or with an explicit time factor built-in. The residence time of CO_2 in the atmosphere is generally believed to be in excess of 100 years, and some of the other GHGs have even longer residence times. Thus, most analyses use a timeframe in the range of 25 – 100 years in determining the warming potential of GHGs that are emitted into the atmosphere today.

Of the five principal GHGs, only CO_2 and CH_4 (methane) are emitted during the combustion of fuels. On a per-carbon basis, CH_4 has a GWP that is 25 times greater than the GWP of CO_2 on an instantaneous basis. However, the average residence time of CH_4 in the atmosphere is only about one-tenth as long as the average residence time of CO_2, and its clearance involves conversion to CO_2, so when a time factor is added the relative GWP of CH_4 goes down to values in the range of 7.5–12.5 on a per-carbon basis, depending on the length of the timeframe being used in the analysis. GWPs are often reported on a per-weight basis, rather than a per-carbon basis. The instantaneous GWP of CH_4 on a weight basis is 69 relative to the same weight of CO_2, and with a time factor built-in it falls to a range of about 20–35.

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, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The 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.

Federal Climate Change Policy

According to the EPA, “the United States government has established a comprehensive policy to address climate change” that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, “the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science.” The federal government’s goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. At the time of this writing, a quantification of the effectiveness of these policies at the national level is not available. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including “ENERGY STAR”, “Climate Leaders”, and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

STATE

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require 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. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, 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 year 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 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.

Assembly Bill 32- Climate Change Scoping Plan

On December 11, 2008 ARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of ARB'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 percent, 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 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e), and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

California Strategy to Reduce Petroleum Dependence (AB 2076)

In response to the requirements of AB 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non- petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Governor's Low Carbon Fuel Standard (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 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by CARB pursuant to AB 32.

Senate Bill 97 (SB 97)

Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse

gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

Sen. Bill No. 375 (Stats. 2008, ch. 728) (SB 375) 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. The SCS is one component of the existing Regional Transportation Plan (RTP).

On July 18, 2013 the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area an integrated transportation and land-use strategy through 2040 that marks the nine-county region's first long-range plan to meet the requirements of Senate Bill 375, which calls on each of the state's 18 metropolitan areas to develop a Sustainable Communities Strategy to accommodate future population growth and reduce greenhouse gas emissions from cars and light trucks. Working in collaboration with cities and counties, the Plan advances initiatives to expand housing and transportation choices, create healthier communities, and build a stronger regional economy.

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.

LOCAL

Cities for Climate Protection Program

The City of Cotati passed Resolution 02-21 in April 2002 endorsing the Cities for Climate Protection Campaign, which includes a five milestone program to reduce greenhouse gas and air pollution emissions. The five milestones are as follows:

1. Conduct a baseline greenhouse gas emissions inventory and forecast to determine the sources and quantity of greenhouse gas emissions in the jurisdiction;
2. Establish a greenhouse gas emissions reduction target;
3. Develop a climate action plan consisting of both existing and future actions which, when implemented, will meet the local greenhouse gas reduction target;
4. Implement the action plan; and
5. Monitor and report progress.

The City fulfilled these five milestones as follows:

1. In September 2003 the City reported their municipal baseline emissions in *Standing Together for the Future: Greenhouse Gas Emission Inventories for Eight Cities in Sonoma County, California*.

2. In October 2004 the City passed Resolution 04-88, which adopted a goal of a 20% Reduction in Greenhouse Gas Emissions from City of Cotati Municipal Operations from 2000 to 2010. In August 2005 the City adopted Resolution 05-66 which established a community-wide reduction goal of 30 percent below 1990 levels by 2015.
3. In May 2008 the City finalized the City of Cotati Greenhouse Gas Emissions Reduction Action Plan Analysis.
4. The City continues to take actions in accordance with their plans and programs that support the reduction of greenhouse gas emissions.

City of Cotati Greenhouse Gas Emissions Reduction Action Plan Analysis

The City of Cotati developed a Greenhouse Gas Emissions Reduction Action Plan Analysis as a way to reduce GHG emissions, reduce energy costs, address equipment problems, and reduce the uncertainty of the city's future annual energy costs. During development of the Cotati Greenhouse Gas Emissions Reduction Plan Analysis, the City implemented the ICLEI program to reduce the GHG emissions from city controlled sources.

This program has five steps, referred to as "Milestones." Milestone 1, creating the GHG inventory, and Milestone 2, setting a reduction target have been completed. The City Council has adopted a reduction target for internal operations of 20% below 2000 levels by 2010. Milestone 3 requires the creation of a plan to meet this target. The GHG Reduction Action Plan report and associated analysis provides the roadmap to satisfy Milestone 3 providing five measure-specific plans to reduce emissions by more than 20%. Furthermore, the framework associated with this material will support the City in meeting the requirements of Milestone 4 (implementation) and Milestone 5 (monitoring and adjustment). The framework facilitates the integration of new and revised information, taking advantage of new opportunities and allowing adjustments to under performing initiatives.

The analysis, and resulting GHG emissions reduction plans, incorporates many opportunities in the various contributing sectors (Building Efficiency, Fleet, Commute, Water/Sewer, Streetlights, and Photovoltaic), as identified by the City Staff utilizing the best available information at the time of research. The results provide an emissions impact estimate for five plans with the corresponding financial analysis.

Sonoma County Climate Action Plan 2020

In 2005, the ten local governments within Sonoma County pledged to reduce GHG emissions community-wide to 25 percent below 1990 levels by 2015 (Cotati adopted 30% by 2015, Resolution 05-66). The Regional Climate Protection Authority (RCPA) was created in 2009 to help each jurisdiction reach its goal. The RCPA includes representatives from each of the nine cities in Sonoma County and the Board of Supervisors.

Climate Action 2020 is a collaborative effort led by the RCPA and including all nine cities and the County of Sonoma and several partner entities to take further actions to reduce GHG emissions community-wide and respond to the threats of climate change. RCPA will work with each jurisdiction to develop a Community Climate Action Plan that will provide a comprehensive

assessment of GHGs emission sources as well possible measures that jurisdictions can take to reduce GHG emissions and/or adapt to climate change to ensure their communities remain vibrant and resilient.

Green Building Standards

CALGreen is a set of mandatory green building standards for new construction that went into effect throughout California on January 1, 2011. The 2013 California Green Building Standards Code went into effect on January 1, 2014. These building standards apply to all new public and privately-constructed commercial and residential buildings. CALGreen is referred to officially as the California Green Building Standards Code and includes a matrix of mandatory requirements tailored to residential and non-residential building classifications, as well as two sets of voluntary measures (CALGreen Tier 1 and Tier 2) that provide a host of more stringent sustainable building practices and features. Among the key mandatory provisions are requirements that new buildings:

- reduce indoor potable water use by at least 20% below current standards;
- recycle or salvage at least 50% of construction waste;
- utilize low VOC-emitting finish materials and flooring systems;
- install separate water meters tracking non-residential buildings' indoor and outdoor water use;
- utilize moisture-sensing irrigation systems for larger landscape areas;
- receive mandatory inspections by local officials of building energy systems, such as HVAC and mechanical equipment, to verify performance in accordance with specifications in non-residential buildings exceeding 10,000 square feet; and
- earmark parking for fuel-efficient and carpool vehicles.

Cotati's City Council rescinded Cotati's Sustainable Building Program and replaced it with CALGreen Mandatory plus Tier 1, which includes a detailed list of green building features that address energy efficiency, water efficiency, waste reduction, material conservation and indoor air quality. The requirements apply to newly constructed residential and non-residential facilities. Additions, alterations, repairs and existing structures may be subject to the requirements of CALGreen. Existing site and landscaping improvements that are not otherwise disturbed are not subject to the requirements of CALGreen.

3.6.3 IMPACTS AND MITIGATION MEASURES

GHG THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

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 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. More recently, 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.

Specifically, CEQA Guidelines Section 15064.4, as amended March 18, 2010, 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) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or*
>
> *(2) Rely on a qualitative analysis or performance based standards.*

(b) A lead agency should consider the following factors, among others, when assessing 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. 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.*

THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project under consideration would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In order to determine whether or not the proposed project would generate GHG emissions that may have a significant impact on the environment, this EIR relies on the project's consistency with the GHG reduction strategies established by the AB 32 Scoping Plan and the associated guidance document prepared by the California Air Pollution Control Officers Association (CAPCOA). In June 2009 CAPCOA published the *Model Policies for Greenhouse Gases in General Plans*. This document includes recommended policy guidance and techniques that may be implemented by cities and counties during the preparation of general plan updates. The incorporation of the various policy recommendations included in this document into local general plans will assist the State of California in meeting the GHG reductions goals established by AB 32. The Bay Area Air Quality Management District recommends that measures from the 2009 CAPCOA publication be incorporated into general plans as an effective means of reducing GHG emissions from plan-level documents.

AB 32 and S-3-05 target the reduction of statewide emissions. It should be made clear that AB 32 and S-3-05 do not specify that the emissions reductions should be achieved through uniform reduction by geographic location or by emission source characteristics. The City of Cotati has determined that the establishment of a numerical threshold of significance is not appropriate for the General Plan GHG analysis. Consistent with the guidance provided in CEQA Guidelines Section 15064.4(a)(2), Cotati has prepared this EIR in a manner which includes a quantification of the cumulative General Plan buildout GHG emissions before and after the implementation of mitigation measures, as well as a qualitative analysis and discussion of the General Plan's consistency with AB 32 and the associated guidance document prepared by the California Air Pollution Control Officers Association (CAPCOA).

GHG IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: General Plan implementation could generate GHGs, either directly or indirectly, that may have a significant effect on the environment (Less than Significant)

Implementation of the 2013 General Plan would not directly result in the creation of GHG emissions. However, subsequent development allowed under the General Plan would result in new projects that would increase GHG emissions in the Cotati Planning Area.

There are a variety of ways in which a general plan could contribute to climate change and result in the generation of GHGs. Sprawling land use patterns that place residences far from employment and retail centers can result in increased vehicle miles traveled (VMT), which increase GHG generation. The conversion of forest lands and open space areas into urbanized uses removes vegetation and trees that have positive carbon sequestration value. Imbalances between local jobs and housing can result in increased commute times and increased VMT associated with longer travel distances between home and work.

CAPCOA has identified a number of key opportunities related to each mandatory element of a general plan, as well as optional elements of a general plan, that may assist in a reduction GHG emissions associated with land use planning decisions and general plan implementation. These key policy recommendations are summarized below, and are followed by a list of policies and action items contained in the 2013 Cotati General Plan that support or implement these recommendations. It is important to note that the CAPCOA recommendations are not mandatory, and were developed to be general enough to apply to different local agencies throughout California, therefore, not all of the recommendations would necessarily apply to, or be appropriate for, Cotati.

CAPCOA GENERAL PLAN RECOMMENDATIONS

- Foster land use intensity near, along with connectivity to, retail and employment centers and services to reduce vehicle miles traveled and increase the efficiency of delivery of services through adoption and implementation of smart growth principles and policies;
- Improve the local jobs/housing balance to reduce vehicle miles traveled;
- Zone for appropriate mixed use development to encourage walking and bicycling for short trips, rather than vehicles;
- Link residential and commercial development to transit facilities;
- Reduce parking requirements to facilitate higher density development that fosters access by walking, biking and public transit;
- Identify potential sites for renewable energy facilities and transmission lines;
- Promote recycling to reduce waste and energy consumption;
- Identify appropriate sites for waste recovery facilities to minimize escape of GHGs;
- Conserve natural lands for carbon sequestration;
- Identify lands suitable for wind power generation;
- Conserve water to promote energy efficiency;
- Promote recycling and waste recovery;
- Promote urban forestry and reforestation as feasible;
- Identify and prioritize infrastructure improvements needed to support increased use of alternatives to private vehicle travel, including transit, bicycle, and pedestrian modes;
- Coordinate with adjacent municipalities, transit providers, and regional transportation planning agencies to develop mutual policies and funding mechanisms to increase the use of alternative transportation;
- Establish higher priorities for transit funding relative to street and road construction and maintenance;

- Incorporate "Complete Streets" policies that foster equal access by all users, including pedestrians and bicyclists;
- Promote linkages between development locations and transportation facilities;
- Preserve transportation corridors for renewable energy transmission and for new transit lines;
- Identify appropriate locations for intermodal transportation stations;
- Identify opportunities, in cooperation with transit providers, to provide financing for transit operations and maintenance;
- Identify existing and potential future urban growth boundaries to limit sprawling development patterns and foster a more compact urban form;
- Conserve natural lands for carbon sequestration;
- Promote trail systems to facilitate bicycle and pedestrian trips in lieu of vehicle travel;
- Identify sites for higher density housing closer to employment centers, retail and services, and transit facilities;
- Identify sites for affordable housing for workers close to employment centers;
- Establish or support programs to assist in the energy-efficient retrofitting of older affordable housing units;
- Balance additional upfront costs for energy efficiency and affordable housing economic considerations by providing or supporting programs to finance energy-efficient housing;
- Energy-efficiency requirements for residential, commercial, and industrial construction under local jurisdiction that exceed current standards;
- Facilitate residential and commercial renewable energy facilities (solar array installations, individual wind energy generators, etc.);
- Promote cogeneration facilities for combined heating and electricity;
- Facilitate renewable energy facilities and transmission line siting;
- Establish energy-efficiency standards for public facilities;
- Incorporate urban design principles that promote higher residential densities in attractive forms with easily accessible parks and recreation opportunities nearby;
- Use urban design standards to facilitate clustered, higher-density, mixed use communities with greater potential for transit ridership, alternatives to vehicle travel, and shorter trips;
- Establish policies and design principles to incorporate inviting public spaces in high density, mixed use communities;
- Incorporate "Complete Streets" policies that foster equal access by all users, including pedestrians and bicyclists;
- Promote water-efficient and energy-efficient housing and commercial areas;
- Incorporate water conservation measures for municipal operations and throughout the community to reduce GHG emissions from pumping and water delivery;
- Adopt policies and standards to facilitate water recycling for use on landscaping, agricultural operations, and other applications where potable water is not required, to reduce pumping-related GHG emissions;
- Establishment of minimum parcel sizes for agricultural lands outside of Agricultural Preserves and restrictions on non-agriculture related development and uses on

agricultural parcels to enhance the viability of local agriculture and prevent additional sprawl development that increases dependence on and emissions from private vehicles;

- Development of policies and incentives (e.g., carbon credit programs) to promote voluntary preservation of farmland for carbon sink purposes;
- Adoption of policies and programs that facilitate local farmers markets and farmer co-ops that allow residents to purchase local farm goods and reduce emissions from transportation of agricultural products; and
- Support for agricultural industries that reduce the need to move agricultural products long distances for processing or packaging.

The CAPCOA recommendations listed above are grounded in the principles of developing compact communities with a mix of land uses, providing a range of alternative transportation opportunities, conserving areas of open space lands, including agricultural lands, conserving water resources, and reducing energy consumption.

The 2013 Cotati General Plan was developed with extensive input from the community. The core themes expressed by the community for inclusion in the General Plan closely mirror the policy priorities established by CAPCOA and AB 32.

In order to determine if the proposed project would generate GHGs that may have a significant effect on the environment, the City of Cotati has relied on the proposed project's consistency with previously adopted plans and programs aimed at reducing GHG levels both locally and regionally. In California, the primary legislation related to statewide GHG reduction targets is AB 32, which calls for reducing statewide GHG emissions to 1990 levels by 2020.

The City of Cotati participates in the Sonoma County Regional Climate Protection Authority (RCPA). The RCPA was created in 2009 to improve coordination on climate change issues and establish a clearinghouse for efforts to reduce greenhouse gas (GHG) emissions. The RCPA is made up of the same Board of Directors as the SCTA and includes representatives from each of the nine cities in Sonoma County (including Cotati) and the Sonoma County Board of Supervisors.

The RCPA has completed and published the Community Climate Action Plan (CCAP), which recommends regional solutions to reduce emissions from buildings, transportation, the electrical grid, agriculture, forestry, and solid waste. As described in the CCAP, implementation of all major quantified GHG reduction solutions identified in the CCAP will achieve a 22 percent reduction below 1990 GHG levels, which is approximately 37 percent below business as usual GHG projections. These reduction targets are comparable to, and consistent with, the goals established by AB 32. The RCPA is currently in the process of preparing the Climate Action Plan 2020, which is a collaborative effort amount the 10 jurisdictions in Sonoma County to take a regional approach to further actions in reducing GHG emissions community-wide. Adoption of the Climate Action Plan 2020 is currently estimated to occur in early 2015.

The California Emission Estimator Model (CalEEMod)™ (v.2013.2.2) was used to estimate project-level operational GHG emissions associated with full buildout of the Cotati Planning Area. GHG

emissions generated by buildout of the General Plan Land Use Map would consist primarily of CO_2 emissions, with very limited quantities of methane (CH_4) also generated. Carbon dioxide equivalents (CO_2e) provide a universal standard of measurement against which the impacts of releasing (or avoiding the release of) different greenhouse gases can be evaluated. Every greenhouse gas 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.

Table 3.6-1 shows the CO_2e emissions, which include mobile source, area source, and energy emissions that would result from operations upon full buildout of the General Plan. The full calculations, inputs, and assumptions are provided in Appendix B. CO_2e emissions are presented prior to the implementation of the GHG emissions reductions measures contained in the Conservation Element of the General Plan (identified below), and following implementation of the policies and actions identified below. The emissions estimates presented below do not account for the additional emissions reductions that would be achieved through regional implementation of the CCAP. The emissions calculations presented below assume implementation of the policies and actions that are immediately available to the City of Cotati in the near-term. As such, these estimates are considered a "worst-case" scenario, and do not account for the additional regional efforts that Cotati is currently participating in.

TABLE 3.6-1: GHG EMISSIONS FROM PLANNING AREA BUILDOUT

EMISSIONS CATEGORY	*UNMITIGATED CO2E (METRIC TONS/YEAR)*	*MITIGATED CO2E (METRIC TONS/YEAR)*
Area Source GHG Emissions	420.8	177.1
Energy Source GHG Emissions	26,825.4	24,960.4
Mobile Source GHG Emissions	74,599.2	66,146.1
Waste Source GHG Emissions	2,795.3	2,795.3
Water Usage GHG Emissions	2,125.4	1,735.8
Total Operational GHG Emissions	**106,766.2**	**95,814.6**

SOURCES: CALEEMOD (V.2013.2.2)

As shown in Table 3.6-1, full buildout of the 2013 Cotati General Plan could generate up to 106,766 metric tons of CO2e per year. However, a range of policies and actions have been incorporated into the Conservation Element of the General Plan, which would reduce GHG emissions at full buildout to 95,814 metric tons per year, which represents a 10.26 percent reduction.

As described previously in this section, the CalEEMod air quality and GHG emissions calculations presented in Table 3.6-1 do not account for the additional GHG emissions reductions that would be achieved through compliance with, and implementation of, the CCAP developed by RCPA. The CCAP is anticipated to result in a 22 percent reduction in GHG emissions below 1990 levels.

As demonstrated by the policies and action items listed below, the 2013 Cotati General Plan has taken a progressive and proactive approach to the reduction of GHG emissions through a wide range of measures and programs. The policies and actions listed below are consistent with the policy guidance provided by CAPCOA through the 2009 *Model Policies for Greenhouse Gases in General Plans,* which is consistent with the AB 32 Scoping Plan, and GHG reduction measures recommended by the BAAQMD.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 2.6: *Reduce greenhouse gas (GHG) emissions from City facilities and operations to 30 percent below 1990 levels by 2015, consistent with the goals stated in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan.*

Policy CON 2.7: *Continue to aggressively implement the greenhouse gas (GHG) reduction measures contained in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan.*

Policy CON 2.8: *Support the development and implementation of a GHG reduction plan, or Climate Action Plan, that addresses and reduces GHG emissions associated with community operations, including but not limited to: mobile sources (vehicle traffic), energy consumption, and solid waste.*

Policy CON 2.9: *Coordinate with Sonoma County and nearby cities to implement regional GHG reduction plans and consolidate efforts to reduce GHGs throughout the County.*

Policy CON 2.10: *Encourage local businesses and industries to engage in voluntary efforts to reduce GHG emissions and energy consumption.*

Policy CON 2.11: *Preserve, protect and enhance, as appropriate, the City's carbon sequestration resources, also referred to as "carbon sinks," to improve air quality and reduce net carbon emissions.*

Policy CON 2.12: *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 CON 3.1: *Continue to require all new public and privately constructed buildings to meet and comply with CALGreen Tier 1 standards.*

Policy CON 3.2: *Support innovative and green building best management practices, including LEED certification, for all new development, and encourage project applicants to exceed CALGreen Tier 1 standards, if feasible.*

Policy CON 3.3: *Promote the use of alternative energy sources in new development.*

Policy CON 3.4: *Incorporate innovative green building techniques and best management practices in the site design, construction, and renovation of all public projects.*

Policy CON 3.5: *Ensure protection of solar access.*

Policy CON 3.6: *Ensure that street layout and design minimizes the use of pavement to the greatest extent feasible in order to reduce cooling energy needs.*

Policy CON 3.8: *Promote water conservation among water users.*

Policy CON 3.9: *Require the use of drought-tolerant and regionally native plants in landscaping.*

Policy CON 3.10: *Ensure that the layout and design of new development and significant remodels encourages the use of transportation modes other than automobiles and trucks.*

Policy CON 3.11: *Continue the City-wide recycling program and actively encourage recycling.*

Policy CON 3.12: *Continue efforts to reduce solid waste generation throughout the life of the General Plan.*

Policy CI 1.2 *Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, and bicycle/pedestrian paths that effectively accommodates vehicular and non-vehicular traffic in a manner that considers the context of surrounding land uses and the needs of all roadway users.*

Policy CI 1.19 *Require new development to include effective linkages to the surrounding circulation system for all modes of travel, to the extent feasible.*

Policy CI 1.20 *Require new development to contribute its fair share cost of circulation improvements necessary to address cumulative transportation impacts on roadways throughout the City as well as the bicycle and pedestrian network.*

Policy CI 1.21 *Require development projects to provide land dedications or pay fees in order to provide bike paths, sidewalks, and walkways.*

Policy CI 2.1 *Establish and maintain a system of pedestrian facilities and crossing enhancements that are consistent with the City's Bicycle and Pedestrian Master Plan.*

Policy CI 2.2 *Support establishment of special assessments of affected property owners in order to provide funding to install walkways and fill gaps in the existing pedestrian network.*

Policy CI 2.3 *Require development projects to construct sidewalks and walkways on and off-site in order to maintain consistency with the City's Bicycle and Pedestrian Master Plan, and as dictated by the location of transit stops and common pedestrian destinations.*

Policy CI 2.7 *Provide benches, covered resting areas, and bicycle parking along off-street pedestrian and bicycle facilities such as the Laguna de Santa Rosa path.*

Policy CI 2.8 *Where possible, integrate multi-use path facilities into utility corridor rights-of-way.*

Policy CI 2.9 *Work with utility providers to reduce or eliminate barriers to pedestrian and bicyclist mobility created by utility infrastructure (such as utility poles that obstruct accessibility).*

Policy CI 2.10 *Continue to provide secure bicycle racks in the Hub, future and existing commercial areas, park-and-ride transit facilities, schools, and multiple unit residential developments.*

Policy CI 2.18 *Pursue improvements and funding to increase transit ridership, increase transit frequencies on key corridors, increase the hours of transit operation, and expand regular transit service in portions of Cotati that currently have no public transit.*

Policy CI 2.19 *Establish the SMART multi-modal transit station on East Cotati Avenue and Santero Way to provide a link between commuter rail, bus, pedestrian, and bicycle travel and to provide retail and services to serve SMART transit users.*

Policy CI 2.20 *Ensure that effective transit linkages are in place between the SMART commuter rail station and the City's primary activity and employment centers.*

Policy CI 2.21 *Coordinate with SMART in seeking opportunities to fund and construct improvements that improve multimodal access to the Cotati rail station.*

Policy CI 3.1 *Actively support the Regional Climate Protection Authority (RCPA) in its efforts to reduce GHG emissions to a level that is 25% below 1990 levels by 2015 and 40% below 1990 levels by 2035.*

Policy CI 3.2 *Work with RCPA to identify the need for and locations of additional park-and-ride lots in Cotati in order to increase the number of trips made by transit and carpooling.*

Policy CI 3.3 *Work with major employers and representatives from Sonoma State University to implement Transportation Demand Management (TDM) programs. Examples of TDM programs may include (but are not limited to) subsidized transit passes, guaranteed ride home, carpool matching, telecommuting, alternative work schedules, car sharing, employer-sponsored vanpools, priced workplace parking, and preferential parking for carpools and/or low-emission vehicles.*

Policy CI 3.4 *Coordinate with Sonoma State University to minimize traffic impacts through strategic scheduling of classes and major events, implementation of TDM measures, and on-campus parking management.*

Policy LU 1.4: *Require new development to occur in a logical and orderly manner, focusing growth on infill locations and areas designated for urbanization on the Land Use Map (see Figure 7-1), and be subject to the ability to provide urban services, including paying for any needed extension of services.*

Policy LU 1.5: *Use sustainable, best management practices in green building, stormwater management, and conservation to mitigate infrastructure impacts, while minimizing effects on water, sewer, and energy resources.*

Policy LU 2.2: *Encourage clustering of housing so that larger areas of open space may be permanently preserved.*

Policy LU 2.5: *Locate medium and higher density housing within easy walking or bicycling distance of public facilities, services, transit, and major employers.*

Policy LU 2.10: *Encourage mixed-use, pedestrian-, and transit-oriented development, with a focus on the Hub and major corridors.*

Policy LU 3.8: *Design future commercial retail with a pedestrian and bicyclist orientation.*

Policy OS 1.1: *The Open Space/Parks, Agricultural, and Rural Residential General Plan Land Use designations and waterways (Cotati Creek, Laguna de Santa Rosa, etc.) shall be considered Open Space uses.*

Policy OS 1.2: *Preserve designated open space for conservation, recreation, and agricultural uses.*

Policy OS 1.3: *Protect rural (Agricultural and Rural Residential) and natural open space lands from urbanization (see Figure 9.1).*

Policy OS 1.4: *Where possible, integrate open space and stream corridors, such as the Laguna de Santa Rosa, with trails and other recreational open space in an environmentally sustainable manner.*

Policy OS 1.5: *Recognize urban open space as essential to maintaining a high quality of life within the City limits.*

Policy OS 1.6: *Support regional and local natural resource preservation plans of public agencies that retain and protect open space within the City, Sphere of Influence, and Urban Growth Boundary.*

Policy OS 1.10: *Require residential development, with the exception of rural and low density residential, to be contiguous to existing urban development.*

Policy OS 1.11: *Encourage clustered development that preserves a sense of openness, particularly in areas adjacent to open spaces and scenic resources.*

Actions

Action CON 2e: Continue to review new development, significant remodels, and infrastructure projects for consistency with the Sonoma County Community Climate Action Plan and Greenhouse Gas Reduction and Implementation Plan (GRIP).

Action CON 2f: Regularly monitor and track the City's progress towards meeting the municipal GHG reduction goals contained in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan.

Action CON 2g: Update the City's 2008 Greenhouse Gas Emissions Reduction Action Plan every five years, or more frequently if the City Council deems appropriate, to make progress towards the City's GHG reduction goals.

Action CON 3a: Continue to review development projects to ensure that all new public and privately development complies with CALGreen Tier 1 standards as well as the energy efficiency standards established by the General Plan and Land Use Code.

Action CON 3b: Amend the Land Use Code to include a requirement that all new swimming pools be solar heated.

Action CON 3c: Connect residents and businesses with programs that provide free or low-cost energy efficiency audits and retrofits to existing buildings.

Action CON 3d: *Amend the Municipal Code to incentive the use of small-scale renewable energy facilities and, where appropriate, to remove impediments to such uses.*

Action CI 1q: *As part of the development review process, ensure that new development facilitates walking, biking, and transit modes; incorporates streets that are designed to maintain safe and efficient traffic flow; provides off-site improvements necessary to mitigate traffic impacts; provides adequate emergency vehicle access; and pays development impact fees that contribute to cumulative circulation improvements.*

Action CI 2a: *As part of the development process, review development applications to ensure compliance with the City's Bicycle and Pedestrian Master Plan.*

Action CI 2i: *As funding becomes available, the City should encourage Sonoma County Transit to provide more frequent headways, extend service hours, and serve a greater portion of the City. The City would review and renew the contract as necessary.*

- *Bus headways of 30 minutes or less are desirable on routes serving Old Redwood Highway and East Cotati Avenue.*
- *Local bus service operating until 10 PM would be desirable.*
- *New or modified routes that serve the southern and western portions of Cotati should be prioritized.*

Action CI 2j: *Compile a list of bus stops with inadequate lighting, and through the Capital Improvement Program, install street lights at those stops as funding is available.*

Action CI 2k: *Study the feasibility of establishing a public or private shuttle system to serve the SMART commuter rail station, strengthening ties to the Hub as well as major employers and schools in and surrounding Cotati.*

Action CI 3a: *Supply transportation data to the RCPA as requested to assist in the assessment of GHG reduction efforts.*

Action CI 3b: *Establish specific TDM requirements for projects and consider making requirements sector-based (e.g., residential, commercial, industrial).*

Action LU 2b: *Update the Land Use Code to allow for the clustering of housing to protect scenic and natural resources and provide permanent open space, so long as there is no increase in density. Revisions should be consistent with standards developed as a result of Action OS 1h.*

Action OS 1a: *Work with the Sonoma County Permit and Resource Management Department to ensure that Open Space/Parks, Agricultural, and Rural Residential lands within the Sphere of Influence and Urban Growth Boundary are zoned appropriately as rural residential, agricultural, parks, and other limited development or recreational uses in order to limit growth-inducement and development.*

Action OS 1b: *Review all proposals involving County land, within or adjacent to the Sphere of Influence or Urban Growth Boundary, to ensure adequate preservation of community separators and resources.*

Action OS 1c: *Work with property owners willing to set up land trusts within the City limits.*

Action OS 1d: Update the Land Use Code to require new development to provide for active and passive open space, whether directly or through in-lieu contribution.

Action OS 1e: Work in cooperation with County Permit and Resource Management Department staff to ensure land use compatibility and discourage subdivision within the areas designated as open space or community separators (see Figure 9.1).

The extensive list of policies and action items provided above demonstrate Cotati's commitment to reducing GHGs and climate change impacts through General Plan implementation to the greatest degree feasible. The City has taken a comprehensive approach to climate change through development of the 2013 General Plan.

The 2013 General Plan Land Use Map was developed to maximize the preservation of agricultural and open space lands in areas outside of the City's Sphere of Influence. The Land Use Element places an emphasis on concentrating new urban development around and within existing established urbanized areas of the City. The General Plan includes numerous policies that promote and encourage infill development, increased residential densities, and permanent preservation of open space through the use of clustered development patterns.

The Circulation Element includes policies that require and promote the development of "complete streets", which provide opportunities for multimodal transportation and reduced VMT. The Circulation Element also promotes the development and expansion of several forms of alternative transit, including bicycle transportation, rail, bus routes, and pedestrian connectivity.

The Conservation Element includes several policies that require water and energy conservation measures in new and existing development, and promotes the use of green building practices. This element also promotes the continued implementation of the City's municipal GHG reduction plan, and participation in the Countywide CCAP, both of which will greatly assist in reducing GHG emissions in Cotati.

The Open Space Element includes policies and actions that require the preservation of open space lands and the maintenance of open space buffers around urbanized areas.

All of the policies and actions identified above would encourage the development of a compact urban community, while preserving the agricultural and open space resources in the Planning Area. The City's comprehensive approach to this issue in the 2013 General Plan would result in increased local employment opportunities, increased transportation and transit options, and the incorporation of conservation and energy efficiency into new development.

The proposed 2030 General Plan is consistent with the policy guidance provided by CAPCOA and the BAAQMD, and would assist the state in meeting the GHG reduction goals established by AB 32. Therefore, this is a **less than significant** impact.

Impact 3.6-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

The City implements a range of regulatory vehicles in order to reduce GHG emissions in the city from existing and future sources. All new construction is required to implement CALGreen Mandatory plus Tier 1 standards, which include a detailed list of green building features that address energy efficiency, water efficiency, waste reduction, material conservation and indoor air quality. The requirements apply to newly constructed residential and non-residential facilities. Additions, alterations, repairs and existing structures may also be subject to the requirements of CALGreen.

The City of Cotati has also developed a Greenhouse Gas Emissions Reduction Action Plan Analysis as a way to reduce GHG emissions, reduce energy costs, address equipment problems, and reduce the uncertainty of the city's future annual energy costs. During development of the Cotati Greenhouse Gas Emissions Reduction Plan Analysis, the City implemented the ICLEI program to reduce the GHG emissions from city controlled sources.

This program has five steps, referred to as "Milestones." Milestone 1, creating the GHG inventory, and Milestone 2, setting a reduction target have been completed. The City Council has adopted a reduction target for internal operations of 20% below 2000 levels by 2010. Milestone 3 requires the creation of a plan to meet this target. The GHG Reduction Action Plan report and associated analysis provides the roadmap to satisfy Milestone 3 providing five measure-specific plans to reduce emissions by more than 20%. Furthermore, the framework associated with this material will support the City in meeting the requirements of Milestone 4 (implementation) and Milestone 5 (monitoring and adjustment). The framework facilitates the integration of new and revised information, taking advantage of new opportunities and allowing adjustments to under performing initiatives.

The analysis, and resulting GHG emissions reduction plans, incorporates many opportunities in the various contributing sectors (Building Efficiency, Fleet, Commute, Water/Sewer, Streetlights, and Photovoltaic), as identified by the City Staff utilizing the best available information at the time of research. The results provide an emissions impact estimate for five plans with the corresponding financial analysis.

General Plan Policy CON 2.6 calls for a reduction of GHG emissions from City facilities and operations to 30 percent below 1990 levels by 2015, consistent with the goals stated in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan. Action CON 2f requires the City to regularly monitor and track the City's progress towards meeting the municipal GHG reduction goals contained in the 2008 Cotati Greenhouse Gas Emissions Reduction Action Plan, and Action CON 2g requires the City to update the City's 2008 Greenhouse Gas Emissions Reduction Action Plan every five years, or more frequently if the City Council deems appropriate, to make progress towards the City's GHG reduction goals.

Additionally, as described under Impact 3.6-1, the City of Cotati participates in the Sonoma County Regional Climate Protection Authority (RCPA). The RCPA was created in 2009 to improve coordination on climate change issues and establish a clearinghouse for efforts to reduce greenhouse gas (GHG) emissions. The RCPA is made up of the same Board of Directors as the SCTA and includes representatives from each of the nine cities in Sonoma County (including Cotati) and the Sonoma County Board of Supervisors.

The RCPA has published, and is in the process of implementing, the Community Climate Action Plan (CCAP), which recommends regional solutions to reduce emissions from buildings, transportation, the electrical grid, agriculture, forestry, and solid waste. As described in the CCAP, implementation of all major quantified GHG reduction solutions identified in the CCAP will achieve a 22 percent reduction below 1990 GHG levels, which is approximately 37 percent below business as usual GHG projections. These reduction targets are comparable to, and consistent with, the goals established by AB 32. The 2013 Cotati General Plan Policies and Actions listed above under Impact 3.6-1 are consistent with the CCAP, and will assist in meeting the regional GHG reduction goals established by the CCAP.

In addition to the proposed project's consistency with the CCAP and AB 32, new projects are required to fully implement the City's Green Building Standards. Compliance with the City's Green Building Standards would reduce GHG emissions from future development to the greatest extent feasible, and would further ensure that the General Plan and any future development following adoption of the General Plan would be consistent with all applicable plans and policies adopted for the purpose of reducing GHG emissions. This is a **less than significant impact.**

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Hazards include man-made or natural materials or man-made or natural conditions that may pose a threat to human health, life, property, or the environment. Hazardous materials and waste present health hazards for humans and the environment. These health hazards can result during the manufacture, transportation, use, or disposal of such materials if not handled properly. Hazards to humans can also existing from natural or human induced wildfire and air traffic accidents.

This section provides a background discussion of the hazardous materials and waste, fire hazards, and hazards from air traffic found in the City of Cotati. This section is organized with an existing setting, regulatory setting, and impact analysis.

3.7.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS AND WASTE

Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous Waste

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within the State of California is subject to various federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or the loading of such materials (California Vehicle Code §§ 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in

cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

Databases

There is a broad list of federal and state database that provide information for sites with varying potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various database listings. Below is a brief summary of each.

National Priorities List. The National Priorities List (NPL) of Superfund Sites is the Environmental Protection Agency (EPA) database of more than 1,200 sites designated for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas.

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.

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.

CORRACTS. Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity.

RAATS System. RCRA Administrative Action Tracking System (RAATS) is an EPA database that contains records based on enforcement actions issued under RCRA pertaining to major violators, and includes administrative and civil actions brought by EPA.

PADS System. PCB Activity Database System (PADS) is an EPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphynels (PCBs) who are required to notify EPA of such activities.

CHMIRS Data. The California Hazardous Material Incident Report System (CHMIRS) contains information on reported hazardous materials incidents (i.e., accidental releases or spills). The source of this information is the California Office of Emergency Services.

ERNS Sites. The Emergency Response Notification System (ERNS) records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

Cortese Database. 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 underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which

there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (CAL-EPA).

LUST Reports. The Leaking Underground Storage Tank (LUST) Incident Reports contain an inventory of reported leaking underground storage tank incidents. This information comes from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

UST Database. The Underground Storage Tank (UST) database lists registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The UST information comes from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

HIST UST Sites. The Hazardous Substance Storage Container Database is a historical listing of UST sites. The data source is the State Water Resources Control Board.

CA FID Information. The Facility Inventory Database (CA FID) lists active and inactive underground storage tank locations. This database is maintained by the State Water Resources Control Board.

HAZNET Database. The Hazardous Waste Information System (HAZNET) includes data extracted from the copies of hazardous waste manifests each year by the State Department of Toxic Substances Control.

FINDS Data. The Facility Index System (FINDS) contains both facility information and "pointers" to other sources of information that contain more detail (e.g., RCRA Info, Permit Compliance System [PCS], Aerometric Information Retrieval System [AIRS]). The source of this information is the U.S. EPA.

FTTS Database. The Federal Toxics Tracking System (FTTS) tracks administrative cases and pesticide enforcement actions/compliance activities related to the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA), Toxic Substances Control Act (TSCA), and Emergency Planning and Community Right-to-Know Act (EPCRA). The source of this data is the Environmental Protection Agency (EPA) Office of Prevention, Pesticides, and Toxic Substances.

CA SLIC Database. The statewide Spills, Leaks, Investigations, and Cleanups (CA SLIC) database includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites. The data source is the State Water Resources Control Board.

Notify 65 Records. Proposition 65 Notification Records (Notify 65) contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk. The State Water Resources Control Board maintains this database.

EMI Data. Emissions Inventory Data (EMI) is comprised of toxics and criteria pollutant emissions data collected by the state Air Resources Board and local pollution agencies.

Manufactured Gas Plant Database. This database includes records of coal gas plants (manufactured gas plants), which were in operation in the U.S. until the 1950s. Due to common past practices, the potential for on-site hazardous by-products (such as coal tar, sludge, oils, and

chemical compounds) remains on such sites, which could result in soil or groundwater contamination. These records are maintained by EDR, Inc., as part of its proprietary database.

SWEEPS Records. The Statewide Environmental Evaluation and Planning System (SWEEPS) UST list, which is no longer maintained or updated, was under the purview of the State Water Resources Control Board. Other agencies (e.g., as identified above) now maintain UST records.

Hazardous Sites

The EPA Toxic Release Inventory (TRI) does not list data on disposal or other releases of over toxic chemicals in the City of Cotati. (USEPA 2010).

The CA Department of Toxic Substances Control (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. There is one site listed in the database in the vicinity of the City of Cotati, although it is located in unincorporated Sonoma County at 7395 Stony Point Road. From 1958 until 1996, the site was leased by the Cotati Rod and Gun Club, which operated three firing ranges and a trap shooting range at the location. Club activity over the period of operation resulted in deposition of bullets/shot and clay pigeons in soil. These materials contained lead and polycyclic aromatic hydrocarbons, respectively, resulting in shallow soil contamination. Preliminary investigations indicated that groundwater and surface water on the site were not affected. The site involved a voluntary cleanup that was certified by the DTSC in 2006. The site details are listed in Table 3.7-1 below. (California Department of Toxic Substances Control, 2014).

TABLE 3.7-1: DTSC ENVIROSTOR DATA MANAGEMENT SYSTEM

Envirostor	Site/Facility	Type	Status	City
49090001	Cotati Rod & Gun Club	Voluntary	Inactive - Cleanup was certified on 4/20/2006.	Cotati

SOURCE: DTSC ENVIROSTOR DATA MANAGEMENT SYSTEM, 2014.

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The City of Cotati does not have any active or planned solid waste facilities listed in the database. There is one closed solid waste facility listed in the database for the City of Cotati. The property is owned by the County of Sonoma Public Works Department and is inspected three times per year. The inspections of this closed facility show no violations or areas of concern. The site details are listed in Table 3.7-2 below. (California Department of Resources Recycling and Recovery, 2014)

TABLE 3.7-2: CIWMB CLOSED FACILITIES/SITES

Number	Name	Activity	Regulatory	Status
49-AA-0352	Cotati Corporation Yard	Solid Waste Disposal Site	Pre-regulations	Closed

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, 2014.

GeoTracker is the State Water Boards' data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (i.e. Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites.

The City of Cotati does has 20 sites identified in the Geotracker database, of which 14 have a cleanup status of "Completed – Case Closed", one is "Open - Eligible for Closure", three are "Open – Remediation", one is "Open – Verification Monitoring", and one is Open – Site Assessment." The site details are listed in Table 3.7-3 below. (California Department of Water Resources, 2014)

TABLE 3.7-3: GEOTRACKER SITES

GEOTRACKER ID	SITE NAME	CLEANUP STATUS	ADDRESS
T0609700002	ULTRAMAR #700	COMPLETED - CASE CLOSED	7898 REDWOOD HWY, OLD
T0609700005	UNOCAL #4978	COMPLETED - CASE CLOSED	8600 GRAVENSTEIN HWY
T0609700006	ARCO #1341	OPEN - ELIGIBLE FOR CLOSURE	8505 GRAVENSTEIN HWY
T0609700030	HINES SIGNS	COMPLETED - CASE CLOSED	8259 OLD REDWOOD HWY
T0609700032	H-G EQUIPMENT, INC.	COMPLETED - CASE CLOSED	8155 GRAVENSTEIN HWY
T0609700077	COTATI BEER GARD/LASKER KNOLLS	COMPLETED - CASE CLOSED	8741 REDWOOD HWY, OLD
T0609700189	SHELL SERVICE STATION	OPEN - REMEDIATION	7675 OLD REDWOOD HWY
T0609700228	PRIVATE RESIDENCE	COMPLETED - CASE CLOSED	PRIVATE RESIDENCE
T0609700248	BEACON STATION	OPEN - REMEDIATION	7716 OLD REDWOOD HWY
T0609700279	ANDREOLI PROPERTY	COMPLETED - CASE CLOSED	7883 OLD REDWOOD HWY
T0609700295	PRIVATE RESIDENCE	COMPLETED - CASE CLOSED	PRIVATE RESIDENCE
T0609700361	ROYAL COACH CAR WASH	OPEN - VERIFICATION MONITORING	7360 COMMERCE BLVD
T0609700385	COTATI TERMINAL	COMPLETED - CASE CLOSED	141 HELMAN LN
T0609700386	BP SERVICE STATION	OPEN - REMEDIATION	8510 GRAVENSTEIN HWY
T0609700419	COTATI EGG FARM	COMPLETED - CASE CLOSED	8607 CYPRESS AVENUE
T0609734491	PRIVATE RESIDENCE	COMPLETED - CASE CLOSED	PRIVATE RESIDENCE
T0609793126	COTATI CORPORATION YARD	COMPLETED - CASE CLOSED	100 GRAVENSTEIN WAY
T0609793139	CHEVRON, COTATI TANKER SPILL	COMPLETED - CASE CLOSED	8690 WATER ROAD
T0609793444	MINATTA TRANSPORTATION CO. (FORMER)	COMPLETED - CASE CLOSED	8150 GRAVENSTEIN HWY
T10000000689	GSR CORPORATION PROPERTY (FORMER)	OPEN - SITE ASSESSMENT	7991 OLD REDWOOD HWY N

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD, GEOTRACKER, 2014.

WILDFIRE HAZARDS

Wildfires are a potential hazard to development and land uses located in the foothill and mountain areas of the County. The severity of wildfire problems depends on a combination of vegetation, climate, slope and people. The grassland, chaparral, woodland, and forest vegetation found in areas of Sonoma County, coupled with hot, dry summers, present extreme fire hazards during critical fire periods for much of the County. In addition to natural factors such as lightning, human

activity is a primary factor contributing to the incidence of wildfires. Campfires, smoking, debris burning, arson and equipment use are common human-related causes of wildfires.

Identifying Fire Hazards

Fuel Rank

Fuel rank is a ranking system developed by Calfire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The USFS has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index and crown index for a given area are combined in order to establish a fuel rank of medium, high or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The City of Cotati is primarily devoid of CalFire fuel ranks. The exceptions are areas within the undeveloped Sphere of Influence and Urban Growth Boundary with grasslands that possess characteristics warranting “moderate” fuel ranks. These areas possess combustible material in sufficient quantities to pose a wildfire risk. However, the areas lack the topographic characteristics that could significantly affect fire behavior. In contrast, CalFire data for the foothill and mountain areas to the east of the City of Cotati include a preponderance of “high” and “very high” fuel ranks (California Department of Forestry and Fire Protection, 2010).

Fire Threat

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme (California Department of Forestry and Fire Protection, 2010).

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the state Fire Marshall as a basis for the adoption of applicable building code standards. A portion of the land located in the Urban Growth Boundary and Sphere of Influence is located in a "Moderate"

FHSZ. Fire Hazard Severity Zones in and around the City of Cotati are shown in Figure 3.7-1 (California Department of Forestry and Fire Protection, 2014).

Local Responsibility Areas

Local Responsibility Areas (LRA) are concentrated in the incorporated areas of Sonoma County. The City of Cotati is an LRA that is served by the Rancho Adobe Fire Protection District, which provides services to unincorporated Penngrove, City of Cotati and unincorporated areas of Petaluma. The District's service area covers approximately 86 square miles. The District supplements work force through automatic and mutual aid agreements with neighboring fire departments (Rancho Adobe Fire Protection District, 2014).

The City of Cotati is not categorized as a "Very High" FHSZ by CalFire (California Department of Forestry and Fire Protection, 2014).

State Responsibility Areas

State Responsibility Areas within the vicinity of the City of Cotati are primarily found to the south and west of the city limits. A portion of the Sphere of Influence and Urban Growth Boundary is included in the State Responsibility Area and is categorized as a "Moderate" FHSZ. This "Moderate" FHSZ extends to the Pacific Ocean, which is approximately 15 miles to the west of the City of Cotati. Approximately three miles to the east of the city limits is a combination of "Moderate" and "High" FHSZs. This area is generally rolling to steep slopes. The closest "Very High" FHSZ is located east of SR 12, which is over 10 miles from the eastern city limits (California Department of Forestry and Fire Protection, 2014).

Federal Responsibility Areas

There are no Federal Responsibility Areas within the vicinity of City of Cotati (California Department of Forestry and Fire Protection, 2014).

HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2002), prepared by the State Division of Aeronautics, 18.2 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phase of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types

of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions (California Division of Aeronautics, 2002).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway (California Division of Aeronautics, 2002).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed (California Division of Aeronautics, 2002).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2002).

Facilities Located in the City of Cotati

The City of Cotati does not have any airport facilities located within the city limits, sphere of influence, of urban growth boundary.

Facilities Located Near the City of Cotati

Petaluma Municipal Airport: The Petaluma Municipal Airport is located at the northeast edge of the City of Petaluma. This airport is the closest airport to Cotati, located approximately 8 miles southeast of the Cotati city limits. The Petaluma Municipal Airport is operational 24 hours a day and staffed Monday through Friday 8:00 am to 5:00 pm and Saturday and Sunday from 8:00 am to 4:00 pm and including Holidays. Airport operations encompass a host of services for the orderly and safe departure and arrival of aircraft. Approximately 60,000 take-offs and landings are recorded at the Petaluma Municipal Airport each year. There are 180 aircraft storage hangars and 130 tie down spaces for 240 based aircraft (City of Petaluma, 2011).

The City of Cotati does not lie within the Runway Protection Zone, Inner/Outer Safety Zones, Inner Turning Zone, Sideline Safety Zone, or Traffic Pattern Zone (Sonoma County Airport Land Use Commission, 2001).

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board Aviation Accident Database identifies no accidents within the City of Cotati between January of 1950 to June 2011 (National Transportation Safety Board, 2011).

3.7.2 REGULATORY SETTING

FEDERAL REGULATIONS

Aviation Act of 1958

The federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA was charged with the creation and maintenance of a National Airspace System.

Clean Air Act

Per the Clean Air Act, the EPA has established National Emissions Standards for Hazardous Air Pollutants. Exceeding the emissions standard for a given air pollutant may cause an increase in illnesses and/or fatalities.

Clean Water Act

The CWA, which amended the WPCA of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the US and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the US. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

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. The Act 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.

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. The City of Cotati is located within EPA Region 9, which includes Arizona, California, Hawaii and New Mexico.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulations (FAR) establish regulations related to aircraft, aeronautics and inspections and permitting.

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of "Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire" by the US Departments of the Interior and Agriculture.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic 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 (USDOT) 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.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated 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.

The 1984 RCRA amendments provided the framework 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.

STATE REGULATIONS

Aeronautics Act (Public Utilities Code §21001)

The Caltrans Division of Aeronautics bases the majority of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses* (§21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify “Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

CA Code of Regulations

Title 3 of the CCR pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application
- Damage non-target crops or animals or any other public or private property
- Contaminate public or private property or create health hazards on said property

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8. Title 8 also establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal and a variety of wildfire preparedness, prevention and response regulations.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport and disposal of hazardous waste.

Title 26 of the CCR is a medley of state regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special and hazardous).

California Fire Code

The California Fire Code (CFC) is Part 9 of Title 24, California Code of Regulations, also referred to as the California Building Standards Code. The CFC incorporates the 2009 International Fire Code of the International Code Council with necessary California amendments. The purpose of the CFC is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or

dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

CA Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

CA Health & Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage and transport (in quantities greater than 1,000 pounds).

Division 12.5 of the Health and Safety Code establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings and postsecondary buildings.

Division 20 of the Health and Safety Code establishes Department of Toxic Substances Control (DTSC) authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a state superfund framework that mirrors the federal program.

Division 26 of the Health and Safety Code establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per federal regulations and charges the Board with meeting Clean Air Act requirements.

CA Health and Safety Code and UBC Section 13000 et seq.

State fire regulations are set forth in §13000 *et seq*. of the California Health and Safety Code, which is divided into "Fires and Fire Protection" and "Buildings Used by the Public." The regulations provide for the enforcement of the UBC and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

CA Vehicle Code §31600 (Transportation of Explosives)

Establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

CA Public Resources Code

The state's Fire Safe Regulations are set forth in Public Resources Code §4290, which include the establishment of State Responsibility Areas (SRA). Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone that …*owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-*

covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material (§4291(a)).

Food and Agriculture Code

Division 6 of the CA Food and Agricultural Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The Department of Toxic Substances Control (DTSC) is chiefly responsible for regulation, handling, use and disposal of toxic materials while the State Water Resources Control Board (SWRCB) regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The Regional Water Quality Control Board (RWQCB) oversees surface and groundwater in Sonoma County. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under the Occupational Health and Safety Administration at both the federal level (OSHA) and at the State level through the California Division of Occupational Safety and Health (CAL/OSHA), as well as through the California Department of Health Services (DHS). Air quality is regulated through the California Air Resources Board and Bay Area Air Quality Management District. The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education and enforcement; the California Department of Forestry and Fire Protection (CalFIRE) provides fire protection services for California's state- and privately-owned wildlands.

Uniform Fire Code

The Uniform Fire Code (UFC) establishes standards related to the design, construction and maintenance of buildings. The standards set forth in the UFC range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials.

Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (SWRCB). In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

LOCAL REGULATIONS

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 Fire and Emergency Services Department Hazardous Materials Division is responsible for

the County's Certified Unified Program Agency (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 (HMP) 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

Sonoma-Lake-Napa Fire Plan (2005)

The Sonoma-Lake-Napa Unit (LNU) of the CalFire prepared the Fire Management Plan as a planning tool to reduce wildfire impacts throughout Sonoma, Lake, Napa, Yolo, Solano and Colusa Counties. The Plan identifies high value, high-risk areas in the six counties comprising the LNU.

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it will:

- 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 it 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 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; or
- 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.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: The General Plan 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 General Plan 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, 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 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, Fire Department) would respond. All future projects allowed under the General Plan would be required to comply with the provisions of

federal, state, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with state and federal regulations and the Land Use Code, the General Plan includes policies and actions to address potential impacts associated with hazardous materials among other issues. 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 to require that businesses operations comply with federal and state regulations regarding the use, transport, storage, and disposal of hazardous materials. The General Plan includes policies and actions to also ensure that the City has adequate emergency response plans and measures to respond in the event of an accidental release of a hazardous substance. Compliance with applicable General Plan policies and actions, as well as state and federal regulations, would ensure that potential impacts associated with the routine use, transport, storage, or disposal or accidental release of hazardous materials would be **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CSF 3.7: *Continue to coordinate with Sonoma County to require all businesses and residents to comply with the local and State requirements regarding the proper disposal of toxic and hazardous materials and waste.*

Policy CSF 3.8: *Require new or significantly remodeled residential and all non-residential development to incorporate sufficient, attractive, and convenient interior and exterior storage areas for recyclables and green waste.*

Policy SA 1.1: *Continue to participate in the Joint Powers Agreement (JPA) with the City of Rohnert Park and the Rancho Adobe Fire District to provide essential emergency services during natural catastrophes and emergency situations.*

Policy SA 1.2: *Coordinate with the City of Rohnert Park and the Rancho Adobe Fire District to develop and maintain an Emergency Management and Response Plan to improve emergency response for all areas of the City.*

Policy SA 1.3: *Keep emergency access routes free of traffic impediments.*

Policy SA 1.4: *Coordinate with the Sonoma County Sheriff and the California Standardized Emergency Management System (SEMS) to ensure coordinated local and state-level responses in the event of an emergency.*

Policy SA 1.5: *Ensure that all areas of the City are accessible to emergency response providers.*

Policy SA 1.5: *Continue to promote public safety through public education programs.*

Policy SA 1.6: *Encourage residents and community leaders to participate in disaster training programs, such as the Sonoma County Community Emergency Response Team (CERT) program.*

Policy SA 1.7: *Require future sites of public and critical use buildings to be in areas of low environmental hazards.*

Actions

Action CSF 3d: Undertake a solid waste disposal and reduction education program in collaboration with the Sonoma County Waste Management Agency. The outreach program shall include information related to the proper disposal and resources for the disposal of household hazardous wastes, including, but not limited to:

- *Motor oil*
- *Electronics*
- *Medications/pharmaceuticals*
- *Batteries*
- *Paint*
- *Syringes/needles*
- *Treated Wood*
- *Fluorescent lamps/CFLs*

Action SA 1a: Prepare and adopt a coordinated Emergency Response Plan. The Emergency Response Plan should be developed collaboratively with City departments and outside agencies that provide services for police protection, fire, public works, flood control, and other emergency services. The Emergency Response Plan should include information regarding emergency access routes for major flood or fire events, measures to ensure adequate access for emergency vehicles on designated emergency routes, and the location of emergency shelters and evacuation areas. The Plan should also include protocols for the dissemination of information following a disaster, establish roles and responsibilities for City staff and public safety officials during and after an emergency, and identify resources available to the public during and after an emergency or natural disaster.

Action SA 1b: Support regional earthquake preparedness activities such as strapping water heaters, organizing periodic city-wide earthquake drills, providing first aid training and disaster preparedness classes to neighborhood groups, and encouraging residents and businesses to stockpile emergency food, water, and medical supplies.

Action SA 1c: Encourage schools, neighborhood associations, mobile home park associations and other interested groups to teach first aid and disaster preparedness, including Community Emergency Response Team (CERT) programs, Map Your Neighborhood programs, and other tools available to neighborhood and community groups to improve disaster preparedness.

Action SA 1d: Periodically review, maintain and repair City roadways and emergency access routes and provide signage, where necessary, to clearly identify emergency access routes.

Action SA 1e: *Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.*

Action SA 1f: *Develop and annually update an emergency contact list and emergency response information on the City's website. The information should include emergency access routes, available emergency resources, and contact information for emergency responders.*

Action SA 1g: Develop a public information program which will provide all citizens with access to needed information concerning disaster preparedness and safety.

Action SA 1h: Conduct annual emergency response drills with key members of the City, local leaders, and emergency response personnel. The training should include the dissemination of information to the public regarding emergency response procedures, resources, and City responsibilities.

Action SA 1i: Establish procedures to allow local citizen and community groups to utilize City-owned facilities to conduct disaster training and preparation programs.

Impact 3.7-2: The General Plan 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 General Plan would allow land uses, including commercial uses, that may result in hazardous emissions or handle hazardous materials, substances, or waste in the vicinity of Thomas Page Elementary, Cotati's only public school, located at 1075 Madrone Avenue. This school is the only school located in Cotati. The school is located just south of the Gravenstein Highway corridor, which is planned for commercial development. The Commercial land use designation provides for the basic business and service needs of the local community, including shopping centers, neighborhood-oriented retail, and highway-oriented commercial uses. Office and multi-family residential land uses which are easily integrated into the adjacent districts are also appropriate in the Commercial district. These types of uses are not likely to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. However, there is the potential for future businesses to handle, use, or store small quantities of common hazardous materials, which may pose a minimal risk to public health and safety within one-quarter mile of a public school.

All hazardous materials would be handled in accordance with federal, state, and county requirements, as described under Impact 3.7-1, 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, and 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. Compliance with all existing regulations and hazard mitigation plans as well as

General Plan policies and actions discussed under Impact 3.7-1 would ensure that the impact would be **less than significant**.

Impact 3.7-3: The General Plan 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 previously described, there are several sites in the Planning Area that are included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. These sites have a history of contamination with hazardous materials and are subject to various State and federal laws and regulators, including the CERCLA, EPA, DTSC, and RWQCB. Of the 20 sites listed pursuant to Government Code Section 65962.5, 14 have completed all required clean-up measures and have had their cases closed. Only six sites remain as open cases, under various levels of remediation and clean-up compliance. Development allowed by the General Plan could create a hazard to the public or the environment through a disturbance or release of contaminated materials if the development occurs on or adjacent to contaminated sites without appropriate measures to contain or mitigate the existing contamination. State and federal regulations ensure that existing hazards, including those associated with known hazardous materials sites, are addressed prior to development. The General Plan includes policies and actions that are intended to prevent inappropriate disposal of household hazardous materials through an education program and a requirement to have interior and exterior storage areas for recyclables and green waste. Compliance with state and federal regulations would ensure that potential impacts associated with the hazardous conditions on sites listed pursuant to Government Code Section 65962.5 would be **less than significant**.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy CSF 3.7: *Continue to coordinate with Sonoma County to require all businesses and residents to comply with the local and State requirements regarding the proper disposal of toxic and hazardous materials and waste.*

Policy CSF 3.8: *Require new or significantly remodeled residential and all non-residential development to incorporate sufficient, attractive, and convenient interior and exterior storage areas for recyclables and green waste.*

Policy SA 1.5: *Continue to promote public safety through public education programs.*

Policy SA 1.7: *Require future sites of public and critical use buildings to be in areas of low environmental hazards.*

Policy SA 1.9: *The structural integrity of all existing City facilities will be reviewed and those facilities found unsatisfactory will be strengthened.*

Actions

Action CSF 3d: Undertake a solid waste disposal and reduction education program in collaboration with the Sonoma County Waste Management Agency. The outreach program shall include information related to the proper disposal and resources for the disposal of household hazardous wastes, including, but not limited to:

- *Motor oil*
- *Electronics*
- *Medications/pharmaceuticals*
- *Batteries*
- *Paint*
- *Syringes/needles*
- *Treated Wood*
- *Fluorescent lamps/CFLs*

Impact 3.7-4: The General Plan is not located within an airport land use plan, two miles of a public airport or public use airport, or within the vicinity of a private airstrip, and would not result in a safety hazard for people residing or working in the project area. (Less than Significant)

Hazards related to airports are typically grouped into two categories: air hazards and ground hazards. Air hazards jeopardize the safety of an airborne aircraft and expose passengers, pilots and crews to danger. Examples of air hazards include tall structures, glare-producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures, posing a risk to aircraft. Ground hazards jeopardize the safety of current and future residents and/or workers in the vicinity of an airport. The most obvious ground hazard is a crash, which may produce a serious, immediate risk to those residing in or using areas adjacent to the airport. Most accidents occur during take-off and landing. Therefore, the higher the density around an airport, including transportation facilities, the higher the risk associated with this type of hazard.

As discussed in this section, the City of Cotati does not have any airport facilities located within the city limits, sphere of influence, of urban growth boundary. The closest airport is the Petaluma Municipal Airport located at the northeast edge of the City of Petaluma. This airport is located approximately 8 miles southeast of the Cotati city limits. The Petaluma Municipal Airport is operational 24 hours a day and staffed Monday through Friday 8:00 am to 5:00 pm and Saturday and Sunday from 8:00 am to 4:00 pm and including Holidays. Airport operations encompass a host of services for the orderly and safe departure and arrival of aircraft. Approximately 60,000 take-offs and landings are recorded at the Petaluma Municipal Airport each year. There are 180 aircraft storage hangars and 130 tie down spaces for 240 based aircraft. The City of Cotati does not lie within the Runway Protection Zone, Inner/Outer Safety Zones, Inner Turning Zone, Sideline Safety Zone, or Traffic Pattern Zone for this airport. According to the National Transportation Safety

Board Aviation Accident Database, there have been no accidents within the City of Cotati between January of 1950 to January 2014. Implementation of the General Plan would have a **less than significant** impact with regard to this issue.

Impact 3.7-5: The General Plan does not have the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

The General Plan would allow a variety of new development, including residential, commercial, industrial, and public service projects, which would result in increased jobs and population in the City of Cotati. Roads and infrastructure improvements would occur to accommodate the new growth. Future projects are not anticipated to remove or impede evacuation routes and the General Plan does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans.

The General Plan would improve transportation systems throughout the City and includes policies and actions designed to ensure that an emergency response plan is prepared, and maintained. The General Plan would also ensure that the City's emergency access routes, emergency contact lists, and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. Important new community safety facilities would be located outside of identified flood, geologic, and fire hazard areas to ensure these facilities are available in the event of a natural disaster. Implementation of the General Plan would have a **less than significant impact** with regards to this issue.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy SA 1.1: *Continue to participate in the Joint Powers Agreement (JPA) with the City of Rohnert Park and the Rancho Adobe Fire District to provide essential emergency services during natural catastrophes and emergency situations.*

Policy SA 1.2: *Coordinate with the City of Rohnert Park and the Rancho Adobe Fire District to develop and maintain an Emergency Management and Response Plan to improve emergency response for all areas of the City.*

Policy SA 1.3: *Keep emergency access routes free of traffic impediments.*

Policy SA 1.4: *Coordinate with the Sonoma County Sheriff and the California Standardized Emergency Management System (SEMS) to ensure coordinated local and state-level responses in the event of an emergency.*

Policy SA 1.5: *Ensure that all areas of the City are accessible to emergency response providers.*

Policy SA 1.5: *Continue to promote public safety through public education programs.*

Policy SA 1.6: *Encourage residents and community leaders to participate in disaster training programs, such as the Sonoma County Community Emergency Response Team (CERT) program.*

Actions

Action SA 1a: *Prepare and adopt a coordinated Emergency Response Plan. The Emergency Response Plan should be developed collaboratively with City departments and outside agencies that provide services for police protection, fire, public works, flood control, and other emergency services. The Emergency Response Plan should include information regarding emergency access routes for major flood or fire events, measures to ensure adequate access for emergency vehicles on designated emergency routes, and the location of emergency shelters and evacuation areas. The Plan should also include protocols for the dissemination of information following a disaster, establish roles and responsibilities for City staff and public safety officials during and after an emergency, and identify resources available to the public during and after an emergency or natural disaster.*

Action SA 1b: *Support regional earthquake preparedness activities such as strapping water heaters, organizing periodic city-wide earthquake drills, providing first aid training and disaster preparedness classes to neighborhood groups, and encouraging residents and businesses to stockpile emergency food, water, and medical supplies.*

Action SA 1c: *Encourage schools, neighborhood associations, mobile home park associations and other interested groups to teach first aid and disaster preparedness, including Community Emergency Response Team (CERT) programs, Map Your Neighborhood programs, and other tools available to neighborhood and community groups to improve disaster preparedness.*

Action SA 1d: *Periodically review, maintain and repair City roadways and emergency access routes and provide signage, where necessary, to clearly identify emergency access routes.*

Action SA 1e: *Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.*

Action SA 1f: *Develop and annually update an emergency contact list and emergency response information on the City's website. The information should include emergency access routes, available emergency resources, and contact information for emergency responders.*

Action SA 1g: *Develop a public information program which will provide all citizens with access to needed information concerning disaster preparedness and safety.*

Action SA 1h: *Conduct annual emergency response drills with key members of the City, local leaders, and emergency response personnel. The training should include the dissemination of information to the public regarding emergency response procedures, resources, and City responsibilities.*

Action SA 1i: *Establish procedures to allow local citizen and community groups to utilize City-owned facilities to conduct disaster training and preparation programs.*

Impact 3.7-6: The General Plan does not have 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. (Less than Significant)

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

Wild fires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wild fires have a role in the County's ecosystem, wild fires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

The City of Cotati is primarily devoid of CalFire fuel ranks. The exceptions are areas within the undeveloped Sphere of Influence and Urban Growth Boundary with grasslands that possess characteristics warranting "moderate" fuel ranks. These areas possess combustible material in sufficient quantities to pose a wildfire risk. However, the areas lack the topographic characteristics that could significantly affect fire behavior. In contrast, CalFire data for the foothill and mountain areas to the east of the City of Cotati include a preponderance of "high" and "very high" fuel ranks. A portion of the land located in the Urban Growth Boundary and Sphere of Influence is located in a "Moderate" FHSZ. Fire Hazard Severity Zones in and around the City of Cotati are shown in Figure 3.7-1.

Local Responsibility Areas (LRA) are concentrated in the incorporated areas of Sonoma County. The City of Cotati is an LRA that is served by the Rancho Adobe Fire Protection District, which provides services to the City of Cotati and unincorporated areas of Sonoma County, including the community of Penngrove. The District's service area covers approximately 86 square miles. The District supplements work force through automatic and mutual aid agreements with neighboring fire departments.

State Responsibility Areas within the vicinity of the City of Cotati are primarily found to the south and west of the city limits. A portion of the Sphere of Influence and Urban Growth Boundary is included in the State Responsibility Area and is categorized as a "Moderate" FHSZ. This "Moderate" FHSZ extends to the Pacific Ocean, which is approximately 15 miles to the west of the City of Cotati. Approximately three miles to the east of the city limits is a combination of "Moderate" and "High" FHSZs. This area is generally rolling to steep slopes. The closest "Very High" FHSZ is located east of SR 12, which is over 10 miles from the eastern city limits.

There are no Federal Responsibility Areas within the vicinity of City of Cotati.

All future projects allowed under the General Plan 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 City, each project would be evaluated for potential impacts, specific to the project, associated with wildland fire hazards as required under CEQA. The General Plan establishes policies and actions to address fire protection services and avoid impacts related to wildland fires. The General Plan includes policies and actions that would ensure that potential wildland fire hazards are mitigated through requirements for adequate water supply and water flow availability, ensuring adequate emergency access, adequate fire protection services, and ensuring public awareness regarding fire safety. Implementation of the General Plan would have a **less than significant** impact with regards to this issue.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CSF 2.28: *Encourage the Rancho Adobe Fire Protection District to maintain adequate staff and equipment to provide fire protection services to existing and planned population growth in Cotati.*

Policy CSF 2.29: *Encourage the Rancho Adobe Fire Protection District to maintain an adequate response time for emergency vehicles.*

Policy CSF 2.30: *Design and maintain City streets in such a way so as to maintain acceptable emergency vehicle response times.*

Policy CSF 2.31: *Ensure that new development is designed, constructed, and equipped consistent with the requirements of the California Fire Code in order to minimize the risk of fire.*

Policy CSF 2.32: *Ensure that new development is served with adequate water volumes and water pressure for fire protection.*

Policy CSF 2.36: *Continue to promote coordination between land use planning and police and fire protection services through consultation and coordination with the Cotati Police Department and the Rancho Adobe Fire Protection District during the review of new development proposals.*

Policy SA 1.1: *Continue to participate in the Joint Powers Agreement (JPA) with the City of Rohnert Park and the Rancho Adobe Fire District to provide essential emergency services during natural catastrophes and emergency situations.*

Policy SA 1.2: *Coordinate with the City of Rohnert Park and the Rancho Adobe Fire District to develop and maintain an Emergency Management and Response Plan to improve emergency response for all areas of the City.*

Policy SA 1.3: *Keep emergency access routes free of traffic impediments.*

Policy SA 1.4: *Coordinate with the Sonoma County Sheriff and the California Standardized Emergency Management System (SEMS) to ensure coordinated local and state-level responses in the event of an emergency.*

Policy SA 1.5: *Ensure that all areas of the City are accessible to emergency response providers.*

Policy SA 1.5: *Continue to promote public safety through public education programs.*

Policy SA 1.6: *Encourage residents and community leaders to participate in disaster training programs, such as the Sonoma County Community Emergency Response Team (CERT) program.*

Policy SA 1.7: *Require future sites of public and critical use buildings to be in areas of low environmental hazards.*

Actions

Action CSF 2o: Continue to enforce the California Building Code and the California Fire Code to ensure that all construction implements fire-safe techniques, including fire resistant materials, where required.

Action CSF 2p: As part of the development review process for new projects, the City will continue to refer applications to the Rancho Adobe Fire Protection District for determination of the project's potential impacts on fire protection services. Requirements will be added as Conditions of Approval to project's approving resolutions.

Action SA 1a: Prepare and adopt a coordinated Emergency Response Plan. The Emergency Response Plan should be developed collaboratively with City departments and outside agencies that provide services for police protection, fire, public works, flood control, and other emergency services. The Emergency Response Plan should include information regarding emergency access routes for major flood or fire events, measures to ensure adequate access for emergency vehicles on designated emergency routes, and the location of emergency shelters and evacuation areas. The Plan should also include protocols for the dissemination of information following a disaster, establish roles and responsibilities for City staff and public safety officials during and after an emergency, and identify resources available to the public during and after an emergency or natural disaster.

Action SA 1d: Periodically review, maintain and repair City roadways and emergency access routes and provide signage, where necessary, to clearly identify emergency access routes.

Cotati General Plan Update

Figure 3.7-1: Fire Hazards Map

State Responsibility Areas (SRA)

- Moderate
- High
- Very High

Local Responsibility Area (Bates)

- Very High

USGS Hydrography

- Stream or River
- Canal or Ditch

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary
- City Areas

0 0.5 1 2 3 Miles

1:150,000

Data sources: California Department of Forestry and Fire Protection; Cotati GIS. Map date: May 12, 2011.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section provides a background discussion of the regional hydrology, flooding, water quality, water purveyors, and water sources in Cotati. This section is organized with an existing setting, regulatory setting, and impact analysis.

Key Terms

Acre feet: The volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to approximately 325,851.4 gallons.

BGS: Below ground surface.

GPD: Gallons per day.

GPM: Gallons per minute.

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

MG: Million gallons

MGD: Million gallons per day

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is naturally replenished through precipitation, but is naturally lost through evaporation and seepage into soil.

3.8.1 EXISTING SETTING

REGIONAL HYDROLOGY

Location and Climate

The City of Cotati is located in Sonoma County, California approximately 20 miles east of the Pacific Ocean, and 45 miles north of San Francisco. The Cotati city limits encompass approximately 1,217 acres. The City's Sphere of Influence covers an additional 1,010 acres.

The climate in Cotati is mild with average high temperatures ranging from 58-83 degrees Fahrenheit (F), and average lows ranging from 38-52. The average annual precipitation is 25 inches, most of which comes in the form of winter rain. Summer coastal fog often reaches Cotati through the coastal valleys to the west.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.8-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.8-1: STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

WATERSHED LEVEL	*APPROXIMATE SQUARE MILES (ACRES)*	*DESCRIPTION*
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALWATER, CALIFORNIA INTERAGENCY WATERSHED MAPPING COMMITTEE 2008

HYDROLOGIC REGIONS

The majority of the City of Cotati is located within the North Coast Hydrologic Region. A portion of the southern part of the City of Cotati is located within the San Francisco Bay Hydrologic Region. (CalWater, 2008).

North Coast Hydrologic Region: The North Coast hydrologic region covers approximately 19,500 square miles and includes all or portions of Modoc, Siskiyou, Del Norte, Trinity, Humboldt, Mendocino, Lake, and Sonoma counties, and small areas of Shasta, Tehama, Glenn, Colusa, and Marin counties. (California Department of Water Resources, 2009).

San Francisco Bay Hydrologic Region: The San Francisco Bay hydrologic region covers approximately 4,506 square miles and includes all or portions of Marin, Napa, Sonoma, Solano, San Mateo, Santa Clara, Contra Costa, Santa Cruz, and Alameda counties. (California Department of Water Resources, 2009).

HYDROLOGIC UNITS

Within the City of Cotati there are two hydrologic units. These include the Russian and San Pablo. The majority of the City of Cotati is located in the Russian Hydrologic Unit, which covers approximately 950,249 acres. A small portion of the southern part of the City of Cotati is located in the San Pablo Hydrologic Unit, which covers approximately 785,049 acres. Figure 3.8-1 illustrates the boundaries of the Sphere of Influence and City Limits relative to the boundaries of the hydrologic units.

HYDROLOGIC AREAS

For purposes of planning on a region-wide basis, hydrologic areas are generally considered to be the appropriate watershed planning level. As a planning area becomes smaller the hydrologic area level may be too large in terms of scale, and a hydrologic subarea may be considered more appropriate. The City of Cotati is located within 2 hydrologic subareas. These include: Upper Laguna de Santa Rosa subarea (Russian) and the Petaluma River subarea (San Pablo). Table 3.8-2 and 3.8-3 provides a breakdown of the acreages of each watershed within the City of Cotati.

TABLE 3.8-2: WATERSHED INFORMATION--RUSSIAN

HYDROLOGIC INFORMATION	*DESCRIPTION*	*ACRES*	*SQUARE MILES*	*PERCENT OF WATERSHED*
HUC8 (Catalog Unit)	Russian	950,249	1,485	100%
HUC10 (Hydrologic Area)	Mark West Creek	162,784	254	17%
HUC12 (Hydrologic Sub Area)	Upper Laguna de Santa Rosa	39,712	62	4%

SOURCE: CALWATER 2.1.1, NATIONAL RESOURCES CONSERVATION SERVICE, IWMC.

TABLE 3.8-3: WATERSHED INFORMATION--SAN PABLO

HYDROLOGIC INFORMATION	*DESCRIPTION*	*ACRES*	*SQUARE MILES*	*PERCENT OF WATERSHED*
HUC8 (Catalog Unit)	San Pablo	785,049	1,227	100%
HUC10 (Hydrologic Area)	Petaluma River - Frontal San Pablo Bay Estuaries	126,657	198	16%
HUC12 (Hydrologic Sub Area)	Petaluma River	28,711	45	4%

SOURCE: CALWATER 2.1.1, NATIONAL RESOURCES CONSERVATION SERVICE, IWMC.

FLOODING

FEMA Flood Zones

FEMA mapping provides important guidance for the City in planning 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). The Citywide FEMA Firm Map is shown on Figure 3.8-2. The California Department of Water Resources

has recently completed work to map the 200-year floodplain for many areas of California. Areas within the 200-year floodplain are also shown in Figure 3.8-2.

Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- **Zone A:** Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- **Zone AE:** Subject to 100-year flooding with base flood elevations determined.
- **Zone AH:** Subject to 100-year flooding with flood depths between one and three feet being areas of ponding with base flood elevations determined.
- **Zone AO:** Subject to 100-year flooding with flood depths between one and three feet being subject to sheet flow on sloping terrain with average depths determined.
- **Zone X (unshaded):** Area of minimal flood hazard. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.
- **Zone X (shaded):** Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.
- **Zone D:** Areas where flood hazards are yet to be determined.

The City of Cotati is subject to flooding problems along the natural creeks and drainages that traverse the area. The Laguna de Santa Rosa and Cotati Creek are the most prominent drainages in Cotati that are subject to flooding. The 100-year flood plain extends onto many properties that are located immediately adjacent to these drainages. Additionally, land to the west of US 101 in the northern part of the City, and a portion of the Downtown Specific Plan Area, is within the 500 year floodplain. The flood hazards in Cotati are illustrated in Figure 3.8-2. Table 3.8-4 presents a breakdown of the acreage and percentage of the City, Sphere of Influence, and Urban Growth Boundary that are designed as a FEMA flood zone.

TABLE 3.8-4: FEMA FLOOD ZONE SURFACE AREAS IN CITY OF COTATI

Zone	Acres - City	% of City	Acres - SOI	% of SOI	Acres - UGA	% of UGA
X (shaded) (500yr)	187.10	15.4%	0.48	0.0%	30.32	8.5%
AE (100yr)	58.87	4.8%	0.21	0.0%	27.64	7.7%
X (unshaded)	971.55	79.8%	1009.44	99.9%	299.35	83.8%
TOTAL	1217.53	100.0%	1010.13	100.0%	357.30	100.0%

SOURCE: USGS NATIONAL HYDROGRAPHY DATASET, FEMA, CALIFORNIA DWR, COTATI GIS. MAP DATE: MARCH 22, 2011.

Approximately 4.8 percent of the land within the city limits is located within an area with a FEMA flood zone AE, which is an area that is subject to 100-year flooding (a one percent chance of being flooded in any given year). There is no land within the Sphere of Influence located within this zone, but 7.7 percent of the land within the Urban Growth Boundary is located within the AE zone. These areas are considered high flood hazards.

Approximately 15.4 percent of the land within the city limits is located within an area with a FEMA flood zone X (shaded), which is an area that is subject to 500-year flooding (a .2 percent chance of being flooded in any given year). There is no land within the Sphere of Influence located within this zone, but 8.5 percent of the land within the Urban Growth Boundary is located within the X (shaded) zone. These areas are considered low to moderate flood hazards.

Approximately 79.8 percent of the land within the city limits is located within an area with a FEMA flood zone X (unshaded), which is an area that is determined to be outside the 500-year flood and protected by levee from 100-year flood. Approximately 99.9 percent of the land within the Sphere of Influence, and 83.8 percent of land within the Urban Growth Boundary is located within the X (unshaded) zone. These areas are considered to be areas of minimal flood hazards.

Dam Inundation

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. The City of Cotati is not within a dam inundation area. Additionally, per DWR publications Dams Owned and Operated by a Federal Agency and Dams within the Jurisdiction of the State of California, there are no dams operated by the federal government within City of Cotati.

WATER QUALITY

Stormwater Runoff

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment 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.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates 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. Besides the 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 storm water 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-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which 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.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all 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 siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

Impaired Water Bodies

Section 303(d) of the federal Clean Water Act 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 City of Cotati has one water body listed on the 2010 Section 303(d) list of impaired water bodies. The Laguna de Santa Rosa is listed as a Category 5 segment, which means it is a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment. The pollutants listed for the segment and their list date include: indicator bacteria (2008), mercury (2006), nitrogen (1992), dissolved oxygen (1990), phosphorous (1992), sedimentation/siltation (1998), and temperature (2002). The TMDL was scheduled for completion on each of these pollutants in 2012, except for mercury, which is scheduled for 2019 (Department of Water Resources, 2010). According to the North Coast Regional Water Quality Control Board's website, (accessed June 12, 2014) TMDL efforts due for completion in 2012 remain ongoing.

WATER PURVEYORS

Sonoma County Water Agency

The City of Cotati is one of eight water contractors that have entered into a water supply agreement with the Sonoma County Water Agency for the delivery of Russian River water to its customers through a transmission system. The Water Agency's diversion facilities extract Russian River underflow, which is reported under the Water Agency's surface water rights.

The Sonoma County Water Agency's transmission system extends from the Russian River diversion facilities located near Forestville to the Santa Rosa, Petaluma, and Sonoma valleys. The transmission system consists of over 85 miles of pipelines that range in diameter from 16 to 54 inches, seven booster pump stations, and 18 storage tanks with a combined storage capacity of 129 million gallons. The major pipelines that comprise the system are known as the Santa Rosa Aqueduct (built in 1959), the Sonoma Aqueduct (built in 1963), the Petaluma Aqueduct (built in 1962), and the Russian River to Cotati Intertie (built in 1977). The City receives water directly from two turnouts located on the Russian River to Cotati Intertie.

Since 1999 the Sonoma County Water Agency has added a groundwater supply source to supplement the Russian River supply that it delivers to its customers, including Cotati. The Sonoma County Water Agency is expected to augment its groundwater supply source in future years to supplement the Russian River supply.

The water rights by which the City of Cotati obtains Russian River water are held by the SCWA and permitted by the California State Water Resources Control Board (SWRCB). The SCWA has the right to divert up to a total of 75,000 acre-feet per year for its water contractors and customers. Under the water supply agreement with the SCWA, the City is entitled to receive up to 1,520 acre-feet per year.

City of Cotati

In addition to the water supply from Sonoma County Water Agency, the City uses local groundwater supply from three municipal well sites located within the city limits. Prior to 1992, the City used groundwater to supply more than half of its demands; however, more recently, the City's water strategy has been to primarily supply its demands by use of its Sonoma County Water Agency water supply and to use its local groundwater supplies to supplement demands during peak periods and also during periods of drought. The City's local groundwater supply is a key element of its drought contingency plan and is planned to remain as such throughout the foreseeable future.

WATER SOURCE

The City's water comes from both surface water and groundwater. Prior to 1992, the City of Cotati used groundwater to supply more than half of its demands. More recently, the City's water strategy has been to supply its demands by use of its Sonoma County Water Agency water supply and to use its local groundwater supplies to supplement its needs during peak periods and also during periods of drought. The City's local groundwater supply is a key element of its drought contingency plan and is planned to remain as such throughout the planning horizon.

Most of the City's water is purchased from the Sonoma County Water Agency, which operates an extensive water supply distribution system in the region. Most of the water in the Sonoma County Water Agency distribution system is obtained from the Russian River, although they do also blend groundwater into their system.

Surface Water

Russian River: The Russian River watershed drains an area of 1,485 square miles that includes much of Sonoma and Mendocino counties. The headwaters of the Russian River are located in central Mendocino County, approximately 15 miles north of Ukiah. The Russian River is approximately 110 miles in length and flows generally southward to Mirabel Park, where it changes course and flows westward to the discharge point at the Pacific Ocean near Jenner, approximately 20 miles west of Santa Rosa. (Sonoma County Water Agency, 2011).

Two federal projects impound water in the Russian River watershed: the Coyote Valley Dam on the Russian River east of the city of Ukiah in Mendocino County (forming Lake Mendocino), and the

Warm Springs Dam on Dry Creek (a tributary of the Russian River) northwest of the City of Healdsburg in Sonoma County (forming Lake Sonoma). Because the Sonoma County Water Agency was the local sponsor for the dams and partially financed their construction, the Sonoma County Water Agency has the right to control releases from the water supply pools of both reservoirs. The Water Agency diverts water from the Russian River near Forestville and conveys the water via its transmission system (including diversion facilities, treatment facilities, aqueducts, pipelines, water storage tanks, and booster pump stations) to its customers, which includes the City of Cotati. (Sonoma County Water Agency, 2011).

Groundwater

Santa Rosa Plain Subbasin: The Santa Rosa Plain is a subbasin of the Santa Rosa Valley Basin. The Santa Rosa Plain drains northwest toward the Russian River, and is thus part of the North Coast Hydrologic Region. Several small hills near Cotati mark a drainage divide that separate the Santa Rosa Valley Basin from the Petaluma Valley Groundwater Basin, which drains to the southeast toward the San Francisco Bay.

The geology of the Santa Rosa Plain Subbasin is complex and the stratigraphic relationships are the subject of recent and continuing studies. Recent studies by the USGS have revealed that the basin is subdivided into two primary compartments termed the Windsor sub-basin in the north and the Cotati sub-basin in the south, which are separated by the Trenton fault. These two areas represent the deepest parts of the basin and range from 6,000 to 10,000 feet deep.

Both unconfined and confined aquifers are found within the Santa Rosa Plain subbasin depending upon locations in the basin with respect to relatively continuous clay layers, folding and faulting. The waterbearing deposits underlying the basin include the Wilson Grove Formation, the Glen Ellen Formation, the Petaluma Formation, and a younger and older alluvium. The Wilson Grove Formation is the major water-bearing unit in the western part of the basin and ranges in thickness from 300 feet to 1,500 feet. Deposited during the Pliocene, it is a marine deposit of fine sand and sandstone with thin interbeds of clay, silty-clay and some lenses of gravel. Interbedded and interfingered with the Wilson Grove Formation are Sonoma Volcanic sediments in the eastern basin separating the water-bearing units. Aquifer continuity and water quality are considered good based on the most current and detailed reference on the hydrogeology of the subbasin.

In 1982, a Department of Water Resources study concluded that groundwater levels in the south part of the Santa Rosa Plain (near Cotati and Rohnert Park) had decreased; however, recent studies completed by the U.S. Geological Service indicate that groundwater levels in this area have exhibited trends of recovery. This recovery trend in groundwater levels in the southern Santa Rosa Plain began around 2003 and has continued to the present. An estimated 10,500 permitted water-supply wells are located within the Santa Rosa Plain. These wells provide irrigation water for agriculture, industrial water supplies, rural residential, as well as municipal water supplies (i.e. City of Cotati) (Sonoma County Water Agency, 2011). Groundwater leaves the basin (discharges) from wells, springs, evapotranspiration from plants, and as subsurface outflow. Groundwater also discharges to streams and contributes to streamflows in some areas of the basin, including segments of Santa Rosa Creek and the Laguna de Santa Rosa. Groundwater pumping is the most

significant groundwater basin discharge from the study area, and has been estimated to be as much as 53,000 acre-feet per year, with the largest significant proportions being agricultural and domestic pumpage, followed by public supply pumpage. The majority of pumping is not measured or reported and was estimated in the Santa Rosa Plain Characterization and Management Planning Study (Sonoma County Water Agency, 2013) using land use data and a numerical groundwater flow model. Pumping from municipal public supply wells is the only component which is required to be measured and reported and comprises up to approximately 15% of the total pumping.

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 State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL REGULATIONS

Clean Water Act (CWA)

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0005-DWQ) for small Municipal Separate Storm Sewer Systems (MS4s) covered under the CWA to efficiently regulate numerous storm water discharges under a single 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 (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable. The SWMP 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

Cotati was previously covered under the statewide general permit (Water Quality Order No. 2003-0005-DWQ), but has since joined with other permittees in the Santa Rosa Plain under a Phase I NPDES permit (Water Quality Order No. R1-2009-0050) (NPDES No. CA0025054).

Federal Emergency Management Agency (FEMA)

FEMA operates the National Flood Insurance Program (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 Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

Flood Disaster Protection Act (FDPA)

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited federal assistance, including acquisition, construction and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the BFE.
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

National Flood Insurance Program (NFIP)

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes: *Better indemnify individuals for flood losses through insurance; Reduce future flood damages through State and community floodplain management regulations; and Reduce Federal expenditures for disaster assistance and flood control.*

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

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 RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the EPA Regional Administrator (EPA Region 9). 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 RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code (CWC).

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and surface water discharges of groundwater pumped as part of groundwater cleanup activities. NPDES permits are issued for five years or less, and are therefore to be updated regularly. 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. The SWRCB has issues general permits for stormwater runoff from construction sites statewide. Stormwater discharges from industrial and construction activities in the North Coast Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Rivers and Harbors Appropriation Act of 1899

One of the country's first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

STATE REGULATIONS

California Code of Regulations

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminants levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund ("SRF") and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

California Water Code

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 Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. 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.

Water Quality Control Plan for the North Coast Region

The Water Quality Control Plan for the North Coast Region (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 Clean Water Act, 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 Clean Water Act.

Urban Water Management Planning Act

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An "urban water supplier" is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier's water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources must receive a copy of an adopted urban water management plan.

LOCAL REGULATIONS

Sonoma County Water Agency

Sonoma County Water Agency was created as a special district in 1949 by the California Legislature to provide flood protection and water supply services. The Sonoma County Water Agency currently manages and maintains a water transmission system that provides naturally filtered Russian River water to nine cities and special districts that in turn delivers drinking water to more than 600,000 residents in portions of Sonoma and Marin counties.

The Sonoma County Water Agency is responsible for providing flood protection to much of Sonoma County. They have partnered with federal agencies to build and manage a variety of flood protection projects, including Warm Springs Dam, Spring Lake, Coyote Valley Dam, Matanzas Creek Reservoir, Piner Creek Reservoir, Brush Creek Middle Fork Reservoir and Spring Creek Reservoir. They also manage a proactive stream maintenance program that maintains more than 80 miles of creeks throughout the County.

In 1995 the Sonoma County Water Agency assumed responsibility from the County of Sonoma for managing the county sanitation zones and districts, which provide wastewater collection and treatment, and recycled water distribution and disposal services for approximately 22,000 residences and businesses. The zones include Airport/Larkfield/Wikiup, Geyserville, Penngrove and Sea Ranch. The sanitation districts include the Occidental, Russian River, Sonoma Valley, and South Park County Sanitation Districts. (Sonoma County Water Agency, 2011).

3.3.8 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed 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;
- 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 preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, run-off or flooding on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
- 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;
- Otherwise substantially degrade water quality;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami or mudflow.

IMPACTS AND MITIGATION

Impact 3.8-1: General Plan implementation could result in a violation of water quality standards or waste discharge requirements (Less than Significant)

Construction-Related Water Quality Impacts: Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

As required by the Clean Water Act, each subsequent development project or improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) 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 must submit the SWPPP with a Notice of Intent to the Regional Water Quality Control Board (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. Project applicants for each specific project that is larger than one acre are required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the Clean Water Act).

Based upon the general planning nature of the General Plan, development of detailed, site-specific information on this impact at this planning level 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 Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (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 the proposed General Plan would add additional areas of impervious surfaces within the Planning Area, which could 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 throughout the Planning Area associated with new development. 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.

The General Plan Conservation Element includes numerous policies specifically designed to address water quality. Policy CON 1.8 requires the conservation of riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species. Policy CON 1.9 requires protection and enhancement of streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning. Policy CON 1.10 requires the City to support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. It also requires the City to avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare. Policy CON 1.11 requires the City to support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration. Policy CON 1.12 requires discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare. Policy CON 1.13 requires the City to prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters. Policy CON 1.14 requires new development adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.

Conclusion: Compliance with the Clean Water Act and regulations enforced by the Regional Water Quality Control Board would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations. The City's stormwater system is covered under a NPDES Phase I MS4 permit, which requires both mitigation of stormwater quantity and stormwater quality. The Santa Rosa Storm Water Low Impact Development Technical Design Manual (LID Manual) provides specific guidance for post-construction stormwater control measures. Implementation of the requirements of the NPDES Phase I MS4 permit, the LID Manual requirements (or successor documents), and the various General Plan policies and action measures discussed above, and listed below would further ensure that future development projects under the General Plan do not result in significant adverse effects to water quality. The implementation of the General Plan would result in a **less than significant** impact relative to this topic.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.8: *Conserve riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.*

Policy CON 1.9: *Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.*

Policy CON 1.10: *Support rehabilitation of existing open channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional open channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.*

Policy CON 1.11: *Where feasible, support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.*

Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Actions

Action CON 1f: Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. *Avoidance of wetlands and riparian habitat through site design;*
b. *Clustered development;*
c. *Transfer of development rights; and/or*
d. *Compensatory mitigation, such as habitat restoration or habitat creation.*

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the City and the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Action CON 1k: Continue to identify which stormwater and drainage facilities are in need of repair and address these needs through the CIP process.

Impact 3.8.2: General Plan implementation could contribute to the depletion of groundwater supplies or interfere substantially with groundwater recharge (Less than Significant)

The Santa Rosa Plain is a subbasin of the Santa Rosa Valley Basin. The Santa Rosa Plain drains northwest toward the Russian River, and is thus part of the North Coast Hydrologic Region. Several small hills near Cotati mark a drainage divide that separate the Santa Rosa Valley Basin from the Petaluma Valley Groundwater Basin, which drains to the southeast toward the San Francisco Bay.

The geology of the Santa Rosa Plain Subbasin is complex and the stratigraphic relationships are the subject of recent and continuing studies. Recent studies by the USGS have revealed that the basin is subdivided into two primary compartments termed the Windsor sub-basin in the north and the Cotati sub-basin in the south, which are separated by the Trenton fault. These two areas represent the deepest parts of the basin and range from 6,000 to 10,000 feet deep.

Both unconfined and confined aquifers are found within the Santa Rosa Plain subbasin depending upon locations in the basin with respect to relatively continuous clay layers, folding and faulting. The waterbearing deposits underlying the basin include the Wilson Grove Formation, the Glen Ellen Formation, the Petaluma Formation, and a younger and older alluvium. The Wilson Grove Formation is the major water-bearing unit in the western part of the basin and ranges in thickness from 300 feet to 1,500 feet. Deposited during the Pliocene, it is a marine deposit of fine sand and sandstone with thin interbeds of clay, silty-clay and some lenses of gravel. Interbedded and interfingered with the Wilson Grove Formation are Sonoma Volcanic sediments in the eastern basin separating the water-bearing units. Aquifer continuity and water quality are considered good based on the most current and detailed reference on the hydrogeology of the subbasin.

In 1982, a Department of Water Resources study concluded that groundwater levels in the south part of the Santa Rosa Plain (near Cotati and Rohnert Park) had decreased; however, recent studies indicate that groundwater levels in this area have either stabilized or exhibited trends of recovery. This recovery trend in groundwater levels in the southern Santa Rosa Plain began around 2003 and has continued to the present. An estimated 10,500 permitted water-supply wells are located within the Santa Rosa Plain. These wells provide irrigation water for agriculture, industrial water supplies, rural residential, as well as municipal water supplies (i.e. City of Cotati) (Sonoma County Water Agency, 2011). Groundwater leaves the basin (discharges) from wells, springs, evapotranspiration from plants, and as subsurface outflow. Groundwater also discharges to streams and contributes to streamflows in some areas of the basin, including segments of Santa Rosa Creek and the Laguna de Santa Rosa. Groundwater pumping is the most significant groundwater basin discharge from the study area, and has been estimated to be as much as 53,000 acre-feet per year, with the largest significant proportions being agricultural and domestic pumpage, followed by public supply pumpage. The majority of pumping is not measured or reported and was estimated in the Santa Rosa Plain Characterization and Management Planning Study (Sonoma County Water Agency, 2013) using land use data and a numerical groundwater flow model. Pumping from municipal public supply wells is the only component which is required to be measured and reported and comprises up to approximately 15% of the total pumping.

In addition to the water supply from Sonoma County Water Agency, the City uses local groundwater supply from three municipal well sites located within the city limits. Prior to 1992, the City used groundwater to supply more than half of its demands; however, more recently, the City's water strategy has been to primarily supply its demands by use of its Sonoma County Water Agency water supply and to use its local groundwater supplies to supplement demands during peak periods and also during periods of drought. The City's local groundwater supply is a key element of its drought contingency plan and is planned to remain as such throughout the foreseeable future.

Subsequent development projects under the General Plan, such as residential, commercial, industrial, and roadway projects would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy 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 City must evaluate individual projects as they are proposed to ensure that they would not result in a significant interference with recharge. The current water supply contract with the Sonoma County Water Agency has improved the groundwater conditions by transitioning water use to mostly surface water from the Russian River. In addition, the City is participating in the regional voluntary Santa Rosa Plain Groundwater Management Plan to better manage groundwater resources now and into the future.

The City's historic water use records show that groundwater levels have not declined and the City can reliably supply historic demands with the use of groundwater (2010 UWMP). The City is using an annual maximum extraction volume of 530 AFY for production capacity of their three groundwater wells, per the 2008 Luhdorff and Scalmanini report. Due to the storage volume available within the Santa Rosa Plain groundwater basin, it is not anticipated that groundwater supply would be affected in multiple-dry years. This is further explained in Section 5.4, Drought Planning of the 2010 UWMP.

Implementation of the following General Plan policies and action measures, combined with the City continuing to obtain surface water from the Russian River and reducing the consumption of groundwater, would ensure that the General Plan would have a **less than significant** impact relative to this topic.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CSF 2.1: Continuously implement a comprehensive water strategy that balances the need to supply potable and non-potable water supplies to all users served by the City with water use reduction strategies and strategies to increase the use of alternative water supplies.

Policy CSF 2.2: Prior to the approval of development, infrastructure, Specific Plans, or other projects that would result in increased demand for public water production, conveyance, treatment or storage, project proponents must demonstrate proof of adequate water supply (e.g., that existing services are adequate to accommodate the increased demand, or improvements to the capacity of the system to meet increased demand will be made prior to project implementation) and that potential cumulative impacts to water users and the environment will be addressed.

Policy: CSF 2.3 Ensure the water system and supply is adequate to match rate of development.

Policy CSF 2.4: Priority is given to serving existing water uses over new water uses.

Policy CSF 2.5: Prioritize water system improvements to areas identified for economic growth (commercial and industrial development as well as related housing) in the next 5-10 years.

Policy CSF 2.6: Continue to work with the Sonoma County Water Agency (SCWA) to maintain water supply agreements to ensure an adequate water supply for the City.

Policy CSF 2.7: Support SCWA efforts to increase permitted surface water diversion rights from the Russian River, as necessary to support future growth.

Policy CSF 2.8: Support conjunctive groundwater use, to the extent feasible, in order to increase the reliability and flexibility of the City's water supply.

Policy CSF 2.9: Routinely assess the City's ability to meet demand for potable water by periodically updating the Water Master Plan.

Policy CSF 2.10: Continue efforts to reduce water use and increase water conservation.

Policy CSF 2.11: Procure recycled water supplies from the Santa Rosa Subregional Wastewater Treatment and Reclamation System where economically feasible.

Policy CSF 2.12: Use recycled water for landscaping irrigation at City parks and City facilities where economically feasible.

Policy CSF 2.13: Maintain and ensure adequate emergency water supplies, including the Sonoma County Water Agency and City of Rohnert Park interties, for mutual benefit in case of emergency.

Policy CSF 2.14: Continue to implement the City's water waste and water conservation requirements established under Chapter 13.30 of the Municipal Code.

Policy CSF 2.15: Continue to implement Chapter 13.36 of the Municipal Code and to work with the Environmental Health Division of Sonoma County's Permit and Resource Management Department to ensure that septic tanks do not contaminate the water supply in Cotati.

Actions

Action CSF 2a: As part of the development review process, determine the potential impacts of development and infrastructure projects on the water system and ensure that new development contributes its fair share toward necessary water infrastructure and supply. The Planning Department and the City Engineer shall be responsible for ensuring that the assessments are made.

Action CSF 2b: Achieve water use reductions through implementation of the Demand Management Measures (DMM) contained in the water supply assessment, Urban Water Management Plan, or equivalent, as applicable.

Action CSF 2c: Develop mechanisms and infrastructure to deliver recycled water to City water users from the Santa Rosa Subregional Treatment and Reclamation System.

Action CSF 2d: Coordinate with the Sonoma County Water Agency, and continue to participate in planning efforts for the Santa Rosa Plain Groundwater Management Plan to ensure more reliable conjunctive groundwater use.

Action CSF 2e: Develop a public outreach and incentive program to expand and promote the use of recycled water once delivery infrastructure becomes available (this action may be in conjunction with the Conservation Guide discussed in the Conservation Element).

Action CSF 2f: Through the planning process and the Conservation Guide discussed in the Conservation Element, the City shall implement its water waste and water conservation requirements established in Chapter 13.30 of the Municipal Code.

Action CSF 2g: Update the City's water waste and conservation strategy established in Chapter 13.30 of the Municipal Code to be consistent with current BMPs for water conservation, including measures identified by the Sonoma County Water Agency, Sonoma-Marin Water Saving Partnership, and California Urban Water Conservation Council. Ensure that the Conservation Guide (see Conservation Element) includes the mandatory and voluntary measures identified in Chapter 13.30.

Impact 3.8-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff (Less than Significant)

Individual future projects developed after adoption of the General Plan 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 General Plan could potentially alter surface drainage patterns as a result of directly altering flow patterns, or placing structures in a floodway, all of which could yield increased amounts of stormwater runoff. The construction activities associated with future projects, such as commercial, residential and industrial developments, as well as road widenings, and other infrastructure projects that convert permeable surfaces or install permanent structures would require stormwater drainage management measures to avoid flooding impacts. The existing storm drainage network in the City of Cotati may not have sufficient capacity 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 general planning nature of the General Plan, development of detailed, site-specific information on this impact at the program level is not feasible. As previously discussed, a future project applicant would be required to obtain permits from the Army Corps of Engineers and the Department of Fish and Game if any work is performed within a waterway. Each future development project must also include detailed project specific floodplain and drainage studies that assess the drainage characteristics and flood risks 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 City of Cotati has developed the General Plan to include the policies and action items identified below, which include numerous requirements that would reduce the potential for General Plan implementation to result in increased flooding or result in water quality impacts

associated with increased runoff, siltation or erosion. The implementation of these policies and action items would ensure that implementation of the General Plan would have a **less than significant** impact from these issues.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.1: *Sensitive habitats include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws.*

Policy CON 1.2: *Preserve and enhance those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.*

Policy CON 1.7: *Consult with all resource agencies during the CEQA review process for proposed developments to help identify wetland and vernal pool habitat that has candidacy for restoration, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat and provides opportunities for mitigation banking.*

Policy CON 1.8: *Conserve riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.*

Policy CON 1.9: *Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.*

Policy CON 1.10: *Support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.*

Policy CON 1.11: *Where feasible, support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.*

Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Policy SA 3.1: *Support and participate in planning efforts undertaken at the regional, state, and federal levels to improve flood management facilities throughout Sonoma County.*

Policy SA 3.2: *Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would* comply with all applicable provisions of the City's MS4 permit and companion documents, which collectively define the design storm event for water detention and retention features.

Policy SA 3.3: *Ensure that construction activities will not result in adverse impacts to existing flood control and drainage structures.*

Policy SA 3.4: *For properties located within a flood hazard zone, as identified on the most recent FEMA 100-year floodplain map or identified by the California Department of Water Resources, the City shall not enter into a development agreement, approve any discretionary entitlement, tentative parcel map, parcel map, final map, or any ministerial permit that would result in the construction of a new residence unless flood protection findings consistent with the requirements of California Government Code Sections 65865.5, 65962, and 66474.5 can be made and documented.*

Policy SA 3.5: *All new development within the 100-year flood plain shall be built according to Federal Flood Insurance Agency standards.*

Policy SA 3.6: *Require new structures to be located outside of the 100-year floodplain to the greatest extent feasible.*

Policy SA 3.7: *Monitor ongoing efforts by FEMA and the California Department of Water Resources to update flood hazard maps within the City of Cotati and Sonoma County.*

Policy SA 3.8: *Encourage and accommodate multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the City's streams, creeks and wetland/riparian areas. Where appropriate and feasible, the City shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.*

Policy SA 3.9: *Encourage flood control measures that respect natural drainage features, vegetation and natural waterways, while still providing for adequate flood control and protection.*

Policy SA 3.10: *Continue efforts to eliminate flooding, by upgrading and expanding the storm drainage system.*

Policy SA 3.11: *Ensure that new development or governmental action does not compound the potential for flooding.*

Policy SA 3.12: *Require all new developments in the city to be designed to minimize vegetation removal, soil compaction, and site coverage.*

Policy SA 3.13: *Ensure that adequate drainage and erosion controls are provided during construction of all new developments.*

Actions

Action CON 1f: Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. *Avoidance of wetlands and riparian habitat through site design;*
b. *Clustered development;*
c. *Transfer of development rights; and/or*
d. *Compensatory mitigation, such as habitat restoration or habitat creation.*

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Action CON 1k: Continue to identify which stormwater and drainage facilities are in need of repair and address these needs through the CIP process.

Action SA 3a: Periodically review, and update as needed, the Cotati Storm Drain Master Plan, and continue to require new development projects to construct and implement all applicable improvements, as well as standards contained in the Santa Rosa LID Manual, or equivalent document that implements the City's storm waterstormwater permit.

Action SA 3b: During preparation of the Capital Improvement Program, review the conditions of bridges, culverts, and other flood control and storm water conveyance infrastructure and include necessary improvements on the CIP to ensure safety of persons in the City and adequate conveyance of flood waters.

Action SA 3c: Seek State and Federal funding for improvements to existing flood control and drainage infrastructure.

Action SA 3d: Review the Cotati Municipal Code, including Chapter 15.04, Floodplain Management, and revise as necessary to ensure that development standards are consistent with the requirements of state law, including Government Code Section 65007. Development and building standards shall require the following:

1. *New structures proposed for location within the 100-year floodplain shall be elevated one (1) foot or more above the 100-year flood elevation.*
2. *New construction in the 100-year floodplain shall be designed and constructed so that they do not contribute to cumulative flooding problems that could pose a hazard to surrounding landowners or the public.*
3. *Discourage extensive areas of impermeable surfaces and promote the use of permeable materials for surfaces such as driveways and parking lots.*
4. *Ensure new development within areas prone to flooding include all-weather access roads or other measures to ensure access during a flood event.*

Action SA 3e: Work with the Sonoma County Water Agency to maintain adequate and appropriate flood channels.

Action SA 3f: Maintain unimproved drainage channels on a periodic basis (Public Works).

Action SA 3g: As part of the development review process, require developers to prepare hydrological studies for all new developments as required by the City Engineer. Studies shall encompass the project site as well as the entire drainage area.

Action SA 3h: Review the Safety Element concurrently with the periodically updated Housing Element to update any new information regarding floodplain mapping and/or regulations to ensure consistency with Federal and State requirements.

Impact 3.8-4 General Plan implementation could otherwise substantially degrade water quality (Less than Significant)

Water Quality Impacts from Discharges to 303(d) Listed Water Bodies: Section 303(d) of the federal Clean Water Act 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 City of Cotati has one water body listed on the 2010 Section 303(d) list of impaired water bodies. The Laguna de Santa Rosa is listed as a Category 5 segment, which means it is a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment. The pollutants listed for the segment and their

list date include: indicator bacteria (2008), mercury (2006), nitrogen (1992), dissolved oxygen (1990), phosphorous (1992), sedimentation/siltation (1998), and temperature (2002). The TMDL was scheduled for completion on each of these pollutants in 2012, except for mercury, which is scheduled for 2019 (Department of Water Resources, 2010). According to the North Coast Regional Water Quality Control Board's website, (accessed June 12, 2014) TMDL efforts due for completion in 2012 remain ongoing.

The General Plan Conservation Element includes numerous policies specifically designed to address water quality. Policy CON 1.8 requires the conservation of riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species. Policy CON 1.9 requires protection and enhancement of streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning. Policy CON 1.10 requires the City to support rehabilitation of existing channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. It also requires the City to avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare. Policy CON 1.11 requires the City to support restoration of existing channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration. Policy CON 1.12 requires discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare. Policy CON 1.13 requires the City to prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters. Policy CON 1.14 requires new development adjacent to creeks and streams to include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.

Based upon the general planning nature of the General Plan, development of detailed, site-specific information on this impact at this planning level is not feasible. However, all future development projects are required to prepare a detailed project specific erosion control plan and incorporate post-construction water quality BMPs into grading plans, in compliance with City regulations and the Santa Rosa LID Manual. Projects that would result in the disturbance of one or more acres are required to prepare a Storm Water Pollution Prevention Plan (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. Implementation of the General Plan policies and action measures would ensure that the General Plan would have a **less than significant** impact from these issues.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CON 1.8: *Conserve riparian habitat along local creeks, including but not limited to the Laguna de Santa Rosa and Cotati Creek, in order to maintain suitable habitat for native fish and plant species.*

Policy CON 1.9: *Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools through sound land use planning, community design, and site planning.*

Policy CON 1.10: *Support rehabilitation of existing open channelized waterways, as feasible, to remove concrete linings and allow for a connection with the stream channel and the natural water table. Avoid creating additional channelized waterways, unless no other alternative is available to protect human health, safety, and welfare.*

Policy CON 1.11: *Where feasible, support restoration of existing open channelized waterways to a more natural condition. Restoration efforts should provide for naturalized hydraulic functioning. Restoration should also promote the growth of riparian vegetation to effectively stabilize banks, screen pollutants from runoff entering the channel, enhance fisheries, and provide other opportunities for natural habitat restoration.*

Policy CON 1.12: *Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare.*

Policy CON 1.13: *Prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.*

Policy CON 1.14: *New development adjacent to creeks and streams should include opportunities for beneficial uses, such as flood control, ecological restoration activities, public access trails, and walkways.*

Actions

Action CON 1f: Utilize existing regulations and procedures, including but not limited to the Land Use Code, Design Review, and the environmental review process (CEQA) to conserve wetlands and riparian habitat within the City and the Urban Growth Boundary. Comply with the federal and state requirements, including no net loss of wetlands using mitigation strategies such as:

a. *Avoidance of wetlands and riparian habitat through site design;*
b. *Clustered development;*
c. *Transfer of development rights; and/or*
d. *Compensatory mitigation, such as habitat restoration or habitat creation.*

Action CON 1g: Coordinate with the California Department of Fish and Game and Sonoma County to identify potentially impacted aquatic habitat within the Urban Growth Boundary and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to creeks, streams and other waterways.

Action CON 1h: Periodically review, and update if necessary, Chapter 17.56 of the Cotati Municipal Code to ensure that the most appropriate requirements and best management practices are implemented to protect and restore wetland resources in the Planning Area.

Action CON 1i: Provide a Conservation Page (or similar page) on the City's website provides links to resource agencies (CDFG, USFWS, USACE, etc.) and provides information regarding local and regional conservation and environmental programs, to the extent the City has readily available information.

Action CON 1j: Coordinate with interested public and private entities to create new and expanded public access trails along creeks and streams that connect to parks and open space areas within the Urban Growth Boundary.

Action CON 1k: Continue to identify which stormwater and drainage facilities are in need of repair and address these needs through the CIP process.

Impact 3.8-5 General Plan implementation could place housing and structures within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (Less than Significant)

The City of Cotati is subject to flooding problems along the natural creeks and drainages that traverse the area. The Laguna de Santa Rosa and Cotati Creek are the most prominent drainages in Cotati that are subject to flooding. The 100-year flood plain extends onto many properties that are located immediately adjacent to these drainages. Additionally, land to the west of US 101 in the northern part of the City, and a portion of the Downtown Specific Plan Area, is within the 500 year floodplain. The flood hazards in Cotati are illustrated in Figure 3.8-2. Table 3.8-4 presents a breakdown of the acreage and percentage of the City, Sphere of Influence, and Urban Growth Boundary that are designated as a FEMA flood zone.

TABLE 3.8-4: FEMA FLOOD ZONE SURFACE AREAS IN CITY OF COTATI

Zone	Acres - City	% of City	Acres - SOI	% of SOI	Acres - UGA	% of UGA
X (shaded) (500yr)	187.10	15.4%	0.48	0.0%	30.32	8.5%
AE (100yr)	58.87	4.8%	0.21	0.0%	27.64	7.7%
X (unshaded)	971.55	79.8%	1009.44	99.9%	299.35	83.8%
TOTAL	1217.53	100.0%	1010.13	100.0%	357.30	100.0%

SOURCE: USGS NATIONAL HYDROGRAPHY DATASET, FEMA, CALIFORNIA DWR, COTATI GIS. MAP DATE: MARCH 22, 2011.

Approximately 4.8 percent of the land within the city limits is located within an area with a FEMA flood zone AE, which is an area that is subject to 100-year flooding (a one percent chance of being flooded in any given year). There is no land within the Sphere of Influence located within this zone,

but 7.7 percent of the land within the Urban Growth Boundary is located within the AE zone. These areas are considered high flood hazards.

Approximately 15.4 percent of the land within the city limits is located within an area with a FEMA flood zone X (shaded), which is an area that is subject to 500-year flooding (a .2 percent chance of being flooded in any given year). Approximately 8.5 percent of the land within the Urban Growth Boundary is located within the X (shaded) zone. These areas are considered low to moderate flood hazards.

Approximately 79.8 percent of the land within the city limits is located within an area with a FEMA flood zone X (unshaded), which is an area that is determined to be outside the 500-year flood and protected by levee from 100-year flood. Approximately 99.9 percent of the land within the Sphere of Influence, and 83.8 percent of land within the Urban Growth Boundary is located within the X (unshaded) zone. These areas are considered to be areas of minimal flood hazards.

The General Plan Safety Element includes numerous policies specifically designed to address flood hazards. Policy SA 3.1 requires the City to support and participate in planning efforts undertaken at the regional, state, and federal levels to improve flood management facilities throughout Sonoma County. Policy SA 3.2 requires all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities. Policy SA 3.3 requires construction activities to ensure that they will not result in adverse impacts to existing flood control and drainage structures. Policy SA 3.4 restricts development on properties located within a flood hazard zone unless flood protection findings consistent with the requirements of California Government Code Sections 65865.5, 65962, and 66474.5 can be made and documented. Policy SA 3.5 requires all new development within the 100-year flood plain to be built according to Federal Flood Insurance Agency standards. Policy SA 3.6 requires new structures to be located outside of the 100-year floodplain to the greatest extent feasible. Policy SA 3.7 requires monitoring of the efforts by FEMA and the California Department of Water Resources to update flood hazard maps within the City of Cotati and Sonoma County. Policy SA 3.8 requires the City to encourage and accommodate multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the City's streams, creeks and wetland/riparian areas and to encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities. Policy SA 3.9 requires the City to encourage flood control measures that respect natural drainage features, vegetation and natural waterways, while still providing for adequate flood control and protection. Policy SA 3.10 requires the City to continue efforts to eliminate flooding, by upgrading and expanding the storm drainage system. Policy SA 3.11 is intended to ensure that new development or governmental action does not compound the potential for flooding. Policy SA 3.12 requires all new developments in the city to be designed to minimize vegetation removal, soil compaction, and site coverage. Policy SA 3.13 is intended to ensure that adequate drainage and erosion controls are provided during construction of all new developments.

Subsequent development, infrastructure, and planning projects would be subject to the General Plan policies and actions. The policies and actions contained in the Safety Element of the General Plan represent a comprehensive and holistic approach by the City of Cotati to reduce the risks of flooding to City residents and properties. Furthermore, as described in the setting section, numerous federal, state, and local agencies are responsible for maintaining flood protection features in the City of Cotati, including US Army Corps of Engineers (USACE), Department of Water Resources (DWR), and Department of Fish and Game (CDFG) at the federal and state level, as well as the Sonoma County Water Agency at the local level. The implementation of the General Plan would result in a **less than significant** impact relative to this topic.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy SA 3.1: *Support and participate in planning efforts undertaken at the regional, state, and federal levels to improve flood management facilities throughout Sonoma County.*

Policy SA 3.2: *Require all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities.*

Policy SA 3.3: *Ensure that construction activities will not result in adverse impacts to existing flood control and drainage structures.*

Policy SA 3.4: *For properties located within a flood hazard zone, as identified on the most recent FEMA 100-year floodplain map or identified by the California Department of Water Resources, the City shall not enter into a development agreement, approve any discretionary entitlement, tentative parcel map, parcel map, final map, or any ministerial permit that would result in the construction of a new residence unless flood protection findings consistent with the requirements of California Government Code Sections 65865.5, 65962, and 66474.5 can be made and documented.*

Policy SA 3.5: *All new development within the 100-year flood plain shall be built according to Federal Flood Insurance Agency standards.*

Policy SA 3.6: *Require new structures to be located outside of the 100-year floodplain to the greatest extent feasible.*

Policy SA 3.7: *Monitor ongoing efforts by FEMA and the California Department of Water Resources to update flood hazard maps within the City of Cotati and Sonoma County.*

Policy SA 3.8: *Encourage and accommodate multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the City's streams, creeks and wetland/riparian areas. Where appropriate and feasible, the City shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.*

Policy SA 3.9: *Encourage flood control measures that respect natural drainage features, vegetation and natural waterways, while still providing for adequate flood control and protection.*

Policy SA 3.10: *Continue efforts to eliminate flooding, by upgrading and expanding the storm drainage system.*

Policy SA 3.11: *Ensure that new development or governmental action does not compound the potential for flooding.*

Policy SA 3.12: *Require all new developments in the city to be designed to minimize vegetation removal, soil compaction, and site coverage.*

Policy SA 3.13: *Ensure that adequate drainage and erosion controls are provided during construction of all new developments.*

Actions

Action SA 3a: *Develop a Flooding and Drainage Master Plan that addresses the following, at a minimum:*

1. *Storm water and drainage improvements for all areas of the City that are needed to accommodate existing and planned growth;*
2. *Standards for on- and off-site stormwater and flooding improvements to ensure no adverse impacts to adjacent or nearby properties;*
3. *Standard measures to be used by new development to address localized flooding impacts;*
4. *Identification of areas for stream channel or flood control conveyance system enlargement and/or stabilization; and*
5. *Operation, maintenance and funding of flood control and drainage facilities.*

Action SA 3b: *During preparation of the Capital Improvement Program, review the conditions of bridges, culverts, and other flood control and storm water conveyance infrastructure and include necessary improvements on the CIP to ensure safety of persons in the City and adequate conveyance of flood waters.*

Action SA 3c: *Seek State and Federal funding for improvements to existing flood control and drainage infrastructure.*

Action SA 3d: *Review the Cotati Municipal Code, including Chapter 15.04, Floodplain Management, and revise as necessary to ensure that development standards are consistent with the requirements of state law, including Government Code Section 65007. Development and building standards shall require the following:*

1. *New structures proposed for location within the 100-year floodplain shall be elevated one (1) foot or more above the 100-year flood elevation.*

2. *New construction in the 100-year floodplain shall be designed and constructed so that they do not contribute to cumulative flooding problems that could pose a hazard to surrounding landowners or the public.*

3. *Discourage extensive areas of impermeable surfaces and promote the use of permeable materials for surfaces such as driveways and parking lots.*

4. *Ensure new development within areas prone to flooding include all-weather access roads or other measures to ensure access during a flood event.*

Action SA 3e: Work with the Sonoma County Water Agency to maintain adequate and appropriate flood channels.

Action SA 3f: Maintain unimproved drainage channels on a periodic basis (Public Works).

Action SA 3g: As part of the development review process, require developers to prepare hydrological studies for all new developments as required by the City Engineer. Studies shall encompass the project site as well as the entire drainage area.

Action SA 3h: Review the Safety Element concurrently with the periodically updated Housing Element to update any new information regarding floodplain mapping and/or regulations to ensure consistency with Federal and State requirements.

Impact 3.8-6: The General Plan would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of failure of a levee or dam, seiche, tsunami, or mudflow (Less than Significant)

Earthquakes centered close to a dam or levee are typically the most likely cause of dam or levee 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. The City of Cotati is not within a dam inundation area. Additionally, per DWR publications Dams Owned and Operated by a Federal Agency and Dams within the Jurisdiction of the State of California, there are no dams operated by the federal government within City of Cotati. Additionally, there are no significant levees protecting the City of Cotati.

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. Tsunami can cause catastrophic damage to shallow or exposed shorelines. The Plan Area is sufficiently distant from the San Francisco Bay to preclude effects from a tsunami.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents or earthquakes. The effect of this phenomenon is a standing wave that would occur when influences by the external causes. The Plan Area is located proximate to a confined water body that would pose a significant risk from a seiche.

A mudflow is a type of mass wasting or landslide, where earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow events are caused by a combination of

factors, including soil type, soil profile, precipitation, and slope. Mudflow may be triggered by heavy rainfall that the soil is not able to sufficiently drain or absorb. As a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location. Soils most susceptible to mudflow are saturated, loose, non-plastic, uniformly graded, and fine-grained sand deposits. Given the relatively level slopes throughout the City of Cotati, the mudflow potential is very low. This is not a significant constraint in the Planning Area. The mudflow potential increases in the foothills and mountains to the east and west of the Planning Area.

The implementation of the General Plan would result in a **less than significant** impact relative to this topic.

Cotati General Plan Update

Figure 3.8-1: Watersheds

USGS Hydrography

- Stream or River
- Canal or Ditch

Watersheds

- Bodega Bay
- Gualala-Salmon
- Lower Cache
- Lower Sacramento
- Russian
- San Francisco Bay
- San Pablo Bay
- Suisun Bay
- Tomales-Drake Bays
- Upper Putah

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 600 1,200 2,400 3,600 Feet

1:36,000

Data sources: USGS National Hydrography Dataset; CalWater 2.1.1, National Resources Conservation Service, IWMC; Cotati GIS. Map date: May 12, 2011.

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Cotati General Plan Update

Figure 3.8-2: Flood Hazard Map

USGS Hydrography

- Stream or River
- Canal or Ditch

FEMA Flood Zone Designations

- 500-yr Flood Zone (0.2% annual chance flood hazard)
- AE - 100-yr Flood Zone (BFE provided)
- AO - 100-yr Flood Zone (stream/river)
- D - Possible but Undetermined Flood Hazard (Inset Only)
- X (unshaded) - Miminal Flood Hazard Area

DWR Flood Zone Designation

- 200-yr Flood Awareness Area

Planning Areas

- Downtown Special Plan Area
- Cotati City Limits
- SOI/Urban Growth Boundary

0 600 1,200 2,400 3,600 Feet

1:36,000

Data sources: USGS National Hydrography Dataset, FEMA, California DWR, Cotati GIS. Map date: July 15, 2011.

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The purpose of this EIR section is to address at a programmatic level the consistency of the General Plan Update with applicable local land use and planning regulations and policies, to address potential impacts to agricultural and forest resources, and to identify whether the General Plan Update would impact the city by inducing substantial population growth or displace substantial numbers of people or housing. This section identifies the existing land use conditions, analyzes the project's consistency with relevant planning documents and policies adopted for the purpose of avoiding or mitigating an environmental effect, and recommend mitigation measures to avoid or minimize the significance of potential environmental impacts. General Plan policies associated with other specific environmental topics (aesthetics, air quality, biological resources, cultural resources, geology/soils, greenhouse gas, hazards, hydrology/water quality, noise, public services, recreation, transportation, and utilities) are discussed in the relevant sections of this EIR.

Information in this section is based on information provided by the following reference materials: *Plan Bay Area* (ABAG 2013), Population and Housing Estimates for Cities, Counties, and the State, *January 1, 2011-2013*, with 2010 Benchmark (DOF) 2013, the *Existing Conditions Report* (City of Cotati 2011), the *Housing Element (*City of Cotati 2011), *Land Use* – Title 17 of the Cotati Municipal Code (City of Cotati 2013), the *Downtown Specific Plan* (2009), the *Santero Way Specific Plan* (City of Cotati 2001), and review of ground and aerial photographs,

3.9.1 ENVIRONMENTAL SETTING

EXISTING CONDITIONS

Cotati is a small historic town located 40 miles north of San Francisco, in the southern portion of Sonoma County at the intersection of Highways 101 and 116 (Gravenstein Highway).

Land Use

Existing land use in Cotati is predominantly single-family residential, with lower densities located west of Highway 101 and a range of densities from rural residential to higher density multi-family located east of Highway 101. Commercial uses are located downtown along Old Redwood Highway and in commercial centers along Gravenstein Highway and East Cotati Avenue. Offices are located downtown, within the industrial park on the City's northwest border, and along East Cotati Avenue. The Redwood Drive industrial area houses the bulk of the City's warehousing, distribution, and manufacturing uses. Rural and agricultural lands are located to the south and west of Cotati. The more intensely developed areas of the City of Rohnert Park lie immediately adjacent to the north and east.

Cotati's land uses are composed primarily of neighborhoods, districts, and corridors. Neighborhoods, which make up most of Cotati, are primarily residential areas where people can walk to a neighborhood center in 5-10 minutes. Local neighborhood centers include community spaces such as schools and parks, as well as informal meeting places like cafes.

Districts are areas where nonresidential uses prevail, such as the historic core and the Redwood Drive industrial area. Other uses may occur in these areas, but their characters are shaped by the primary commercial and industrial uses.

Corridors include natural features, such as the Laguna de Santa Rosa, and transportation routes, such as major streets (Old Redwood Highway, East Cotati Avenue, and Gravenstein Highway) or the railroad. Corridors can form both boundaries and connections between neighborhoods or districts.

The range of buildings in Cotati's neighborhoods, districts, and corridors includes attached and detached housing, shops, restaurants, and civic facilities. Public buildings such as City Hall and places of worship retain special importance by serving as landmarks that shape visual character.

Agricultural Resources

IMPORTANT FARMLANDS

The California Department of Conservation, as part of its Farmland Mapping and Monitoring Program (FMMP), prepares Important Farmland Maps indicating the potential value of land for agricultural production. The Sonoma County Important Farmland Map identifies five agriculture-related categories and three non-agricultural categories:

Prime Farmland: Prime farmland is land with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance: Farmland of statewide importance is farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Unique farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Farmland of local importance is considered land important to the local agricultural economy but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Farmland of local importance in Sonoma County is defined as the hayland producing areas of the Santa Rosa Plains, Petaluma Valley, and Tubbs Island Naval Reservation. Additional areas also include those lands which are classified as having the capability for producing locally important crops such as grapes, corn, etc., but may not be planted at the present time.

Grazing Land: Grazing land is land on which the existing vegetation is suitable for the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for this category is 40 acres.

Urban and Built-up Land: This category consists of non-agricultural land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre

parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land: Other land is non-agricultural land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Water Area: This category consists of bodies of water.

Table 3.9-2 summarizes the farmland and other classifications by the FMMP for City and the SOI/UGB. Figure 3.9-1 identifies Important Farmlands and other lands in the City and surrounding area based on FMMP classifications.

TABLE 3.9-1: FMMP FARMLAND CLASSIFICATION AND LAND USE CATEGORIES

FARMLAND CLASSIFICATION AND LAND USE CATEGORIES	*CITY (ACRES)*	*SOI/UGB (ACRES)*	*TOTAL (ACRES)*
Prime Farmland	0	13	13
Farmland of Statewide Importance	0	1.84	1.84
Unique Farmland	0	6.86	6.86
Farmland of Local Importance	36.42	361.70	398.12
Important Farmland Subtotal	36.42	383.4	419.82
Grazing Land	0	0.03	0.02
Urban and Built-Up Land	1,104.07	198.19	1,302.26
Other Land	77.04	774.77	851.81
Total Area Inventoried	**1,217.54**	**1,356.37**	**2,573.91**

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, 2013

FARMLAND PRESERVATION

There are no parcels within the City limits that are under a Williamson Act Contract. There is a single parcel totaling 7.53 acres within the SOI/UGB under some form of Williamson Act contract with Sonoma County. The Williamson Act is described in greater detail under the Regulatory Framework section of this chapter. The single parcel under contract (7.53 acres) is not designated Prime Agriculture land. Prime agricultural land is considered the most valuable and productive farmland available. It must meet certain soil conditions defined by the United States Department of Agriculture and mapped by the State of California. Figure 3.9-2 depicts the distribution of Williamson Act Contract lands in and adjacent to the City and SOI/UGB.

Demographics

POPULATION TRENDS

The population of Cotati has increased steadily over the years, growing from 3,346 persons in 1980 to 7,310 in 2013; growth has slowed in this decade with the City increasing by 45 persons from

2010 to 2013. Historical population growth in Cotati and the County as a whole is shown in Table 3.9-2.

TABLE 3.9-2: POPULATION GROWTH

	1980	1990	2000	2010	2013
Cotati					
Population	3,346	5,714	6,471	7,265	7,310
Percent Change	-	71%	13%	12%	<1%
Sonoma County					
Population	299,681	388,222	458,614	483,878	490,423
Percent Change	-	30%	18%	6%	1%

SOURCE: CALIFORNIA DEPARTMENT OF FINANCE, 2000;US CENSUS, 2000; US CENSUS, 2010; CALIFORNIA DEPARTMENT OF FINANCE, 2013

HOUSING STOCK

Table 3.9-3 summarizes the growth of the City of Cotati housing stock between 1990 and 2013. The number of housing units has increased from 2,433 in 1990 to 3,144 in 2013. Since 2010, the DOF reports that the housing stock in the City has increased by one unit.

TABLE 3.9-3: HOUSING UNIT GROWTH

YEAR	HOUSING UNITS	INCREASE
1990	2,433	-
2000	2,585	6%
2010	3,143	22%
2013	3,144	0%

SOURCE: CALIFORNIA DEPARTMENT OF FINANCE, 2010; CALIFORNIA DEPARTMENT OF FINANCE, 2013

PERSONS PER DWELLING UNIT

The average number of persons residing in a dwelling unit in Cotati is 2.45 (DOF, 2013).

Growth Projections

The Association of Bay Area Governments (ABAG) projects population growth in the San Francisco Bay area. The adopted Plan Bay Area does not include population projections at the local level, but rather presents regional projections. Plan Bay Area 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.

3.9.2 REGULATORY SETTING

STATE

California General Plan Law

Government Code Section 65300 requires that each county and city adopt a General Plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning."

The General Plan consists of a statement of development policies and includes a diagram or diagrams and text setting forth objectives, principles standards, and plan proposals. It is a comprehensive long-term plan for the physical development of the county or city and is considered a "blueprint" for development. The General Plan must contain seven state-mandated elements: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety. It may also contain any other elements that the City wishes to include. The land use element designates the general location and intensity of designated land uses to accommodate housing, business, industry, open space, education, public buildings and grounds, recreation areas, and other land uses.

The 2003 General Plan Guidelines, established by the Governor's Office of Planning and Research (OPR) to assist local agencies in the preparation of their general plans, further describes the mandatory land use element as a guide to planners, the general public, and decision makers prescribing the ultimate pattern of development for the City.

California Department of Conservation

The Department of Conservation (DOC) administers and supports a number of programs, including the Williamson Act, the California Farmland Conservancy Program (CFCP), the Williamson Act Easement Exchange Program (WAEEP), and the Farmland Mapping and Monitoring Program (FMMP). These programs are designed to preserve agricultural land and provide data on conversion of agricultural land to urban use. The DOC has authority for the approval of agreements entered into under the WAEEP. Key DOC tools available for land conservation planning are conservation grants, tax incentives to keep land in agriculture or open space, and farmland mapping and monitoring.

Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. In order to preserve these uses, the act established an agricultural preserve contract procedure by which any county or city within the state taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties remain under agricultural production for a 10-year period. The contract is self-renewing; however, the landowner may notify the County at any time of the intent to withdraw the land from its preserve status. There are two means by which the landowner may withdraw the land from its contract preserve status. First, the landowner may seek to cancel the contract. This takes the land out of the contract quickly with a minimal waiting period but the landowner pays a statutory penalty to the State. Second, the landowner may notice a non-renewal or seek a partial non-renewal of the contract. Land withdrawal through the non-renewal process involves a 9 or 10-year period (depending on the timing of the notice) of tax adjustment to full market value before protected lands can be converted to urban uses.

There are three types of Williamson Act contracts: Type I contracts are for prime agricultural lands with a 10-acre minimum parcel size, Type II contracts are for non-prime lands with a 40-acre minimum parcel size, and Type II Open Space contracts are for wildlife habitat areas and have a 40-acre minimum parcel size.

Williamson Act subvention payments to local government have been suspended since the fiscal year 2009-10 due to the state's fiscal constraints. The Williamson Act contracts between landowners and local governments remain in force, regardless of the availability of subvention payments.

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 state determines the fair-share allocated to each region in the state. The share is known as the Regional Housing Needs Allocation (RHNA). The RHNA for the bay area is based on a Regional Housing Needs Plan (RHNP) developed by the local council of government. ABAG is the lead agency for developing the RHNP for a nine-county area that includes Sonoma County and the City of Cotati. The City's RHNA that covers the period from mid-2007 through 2014 consists of 257 units. The City's RHNA for 2014 through 2022 total 157 units.

Transportation 2035 Plan

The *Transportation 2035 Plan* (MTC 2009) is the most recently adopted Regional Transportation Plan prepared by the Metropolitan Transportation Commission (MTC) for the San Francisco Bay Area region. The *Transportation 2035 Plan* specifies how some $218 billion in anticipated federal, state and local transportation funds will be spent in the nine-county Bay Area during the next 25 years. Consistency with applicable air quality plans is demonstrated through the *Transportation Air Quality Conformity Analysis for the Transportation 2035 Plan* (MTC 2009), which was prepared using population forecasts for each local jurisdiction as inputs into the regional travel demand model.

LOCAL

CITY OF COTATI GENERAL PLAN

The City's current General Plan was adopted October 14, 1998, and was amended in 2002, 2003, 2004, and most recently on August 26, 2009. Land uses in Cotati have been developed based on the Land Use Map, goals, and policies established by the City of Cotati General Plan. The 1998 Cotati General Plan includes 15 broad goals that guide land use and planning decisions within the City. The goals most related to the topic of land use include:

- Establish an efficient and environmentally sensitive land use pattern that provides adequate space to meet housing and economic needs while maintaining Cotati's small-town image.
- Enhance the quality of life of Cotati residents through the creation and maintenance of well-designed and appropriately served neighborhoods.
- Establish the inner Hub area as a principal retail and service center.
- Future development shall complement Cotati's historic Hub and small-town image.

These guiding goals are reinforced by the City's General Plan Land Use Map through the designation of the Downtown Specific Plan Area, designation of urban land uses in and adjacent to

established transportation corridors, locating the majority of industrial and highway commercial sites along the U.S. Route 101 corridor and Gravenstein Highway, and providing significant rural residential living opportunities within the City's Sphere of Influence.

Land Use Designations

Table 3.9-4 summarizes the City's General Plan land use designations for areas within the City limits, Sphere of Influence and Urban Growth Area by acreage and parcels. In some cases, a single parcel will have multiple land use designations, so the number of parcels listed in this table exceeds the total number of parcels as counted by the County Assessor. Land use designations adopted under the 1998 General Plan, as amended through 2009, are shown on Figure 3.9-3. A brief description of each of the 1998 General Plan land use designations is provided below. These descriptions are based on the text of the 1998 General Plan, as amended through 2009.

TABLE 3.9-4: EXISTING GENERAL PLAN LAND USE DESIGNATIONS

LAND USE	PARCELS	ACREAGE
City Limits		
Rural Residential (RR)	85	120.53
Low Density Residential (LDR)	143	136.96
Low/Medium Residential (LMDR)	1145	229.90
Medium Density Residential (MDR)	651	87.62
High Density Residential (HDR)	177	27.44
General Commercial (GC)	344	187.45
Highway Commercial (HC)	6	4.90
Office (O)	109	17.37
General Industrial (GI)	55	48.83
Commercial Industrial (CI)	28	59.79
Public Facilities (PF)	17	26.36
Park (P)	20	18.36
Open Space (OS)	1	0.93
No Designation and/or Right of Way	153	254.22
TOTAL- City Limits	**2934**	**1220.66**
Sphere of Influence		
Rural Residential (RR)	262	761.79
Low Density Residential (LDR)	29	97.00
Low/Medium Density Residential (LMDR)	38	36.50
General Commercial (GC)	5	22.08
Park (P)	3	8.74

No Designation and/or Right of Way	42	64.93
TOTAL- SOI	**379**	**991.04**
Urban Growth Area		
Rural Residential (RR)	57	320.96
General Commercial (GC)	1	16.64
TOTAL- Urban Growth Area	**58**	**337.6**

RR – Rural Residential: The Rural Residential land use designation permits one residential unit per acre on land intended to provide for a limited variety of agricultural uses as outlined in the Zoning Ordinance. This designation also permits associated neighborhood retail. The average population density is three people per acre. The maximum building coverage is 20% and the height limit is 35 feet.

LDR – Low Density Residential: This designation permits up to two units per acre of single family residential attached or detached homes. The average population density is six people per acre. The maximum building coverage is 40% and the height limit is 28 feet.

LMDR – Low-Medium Density Residential: The Low-Medium Density Residential designation permits up to six units per acre of single family attached and detached units, duplexes, and planned unit development. This designation also permits associated neighborhood retail. The average population density is 14 people per acre. The maximum building coverage is 45% and the height limit is 28 feet.

MDR – Medium Density Residential: The Medium Density Residential designation permits up to ten units per acre of single family attached and detached units, duplexes, multiple-family dwelling units, and planned unit development. This designation also permits associated neighborhood retail. The average population density is 24 people per acre. The maximum building coverage is 45% and the height limit is 28 feet.

HDR – High Density Residential: The High Density Residential land use designation permits up to 15 units per acre of single family attached and detached units, duplexes, multiple-family units, and planned unit development. This designation also permits associated neighborhood retail. The average population density is 35 people per acre. The maximum building coverage is 50% and the height limit is 28 feet.

GC – General Commercial: The General Commercial land use designation provides for the basic business and service needs of the local community. Office and multi-family residential land uses which are easily integrated into the adjacent districts are also appropriate in the General Commercial district. The maximum building coverage is 100% and the height limit is 50 feet.

HC – Highway Commercial: The Highway Commercial land use designation applies to land adjacent to major arterials and permits uses which serve the traveling public and regional needs of the area. The maximum lot coverage is 80% and the height limit is 35 feet.

O - Office: The Office land use designation permits professional services, retail and residential land uses which are easily integrated into the adjacent residential districts. The maximum lot coverage is 80% and the height limit is 28 feet.

GI – General Industrial: The General Industrial land use designation applies to areas appropriate for manufacturing and warehousing uses. The maximum lot coverage is 80% and the height limit is 40, or 20 feet if located within 50 feet of any residential district.

CI – Commercial/Industrial: The Commercial/Industrial land use designation accommodates both light industrial and retail uses in the same district. The maximum lot coverage is 80% and the height limit is 40 feet.

P - Parks: The Parks land use designation is designed to identify land already utilized or intended for community recreational purposes. Appropriate uses include recreational facilities, and areas of important aesthetic, historical, or public health and safety significance. No dwelling units occupy this district. The uses in this category have a maximum building coverage of 5% and a height limit of 35 feet.

OS – Open Space: The Open Space land use designation applies to land areas which have been designated for the preservation of natural and scenic resources and a distinct community identity. The residential development would be limited to an average population density of one person for every two acres. The uses in this category have a maximum building coverage of 5% and a height limit of 35 feet.

PF – Public Facilities: The Public Facilities designation applies to land areas reserved for schools, government administration and operation facilities, and other facilities not of specific open space or recreation value. The lot coverage and height limit shall reflect the adjacent land uses where feasible.

CITY OF COTATI LAND USE CODE

Title 17 of the Cotati Municipal Code consists of the City's Land Use Code. The City's Land Use Code carries out the policies of the Cotati General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. The Land Use Code is adopted to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents, and businesses in the City. More specifically, the purpose of this land use code is to:

- Provide standards and guidelines for the continuing orderly growth and development of the city that will assist in protecting the small town character and community identity of Cotati;
- Conserve and protect the city's natural beauty and setting, including scenic vistas, cultural and historic resources, hills and oak trees, and agrarian heritage;
- Ensure that proposed development and new land uses conserve energy and natural resources;
- Create a comprehensive and stable pattern of land uses upon which to plan transportation, water supply, sewerage, energy, and other public facilities and utilities;

- Ensure that proposed development is of human scale, primarily pedestrian-oriented, and designed to create attractive streetscapes and pedestrian spaces;
- Minimize vehicle traffic by providing for a mixture of land uses, pedestrian-oriented development, compact community form, safe and effective traffic circulation, and adequate on- and off-street parking facilities;
- Provide neighborhoods with a variety of housing types to serve the needs of a diverse population; and
- Ensure compatibility between different types of development and land uses.

Article 2 of the Land Use Code (Municipal Code Sections 17.20 through 17.28) includes the City's Zoning Map, defines allowable land uses within each zoning district, provides development standards for each zoning district, identifies street and streetscape standards, and establishes standards for special purpose zones and overlay zones.

COMPREHENSIVE AIRPORT LAND USE PLAN FOR SONOMA COUNTY

In January 2001, the Sonoma County Airport Land Use Commission adopted the Comprehensive Airport Land Use Plan for Sonoma County (CALUP), which sets forth the "referral area boundaries" around each airport and the limits on land use, building height and population density in those areas. The CALUP regulates land use in three major areas: safety zones, noise zones, and height restrictions. It provides land use compatibility guidelines for lands near the airport, to avert potential safety problems and to ensure unhampered airport operations. The CALUP establishes three safety zones that are linked to land use compatibility: clear, approach/departure, and overflight.

Under California Government Code Section 65302.3(a), general plans must be consistent with any airport land use plan adopted pursuant to Public Utilities Code Section 21675. Lands within the City of Cotati, the City's SOI and the City's Urban Growth Area are not located within any of the airport influence areas identified in the CALUP.

DOWNTOWN SPECIFIC PLAN

The Downtown Specific Plan (DSP) was adopted in August 2009, and superseded the La Plaza Specific Plan which was adopted in 1991. The DSP project area comprises approximately 59.5 gross acres (inclusive of road right-of-way) oriented generally along Old Redwood Highway from the northbound Highway 101 on-ramp south to Page Street. The DSP area is currently designated in the General Plan as General Commercial, Parks, and Public Facilities. The DSP area contains a mix of commercial, residential, public and parks uses.

The DSP implements a variety of goals and policies in the Cotati General Plan by providing a renewed vision and standards for the continuing enhancement of the Downtown and adjacent areas extending north to Gravenstein Highway. Six primary goals were established as part of the DSP:

1. Enhance Old Redwood Highway as the downtown, mixed-use center of Cotati community life.

2. Maintain the historic character which makes Cotati unique, and achieve a high level of design quality to reinforce this character.

3. Improve the walking and bicycling system through downtown Cotati as well as the interconnections between Cotati and the region.

4. Promote a street system that is safe for all modes of transportation within a successful commercial mixed-use environment.

5. Design housing to accommodate a diversity of income levels, ages, and needs.

6. Encourage development that is sustainable, energy efficient, and conserves resources.

The DSP establishes five districts: Historic Core, La Plaza, Northern Gateway, Commerce Avenue, and Parks. Development throughout the DSP is intended to focus on small-scale buildings with ground-floor commercial or office uses and primarily residential uses on the upper floors in order to create a vibrant, walkable community core. The DSP accommodates a maximum of 418,000 square feet of non-residential uses and 450 residential units.

Historic Core - The Historic Core district includes the portions of the Cotati downtown. This area is intended to maintain its historic character and smaller scale pedestrian orientation. Allowable land uses include ground floor commercial facing Old Redwood Highway. Office and residential uses may be permitted above or on the ground floor on other streets.

La Plaza - The La Plaza district includes the historic La Plaza Park, and properties along La Plaza Street surrounding the original park site. Properties around the park are intended to provide for small-scale ground floor retail with some office and restaurant uses that are highly compatible with residential above, emphasizing opportunities for business operators to live above their workspaces. Buildings are intended to emphasize small-scale ground floor pedestrian-oriented storefronts or frontages, with upper floor office or residential uses.

Northern Gateway (NG). The Northern Gateway district includes properties along both sides of Old Redwood Highway north of La Plaza district to south of Commerce Avenue district. This area is intended for a new mixed-use core, accommodating a wide variety of retail, restaurant, and entertainment uses, with offices and primarily residential above.

Commerce Avenue - The Commerce Avenue district Includes properties along the east side of Old Redwood Highway across from Highway 101 and up to the north City limits. This area Is Intended to accommodate a variety of land use types ranging from automobile-oriented uses that serve the travelling public, to retail, office, and residential uses.

Parks - The Parks district is applied to land designated as open space, principally La Plaza Park.

SANTERO WAY SPECIFIC PLAN

The Santero Way Specific Plan (SWSP) was adopted on July 12, 2000 and amended in 2001. The plan area is located on the eastern edge of Cotati. A governing objective of the plan is to allow for a mix of uses resulting in a vital neighborhood that complements the existing character of Cotati. Development is planned to support all modes of transportation, including bus and the future Sonoma Marin Area Rapid Transit station, to reduce use of single-occupant automobiles. Land use

regulations developed in the plan ensure a mix of uses providing for residential, commercial, and employment needs of the community that are complementary with development of the downtown Hub.

The SWSP establishes objectives related to land use and community character, circulation, utilities and public services, and implementation. At buildout, the plan would accommodate 198 homes, up to 270,000 square feet of commercial and employment development, and approximately 225,000 square feet of open space, including public parks and plazas and private residential and commercial greens. Five land use districts: Retail Mixed-Use, Office Mixed-Use, Employment, Residential, and Parks are identified in the plan. Each of the mixed-use and employment districts identifies a minimum and maximum percentage of uses, including retail, office, live/work, and residential, allowed in each development to ensure that a variety of uses is provided.

Retail Mixed-Use – The Retail Mixed-Use district requires development of retail uses on the ground floor, allows office uses on the ground and upper floors, and limits residential uses limited to work and entrance lobbies on the ground floor, and allows residential uses on the upper floors.

Office Mixed-Use – The Office Mixed-Use district requires development of office uses on the ground floor, allows work area of live/work units, apartments or condominium uses on the ground floor, with upper floors limited to residential and any portion of live/work units.

Employment – The Employment district allows cottage business, office, and live/work units.

Residential – The Residential district is intended to add activity to the neighborhood in the evenings and weekends while allowing a mix of housing that accommodates affordable units allowing people to live and work in the neighborhood. Allowed land uses include single family attached and detached homes, including duplexes, townhomes, and live/work units. Property G allows for employment uses such as cottage businesses and offices.

Parks – Three public parks or plazas are designated within the SWSP: the Transit Plaza, the Village Green, and the Neighborhood Park. The parks and plazas shall be designed for both active and passive uses, and reflect the character of the buildings and uses that front onto them.

LOCAL AGENCY FORMATION COMMISSION OF SONOMA COUNTY

In 1963, the State Legislature created a local agency formation commission (LAFCO) for each county, with the authority to regulate local agency boundary changes. Subsequently, the State has expanded the authority of a LAFCO. The goals of the LAFCO include preserving agricultural and open space land resources and providing for efficient delivery of services. The Sonoma County LAFCO has authority over land use decisions in Sonoma County affecting local agency boundaries. Its authority extends to the incorporated cities, including annexation of County lands into a city, and special districts within the County. LAFCO has the authority to review and approve or disapprove the following:

- Annexations to or detachments from cities or districts.
- Formation or dissolution of districts.
- Incorporation or disincorporation of cities.

- Consolidation or reorganization of cities or districts.
- Establishment of subsidiary districts.
- Development of, and amendments to, Spheres of Influence. The Sphere of Influence (SOI) is the probable physical boundary and service area of each local government agency. This may extend beyond the current service area of the agency.
- Extensions of service beyond an agency's jurisdictional boundaries.
- Provision of new or different services by districts.
- Proposals that extend service into previously unserved territory in unincorporated areas.

In addition, the Sonoma County LAFCO conducts Municipal Service Reviews (MSRs) for services within its jurisdiction. An MSR typically includes a review of existing municipal services provided by a local agency and its infrastructure needs and deficiencies. It also evaluates financing constraints and opportunities, management efficiencies, opportunities for rate restructuring and shared facilities, local accountability and governance, and other issues.

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 County's General Plan includes the following 10 elements:

- Land Use Element
- Housing Element
- Agricultural Resources Element
- Open Space and Resource Conservation Element
- Water Resources Element
- Public Safety Element
- Circulation and Transit Element
- Air Transportation Element
- Public Facilities and Services Element
- Noise Element

The County's General Plan establishes allowed land uses for lands within the City of Cotati's Sphere of Influence and Urban Growth Area. While the City of Cotati General Plan Land Use Map identifies planned land uses within the SOI and UGA, the County of Sonoma has ultimate land use planning and project approval authority within the SOI and UGA unless the lands are annexed to the City.

The Sonoma County General Plan designates lands in the SOI primarily as Rural Residential and also designates small areas as Land Extensive Agriculture, Limited Commercial, and Public/Quasi-Public. Lands adjacent the SOI are designated Rural Residential and Land Extensive Agriculture. Figure 3.9-1 identifies Sonoma County General Plan land use designations adjacent the City and SOI.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed 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;
- Conflict with any applicable habitat conservation plan or natural community conservation plan;
- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use;
- 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; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

There are no lands within or adjacent to the City that are currently zoned as forest land, timber, or timber production. Therefore, implementation of the proposed General Plan would have no impact on forest land, timber, or timber production and this impact will not be discussed further. Potential conflicts with any applicable habitat conservation plan or natural community conservation plan are discussed in Section 3.3, Biological Resources.

IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Potential to physically divide an established community (Less than Significant)

The proposed General Plan establishes the City's vision for future growth and development. Goal LU-1 of the General Plan is to "*Establish an efficient, harmonious, and environmentally sensitive land use pattern that enhances Cotati's small town character, provides adequate space to accommodate sustainable economic and housing growth, and encourages orderly growth*." The land uses allowed under the proposed General Plan (Figure 2-3) provide opportunities for cohesive new growth at in-fill locations within existing communities, as well as new growth areas adjacent to existing communities, but would not create physical division within existing communities. 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 proposed General Plan land use map designate sites for a range of urban and rural developed uses as well as open space. The proposed General Plan does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. The proposed General Plan would have a **less than significant** impact associated with the physical division of an established community.

Impact 3.9-2: Potential to 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 General Plan was prepared in conformance with state laws and regulations associated with the preparation of general plans, including requirements for environmental protection. Discussion of the proposed General 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. The state would continue to have authority over any state-owned lands in the vicinity of the City and the proposed General Plan would not conflict with continued application of state land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

CITY PLANS: As set forth by state law, the General Plan serves as the primary planning document for the City and subordinate documents and plans would be updated to be consistent with the General Plan. Similar to the existing General Plan, the 2013 General Plan focuses on ensuring that the City's small-town quality of life is maintained, that conservation uses and activities are maintained and enhanced, that the majority of growth remains focused within the City, and that growth outside of the City's current boundaries would remain within the adopted Urban Growth Boundary. The proposed 2013 General Plan carries forward and enhances policies and measures from the 1998 General Plan that were intended for environmental protection and would not remove or conflict with City plans, policies, or regulations adopted for environmental protection. The proposed General Plan would require modifications to the City's Land Use Code to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Land Use Code that were adopted to mitigate an environmental effect. The proposed General Plan is consistent with the adopted Downtown

Specific Plan and Santero Way Specific Plan and has been designed to encourage implementation of those specific plans.

Subsequent development projects would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted by the City to mitigate environmental effects as well as those adopted by agencies with jurisdiction over components of future development projects. Any potential environmental impact associated with conflicts with land use requirements would be less than significant.

The proposed project could result in potential adverse environmental impacts, including to traffic, noise, water quality, biological 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: Conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (less than significant)

As shown in Table 3.9-1, there is a total of 419.82 acres of Important Farmlands located within the Planning Area. The vast majority of these Important Farmlands are classified as Farmland of Local Importance (393.12 acres), and only 36.42 acres of Farmland of Local Importance are located within the City limits. There are no other categories of Important Farmlands located within the City limits. The location of the Important Farmlands is shown on Figure 3.9-1.

The majority of Important Farmlands within the Planning Area are designated Agriculture by the proposed Land Use Map. This land use designation would protect these Important Farmlands from urbanization, and would support their continued use as agricultural lands throughout the life of the proposed General Plan. Some areas of Important Farmlands within the Planning Area, outside of the City limits are designated Rural Residential. The Rural Residential land use designation identifies areas with limited variety of agricultural and rural uses, primarily along the southern and western city borders. The RR designation allows agricultural uses such as orchards, vineyards, and grazing as well as low-density residential and associated neighborhood retail uses, where development and agricultural uses maintain existing natural vegetation and topography to the maximum extent feasible.

The General Plan Land Use Map provides for the protection and continued agricultural viability of Important Farmlands located throughout the City's Sphere of Influence and Urban Growth Boundary. However, approximately 36.42 acres of Farmland of Local Importance within the City limits may be converted to urbanized land uses upon full buildout of the General Plan. These 36.42 acres of Farmland of Local Importance are not under Williamson Act Contract, and represent less than nine percent of the total acreage of Important Farmlands within the Planning Area.

The 2013 General Plan has taken a proactive approach towards focusing new growth and development towards infill locations, and protecting open space areas and agricultural lands throughout the Sphere of Influence and Urban Growth Boundary. Policy OS 1.2 calls for the preservation of designated open space for conservation, recreation, and agricultural uses. Policy OS 1.3 calls for the protection of rural (Agricultural and Rural Residential) and natural open space lands from urbanization.

While implementation of the 2013 General Plan would result in the future urbanization of a small amount of Farmland of Local Importance, over 90 percent of the Important Farmlands within the Planning Area would be preserved and protected for ongoing viable agricultural use upon buildout of the General Plan. As such, this impact is considered **less than significant**.

Impact 3.9-4: Conflict with Existing Farmlands, Agricultural Zoning, or Williamson Act Contracts (less than significant)

There is one parcel under Williamson Act Contract within the Planning Area, as shown on Figure 3.9-2. This parcel is designated Agriculture on the proposed Land Use Map. The Agricultural land use designation would support the continued agricultural use of this parcel, and would not conflict with the Williamson Act. As described above, under Impact 3.9-3, the vast majority of the agricultural lands within the Planning Area are located outside of the City limits, and are designated either Agriculture or Rural Residential. Both of these land use designations are supportive of agricultural operations and would allow for continued viable agricultural production on these lands. As such, the proposed 2013 General Plan would not conflict with existing farmlands, agricultural zoning, or a Williamson Act Contract. This is a **less than significant** impact.

Impact 3.9-5: Potential to induce substantial population growth (Less than Significant)

The proposed General Plan accommodates future growth in Cotati, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. At buildout, the proposed General Plan would accommodate approximately 1,431 new homes and approximately 2.39 million square feet of industrial, commercial, public facility, and other non-residential uses within the City, as described in Chapter 2.0. The proposed General Plan would also accommodate approximately 694 new homes and 996,206 square feet of industrial, commercial, public facility, and other non-residential uses within the SOI. Depending on growth rates, the actual growth during the life of the General Plan, could be lower or higher, but would not exceed the theoretical buildout described in Chapter 2.0.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, 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 also, transportation. While these factors would likely result in growth in Cotati during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth under the proposed General Plan would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed General Plan is intended to accommodate the City'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 proposed General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. 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 3.8 and 3.10 through 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact.

Impact 3.9-6: Potential to displace substantial numbers of people or existing housing (less than significant)

While the proposed General Plan does not directly propose any development, the proposed General Plan would allow for the development and redevelopment of lands within the City that are currently occupied by people and existing housing units. Residences may be removed as part of future development activities allowed under the proposed General Plan; however, the proposed General Plan would accommodate approximately 1,431 new housing units which would provide adequate replacement housing opportunities for any displacement that occurs. While the proposed General Plan may result in development that would remove residences, development allowed under the General Plan would result in an increase in the total number of residences and provide housing opportunities for persons that may be displaced as a result of development. This provision of replacement "housing opportunities" is essentially a self-mitigating aspect as a result of implementation of the proposed General Plan. Therefore, impacts of the proposed General Plan on the displacement of people or housing are considered **less than significant**.

Cotati General Plan Update
Figure 3.9-1:
Important Farmlands
Important Farmlands
Prime Farmland
Farmland of Statewide Importance
Unique Farmland
Grazing Land
Farmland of Local Importance
Other Land
Urban and Built-Up Land
Planning Areas
Cotati City Limits
SOI/Urban Growth Boundary
0
0.25
0.5
Miles
1:32,000
Data sources: California Department of Conservation, Farmland Mapping and Monitoring Program, 1984-2013; Cotati GIS.
Map date: January 15, 2014.
De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm
Rohnert Park Expy
Martin Ave
101
City Center Dr
Santa Cruz Way
Airport Rd
Labath Ave
Enterprise Dr
Lowell Ave
Commerce Blvd
Southwest Blvd
Snyder Ln
Stony Glen Ln
Gilmore Ave
Burton Ave
Camino Colegio
Gravenstein Hwy
Helman Ln
E Cotati Ave
Derby Ln
Adrian Dr
116
Wilford Ln
Madrone Ave
W Cotati Ave
Old Redwood Hwy
Arthur St
Santero Way
Magnolia Ave
Grove St
School St
Olof St
Lincoln Ave
Lancaster Dr
Bodway Pky
Sierra Ave
Valparaiso Ave
Myrtle Ave
Cypress Ave
Eucalyptus Ave
Roblar Rd
Railroad Ave
Old Redwood Hwy
Willow Ave
Fern Ave
Stony Point Rd
Balma Ln
Meacham Rd
Everett Rd
Highland Ave

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Cotati General Plan Update

Figure 3.9-2: Williamson Act Contracts

Williamson Act Lands

- Type I Contract
- Type II Contract
- Type II Contract [Phase-Out Status]

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 0.25 0.5 Miles

1:32,000

Data sources: Williamson Act Lands from the Sonoma County GIS and represents Williamson Act contracts in effect as of January 1, 2013; Cotati GIS. Map date: January 15, 2014.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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COTATI GENERAL PLAN UPDATE

Figure 3.9-3: Existing General Plan Land Use Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

June 26, 2014

This section provides a discussion of the regulatory setting, a general description of existing noise sources in Cotati, and a discussion of the impacts and mitigation measures associated with implementation of the General Plan Update. The analysis in this section was prepared with assistance from Illingworth & Rodkin, Inc. The technical data in support of this EIR section is presented in Appendix D.

3.10.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Attenuation	The reduction of noise.
A-Weighted, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for sound in air is 20 micro-pascals.
CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{eq}	The average A-weighted noise level during the measurement period.

L_{max}/L_{min}	The maximum and minimum A-weighted noise levels during the measurement period.
$L_{(n)}$	The A-weighted noise levels that are exceeded n% of the time during the measurement period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro-pascals (or 20 micro Newtons per square meter), where 1 pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro-pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micro-pascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is "half as loud" as an 80 dBA sound, and "twice as loud" as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors L_{dn} and CNEL, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighting applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it de-emphasizes short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.10-1 lists several examples of the noise levels associated with common situations.

TABLE 3.10-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL (DBA)	COMMON INDOOR ACTIVITIES
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. OCTOBER 1998.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

ANNOYANCE

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

is an increase of about two percent per dBA between an L_{dn} of 60-70 dBA. Between an L_{dn} of 70-80 dBA, each decibel increase results in about a three percent increase of the population being highly annoyed. People appear to respond more adversely to aircraft noise. When the L_{dn} is 60 dBA, approximately 30-35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about three percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a four percent increase in the percentage of the population highly annoyed.

SLEEP AND SPEECH INTERFERENCE

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential noise standards for multi-family dwellings and other attached housing including transient occupancies are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn} with open windows and 65-70 dBA L_{dn} if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, rooms facing secondary roadways need to be able to have their windows and doors closed, those facing major roadways and freeways typically need special windows and doors with a high sound attenuation rating.

FUNDAMENTALS OF VIBRATION

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

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

In suburban environments, such as Cotati, sources of ground-borne vibration include construction activities, rail transit, and heavy trucks and buses.

CONSTRUCTION VIBRATION

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.2 to 0.3 mm/sec (0.008 to 0.012 inches/sec), PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to a building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity (e.g., impact pile driving) occurs immediately adjacent to the structure.

Table 3.10-2 displays continuous vibration impacts on human annoyance and on buildings. As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

TABLE 3.10-2: REACTION OF PEOPLE AND DAMAGE TO BUILDINGS FOR CONTINUOUS VIBRATION LEVELS

VELOCITY LEVEL, PPV (IN/SEC)	HUMAN REACTION	EFFECT ON BUILDINGS
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

SOURCE: TRANSPORTATION- AND CONSTRUCTION-INDUCED VIBRATION GUIDANCE MANUAL, CALIFORNIA DEPARTMENT OF TRANSPORTATION, JUNE 2004.

LIGHT-RAIL/ HEAVY-RAIL VIBRATION

Rail operations are potential sources of substantial ground-borne vibration depending on distance, the type and the speed of trains, and the type of railroad track. People's response to ground-borne vibration has been correlated best with the velocity of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is 1 x 10-6 in. /sec. RMS, which equals 0 VdB, and 1 in. /sec. equals 120 VdB. Although not a universally accepted notation, the abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels.

Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans. Perceivable vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams, and foot traffic. Construction activities (in particular, pile driving for taller buildings in certain soil conditions), train operations, and street traffic are some of the most common external sources of perceptible vibration inside residences. Table 3.10-3 identifies some common sources of vibration, corresponding VdB levels, and associated human perception and potential for structural damage.

TABLE 3.10-3: LEVELS OF GROUNDBORNE VIBRATION

HUMAN/STRUCTURAL RESPONSE	VELOCITY LEVEL, VDB	TYPICAL EVENTS (AT 50 FEET)
Threshold, minor cosmetic damage	100	Blasting, pile driving, vibratory compaction equipment, heavy tracked vehicles (bulldozers, cranes, drill rigs)
Difficulty with tasks such as reading a video or computer screen	90	Commuter rail, upper range
Residential annoyance, infrequent	80	Rapid transit, upper range
Residential annoyance, occasional		Commuter rail, typical bus or truck over bump or on rough roads
Residential annoyance, frequent	70	Rapid transit, typical
Approximate human threshold of perception to vibration	60	Buses, trucks and heavy street traffic Background vibration in residential settings in the absence of activity
Lower limit for equipment ultra-sensitive to vibration	50	

SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, US DEPARTMENT OF TRANSPORTATION FEDERAL TRANSIT ADMINISTRATION, MAY 2006.

One of the problems with developing suitable criteria for ground-borne vibration is the limited research into human response to vibration and more importantly human annoyance inside buildings. The U.S. Department of Transportation, Federal Transit Administration has developed rational vibration limits that can be used to evaluate human annoyance to ground-borne vibration. These criteria are primarily based on experience with passenger train operations, such as rapid transit and commuter rail systems. The main difference between passenger and freight operations is the time duration of individual events;

a passenger train lasts a few seconds whereas a long freight train may last several minutes, depending on speed and length.

HEAVY TRUCKS AND BUSES

Ground-borne vibration levels from heavy trucks and buses are not normally perceptible, especially if roadway surfaces are smooth. Buses and trucks typically generate ground-borne vibration levels of about 63 VdB at a distance of 25 feet when traveling at a speed of 30 mph. Higher vibration levels can occur when buses or trucks travel at higher rates of speed or when the pavement is in poor condition. Vibration levels below 65 VdB are generally below the threshold for human perception.

EXISTING NOISE LEVELS

Vehicular Noise

The primary source of environmental noise within the City of Cotati is generated by vehicular traffic on US 101 and the major roadways in the community, including the Gravenstein Highway (SR 116), Old Redwood Highway, West Sierra Avenue, East Cotati Avenue, and Commerce Boulevard. Vehicular traffic on smaller local roads also contributes to the noise environment along these roadways.

Illingworth & Rodkin, Inc. completed a comprehensive noise monitoring survey for the Downtown Specific Plan Project in 2005. The sites for measurements were selected to provide information on the 24-hour distribution of noise levels along the streets and highways and to determine the level of baseline ambient noise levels in the quiet residential areas of the City away from identifiable noise sources. Standard measuring practices were followed; sound level meters were calibrated before and after each survey, microphones were fitted with windscreens, and data were gathered during good weather when it was not raining or too windy.

Long-term noise measurements (over a continuous 24-hour period) were made at 10 locations selected to represent noise levels along both large and small thoroughfare transportation corridors. Illingworth & Rodkin, Inc. updated the data collected at each of the 2005 noise measurement sites in May 2011 through a series of short-term noise measurements (30-minute durations). Figure 3.10-2 shows the locations of the noise measurements made in 2005 and 2011.

The results of the 2005 and 2011 measurements are shown in Table 3.10-4. The 24-hour day/night average noise level (L_{dn}) is shown for each of the long-term measurements. The equivalent sound level (L_{eq}) during each hour as well as selected statistical descriptors representing near maximum noise levels (L_{01} and L_{10}), median noise levels (L_{50}) and background noise levels (L_{90}) are also provided to describe the range of noise levels that occurred during the measurements. Charts containing the noise measurement data are included in Appendix A. A comparison of the 2005 and 2011 data shows that transportation noise levels in the City of Cotati have not changed substantially since 2005. One exception to this general conclusion was noted at Site LT-1, as the repaving of Old Redwood Highway resulted in traffic noise levels approximately 4 dBA lower than those measured in 2005.

Other noise sources in the community include noise resulting from residential maintenance activities, residential air conditioning units and swimming pool pumps, commercial business activities, and light industrial facilities. These non-transportation noise sources are local and typically only affect their adjacent neighbors. Commercial and light industrial uses can generate noise due to regular operations

such as fans, blowers, chillers, compressors, boilers, pumps, and air conditioning systems which may run for 24 hours a day. Other sources of noise in these areas, such as horns, buzzers, and loading activities may be intermittent. These noise sources are of greatest concern when they are close to noise sensitive receptors, since the combination of transportation noise and commercial has the potential for producing noise impacts on these receptors.

Other potentially important sources of noise within the City include entertainment venues, fire station, child-care centers, gas stations, car washes, school playgrounds, and public parks. When located near residential or other noise sensitive uses, these types of land uses can be sources of irritation and complaints. Noise can also occur from intermittent construction activities. Construction noise can be significant for short periods of time at any particular location as a result of public improvement projects, private development projects, remodeling, etc.

The City has no commercial, military, or general aviation airports. There are, therefore, no significant aircraft operations or ancillary airport-related noise sources that affect the noise environment in Cotati.

TABLE 3.10-4: NOISE MEASUREMENT SUMMARY

LOCATION	TIME OF DAY	SOUND LEVELS, DBA						
		2005						2011 L_{DN}
		L_{01}	L_{10}	L_{EQ}	L_{50}	L_{90}	L_{DN}	
LT-1: 50 feet from the centerline of Old Redwood Highway, south of Myrtle Avenue	Daytime	78	74	70	68	58	**72**	**68**[1]
	Nighttime	74	67	64	60	50		
LT-2: 45 feet from the centerline of Old Redwood Highway, north of Page Street	Daytime	79	71	69	66	58	**72**	**71**
	Nighttime	76	67	64	59	50		
LT-3: 45 feet from the centerline of West Sierra Avenue between Page and Olaf Streets	Daytime	74	68	65	62	54	**67**	**67**
	Nighttime	70	63	59	53	49		
LT-4: 100 feet from the centerline of East Cotati Avenue between La Plaza and Charles Street	Daytime	70	66	63	62	57	**66**	**67**
	Nighttime	67	62	59	56	51		
LT-5: 35 feet from the centerline of La Salle Avenue	Daytime	68	58	56	51	49	**58**	**58**
	Nighttime	58	50	50	48	47		
LT-6: 85 feet from the centerline of East Cotati Avenue near Santero Way	Daytime	73	69	66	65	57	**67**	**68**
	Nighttime	68	63	59	55	44		
LT-7: 205 feet from the centerline of Hwy 101 near the end of St. Joseph Way	Daytime	73	69	66	66	62	**70**	**72**
	Nighttime	71	66	63	61	57		
LT-8: 170 feet from the centerline	Daytime	67	63	61	60	57	**64**	**65**

[1] Old Redwood Highway has been repaved since 2005, resulting in substantially lower traffic noise levels.

TABLE 3.10-4: NOISE MEASUREMENT SUMMARY

LOCATION	TIME OF DAY	SOUND LEVELS, DBA						
		2005						2011L_{DN}
		L_{01}	L_{10}	L_{EQ}	L_{50}	L_{90}	L_{DN}	
of Old Redwood Highway south of Hwy 116	Nighttime	63	59	56	55	51		
LT-9: 45 feet from the centerline of Hwy 116 west of Alder Lane	Daytime	82	77	74	73	64	**77**	**76**
	Nighttime	77	73	70	68	63		
LT-10: 30 feet from the centerline of Wilford Lane	Daytime	66	59	56	53	51	**61**	**63**
	Nighttime	62	55	54	52	50		

SOURCE: ILLINGWORTH & RODKIN, INC., 2005 AND 2011.

Stationary Noise Sources

Noise exposures within facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. These noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. In addition, noise generation from stationary noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Compressors
- Conveyor Systems
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Amplified music and voice
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines and Boilers
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment

The types of uses which may typically produce the noise sources described above, include, but are not limited to: processing facilities, pump stations, industrial facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, restaurants, car washes, public works projects, recycling centers, electric generating stations, landfills, sand and gravel operations, special events such as concerts, and athletic fields.

From a land use planning perspective, stationary source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise producing uses. The second goal can be met by requiring that new noise sensitive uses in proximity to noise producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Aviation Noise Sources

The City of Cotati does not have any airport facilities located within the Planning Area. The Petaluma Municipal Airport is the closest airport to Cotati, located approximately 8 miles southeast of the Cotati city limits. The Petaluma Municipal Airport is operational 24 hours a day and staffed Monday through Friday 8:00 am to 5:00 pm and Saturday and Sunday from 8:00 am to 4:00 pm and including Holidays. Approximately 60,000 take-offs and landings are recorded at the Petaluma Municipal Airport each year.

General aviation and occasional high altitude jet aircraft overflights are audible throughout the Planning Area, but do not make a substantial contribution to community noise levels. Noise Impacts and contours associated with the Petaluma Municipal Airport are addressed in the Comprehensive Air Port Land Use Plan for Sonoma County. The noise contours do not include land within the Planning Area. (City of Petaluma, 2011 and Sonoma County Airport Land Use Commission, 2001).

Railroad Noise Sources

The rail corridor in Sonoma County, commonly known as the Northwestern Pacific Railroad (NWP), generally parallels US 101 running north-south in Sonoma and Marin Counties. The NWP corridor is owned by the Sonoma Marin Area Rail Transit (SMART) District from Milepost (MP) 68.22 in Healdsburg southward to MP 11.4 in Corte Madera. North of Healdsburg, the NWP is owned by the North Coast Railroad Authority (NCRA) and is used predominately for freight.

The SMART District is proposing implementation of passenger rail service along the approximately 68.22 mile existing rail corridor that they currently own. The City of Cotati is one of the incorporated local jurisdictions in the proposed SMART rail corridor project. The SMART project would include a rail station in Cotati located at MP 46, which is south of East Cotati Avenue between Windhill Farms Drive and Santero Way. The rail station would have 24 weekday stops and 8 weekend stops. Half of these stops are northbound, and half are southbound.

The SMART transit system is not currently an active railroad operation, but there are one to three roundtrip freight trains per week passing through the Planning Area at present. It is, however, anticipated that the SMART corridor will be in service by 2014-2015. Within the Planning Area, about half of the land adjacent to the SMART corridor is already developed, and the other half is undeveloped. The undeveloped land is located outside the City limits, but within the SOI and UGB.

The 2005 SMART DEIR[2] was reviewed to establish groundborne vibration levels expected from trains traveling along the SMART corridor. The DEIR states that, "Groundborne noise and vibration levels at distances greater than approximately 100 feet from the tracks, would be lower than the level generally

[2] *Sonoma-Marin Area Rail Transit DEIR*, November 2005.

perceptible to humans. At distances between 20 feet and 100 feet from the tracks, vibration levels may be perceptible; however, they are expected to be less than the applicable FTA impact significance criteria of 0.01 inches per second [80 VdB] RMS vibration velocity."

3.10-2 REGULATORY SETTING

FEDERAL

Federal Highway Administration (FHWA)

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

Environmental Protection Agency (EPA)

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being appropriate for residential uses. At 65 dBA L_{dn} activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

Department of Housing and Urban Development (HUD)

HUD was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA L_{dn} or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn} - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA L_{dn} area and 10 dBA of attenuation in a 70 to 75 dBA L_{dn} area.

- Exceeding 75 dBA L_{dn} - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA L_{dn} or less, the interior level will be 45 dBA L_{dn} or less. Thus, structural attenuation is assumed at 20 dBA. However HUD regulations were promulgated solely for residential development requiring government funding and are not related to market rate residences or the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

Federal Transit Administration

The Federal Transit Administration (FTA) has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads. The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day). These criteria are summarized in Table 3.10-5.

TABLE 3.10-5: GROUNDBORNE VIBRATION IMPACT CRITERIA

LAND USE CATEGORY	GROUNDBORNE VIBRATION IMPACT LEVELS (VDB RE 1 μINCH/SEC, RMS)		
	FREQUENT EVENTS[1]	OCCASIONAL EVENTS[2]	INFREQUENT EVENTS[3]
CATEGORY 1 Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
CATEGORY 2 Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
CATEGORY 3 Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Notes:
1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.

SOURCE: U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, MAY 2006, FTA-VA-90-1003-06.

STATE

California Department of Transportation (Caltrans) – Noise Insulation

The State of California establishes exterior sound transmission control standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings as set forth in the 2010 California Building Code (Chapter 12, Section 1207.11). Interior noise levels attributable to exterior environmental noise sources shall not exceed 45 dBA DNL in any habitable room. When exterior noise levels (the higher of existing or future) where residential structures are to be located exceed 60 dBA DNL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit. The General Plan facilitates the implementation of the Building Code noise insulation standards by establishing existing and future noise exposure contours in Cotati.

California Department of Transportation (Caltrans) – Construction Vibration

There are no applicable state plans, policies, regulations or laws related to ground-borne vibration from construction activities, but guidance developed by the California Department of Transportation (Caltrans) has been used in past construction vibration impact assessments of projects developed in San José. Caltrans uses a vibration limit of 12.7 mm/sec (0.5 inches/sec), PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 5 mm/sec (0.2

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

Governor's Office of Planning and Research (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 1998). The guidelines include land use compatibility guidelines for noise exposure.

LOCAL

City of Cotati General Plan

Current City of Cotati Noise Element Standards: Community noise within the City of Cotati is presently covered by the guidelines established in the General Plan. The City's Noise Element currently contains guidelines to evaluate the compatibility of various land uses with the noise environment. The maximum acceptable outdoor noise level in new residential areas is 60 dBA L_{dn}. The criteria are applied where outdoor use is a major consideration (e.g., backyards in single-family housing developments and recreation areas in multi-family housing projects. The outdoor criteria should not normally be applied to the small decks associated with apartments and condominiums). Inside new housing, the noise level shall not exceed 45 dBA L_{dn}. Other buildings similarly sensitive to noise include hotels and motels, schools, libraries, churches, hospitals, and nursing homes. Retail and commercial land uses, which are primarily indoor spaces, are less sensitive to environmental noise.

Policies: The existing City of Cotati General Plan identifies the following policies related to noise:

3.3.1 Encourage the maintenance of the Noise and Land Use Compatibility Standards indicated in Table 3.1 (as summarized in Table 3.10-6 below).

a) The City shall review all land use and development proposals for compliance with the Noise and Land Use Compatibility Standards.

b) The City shall use a standard of 45 dBA L_{dn} for indoor noise levels for all new residential development, including hotels and motels.

c) The City shall require an acoustical study for all new projects with potential noise impacts. The study shall describe how the project will comply with Noise and Land Use Compatibility Standards and indoor noise level standards.

TABLE 3.10-6: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

LAND USE CATEGORY	EXTERIOR NOISE EXPOSURE, L_{DN} OR CNEL, DB					
	55	60	65	70	75	80
Residential, Hotels, and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial, and Professional						
Auditoriums, Concert Halls, Amphitheaters						
Industrial, Manufacturing, Utilities and Agriculture						

	NORMALLY ACCEPTABLE Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.
	CONDITIONALLY ACCEPTABLE: Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.
	UNACCEPTABLE: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

3.3.2 Control Non-Transportation Related Noise from Site Specific Noise Sources.

a) The City shall ensure that the noise resulting from new sources shall not exceed the standards in Table 3.2 (as summarized in Table 3.10-7 below) as measured at the exterior property line of an affected residential land use.

TABLE 3.10-7: ALLOWABLE NOISE EXPOSURE FROM NON-TRANSPORTATION NOISE SOURCES

	DAYTIME (7:00 AM - 10:00 PM)	NIGHTTIME (10:00 PM - 7:00 AM)
Hourly L_{eq}, dB	50	45
Maximum Level, dB	70	65
Maximum Level, dB (Impulsive Noise)	65	60

1. The measurements are made at the property line of the receiving land use. The effectiveness of noise mitigation measures should be determined by applying the standards on the receptor side of noise barriers or other property line noise mitigation measures.
2. The nighttime standards apply only when the receiving land use operates or is occupied during nighttime hours.
3. Sound level measurements to determine maximum level noise shall be made with "slow" meter response.
4. Sound level measurements for impulsive noise sources shall be made with "fast" meter response. Impulsive noises are defined as those which have sharp, loud peaks in decibel levels, but which quickly disappear. Examples include a dog's bark, a hammer's bang and noise with speech or music content.

3.3.3 Develop and enforce a City of Cotati Noise Ordinance.

a) The City shall develop a Noise Ordinance. Prior to a City Ordinance being developed the State of California Model Noise Ordinance shall be implemented.

3.3.4 Local truck traffic, including loading and unloading, shall be limited to specific routes, times and speeds appropriate to each zoning district.

a) The Police Department shall continue to implement the truck ordinance which limits truck traffic routes, times, and speeds in areas where it will effectively reduce noise pollution.

3.3.5 Encourage the enforcement of sections of the California Vehicle Code relating to adequate vehicle mufflers, and modified exhaust systems.

a) The Police Department shall work with the California Highway Patrol to actively enforce the California Vehicle Code as it relates to adequate vehicle mufflers, and modified exhaust systems.

3.3.6 Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State projects.

a) Planning staff shall remain in communication with Caltrans requesting that Caltrans obtain City concurrence prior to initiating any noise mitigation project in Cotati or affecting Cotati.

3.3.7 Require acoustical studies and mitigation measures for new developments and transportation improvements that affect noise sensitive uses such as schools, hospitals, libraries, group care facilities, convalescent homes, and residential areas.

a) Planning staff, through the environmental review process, shall ensure that acoustical studies are performed and mitigation measures implemented when noise sensitive uses are affected.

3.3.8 Stationary equipment, such as air compressors, shall be located as far away as feasible from sensitive noise receptors, and shall be shielded. Construction equipment shall be fitted with effective mufflers. The hours for construction operations shall be limited to the weekdays and the daytime where extreme noise sources are found.

a) The Building inspector shall determine, during the environmental review process, if proposed construction will constitute a significant impact on nearby residents and require limited construction hours.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will:

- Expose people to or generate noise levels in excess of established in the local general plan, noise ordinance, or applicable standards of other agencies;
  - A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan or Municipal Code (see Tables 3.10-6 and 3.10-7). For single family residences the noise exposure is considered "normally acceptable" up to 60 dBA L_{dn} for exterior uses. For interior uses, a significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed 45 dBA L_{dn}.
- Expose people to or generate excessive ground-borne vibration or ground-borne noise levels;
  - A significant vibration impact would be identified if the project would expose persons to excessive vibration levels. Groundborne vibration levels from railroad operations exceeding the Federal Transit Administration's vibration impact criteria (see Table 3.10-2) or ground-borne vibration levels from construction activities exceeding those specified in the Caltrans Guidance Manual would result in a significant impact.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
  - A significant permanent increase would be identified if traffic generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. Following standard practice, a substantial increase would occur if existing plus project noise levels would be 3 dBA L_{dn} or greater above existing conditions if resulting noise levels would exceed those considered compatible for the land use (60 dBA L_{dn} for single family residences) or if existing plus project noise levels would be 5 dBA L_{dn} or greater above existing conditions if resulting noise levels would continue to meet those considered compatible for the land use.
- Result in a substantial temporary or periodic increase in the ambient noise levels in the project vicinity above levels existing without the project;
  - The City of Cotati does not define a noise limit for construction. Following standard practice, a significant noise impact would be identified if daily average construction noise levels exceeded 60 dBA L_{50} and 75 dBA L_{max} for construction that would involve substantial noise generating activities (such as grading, excavation, use of impact equipment or building framing) continuing for more than 12 months.
- Where projects within an area covered by an airport land use plan or within two miles of a public airport or public use airport when such an airport land use plan has not been adopted, or within the vicinity of a private airstrip, expose people residing or working in the project area to excessive aircraft noise levels; or

- This guideline is not applicable because the project is not located within an airport land use plan or within two miles of a public airport or public use airport. Therefore, this checklist item is not carried forward for further analysis.

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.
  - This guideline is not applicable because the project is not located within the vicinity of a private airstrip. Therefore, this checklist item is not carried forward for further analysis.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Traffic Noise Sources (Significant and Unavoidable)

To describe future noise levels due to traffic, the Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) version 2.5 was used. SoundPLAN 7.0 noise modeling software, which includes traffic noise calculations based on the FHWA TNM 2.5 model, was used to calculate traffic noise levels throughout the City for graphical display purposes. Table 3.10-8 shows the calculated distances to the 60, 65, and 70 dBA L_{dn} traffic noise level contours under buildout conditions, including projects within the City and within the City's sphere of influence. Figure 3.10-1 shows a graphical representation of the traffic noise level contours with development accommodated by the proposed General Plan Update under buildout conditions.

Direct inputs into the models included traffic volumes provided by W-Trans and topographical and geometrical information. SoundPLAN is a 3-dimensional model that uses the TNM reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, topography, and the acoustical characteristics of the site.

TABLE 3.10-8: BUILDOUT WITH SOI TRAFFIC NOISE CONTOUR DISTANCES

Roadway	Segment	Distance from Centerline to Traffic Noise Contours[1], feet		
		70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}
US 101	Railroad Avenue to Rohnert Park Expy	340	740	1,590
Gravenstein Hwy (SR 116)	West of Madrone Avenue	100	220	470
	Madrone Avenue to West Cotati Avenue	140	300	640
	West Cotati Avenue to US 101	150	320	690
Old Redwood Hwy	North of William Street	70	150	330
	William Street to East Cotati Avenue	45	95	200
	East Cotati Avenue to Henry Street	20	50	110
	South of Henry Street	40	90	190
West Sierra Avenue	West of US 101	30	60	130
	East of US 101	20	45	95

TABLE 3.10-8: BUILDOUT WITH SOI TRAFFIC NOISE CONTOUR DISTANCES

Roadway	Segment	Distance from Centerline to Traffic Noise Contours[1], feet		
		70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}
East Cotati Avenue	East of Old Redwood Hwy	35	75	160
Alder Avenue	North of SR 116	25	55	120
Lancaster Drive	North of East Cotati Avenue	10	20	50

[1] Distances to traffic noise contours are measured in feet from the centerlines of the roadways.
Source: FHWA-RD-77-108 with traffic inputs from W-trans and Caltrans, 2013.

Table 3.10-9 shows the future noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed General Plan Update and under the buildout of the General Plan, including projects within the City and within the City's SOI/UGB.

TABLE 3.10-9: EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS VS. EXISTING TRAFFIC NOISE LEVELS

Roadway	Segment	Noise Levels (L_{dn}, dB) 100 Feet From Centerline[1], dBA			Increase Over Existing, dB	
		Existing	Existing + Project within City Limits	Existing + Project to SOI	Existing + Project within City Limits	Existing + Project to SOI
Gravenstein Hwy (SR 116)	West of Madrone Avenue	67	69	69	2	2
	Madrone Avenue to West Cotati Avenue	68	71	72	**3**	**4**
	West Cotati Avenue to US 101	68	72	73	**4**	**5**
Old Redwood Hwy	North of William Street	66	68	68	2	2
	William Street to East Cotati Avenue	63	64	65	1	2
	East Cotati Avenue to Henry Street	60	61	61	1	1
	South of Henry Street	63	64	65	1	2
West Sierra Avenue	West of US 101	60	61	62	1	2
	East of US 101	58	59	59	1	1
East Cotati Avenue	East of Old Redwood Hwy	61	63	63	2	2
Alder Avenue	North of SR 116	<55	58	60	**7**	**9**
Lancaster Drive	North of East Cotati Avenue	54	54	54	0	0

[1] Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing

TABLE 3.10-9: EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS VS. EXISTING TRAFFIC NOISE LEVELS

Roadway	Segment	Noise Levels (L_{dn}, dB) 100 Feet From Centerline[1], dBA			Increase Over Existing, dB	
		Existing	Existing + Project within City Limits	Existing + Project to SOI	Existing + Project within City Limits	Existing + Project to SOI

noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding
***Bold** = Significant increase in noise.*
Source: FHWA-RD-77-108 with traffic inputs from W-trans and Caltrans, 2013.

As indicated by Table 3.10-8 and Figure 3.10-1, new noise sensitive uses could be located in areas where noise levels would exceed those considered compatible as either normally acceptable or conditionally acceptable as shown in Table 3.10-6 with their land use which range from 60 to 72 dBA L_{dn} for residential, schools, meeting halls, hotels, and churches and from 55 to 70 dBA Ldn for office buildings, business commercial and professional uses. For example, new development could result in the exposure of sensitive receptors within 740 feet of the centerline of US 101, within 220 to 320 feet of the centerline of Gravenstein Highway, and within 150 feet of Old Redwood Highway to noise levels of 65 dBA Ldn or higher.

Buildout of the General Plan may contribute to an exceedance of the City's transportation noise standards and result in significant increases in traffic noise levels at existing sensitive receptors. As indicated by Table 3.10-9, the related traffic noise level increases under buildout of the General Plan are predicted to increase between 0 to 10 dB. Increases of 3 dB or greater are anticipated along Gravenstein Highway (SR 116), east of Madrone Avenue, and along Alder Avenue.

The General Plan includes Policies N 1.1 through N 1.3, N 1.6 through N 1.11, N 1. 13, and N 1.14 and Actions N 1a through N 1g, identified below, that are intended to minimize exposure to excessive noise, including noise associated with traffic. Specifically, Policies N 1.1, N 1.2, and N.3 support noise-compatible land uses in the vicinity of traffic noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Table N-1. The proposed General Plan standards, required under Policies N 1.1 and Action N 1a, for exposure to traffic noise shown in Table 3.10-9 meet or exceed the noise level standards of the adopted General Plan shown in Table 3.10-7. Policy N 1.3 and Actions N 1a and N 1c would ensure that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels. Policy N 1.7 establishes standards to determine the significance of increased noise levels associated with transportation. Policy N 1.9 requires the City to develop and enforce a noise ordinance to address excessive noise from noise-generating land uses and to address vehicle noise to the extent allowed by State law; Action N 1a would ensure that the land use code, including the new noise ordinance, is consistent with the noise standards established in the General Plan. Policy N 1.13 would limit truck traffic to specific routes to reduce potential noise impacts on residential streets. While implementation of the proposed policies and actions of the General Plan will 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, some traffic noise impacts cannot be mitigated to a less-than-significant level due the proximity of sensitive receivers to major

roadways, and because noise attenuation may not be feasible in all circumstances. There would be a significant increase in ambient noise levels with buildout of the General Plan as shown in Table 3.10-9. The proposed General Plan would have a ***significant and unavoidable*** impact relative to traffic noise.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy N 1.1: *Ensure the noise compatibility of existing and future uses when making land use planning decisions.*

Policy N 1.2: *Require development and infrastructure projects to be consistent with the Land Use Compatibility for Community Noise Environments standards indicated in Table N-1 (see Table 3.10-9) to ensure acceptable noise levels at existing and future uses.*

Policy N 1.3: *Require development to mitigate excessive noise through best practices, including building location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials such as rubberized asphalt.*

Policy N 1.6: *Support noise-compatible land uses along existing and future roadways, highways, and freeways.*

Policy N 1.7: *The following criteria shall be used to determine the significance, for projects required by the California Environmental Quality Act to analyze noise impacts, of noise impacts for development, transportation, and other projects that increase noise:*

Transportation Noise Sources

- *Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in roadway noise levels will be considered significant; and*
- *Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in roadway noise levels will be considered significant; and*
- *Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB Ldn increase in roadway noise levels will be considered significant.*

Policy N 1.8*:* *Ensure that new development does not expose indoor sleeping areas to indoor noise levels in excess of 45 dBA L_{dn}.*

Policy N 1.9: *Develop and enforce a City of Cotati Noise Ordinance that addresses, at a minimum, excessive noise from commercial, industrial, and other noise generating land uses, and vehicle noise to the extent allowed by State law.*

Policy N 1.10: *Actively enforce the sections of the California Vehicle Code relating to vehicle noise, including adequate vehicle mufflers and modified exhaust systems.*

Policy N 1.11: *Require acoustical studies and mitigation measures, where necessary, for new developments and transportation improvements that affect noise sensitive uses such as schools, hospitals, libraries, group care facilities, convalescent homes, and residential areas.*

Policy N 1.13: *Local truck traffic, including loading and unloading, shall be limited to specific routes, times and speeds appropriate to each zoning district.*

Policy N 1.14*: Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State transportation projects.*

Actions

Action N 1a: *Update the Land Use Code to ensure that the noise standards are consistent with this Noise Element, including Tables N-1 and N2* (see Tables 3.10-9 and 3.10-10)*, and to require new residential, mixed-use with a residential component, and other noise-sensitive development to be designed to minimize noise exposure to noise sensitive users through incorporation of site planning and architectural techniques such as:*

- *Locating dwellings as far from noise generators as possible.*
- *Locating noise sensitive interior spaces, such as bedrooms, away from noise generators.*
- *Orienting buildings to shield noise sensitive outdoor spaces from noise generators.*
- *Use of sound walls should be avoided or minimized, through alternative measures such as berms, setbacks, or other measures, to the maximum extent feasible and appropriate.*

*Action N 1b: Review land use and development proposals, including use permits, for compliance with the noise requirements established in this element, including the standards established in Tables N-1 and N-2 (*see Tables 3.10-9 and 3.10-10*).*

For uses along the SMART corridor, the Federal Transit Administration vibration impact criteria shall be used to evaluate the compatibility of sensitive uses using the best available information (e.g., 2005 SMART DEIR) or site-specific measurements and analyses (assuming active operations).

Where necessary, require mitigation measures to achieve the noise standards identified in Tables N-1 and N-2 and, where applicable to minimize exposure of sensitive uses to existing or potential vibration levels to the maximum feasible extent.

Action N 1c: Require an acoustical study for all new discretionary projects, including development and transportation, with potential noise impacts. The study shall include mitigation measures necessary to ensure compliance with this Noise Element and relevant noise standards in the Land Use Code.

Action N 1d: The Police Department shall continue to implement the truck ordinance which limits truck traffic routes and weights, thereby effectively reducing noise pollution.

Action N 1e: *Work with the California Highway Patrol to actively enforce the California Vehicle Code as it relates to adequate vehicle mufflers, modified exhaust systems, and car stereos.*

Action N 1f: *Develop a consistent method to enforce Vehicle Code provisions contained in the California Vehicle Code, Division 12, Chapter 5, Article 2.5, Sections 27159 - 27207 related to vehicle noise and, to the extent allowed by State law, develop additional standards to regulate vehicle noise.*

Action N 1g: *Coordinate with Caltrans, the City of Rohnert Park, and Sonoma County, when necessary, to ensure that these outside agencies obtain City concurrence prior to initiating any noise mitigation or other project in, or affecting, Cotati.*

TABLE 3.10-10: TABLE N-1 - LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

LAND USE CATEGORY	EXTERIOR NOISE EXPOSURE (LDN)					
	55	60	65	70	75	80
Single-Family Residential						
Multi-Family Residential, Hotels, and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial, and Professional						
Auditoriums, Concert Halls, Amphitheaters						
Industrial						

	NORMALLY ACCEPTABLE *Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements*
	CONDITIONALLY ACCEPTABLE *Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design*
	UNACCEPTABLE *New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies*

TABLE 3.10-11: TABLE N-2 - STATIONARY (NON-TRANSPORTATION) NOISE SOURCE STANDARDS

LAND USE RECEIVING THE NOISE	HOURLY NOISE-LEVEL DESCRIPTOR	EXTERIOR NOISE-LEVEL STANDARD IN ANY HOUR (DBA)		INTERIOR NOISE-LEVEL STANDARD IN ANY HOUR (DBA)	
		DAYTIME (7AM-10PM)	NIGHTTIME (10PM-7AM)	DAYTIME (7AM-10PM)	NIGHTTIME (10PM-7AM)
Residential	L_{eq}	50	45	40	30
	L_{max}	70	60	55	45
Medical, convalescent	L_{eq}	55	45	45	35
	L_{max}	70	60	55	45
Theater, auditorium	L_{eq}	--	--	35	35
	L_{max}	--	--	50	50
Church, meeting hall	L_{eq}	55	--	40	40
	L_{max}		--	55	55
Office building	L_{eq}	--	--	45	--
School, library, museum	L_{eq}	55	--	40	--
	L_{max}		--	55	--
Playground, park	L_{eq}	55	--	--	--

Notes:

a) The Residential standards apply to all residentially zoned properties.

b) Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noises consisting primarily of speech or music, or recurring impulsive noises.

c) In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level.

d) The exterior noise standards are measured at any point on the receiving property where there is, or could be in the future, frequent human use and quiet would be beneficial.

e) The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors, the thresholds are about 15 dBA higher. Steady noise of sufficient intensity, above 35 dBA, and fluctuating noise levels above about 45 dBA have been shown to affect sleep.

Impact 3.10-2: Railroad Noise Sources (Less than Significant)

The Northwest Pacific Railroad (NWPR) tracks will carry freight traffic and the Sonoma-Marin Area Rail Transit (SMART) system for commuter rail usage in the future. Future noise levels along the Northwestern Pacific Rail corridor, as described in the SMART EIR Revised Cumulative Impacts Section dated March 2008, assuming SMART trains plus six freight train passbys during the daytime, are estimated to reach 60 dBA L_{dn} at a distance of 50 feet assuming a train speed of 25 mph through Cotati, not including the effects of train warning horns. If crossings in Cotati are improved to "Quiet Zone Standards" and the City pursues Quiet Zone status between now and 2016, the projected start date of passenger rail, the sound of train warning horns can be minimized. Day-night average noise levels would exceed 60 dBA L_{dn} at these areas if Quiet Zone designations are not approved and trains were required to sound their whistles, or if there are nighttime freight trains. Where residential development is located adjacent to at-grade rail crossings (without implementation of a Quiet Zone), these sensitive uses would be subject to maximum instantaneous noise levels (L_{max}) from train warning whistles that range from approximately 90 to 100 dBA L_{max} outdoors 50 feet from the tracks.

The General Plan includes policies and actions that are intended to reduce noise associated with railroad operations (listed below). Specifically, policies N 1.1, N 1.2, N 1.3, N 1.8, N 1.9, and N 1.11 would reduce noise associated with SMART. Policies N 1.1, 1.2, and 1.3, and Actions N 1a and N 1c would ensure that new development located in the vicinity of the SMART line would address potential noise impacts associated with train operations and include, if necessary, noise-attenuating features to achieve the City's noise standards. Policy N 1.8 would ensure that interior sleeping areas are not exposed to noise levels in excess of 45 dBA Ldn. Implementation of these General Plan policies and actions would ensure that development allowed under the proposed General Plan is not exposed to noise levels associated with SMART operations in excess of the City's established standards. This is a **less than significant** impact.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy N 1.1: *Ensure the noise compatibility of existing and future uses when making land use planning decisions.*

Policy N 1.2: *Require development and infrastructure projects to be consistent with the Land Use Compatibility for Community Noise Environments standards indicated in Table N-1 (see Table 3.10-9) to ensure acceptable noise levels at existing and future uses.*

Policy N 1.3: *Require development to mitigate excessive noise through best practices, including building location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials such as rubberized asphalt.*

Policy N 1.8: *Ensure that new development does not expose indoor sleeping areas to indoor noise levels in excess of 45 dBA L_{dn}.*

Policy N 1.11: *Require acoustical studies and mitigation measures, where necessary, for new developments and transportation improvements that affect noise sensitive uses such as schools, hospitals, libraries, group care facilities, convalescent homes, and residential areas.*

Actions

Action N 1a: *Update the Land Use Code to ensure that the noise standards are consistent with this Noise Element, including Tables N-1 and N2* (see Tables 3.10-9 and 3.10-10)*, and to require new residential, mixed-use with a residential component, and other noise-sensitive development to be designed to minimize noise exposure to noise sensitive users through incorporation of site planning and architectural techniques such as:*

- *Locating dwellings as far from noise generators as possible.*
- *Locating noise sensitive interior spaces, such as bedrooms, away from noise generators.*
- *Orienting buildings to shield noise sensitive outdoor spaces from noise generators.*
- *Use of sound walls should be avoided or minimized, through alternative measures such as berms, setbacks, or other measures, to the maximum extent feasible and appropriate.*

Action N 1b: *When required by the Community Development Director, review land use and development proposals, including use permits, for compliance with the noise requirements established in this element, including the standards established in Tables N-1 and N-2 (*see Tables 3.10-9 and 3.10-10*).*

For uses along the SMART corridor, the Federal Transit Administration vibration impact criteria shall be used to evaluate the compatibility of sensitive uses using the best available information (e.g., 2005 SMART DEIR) or site-specific measurements and analyses (assuming active operations).

Where necessary, require mitigation measures to achieve the noise standards identified in Tables N-1 and N-2 and, where applicable to minimize exposure of sensitive uses to existing or potential vibration levels to the maximum feasible extent.

Action N 1c: *Require an acoustical study for all new discretionary projects, including development and transportation, with potential noise impacts. The study shall include mitigation measures necessary to ensure compliance with this Noise Element and relevant noise standards in the Land Use Code.*

Action N 1g: *Coordinate with Caltrans, the City of Rohnert Park, and Sonoma County, when necessary, to ensure that these outside agencies obtain City concurrence prior to initiating any noise mitigation or other project in, or affecting, Cotati.*

Impact 3.10-3: Stationary Noise Sources (Less than Significant)

Implementation of the General Plan Update could result in the future development of land uses that generate noise levels in excess of applicable City of Cotati noise standards for non-transportation noise sources. Such land uses may include commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, as well as recreational uses. While the General Plan does not specifically propose any new noise generating uses, the Land Use Maps include industrial land use

designations, which may result in new noise sources. Specific land uses that would be located in the City are not known at this time. Additionally, noise from existing stationary noise sources, as identified in background section of this report, will continue to result in noises that may impact noise-sensitive land uses in the vicinity. New projects which may include stationary noise sources such as automotive and truck repair facilities, tire installation centers, car washes, loading docks, corporation yards, parks, and play fields may create noise levels in excess of the City's standards.

The General Plan includes policies and actions that are intended to reduce noise associated with stationary sources (listed below). Specifically, policies N 1.1, N 1.2, N 1.3, N 1.4, N 1.5, N 1.7, N 1.8, N 1.9, N 1.11, and N 1.13 would reduce noise associated with stationary sources. Implementation of the proposed policies and actions of the General Plan will reduce noise impacts from stationary noise sources to a **less than significant** level.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy N 1.1: *Ensure the noise compatibility of existing and future uses when making land use planning decisions.*

Policy N 1.2: *Require development and infrastructure projects to be consistent with the Land Use Compatibility for Community Noise Environments standards indicated in Table N-1 (see Table 3.10-9), to ensure acceptable noise levels at existing and future uses.*

Policy N 1.3: *Require development to mitigate excessive noise through best practices, including building location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise-tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials such as rubberized asphalt.*

Policy N 1.4: *Require mixed-use projects to minimize noise exposure within the indoor areas of nearby residential areas through the use of noise attenuating building materials, engineering techniques, and site design practices. Site design practices may include locating mechanical equipment, loading bays, parking lots, driveways, and trash enclosures away from residential uses and providing noise attenuating screening features onsite.*

Policy N 1.5: *Control non-transportation related noise from site specific noise sources.*

Policy N 1.7: *The following criteria shall be used to determine the significance, for projects required by the California Environmental Quality Act to analyze noise impacts, of noise impacts for development, transportation, and other projects that increase noise:*

Stationary and Non-Transportation Noise Sources

- A significant impact will occur if the project results in an exceedance of the noise level standards contained in this Noise Element, or the project will result in an increase in ambient noise levels by more than 3 dB.

Policy N 1.8: *Ensure that new development does not expose indoor sleeping areas to indoor noise levels in excess of 45 dBA L_{dn}.*

Policy N 1.9: *Develop and enforce a City of Cotati Noise Ordinance that addresses, at a minimum, excessive noise from commercial, industrial, and other noise generating land uses, and vehicle noise to the extent allowed by State law.*

Policy N 1.11: *Require acoustical studies and mitigation measures, where necessary, for new developments and transportation improvements that affect noise sensitive uses such as schools, hospitals, libraries, group care facilities, convalescent homes, and residential areas.*

Policy N 1.13: *Local truck traffic, including loading and unloading, shall be limited to specific routes, times and speeds appropriate to each zoning district.*

Actions

Action N 1a: *Update the Land Use Code to ensure that the noise standards are consistent with this Noise Element, including Tables N-1 and N2* (see Tables 3.10-9 and 3.10-10)*, and to require new residential, mixed-use with a residential component, and other noise-sensitive development to be designed to minimize noise exposure to noise sensitive users through incorporation of site planning and architectural techniques such as:*

- *Locating dwellings as far from noise generators as possible.*
- *Locating noise sensitive interior spaces, such as bedrooms, away from noise generators.*
- *Orienting buildings to shield noise sensitive outdoor spaces from noise generators.*
- *Use of sound walls should be avoided or minimized, through alternative measures such as berms, setbacks, or other measures, to the maximum extent feasible and appropriate.*

Action N 1b: *When required by the Community Development Director, review land use and development proposals, including use permits, for compliance with the noise requirements established in this element, including the standards established in Tables N-1 and N-2 (*see Tables 3.10-9 and 3.10-10*).*

For uses along the SMART corridor, the Federal Transit Administration vibration impact criteria shall be used to evaluate the compatibility of sensitive uses using the best available information (e.g., 2005 SMART DEIR) or site-specific measurements and analyses (assuming active operations).

Where necessary, require mitigation measures to achieve the noise standards identified in Tables N-1 and N-2 and, where applicable to minimize exposure of sensitive uses to existing or potential vibration levels to the maximum feasible extent.

Action N 1c: *Require an acoustical study for all new discretionary projects, including development and transportation, with potential noise impacts. The study shall include mitigation measures necessary to ensure compliance with this Noise Element and relevant noise standards in the Land Use Code.*

Action N 1q: *Coordinate with Caltrans, the City of Rohnert Park, and Sonoma County, when necessary, to ensure that these outside agencies obtain City concurrence prior to initiating any noise mitigation or other project in, or affecting, Cotati.*

Impact 3.10-4: Construction Noise Sources (Less than Significant)

New development, maintenance of roadways, installation of public utilities and infrastructure generally require construction activities. These activities include the use of heavy equipment, impact tools. Table 3.10-12 provides a list of the types of equipment which may be associated with construction activities, and their associated noise levels.

TABLE 3.10-12: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, LMAX DB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 DB LMAX CONTOUR	65 DB LMAX CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

Source: Roadway Construction Noise Model User's Guide. Federal Highway Administration. FHWA-HEP-05-054. January 2006. j.c. brennan & associates, Inc. 2011.

Activities involved in construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance. However, the Cotati Noise Ordinance establishes allowable hours of operation for construction activities as follows:

17.30.050(3) Noise Standards - Limitation on Hours of Construction. In order to allow construction schedules to take advantage of the weather and normal daylight hours, and to ensure that nearby residents as well as nonresidential activities are not disturbed by the early morning or late night activities, the city has established the following limits on construction, in compliance with Table 3-5 (not shown, described below) or as required by conditions of approval.

- Monday through Friday: 7:00 am to 7:00 pm
- Saturday, Sunday, and Holidays: Construction activities may only be allowed by the review authority through conditions of approval between 9:00 a.m. and 5:00 p.m.

The General Plan also includes policies and actions that are intended to reduce noise associated with construction noise (listed below). Specifically, policies N 1.5 and N 1.12 would reduce noise associated

with construction noise. Implementation of the proposed policies and actions of the General Plan will reduce noise impacts from construction noise to a **less than significant** level.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy N 1.5: *Control non-transportation related noise from site specific noise sources.*

Policy N 1.12: *Require construction activities to comply with standard "best practices". (See Action N 1h)*

Actions

Action N 1c: *Require an acoustical study for all new discretionary projects, including development and transportation, with potential noise impacts. The study shall include mitigation measures necessary to ensure compliance with this Noise Element and relevant noise standards in the Land Use Code.*

Action N 1d: *The Police Department shall continue to implement the truck ordinance which limits truck traffic routes and weights, thereby effectively reducing noise pollution.*

Action N 1e: *Work with the California Highway Patrol to actively enforce the California Vehicle Code as it relates to adequate vehicle mufflers, modified exhaust systems, and car stereos.*

Action N 1h: *During the environmental review process, determine if proposed construction will constitute a significant impact on nearby residents and require mitigation measures in addition to the standard "best practice" controls. Suggested "best practices" for control of construction noise:*

- *Construction period shall be less than twelve months.*
- *Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between the hours of 7:00 am and 7:00 pm on weekdays and 9:00 am and 5:00 pm on Saturdays (if allowed through specific project conditions of approval). No construction shall occur on Sundays or holidays.*
- *All equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.*
- *The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.*
- *At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.*
- *Unnecessary idling of internal combustion engines shall be prohibited.*
- *Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.*
- *The required construction-related noise mitigation plan shall also specify that haul truck deliveries are subject to the same hours specified for construction equipment.*

- *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*
- *The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*

Impact 3.10-5: Construction Vibration (Less than Significant)

Construction activities facilitated by the plan may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels would also occur on some project sites and vibratory pile driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

Heavy tracked vehicles (e.g., bulldozers or excavators) can generate distinctly perceptible groundborne vibration levels when this equipment operates within approximately 25 feet of sensitive land uses. Impact pile drivers can generate distinctly perceptible groundborne vibration levels at distances up to about 100 feet, and may exceed building damage thresholds within 25 feet of any building, and within 50-100 feet of a historical building, or building in poor condition. Other construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may also potentially generate substantial vibration in the immediate vicinity.

Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels may be high enough to damage existing structures. Given the scope of the General Plan and the close proximity of many existing structures, groundborne vibration impacts would be potentially significant.

As with any type of construction, vibration levels may at times be perceptible. However, construction phases that have the highest potential of producing vibration (pile driving and use of jackhammers and other high power tools) would be intermittent and would only occur for short periods of time for any individual project site.

General Plan Policy N.15 requires new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction.

General Plan Policy N 1.15 would ensure that potential vibration impacts associated with demolition and construction activities would be mitigated to a less-than-significant level by establishing safe limits to protect structures from potential damage and would minimize vibration impacts on people and

businesses. Action N 1h would ensure administrative controls such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with least potential to affect nearby businesses, perceptible vibration can be kept to a minimum and as such would not result in a significant impact with respect to perception. Therefore, the potential for significant impacts associated with construction vibration is **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy N 1.5: *Control non-transportation related noise from site specific noise sources.*

Policy N 1.12: *Require construction activities to comply with standard "best practices". (See Action N 1h)*

Policy N 1.15: *Require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction.*

Actions

Action N 1c: *Require an acoustical study for all new discretionary projects, including development and transportation, with potential noise impacts. The study shall include mitigation measures necessary to ensure compliance with this Noise Element and relevant noise standards in the Land Use Code.*

Action N 1h: *During the environmental review process, determine if proposed construction will constitute a significant impact on nearby residents and require mitigation measures in addition to the standard "best practice" controls. Suggested "best practices" for control of construction noise:*

- *Construction period shall be less than twelve months.*
- *Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between the hours of 7:00 am and 7:00 pm on weekdays and 9:00 am and 5:00 pm on Saturdays (if allowed through specific project conditions of approval). No construction shall occur on Sundays or holidays.*
- *All equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.*
- *The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.*
- *At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.*
- *Unnecessary idling of internal combustion engines shall be prohibited.*

- *Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.*
- *The required construction-related noise mitigation plan shall also specify that haul truck deliveries are subject to the same hours specified for construction equipment.*
- *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*
- *The construction contractor shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and institute reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*

Impact 3.10-6: Groundborne Vibration (Less-Than-Significant)

Development facilitated by the General Plan could expose persons to excessive groundborne vibration levels attributable to SMART trains. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time; however, such uses located in close proximity to the SMART tracks could be exposed to ground vibration levels exceeding FTA guidelines.

The proposed General Plan includes Action N 1b, which requires that individual development projects adjacent to SMART undergo project-specific environmental review and address potential vibration impacts associated with SMART operations. If project-level significant vibration impacts are identified, specific mitigation measures will be required under CEQA. The implementation of this action would potential groundborne vibrations associated with SMART operations to a **less than significant** level.

Impact 3.10-7: Cumulative Noise Impacts (Significant and Unavoidable)

Under cumulative conditions, the General Plan would accommodate development that would result in increased traffic noise and in an increase in stationary noise sources.

As described under Impact 3.10-3, future land uses may include noise-generating uses such as commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, as well as recreational uses. The General Plan includes policies and actions that are intended to reduce noise associated with stationary sources (listed below). Specifically, policies N 1.1, N 1.2, N 1.3, N 1.4, N 1.5, N 1.7, N 1.8, N 1.9, N 1.11, and N 1.13 would reduce noise associated with stationary sources. Implementation of the proposed policies and actions of the General Plan will reduce the General Plan's contribution to cumulative noise impacts from stationary noise sources to a less than considerable level.

Table 3.10-13 shows the existing and cumulative noise levels associated with traffic on the local roadway network, including projects within the City and within the City's sphere of influence. Cumulative conditions include traffic due to buildout of the General Plan in addition to pass through traffic from other jurisdictions. The table also shows the estimated noise level increases which may occur under cumulative conditions.

TABLE 3.10-13: FUTURE TRAFFIC NOISE LEVELS VS. EXISTING TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) 100 FEET FROM CENTERLINE[1], dBA			INCREASE OVER EXISTING, dB	
		CUMULATIVE NO PROJECT	CUMULATIVE BUILDOUT TO CITY LIMITS	CUMULATIVE BUILDOUT TO SOI	CUMULATIVE BUILDOUT WITHIN CITY LIMITS	CUMULATIVE BUILDOUT TO SOI
US 101	Railroad Avenue to Rohnert Park Expy	77	78	78	1	1
Gravenstein Hwy (SR 116)	West of Madrone Avenue	67	70	70	**3**	**3**
	Madrone Avenue to West Cotati Avenue	68	71	72	**3**	**4**
	West Cotati Avenue to US 101	68	72	73	**4**	**5**
Old Redwood Hwy	North of William Street	66	68	68	2	2
	William Street to East Cotati Avenue	63	64	65	1	2
	East Cotati Avenue to Henry Street	60	60	60	0	0
	South of Henry Street	63	64	64	1	1
West Sierra Avenue	West of US 101	60	61	62	1	2
	East of US 101	58	60	60	2	2
East Cotati Avenue	East of Old Redwood Hwy	61	62	63	1	2
Alder Avenue	North of SR 116	<55	59	61	**8**	**10**
Lancaster Drive	North of East Cotati Avenue	54	55	55	1	1

[1] Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding
***Bold** = Significant increase in noise.*
Source: FHWA-RD-77-108 with traffic inputs from W-trans and Caltrans, 2013.

Cumulative conditions would contribute to an exceedance of the City's transportation noise standards and result in significant increases in traffic noise levels at existing sensitive receptors. However, as indicated by Table 3.10-13, the related traffic noise level increases under cumulative conditions would generally be the same as those under Existing plus Project conditions (see Impact 3.10-2). Increases of 3 dB or greater are anticipated along Gravenstein Highway (SR 116) and along Alder Avenue. Cumulative traffic would add one additional significant increase that would not occur under Existing plus Project conditions, along Gravenstein Highway (SR 116), west of Madrone Avenue.

The General Plan includes policies and actions that are intended to reduce noise increases associated with traffic. Specifically, policies N 1.1, N 1.2, N 1.3, N 1.6, N 1.7, N 1.10, N 1.11, N 1.13, and N 1.14 would reduce noise increases associated with traffic, as described in Impact 3.10-1. As described in Impact 3.10-1, some traffic noise impacts cannot be mitigated to a less-than-significant level due the proximity of sensitive receivers to major roadways, and because noise attenuation may not be feasible in all circumstances. As a result, this is a ***significant and unavoidable*** cumulative impact.

Vehicular Traffic Noise Contours for Major Roadways in Cotati
Buildout to Sphere of Influence

FIGURE 3.10-1
FUTURE NOISE CONTOURS

Source: Ilingworth & Rodkin, 2013

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Figure 3.10-2
Noise Measurement Locations

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Public services such as fire and police protection services are core to the maintaining a safe and healthy community. Educational services serve as a foundation for providing citizens with the skills and resources to excel the economy today and in the future. There are many other public services that are important to a community such as parks and recreational opportunities, libraries, museums, hospitals, and other healthcare facilities.

This section provides a background discussion and analysis of fire protection services, police services, schools, parks and recreational facilities, libraries, and other community facilities and services. This section is organized with an existing setting, regulatory setting, and impact analysis.

3.11.1 EXISTING CONDITIONS

FIRE PROTECTION SERVICES

The City of Cotati receives fire protection services from the Rancho Adobe Fire Protection District (RAFPD). This district was formed in 1993 through the combining of two smaller districts - the Cotati Fire Protection District and the Penngrove Fire Protection District. The new district encompasses over 80 square miles. The total district population is approximately 24,000 people. The district provides service from three stations. The first is located at #1 East Cotati Avenue, in the center of La Plaza Park. The second station is situated at 11000 Main Street, Penngrove. The third station is at 99 Liberty Road, Petaluma. Station #1, located in La Plaza Park, was recently renovated, which expanded the station from a three-door to a six-door facility.[1] The RAFPD is a combination fire district, which has a full time paid staff that is supplemented with part time firefighters, volunteer firefighters and support volunteer members of the community. There are 15 full time staff, 15 part time firefighters, 6 volunteer firefighters, 1 part time Fire Chief and an administrative assistant.[2] The current staff-to-population ratio is .70 firefighters per 1000 population (17 full time staff divided by 24). The ratio in 1990 was .03.

Each fire protection district earns a rating calculated by the Insurance Service Office (ISO). This rating, known as a Public Protection Classification (PPC), is utilized by many insurance providers to calculate insurance premiums within the district. Ratings range from 1 to 10. Class 1 generally represents superior property fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria.

The PPC ratings are calculated on the following factors:

- Fire alarm and communication systems, including telephone systems, telephone lines, staffing, and dispatching systems;

[1] http://www.ci.cotati.ca.us/sections/police/fire-services.cfm, Accessed 5/20/11.
[2] http://www.rancho-adobe-fire.org/about.html. Accessed 5/20/11

- The fire department, including equipment, staffing, training, and geographic distribution of fire companies; and,
- The water-supply system, including the condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires.

RAFPD, within the Cotati City limits, presently has an Insurance Service Office (ISO) rating of five (5). RAFPD has an ISO rating of eight (8) on structures outside the city, and nine (9) for everything but structures outside the City limits. A rating of ten (10) usually indicates that no fire protection is provided.

The RAFPD has automatic aid agreements with neighboring districts, including the California Department of Forestry (CDF) and the City of Rohnert Park. The CDF provides automatic aid for emergency incidents in the west portions of the District and to State Responsibility Area fires. CDF will also provide fire response to anywhere in the District at the District's request.[3] Under the automatic aid agreement between RAFPD and the City of Rohnert Park, the City of Rohnert Park responds to certain structure fire, water-flow alarm-sounding, vegetation, and vehicle collision calls in the RAFPD service area, including locations in Cotati, and RAFPD provides the City of Rohnert Park with a battalion chief and/or engine and personnel support for certain calls in the City of Rohnert Park.

POLICE PROTECTION SERVICES

The Cotati Police Department is charged with the enforcement of local, state, and federal laws, and with providing 24-hour protection of the lives and property of the public. The Police Department functions both as an instrument of public service and as a tool for the distribution of information, guidance and direction. It is the mission of the Police Department to facilitate and administer the laws of governing bodies, the orders of the courts, and to direct all energies and resources towards maintaining the health, welfare, and safety of not only the citizens of Cotati, but its visitors as well.

The Police Department provides a 24-hour operation, which includes dispatch, patrol, traffic enforcement, investigation, and community crime prevention.

The Cotati Police Department is linked with most law enforcement agencies in Sonoma County through a common computer system. Cotati dispatchers can communicate directly via radio with other agencies, including the Sonoma County Office of Emergency Services. The Cotati Police Department includes a chief, one lieutenant, two sergeants, six officers (a total of 10 officers), one police canine unit, one community services officer, five dispatchers, and one support services supervisor (Chief of Police, Michael Parish, email communication 6-2-11 The current ratio of

[3] City of Cotati Downtown Specific Plan EIR, page 4.11-1.

officers to resident population is approximately 1.38 per 1,000 persons. The City has not formally adopted a police to resident population staffing ratio. Nationally, the ratio is approximately 2.3 officers per 1,000 residents, and larger cities with higher crime rates strive to maintain ratios closer to 4 officers per 1,000 residents.

K-9 Program

The Cotati Police K-9 Program started with the inception of the police department in 1963. The Department's current K-9 team includes a German Shepherd and his police officer handler. The K-9 team performs duties on patrol for the Department, and is trained in tracking criminals and locating missing persons. They also have training in the recovery of evidence, the searching of buildings, and handler protection. The team has also received training in narcotics detection, and is certified to detect the presence of cocaine, heroin, marijuana, and methamphetamines. In addition to the team's general and specialty patrol duties, they assist patrol officers from both the Cotati Police Department and other neighboring departments with narcotics searches, suspect searches in buildings (or when fleeing outdoors), article searches and missing children searches. The Cotati Police Department K-9 Unit frequently provides demonstrations to the public to showcase many of the unit's capabilities.

Neighborhood Watch Program

Neighborhood Watch is a crime prevention program operated by residents of the City of Cotati, with the support of the police department. Its purpose is to create an alert citizenry by teaching residents simple crime prevention measures, and by providing both general and specific information concerning crime in each neighborhood.

Volunteers in Police Service Program

The Volunteers in Police Service (V.I.P.S), are a group of ordinary citizens dedicated to exemplary community service and public awareness through the Cotati Police Department. The Cotati Police Department volunteer program is affiliated with the National Volunteers in Police Service program, which is sponsored by the U.S. Department of Justice and the International Association of Chiefs of Police. Volunteer duties include:

- Assist stranded motorists
- Graffiti patrol
- Directing traffic at fire, accident, or crime scenes
- Enforcement of parking violations
- Assist police officers in the field
- Special enforcement and extra patrols
- Neighborhood patrols and vacation house checks
- Searching for lost or missing children
- Vehicle abatements
- Clerical & office work
- Fleet maintenance
- Crime prevention programs

Crimes by Category in Cotati

Statistics on the number of crimes by category of crime in Cotati during each year from 2008 to 2012, as reported by the Federal Bureau of Investigation (FBI) Criminal Justice Information Services Division, are shown in Table 3.11-1 below.

Table 3.11-1 Crimes by Category

Category	2008	2009	2010	2011	2012
Violent Crimes	39	32	35	35	54
Homicide	0	0	0	0	0
Forcible Rape	6	2	0	3	3
Robbery	2	4	6	5	4
Aggravated Assault	31	26	29	27	47
Property Crimes	111	157	86	97	85
Burglary	38	39	28	32	37
Larceny-Theft	63	104	55	59	39
Vehicle Theft	10	14	3	6	9
Arson	1	1	0	0	0

*SOURCE: FEDERAL BUREAU OF INVESTIGATION, CRIMINAL JUSTICE INFORMATION SERVICES DIVISION, OFFENSES KNOWN TO LAW ENFORCEMENT TABLES (2008 THROUGH 2012). * 2013 DATA NOT AVAILABLE*

As shown in the table, the majority of crimes committed in Cotati consist of non-violent property crimes, primarily larceny-theft. Between 2008 and 2012, there were no homicides reported in Cotati. Property crimes in Cotati have generally trended downward since 2008, while violent crimes remained relatively stable between 2008 and 2011, with an increase in violent crime experienced in 2012.

SCHOOLS

Existing Facilities

Residents and school children in the City of Cotati are served by the Cotati-Rohnert Park Unified School District (CRPUSD). The District is comprised of six elementary schools, one middle school, a community day school, one comprehensive high school, a technology high school, one necessary small high school, and one continuation high school. According to the California Department of Education, Educational Demographics Unit, the District had a total student enrollment of 5,855 students during the 2012-13 school year.

Elementary students in Cotati, which include students in grades kindergarten through 6th grade, attend Thomas Page Elementary, located 1075 Madrone Avenue, Cotati. This is the only school located within the City limits of Cotati. Parents have the option of sending their students to other elementary schools within the District by making a request for an intra-district transfer. Intra-district transfer requests are approved if space at the requested school is available (Sandra Devine, CRPUSD, personal communication, 6-1-11).

Other elementary schools in the District include Evergreen Elementary, Marguerite Hahn Elementary, Montevista Elementary, John Reed Elementary, and Waldo Rohnert Elementary; all located in the City of Rohnert Park.

Middle school students in Cotati, which includes students in 7th and 8th grades, attend Lawrence E. Jones Middle School, located at 5154 Snyder Lane, Rohnert Park. The school site opened in newly constructed facilities in the fall of 1995 as Creekside Middle School. In 2010, the District's two middle schools were consolidated at the site and the school was renamed Lawrence E. Jones Middle School.

High school students in Cotati, which includes students in 9th through 12th grades, usually attend Rancho Cotate High School, located at 5450 Snyder Lane, Rohnert Park. Rancho Cotate High School is a comprehensive high school, offering a wide range of academic options, inter-scholastic athletics, and music programs. The CRPUSD also includes Technology High School, which is located on the Sonoma State University campus. The Technology High School provides a math and science based curriculum, and requires students to be accepted through a competitive application process. A maximum of 240 students (60 in each grade) attend each year. El Camino High School, located at 120 Southwest Boulevard, Rohnert Park is the District's continuation high school. Continuation high schools are generally attended by students considered at-risk of not graduating at a normal pace from a comprehensive high school. These students may include teens with behavioral problems, drug abuse histories, pregnancies, or other conditions that may impede progress at a "regular" high school. The CRPUSD also operates Phoenix High School, located at 1296 Southwest Boulevard, Rohnert Park. Phoenix High School is a "Necessary High School", which provides instruction to students with special emotional needs. The school has a maximum capacity of 32 students. (Sandra Devine, CRPUSD, personal communication 6-1-11)

Student enrollment at Thomas Page Elementary, Lawrence E. Jones Middle School, and Rancho Cotate High School is shown in Table 3.11-2 below.

Table 3.11-2 School Enrollment

School	Academic Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Thomas Page Elementary	410	399	440	436	475
Lawrence E. Jones Middle School	741*	767*	993	939	923
Rancho Cotate High School	1,594	1,549	1,523	1,490	1,509

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION, EDUCATIONAL DEMOGRAPHICS UNIT, CALIFORNIA PUBLIC SCHOOL ENROLLMENT-SCHOOL REPORT (2008-2013)

**INDICATES ENROLLMENT AT CREEKSIDE MIDDLE SCHOOL PRIOR TO CONSOLIDATION INTO LAWRENCE E. JONES MIDDLE SCHOOL*

SONOMA STATE UNIVERSITY

Sonoma State University (SSU) is part of the California State University (CSU) System. The SSU campus is located approximately 1.5 miles east of downtown Cotati, in the City of Rohnert Park. SSU was founded in 1960, and has a student enrollment of approximately 8,000 students. SSU offers 45 bachelor's degree programs, 16 master's degree programs, and graduates approximately 2,200 students per year. While SSU generally accepts all qualified students who apply from high schools in its service area, 80 percent of the freshmen and 55 percent of the junior transfer students come from outside the North Bay region. With approximately 40 percent of its student body living on campus, it is one of the most residential campuses within the CSU system. SSU students live, shop, dine and play extensively within the City of Cotati.

PARKS AND RECREATION

City Parks

The City's Public Works and Engineering Department provides park maintenance services to the City's parks and special use areas. This includes administration and supervision of contract providers and park maintenance staff for landscaping, irrigation, general maintenance, custodial and litter abatement. The primary goal of the City's park maintenance is to provide the citizens of Cotati with parks, parkways, maintenance of common areas, parking lots and public grounds for their enjoyment and safety through proper horticulture, maintenance and cleaning of City parks and public grounds.

The Cotati Municipal Code sets a goal of one acre of recreational area per 200 residents, or five acres per 1,000 residents. The City currently provides 4.5 acres of park lands per 1,000 residents (32.7 acres for 7,265 residents).

Parks and other recreational facilities are primarily funded by the City's general fund. Additional funding has been obtained through grants, shared use arrangements (such as with the school district), and other funding mechanisms (DSP EIR, page 4.11-5). The City also uses Quimby fees, which allow a municipality to require the payment of funds to provide for park acreage elsewhere if not provided onsite.

A summary of existing City parks, including park features, locations, and acreages is provided below in Table 3.11-3.

Table 3.11-3 Existing Park Facilities			
Park	**Location**	**Acreage**	**Facilities**
Civic Center/ Cader Field	East School St. & West Sierra Ave.	3.3	Baseball field, basketball courts, picnic tables, BBQs, open space, restrooms. City Hall, Civic Center, and Police Station located at this address.
Delano	Valparaiso Ave. & Page St.	1.0	Bicycle/pedestrian paths.
Draper	Wilford Ave.	1.5	Picnic tables, BBQs, bicycle/pedestrian paths.
Falletti	Gravenstein Way & Village Court	1.4	BBQs, picnic tables, playground, bicycle/pedestrian paths, open space for close-proximity games (i.e., Frisbee).
Kotate	LaSalle & Lincoln Avenues	2.3	Playground, bicycle/pedestrian paths, open space for activities requiring more space (i.e., soccer).
La Plaza	The Hub	2.2	Bandstand, picnic tables, playground, restrooms, bicycle/pedestrian pathways
Helen Putnam	Myrtle Ave.	8.3	Baseball field, dog park, picnic tables, playground, restrooms, soccer field, bicycle/pedestrian paths, BBQs, open space for close proximity games and games requiring more space.
Sunflower	East Cotati Ave. & Sunflower Dr.	1.7	Tennis Courts, restrooms, open space for close-proximity games.
Veteran's	Park Ave. & Old Redwood Hwy.	2.0	BBQs, picnic tables, horseshoe pits, sand volleyball court, bicycle/pedestrian paths, temporary restrooms.
Thomas Page	Madrone Ave.	2	Open space adjacent to Thomas Page Elementary for activities requiring more space.
Mini Park	LaSalle Ave. & the Laguna de Santa Rosa	0.1	Low-water edible garden demo park with walking and bike paths.
Santero Way	Santero Way	0.4	Benches, playground equipment, and bike/pedestrian paths.
Community Garden	La Salle Ave. & E. Cotati Ave.	0.1	Community gardens and walking path.
Falletti Ranch	175 W. Sierra Ave.	4.0	Not yet developed, currently open space, barns and one dwelling unit.
Laguna de Santa Rosa trail	Adjacent Laguna de Santa Rosa	2.4	Pedestrian and bicycle pathway
Total		**32.7**	

SOURCE: CITY OF COTATI, DAMIEN O'BID, DIRECTOR OF PUBLIC WORKS. EMAIL COMMUNICATION, 6/2/2011

LIBRARIES AND OTHER COMMUNITY FACILITIES

Libraries

There are no public libraries located within the Cotati city limits. Sonoma County provides public library services throughout the County. The City of Cotati is served by the Cotati-Rohnert Park Regional Library, located at 6250 Lynne Conde Way, Rohnert Park. The library is open Tuesday and Wednesday from 10:00 a.m. to 8:00 p.m., and Monday, Thursday, Friday and Saturday from 10:00 a.m. to 6:00 p.m. The library offers programs for children and families, adults and teens, book sales, and book discussion forums. Sonoma County also operates library branches in Santa Rosa, Cloverdale, Forestville, Guerneville, Healdsburg, Occidental, Petaluma, Sonoma, Sebastopol, and Windsor.

Museums

The Cotati Historical Society Museum is located in the west side of Cotati City Hall, in the space once occupied by the Cotati Police Department. The museum opened in February 2010. The museum is run by volunteers from the Cotati Historical Society, and includes documents and artifacts depicting local history, persons, and events. The museum is open approximately one day per week, and by appointment.

3.11.2 REGULATORY SETTING

FEDERAL

There are no federal regulations applicable to the environmental topics of public services and recreation.

STATE AND LOCAL

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 fire fighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could

result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Chapter 2.24.080 of the Cotati Municipal Code states that the Cotati Disaster Council shall be responsible for the development of the city emergency plan, which plan shall provide for the effective mobilization of all of the resources of the city, both public and private, to meet any condition constituting a local emergency, state of emergency, or state of war emergency; and shall provide for the organization, powers and duties, services, and staff of the emergency organization. Such plan shall take effect upon adoption by resolution of the City Council. At the time of the writing of this report an emergency plan has not been adopted by the City.

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

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." 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.

Chapter 17.76.030 of the Cotati Municipal Code provides for the dedication of land and/or the payment of fees to the City for park and recreational purposes as a condition of the approval of a tentative map. This section is enacted as authorized by the Quimby Act. As a condition of tentative map approval, the subdivider shall dedicate land and/or pay a fee, at the option of the City Council, in compliance with this section for the purpose of developing new or rehabilitating existing park or recreation facilities to serve the subdivision. This section of the Municipal Code requires that one acre of property for every 200 persons residing within the City be devoted to neighborhood and community park and recreational purposes.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Chapter 4.9, Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project. *Section 65995-65998 (h)* The payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are hereby 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.

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 buildings and land. 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;
- 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 No. 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 655995.7. 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.

Libraries

The Sonoma County Library is an entity formed through a Joint Powers Agreement (JPA) between Sonoma County and the Cities of Cotati, Cloverdale, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Windsor, and Sonoma. The Sonoma County Library is governed by the Library Commission, which is composed of seven commissioners appointed by the Member agencies. Through the JPA, the Sonoma County Library provides county-wide free public library services.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services if it would result in:

- Substantial adverse physical impacts associated with the provisions 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
    - Other public facilities

- Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Adverse Physical Impacts on the Environment Associated with Governmental Facilities and the Provision of Public Services (Less than Significant)

Development accommodated under the 2013 General Plan would result in additional residents and businesses in the City, including new residential, industrial, office, and commercial uses. As described in Chapter 2.0, the 2013 General Plan is expected to accommodate approximately 1,541 new residential dwelling units, 910,013 square feet of new commercial space, 511,320 square feet of new industrial space, and 966,706 square feet of new office space within the City Limits.

This new growth would increase the City's population by approximately 3,775 residents. The full development of the new commercial, office, and industrial uses shown in Table 2-3 would increase the employment opportunities in Cotati by approximately 6,766 employees.

As shown in Table 2-4, buildout of the General Plan within the City Limits and the SOI could yield up to 2,140 new residential units, 1,233,160 square feet of new commercial space, 1,106,391 square feet of new industrial space, and 994,694 square feet of new office space within the City Limits and the Sphere of Influence.

This new growth would increase the City's population by approximately 5,243 residents. The full development of the new commercial, office, and industrial uses shown in Table 2-4 would increase the employment opportunities in Cotati by approximately 8,819 employees.

Development and growth in the City under the 2013 General Plan would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The 2013 General Plan includes policies and actions to ensure that public services are provided at acceptable levels and to ensure that development and growth does not outpace the provision of public services.

As the demand for services increases, there will likely be a need to increase staffing and equipment in order to maintain acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire departments, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the City.

Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public Facilities (PF) and Open Space/Parks (OSP) land use designations would accommodate the majority of new public facilities necessary to provide community services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide public services.

As future development and infrastructure projects, including new governmental facilities, are considered by the City, each project will be evaluated for conformance with the City's General Plan, Land Use Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2013 General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. The 2013 General Plan includes policies to ensure that fire protection and law enforcement services keep pace with new development and that school, library, and governmental services are adequately planned and provided. The 2013 General Plan also includes an action to maintain a Capital Improvement Program to defray the cost of developing public facilities.

As previously stated, increased levels of staffing and equipment will be needed to serve growth allowed under the 2013 General Plan. The environmental effect of providing the public services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the 2013 General Plan does not propose development nor does it designate specific sites for new or expanded public facilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the 2013 General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.13, and 4.0) of this Draft EIR.

This Draft EIR addresses the potential impacts of development that may occur under the 2013 General Plan, including residential, commercial, office, industrial, public facilities, and a range of other uses that are accommodated by the project. Where potentially significant or significant impacts are identified, this EIR identifies mitigation measures to reduce the impact and discloses which impacts cannot be reduced to a less than significant impact. There are no additional environmental impacts, apart from those disclosed in the relevant chapters of this EIR, that are anticipated to occur. Therefore, this impact is considered **less than significant** and no additional mitigation is necessary.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CSF 1.1: *Require all development projects to demonstrate, to the satisfaction of the City Engineer, that the City's public services and utilities can accommodate the increased demand for services associated with the project.*

Policy CSF 1.2: *Require new development to offset or mitigate impacts to public services and facilities to ensure that service levels for existing users are not degraded or impaired by new development, to the satisfaction of the City Engineer.*

Policy CSF 1.3: *Limit approvals of new development to areas where adequate infrastructure and services are available or will be provided by the development.*

Policy CSF 2.28: *Encourage the Rancho Adobe Fire Protection District to maintain adequate staff and equipment to provide fire protection services to existing and planned population growth in Cotati.*

Policy CSF 2.29: *Encourage the Rancho Adobe Fire Protection District to maintain an adequate response time for emergency vehicles.*

Policy CSF 2.30: *Design and maintain City streets in such a way so as to maintain acceptable emergency vehicle response times.*

Policy CSF 2.31: *Ensure that new development is designed, constructed, and equipped consistent with the requirements of the California Fire Code in order to minimize the risk of fire.*

Policy CSF 2.32: *Ensure that new development is served with adequate water volumes and water pressure for fire protection.*

Policy CSF 2.33: *Ensure that the Police Department has adequate staff and equipment to accommodate existing and planned population growth in Cotati.*

Policy CSF 2.34: *Promote and support community-based crime prevention programs as an important augmentation to the provision of professional police services.*

Policy CSF 2.35: *Emphasize the use of physical site planning as an effective means of preventing crime. Open spaces, landscaping, parking lots, parks, play areas and other public spaces shall be designed with maximum feasible visual and aural exposure to community residents.*

Policy CSF 2.36: *Continue to promote coordination between land use planning and police and fire protection services through consultation and coordination with the Cotati Police Department and the Rancho Adobe Fire Protection District during the review of new development proposals.*

Policy CSF 4.7: *Encourage private donations and support State funding for library operations that serve Cotati.*

Policy CSF 4.8: *Explore opportunities to expand library services to areas within the City of Cotati.*

Policy OS 2.1: *Provide a comprehensive and integrated park, recreation, and open space network and improve access to existing facilities shown on Figure 9.2, where feasible.*

Policy OS 2.2: *Develop new park and recreation facilities in areas which are accessible and convenient to the community, prioritizing areas lacking these facilities.*

Policy OS 2.3: *Pursue, where feasible, the shared use of school facilities.*

Policy OS 2.4: *Expand recreational opportunities at the City's existing facilities to accommodate a wider range of activities for all age groups.*

Policy OS 2.5: *Work aggressively to achieve and maintain a park standard of a minimum of one acre per 200 residents in order to meet the City's recreation needs.*

Policy OS 2.6: *Continue to allow parks as a permitted use in all residential and commercial zones and the Open Space-Recreation zone and with a use permit in the Open Space-Conservation zone.*

Policy LU 3.12: *Require development projects to provide adequate and appropriately located land, easements, or other accommodation for recreational uses, including neighborhood parks, existing and planned trails, and connections to existing or planned trails and other recreational resources as set forth in the Open Space and Circulation Elements.*

Policy LU 3.14: *Provide new opportunities for community gathering and social interaction through park facilities, community centers, cultural/art facilities.*

Policy LU 3.15: *Site new park and recreation facilities where they will be accessible by the City's pedestrian and bicycle network and in close proximity to medium and high density residential uses, where appropriate.*

Policy LU 4.1: *Ensure that public facilities, services, and amenities are distributed in a manner that enhances the quality of life for the broadest number of Cotati's residents.*

Actions

Action CSF 1a: Periodically review and update the various Master Plans for the provision and/or extension of public services. These plans can include the Water Master Plan, the Sanitary Sewer Master Plan, and the City's Capital Improvement Plan. Cost estimates for improvements identified within each respective plan will be used as a basis for establishing and periodically updating development fees. As part of the next update for each of these plans, the update shall include a more streamlined process to facilitate smaller development projects. This process may involve an equivalent dwelling unit (EDU)-type fee and accompanying study to determine EDU allocations. (Public Works Department, Planning Department, City Engineer)

Action CSF 1b: As part of the development review process, evaluate the degree of impact a development will have on the City's infrastructure. The City Council shall ensure that appropriate impact fees and assessments are levied accordingly.

Action CSF 2o: Continue to enforce the California Building Code and the California Fire Code to ensure that all construction implements fire-safe techniques, including fire resistant materials, where required.

Action CSF 2p: As part of the development review process for new projects, the City will continue to refer applications to the Rancho Adobe Fire Protection District for determination of the project's potential impacts on fire protection services. Requirements will be added as Conditions of Approval to project's approving resolutions.

Action CSF 2q: As part of the development review process, consult with the Police Department in order to ensure that the project design facilitates adequate police response time and public safety and that the project addresses its impacts on police services.

Action CSF 2r: Perform a periodic assessment to ascertain means of assuring that the Police staff and equipment are adequate to meet the needs of the community.

Action CSF 2s: Develop information on Neighborhood Watch Programs and actively promote such programs.

Action CSF 4d: Identify partnership opportunities between municipalities, other agencies and library support organizations to expand library facilities, resources and services.

Action CSF 4e: Pursue joint-use agreements with schools, social service agencies, cultural institutions, and other community organizations to extend library and other public services to populations that may otherwise not be served.

Action OS-2a: Update the Municipal Code to establish minimum parks and open space standards for new development. At a minimum, the standards shall seek to maintain one acre of park land per 200 residents. Additional measures may include requirements to establish assessment or tax districts to fund park maintenance, open space requirements, and provisions for in-lieu fees in instances where it is not feasible or appropriate for new development to provide park land on-site.

Action OS-2b: Use the Capital Improvement Program to maintain parks and recreation facilities and as the basis for determining supplemental funds collected for parks and open space development. The City's population and acreage of parks/recreation facilities shall be tabulated periodically to ensure that parkland is developed consistent with the ratio of one acre of park land per 200 residents.

Action OS-2c: Continue to work with the Cotati-Rohnert Park Unified School District to maintain a joint use agreement to allow Cotati residents and organizations to utilize school facilities for a range of recreation- and education-oriented activities.

Impact 3.11-2: 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 2013 General Plan would include a range of uses that would increase the population of the City and also attract additional workers and tourists to the City. This growth would likely also result in increased demand for parks and recreation facilities. It is anticipated that over the life of the 2013 General Plan, use of regional parks and recreation facilities may increase, due to new residents as well as tourists visiting the City. Use of neighborhood parks may also increase, but the level of increase would be less since new residential subdivisions and residential projects would be required to provide adequate parks and open space and/or in-lieu fees to ensure that adequate parks and recreation facilities are provided to serve the development. 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.

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. These new facilities would be provided at a pace and in locations appropriate to serve new development.

Development under the 2013 General Plan would indirectly lead to the construction of new parks and recreation facilities to serve new growth and to meet existing parks and recreation needs. The 2013 General Plan supports the creation of new parks and recreation facilities, including new trails recreation facilities to accommodate a wide range of activities for all age groups. These new parks and recreation facilities would be spread throughout areas proximate to new development in and around existing neighborhoods. Neighborhood and community parks can be accommodated in the Open Space and Parks land use designation, as well as all residential and commercial land use designations.

At a ratio of five acres of parkland per 1,000 residents, development during the planning horizon of the 2013 General Plan would result in the need for approximately 17.5 acres of new parks and recreation facilities to serve projected buildout growth within the City limits, and 26 acres of new parks and recreation facilities to served projected buildout growth within the Planning Area. However, more facilities may be provided to serve existing and visitor-based needs, in addition to the needs of new development.

As future parks and recreation projects are considered by the City, each project will be evaluated for conformance with the 2013 General Plan, Land Use Code, and other applicable regulations. Parks and recreation projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

In addition to ensuring that new and expanded parks and recreation facilities are provided to accommodate new growth, the 2013 General Plan includes policies and actions to ensure that parks and recreation facilities are adequately maintained and improved to serve both existing and planned growth. Improvements at existing parks and recreation facilities may include regular maintenance and a range of improvements, such as new signage, new and/or expanded trails systems, new and/or expanded restrooms, picnic facilities, sports fields, and play structures, to ensure that new facilities are provided to serve new growth. These improvements to existing facilities would likely have environmental impacts similar to those associated with new development under the 2013 General Plan. This Draft EIR addresses the potential impacts of new development and identifies mitigation measures where appropriate.

The 2013 General Plan establishes the policies and actions that would ensure that existing parks and recreation districts 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. The applicable General Plan policies and actions are listed below.

This Draft EIR addresses the potential impacts of development that may occur under the 2013 General Plan, including residential, commercial, public facilities, recreation facilities, and a range of other uses that are accommodated by the 2013 General Plan. Where potentially significant or significant impacts are identified, this Draft EIR identifies mitigation measures to reduce the impact and discloses which impacts cannot be reduced to a less than significant impact. 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 associated with existing or new parks and recreation facilities. Therefore, this impact is considered **less than significant** and no mitigation is necessary.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy OS 2.1: *Provide a comprehensive and integrated park, recreation, and open space network and improve access to existing facilities shown on Figure 9.2, where feasible.*

Policy OS 2.2: *Develop new park and recreation facilities in areas which are accessible and convenient to the community, prioritizing areas lacking these facilities.*

Policy OS 2.3: *Pursue, where feasible, the shared use of school facilities.*

Policy OS 2.4: *Expand recreational opportunities at the City's existing facilities to accommodate a wider range of activities for all age groups.*

Policy OS 2.5: *Work aggressively to achieve and maintain a park standard of a minimum of one acre per 200 residents in order to meet the City's recreation needs.*

Policy OS 2.6: *Continue to allow parks as a permitted use in all residential and commercial zones and the Open Space-Recreation zone and with a use permit in the Open Space-Conservation zone.*

Actions

Action OS-2a: Update the Municipal Code to establish minimum parks and open space standards for new development. At a minimum, the standards shall seek to maintain one acre of park land per 200 residents. Additional measures may include requirements to establish assessment or tax districts to fund park maintenance, open space requirements, and provisions for in-lieu fees in instances where it is not feasible or appropriate for new development to provide park land on-site.

Action OS-2b: Use the Capital Improvement Program to maintain parks and recreation facilities and as the basis for determining supplemental funds collected for parks and open space development. The City's population and acreage of parks/recreation facilities shall be tabulated periodically to ensure that parkland is developed consistent with the ratio of one acre of park land per 200 residents.

Action OS-2c: Continue to work with the Cotati-Rohnert Park Unified School District to maintain a joint use agreement to allow Cotati residents and organizations to utilize school facilities for a range of recreation- and education-oriented activities.

This chapter describes the potential impacts to the transportation system associated with implementation of the proposed Cotati General Plan. The impact analysis examines the roadway, transit, bicycle, and pedestrian components of the City's transportation system. To provide a context for the impact analysis, this chapter begins with a description of the environmental setting. The setting is a description of the existing physical and operational conditions for the transportation system. Following the setting is the regulatory framework influencing the transportation system and providing the basis for impact significance thresholds used in the impact analysis. Next, a summary of proposed General Plan policies that affect the transportation system are described. The chapter concludes with the impact analysis findings and recommended mitigation measures. This section was prepared by Whitlock & Weinberger Transportation, Inc. (W-Trans).

3.12.1 TRANSPORTATION SETTING

The existing physical and operational conditions for Cotati's transportation system are based on review of local and regional transportation plans, as well as 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

This section describes the physical characteristics of Cotati's roadway network, which includes facilities ranging from rural agricultural and residential lanes to a major six-lane freeway. Streets in the rural southern and western periphery of the City, as well as some streets in the City's historic core, retain a rural character with drainage accommodated by swales on each side of the road and a lack of sidewalks. Most of the remaining streets in the City conform to typical urban street standards. Primary regional access to Cotati is provided by US 101, a six-lane freeway connecting to Santa Rosa, San Francisco, and points beyond to the north and south. Gravenstein Highway (SR 116) is a two-lane highway that begins at US 101 in central Cotati, extending westward to Sebastopol and communities along the Russian River.

Regional highways passing through Cotati including US 101 and Gravenstein Highway handle intercity and intercounty regional travel. Regional arterials such as Old Redwood Highway, East Cotati Avenue, and Commerce Boulevard primarily serve travel in Cotati and one or more neighboring jurisdictions including Rohnert Park, Petaluma, and unincorporated Sonoma County.

State Highways

US 101 is the primary route connecting the City of Cotati to the San Francisco Bay Area to the south and Santa Rosa to the north. Within Cotati, US 101 is a six-lane freeway with a full interchange at Gravenstein Highway, and a partial interchange with ramps to and from the south only at West Sierra Avenue. Existing daily traffic on the freeway averages 90,000 vehicles per day.

Gravenstein Highway (SR 116) is a state route connecting US 101 in Cotati to SR 1 on the Sonoma Coast in Jenner. The corridor also provides primary access to the Sonoma County communities of Sebastopol, Forestville, Guerneville, and other towns along the Russian River. Within Cotati, Gravenstein Highway is currently a four-lane facility for one-quarter mile between US 101 and Redwood Drive, transitioning to a two-lane highway to the west. Existing daily traffic on the highway near the City limits averages 17,100 vehicles per day.

Regional Arterials

Following is a description of these corridors' characteristics at and beyond their interface with the City of Cotati (detailed descriptions of the corridors within Cotati are provided after this section).

Old Redwood Highway is designated as a Rural Principal Arterial by the County of Sonoma in the *Sonoma County General Plan 2020*. The corridor connects the northern portion of the City of Petaluma to US 101 in Cotati via the community of Penngrove. Outside of Cotati, the facility operates as a two-lane rural highway, passing primarily through rural residential and agricultural uses. At its southern interface with the Cotati City limits, the road carries approximately 18,700 vehicles per day.

East Cotati Avenue is designated as a major arterial by the City of Rohnert Park, and beyond Rohnert Park as a Rural Minor Arterial by the County of Sonoma. The 2.35-mile long corridor connects Old Redwood Highway at the Cotati "Hub" to Petaluma Hill Road, serving residential neighborhoods in Cotati and Rohnert Park, as well as the southern entrance to Sonoma State University.

Commerce Boulevard is designated as a Minor Arterial by the City of Rohnert Park. The majority of the 2.5-mile long corridor passes through the City of Rohnert Park, paralleling the east side of US 101, with only the southernmost 0.25-mile portion passing through Cotati as it connects to Old Redwood Highway. The corridor serves retail and residential uses in both Cotati and Rohnert Park.

Major Cotati Roadways

The following street segments represent the primary auto circulation routes within the City of Cotati. These six have also been chosen for analysis of auto operation.

COMMERCE BOULEVARD

Within the study corridor, Commerce Boulevard has one through lane in each direction and a two-way left-turn lane. Strip commercial land uses prevail along the east side of the street, and US 101 parallels the west side. The posted speed limit is 25 miles per hour. Full curb, gutter, and sidewalk exists only on the eastern side of the street, except for the northernmost portion of the segment where sidewalks exist on both sides of the street. Paved shoulders of three to five feet in width exist on the west side. The Laguna bicycle path crosses the segment at a mid-block location just south of the City limits. Commerce Boulevard is designated as a minor arterial and carries an approximate Average Daily Traffic (ADT) of 16,000 vehicles on the segment between Old Redwood Highway and Wilford Lane.

GRAVENSTEIN HIGHWAY

Within the City of Cotati, Gravenstein Highway serves both regional and local traffic, and includes two through lanes in each direction plus left-turn lanes at intersections between Redwood Drive and Old Redwood Highway. To the west of Redwood Drive, the segment narrows and becomes a two-lane highway. The posted speed limit is 35 mph to the east of West Cotati Avenue and 45 mph to the west. On-street bicycle lanes and sidewalks exist on both sides of the street between Old Redwood Highway and Redwood Drive. Gravenstein Highway carries an approximate ADT of 17,100 vehicles between Redwood Drive and West Cotati Avenue.

OLD REDWOOD HIGHWAY-NORTH OF DOWNTOWN

This segment extends from Commerce Boulevard on the north to West Sierra Avenue-East Cotati Avenue within the downtown "Hub" on the south. Old Redwood Highway is a five-lane minor arterial street with two lanes in each direction plus a two-way left-turn lane. The posted speed limit is 25 mph between East Cotati Avenue and William Street-George Street, and 30 mph between William Street-George Street and Commerce Boulevard. Continuous sidewalks exist on the east side of the street but they are discontinuous on the west. Striped bicycle lanes are present in both directions along the corridor. Between Gravenstein Highway and William Street-George Street, the segment carries an approximate ADT of 24,000 vehicles.

OLD REDWOOD HIGHWAY-SOUTH OF DOWNTOWN

The southern Old Redwood Highway segment extends from East Cotati Avenue-West Sierra Avenue to the southern City limits near Eucalyptus Avenue. The corridor passes through the core downtown commercial district between La Plaza and Henry Street-Charles Street, and includes diagonal parking, bulbouts, and other streetscape amenities in this area. The street is a two-lane roadway with left turn lanes at signalized intersections. To the north of McGinnis Circle, the posted speed limit is 25 mph, while to the south the posted speed limit increases to 35 mph. Bicycle lanes are provided on both sides of the street except for a two-block segment in the low-speed downtown core between East Cotati Avenue and Cotati Creek. Continuous sidewalks exist on both sides of the street in the downtown area between East Cotati Avenue and Henry Street-Charles Street, and are then provided only along the east side of the street southward to McGinnis Circle and on the west side to Cotati Creek. Sidewalks do not exist along Old Redwood Highway between McGinnis Circle and Valparaiso Avenue, though they do exist intermittently further south between Valparaiso Avenue and Eucalyptus Avenue. The minor arterial corridor carries an approximate ADT of 18,700 vehicles between Page Street and McGinnis Circle, and an approximate ADT of 12,100 further to the south near the City limits at Eucalyptus Avenue.

WEST SIERRA AVENUE

West Sierra Avenue is a two-lane street with a posted speed limit of 25 mph. Continuous sidewalks exist along the north side of the street from Old Redwood Highway to US 101. Along the south side, sidewalks exist between Old Redwood Highway and Valparaiso Avenue, and then become intermittent to the west toward US 101. Class II bicycle lanes are provided along the

entirety of the corridor within Cotati. West Sierra Avenue carries an approximate ADT of 7,500 vehicles.

EAST COTATI AVENUE

Between Old Redwood Highway and La Salle Avenue the corridor has three lanes, with one lane in each direction plus a center two-way left-turn lane. From La Salle Avenue and continuing east, East Cotati Avenue widens to five lanes, including two through lanes and a center two-way left-turn lane. The posted speed limit is 30 mph. Continuous sidewalks are provided along both sides of the street. Class II bike lanes are provided along the corridor. East Cotati Avenue carries an approximate ADT of 17,200 vehicles just to the east of La Salle Avenue.

Study Intersections

The following 20 study intersections were identified as those most critical to Cotati's local circulation system and its connectivity to the regional transportation network.

1. Gravenstein Highway (SR 116)/Alder Avenue
2. Gravenstein Highway (SR 116)/West Cotati Avenue
3. Gravenstein Highway (SR 116)/Redwood Drive
4. Gravenstein Highway (SR 116)/US 101 South Ramps
5. Gravenstein Highway (SR 116)/US 101 North Off-ramp
6. Old Redwood Highway/Commerce Boulevard/US 101 North On-ramp
7. Old Redwood Highway/Gravenstein Highway
8. Old Redwood Highway/William Street-George Street
9. Old Redwood Highway/West Sierra Avenue-East Cotati Avenue
10. Old Redwood Highway/Henry Street-Charles Street
11. Old Redwood Highway/Valparaiso Avenue-Myrtle Avenue
12. West Sierra Avenue/US 101 South Onramp-West School Street
13. West Sierra Avenue/US 101 North Off-ramp
14. West Sierra Avenue/East School Street
15. East Cotati Avenue/Charles Street
16. East Cotati Avenue/La Salle Avenue
17. East Cotati Avenue/Adrian Drive
18. East Cotati Avenue/Lancaster Drive
19. East Cotati Avenue/Santero Way
20. Gravenstein Highway (SR 116)/Madrone Avenue

The City's roadway network and study intersections, including intersection lane configurations, are shown in Figures 3.12-1A and 3.12-1B. Traffic volumes at study intersections 1 through 19 were obtained in March and April 2011. Traffic volumes at Gravenstein Highway/Madrone Avenue were

obtained in May 2010 during the p.m. peak hour and October 2013 during the a.m. peak hour[1]. All traffic counts were obtained while all area schools including Sonoma State University were in session. The existing traffic volumes are shown in Figures 3.12-2A and 3.12-2B.

Existing Pedestrian and Bicycle Facilities

The section describes the existing bicycle and pedestrian network in Cotati. Existing and planned bicycle facilities in Cotati are shown in the Cotati Bicycle and Pedestrian Master Plan, an excerpt of which is shown in Figure 3.12-3. Bicycle and pedestrian volumes were collected during the weekday PM peak hour in March and April, 2011, and are shown in Figures 3.12-4A and 3.12-4B. The estimated annual daily average[2] for each location is also shown.

PEDESTRIAN FACILITIES

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal infrastructure, curb ramps, and streetscape amenities. The Cotati Bicycle and Pedestrian Master Plan identifies two Pedestrian Districts in Cotati (areas of high activity where pedestrian improvements should be prioritized) including downtown/Old Redwood Highway between SR 116 and Henry Street, and the area immediately surrounding Thomas Page Elementary School. Nearly complete sidewalk coverage, accessible curb ramps, and marked crosswalks are provided along arterial streets in Cotati. High-visibility crosswalk markings, pedestrian refuge islands, and in-roadway pedestrian warning signs, among other treatments, are provided at several uncontrolled mid-block crosswalk locations along East Cotati Avenue, West Sierra Avenue, and Old Redwood Highway.

Sidewalks in Cotati generally range from four to ten feet in width. Wide sidewalks and a variety of pedestrian amenities are provided throughout the downtown including accessible pedestrian ramps, pedestrian phasing at traffic signals, decorative paving and crosswalk treatments, curb extensions, pedestrian scale lights, transit shelters, benches, street trees, sidewalk dining, and public art, among others. Sidewalks are also provided in most of Cotati's single family residential neighborhoods on the east side of US 101, in multi-family residential developments, and in commercial developments in the City's northwest quadrant.

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[1] The intersection at Gravenstein Highway/Madrone Avenue was added during development of the General Plan and counted more recently than other intersections. Review of Caltrans count data (http://traffic-counts.dot.ca.gov/) for Gravenstein Highway near Stony Point Road indicates that average peak hour volumes have remained steady, with a difference of less than 2 percent between 2010 and 2013.

[2] Daily averages were derived using factors obtained from the National Bicycle & Pedestrian Documentation Project (NBPD) count adjustment factors published in 2009 (see http://bikepeddocumentation.org).

While the pedestrian network is generally well-developed in Cotati, there are some locations where gaps in the sidewalk network can be found. Short gaps exist along undeveloped properties and various frontages on Old Redwood Highway, Redwood Drive, West Sierra Avenue, and Myrtle Avenue among other locations, and sidewalks are not provided along SR 116 west of Redwood Drive. Further, traditional curb, gutter, and sidewalks are generally not provided along residential streets in west Cotati.

BICYCLE FACILITIES

Bicycle circulation in Cotati is supported by an existing network of multi-use paths, on-street bike lanes, and bicycle routes. Notable facilities include a segment of the Laguna de Santa Rosa bike path between Commerce Boulevard (in Rohnert Park) and the southern City limits (with one small gap just south of East Cotati Avenue), and on-street bicycle lanes within the City limits on West Sierra Avenue and East Cotati Avenue. The City's Bicycle and Pedestrian Master Plan, shown in Figure 3.12-3, expands upon the existing network to create a robust bicycle circulation system in Cotati. The Plan includes important bicycle connections such as completion of the Laguna de Santa Rosa path within the entire City, completion of the SMART multi-use path, a completed bicycle circulation system on Old Redwood Highway including on-street bike lanes for portions of the corridor outside the historic downtown, the Valparaiso Avenue-Myrtle Avenue corridor, and the segment of West School Street between the US 101 pedestrian/bicycle tunnel and Thomas Page Elementary School.

Existing Transit Service

Bus service in Cotati is provided by Sonoma County Transit (SCT), Golden Gate Transit (GGT) and Paratransit, as summarized below.

SONOMA COUNTY TRANSIT

Sonoma County Transit is the primary transit provider in Cotati; it provides regularly-scheduled fixed-route service to major activity centers and transit hubs within the City limits. Four Sonoma County Transit routes serve the City of Cotati. Route 48/48X travels daily between Santa Rosa and Petaluma, and serves Rohnert Park and Cotati (on Old Redwood Highway). Route 48X is an express route deviation of Route 48 that bypasses the Rohnert Park and Cotati neighborhoods along Adrian Drive. On weekdays, local Route 26 travels between Sebastopol and Sonoma State University, serving the Cotati Park & Ride lot on the west side of US 101 along the way. Route 10 offers local service between Old Redwood Highway in Cotati and Rohnert Park's shopping areas, Sonoma State University and, on school days, to Rohnert Park primary and secondary schools. Route 44 provides daily service between Petaluma, Cotati, Rohnert Park, and Santa Rosa. All routes operate on approximately 45- to 90-minute headways. Sonoma County Transit staff indicated that all service routes in Cotati operate well within maximum capacity levels.

GOLDEN GATE TRANSIT

Golden Gate Transit Routes 74, 80, and 101 serve Cotati with stops located at either the Hub or the St. Josephs Park and Ride. Commute service to and from San Francisco is provided weekdays

in the morning and evening hours at approximately one hour intervals between 4:00 and 9:00 AM and 6:00 and 10:00 PM, with stops in various communities along the US 101 corridor including Santa Rosa to the north and various cities in Marin County to the south. Weekend service is provided hourly between approximately 4:00 AM and 10:00 PM. No capacity issues were identified on existing service routes.

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 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 Cotati. Service hours are Monday through Friday from 5:00 AM to 11:00 PM and Sunday and Sunday from 7:00 AM to 9:00 PM. Ride reservations can be scheduled daily.

A map showing bus routes in and surrounding the City is shown in Figure 3.12-5.

Park and Ride Lots

Cotati has three park and ride lots. A Caltrans lot is located on the east side of US 101 on St. Josephs Way just south of the US 101/Gravenstein Highway interchange. The facility is served by Golden Gate Transit (with a stop on Old Redwood Highway), provides bike racks and a bus shelter, and includes 166 vehicle parking spaces. The City of Cotati has long range plans to remove this facility from the immediate downtown area and/or downsize the lot to fit demand. A second lot is provided on the west side of US 101 on Redwood Drive south of Gravenstein Highway. The facility provides 83 parking spaces and is served by Sonoma County Transit. The City, in conjunction with Sonoma County Transit, has constructed a third 78-space lot at the Cotati SMART Station.

Existing Rail Service

The Sonoma-Marin Area Rail Transit (SMART) commuter rail system is planned to run from Cloverdale, at the north end of Sonoma County, to Larkspur, where the Golden Gate Ferry connects Marin County with San Francisco. The first phase of rail is anticipated to open in 2016 and will extend from Santa Rosa to San Rafael, including a station in Cotati. Commuter-oriented passenger train service will be provided by an estimated 14 round-trip trains per day operating at 30-minute intervals in the morning and evening peak commute hours during the week. At buildout, SMART will also provide a critical north-south transportation route for bicyclists and pedestrians, with a combination of multi-use pathways and on-street facilities located along or adjacent to the right-of-way between Cloverdale and Larkspur.

The Cotati SMART rail station is planned for the southwest corner of the intersection of East Cotati Avenue and the railroad tracks to the east of downtown. The station is planned as an intermodal transit facility with a depot building and park-n-ride lot with approximately 136 vehicle parking

spaces, 25 short-term bicycle parking spaces, 16 bicycle lockers, and two bus bays for transit transfers.

Rail freight operation on the SMART rail corridor is overseen by the North Coast Railroad Authority (NCRA). Freight service currently operates between Lombard (located in Napa County where the NCRA interfaces with the national rail system) and Petaluma. Several round trip freight trains per week are expected to pass through Cotati over the next several years as freight service expands. Once the rail service is extended northward to Willits, up to two round trips per day (four daily trains) could pass through Cotati six days per week. Because the rail corridor passes through only a one-half mile portion of Cotati, all of which is built out or planned for non-industrial uses, no freight-related rail activities are expected in the City.

According to the Federal Railroad Administration Office of Safety Analysis website, no train collisions were reported in Cotati or Sonoma County for the 10-year period between 2003 and 2013.

Existing Truck Routes

A concentration of light industrial and manufacturing uses, including several freight terminals, exists on Redwood Drive, located just west of US 101 between Gravenstein Highway and the Rohnert Park city limits. Several additional industrial and freight-generating uses exist on Gravenstein Highway near the western City limits. Truck traffic originating in and destined for these areas occurs on Redwood Drive and Gravenstein Highway, with the majority of trucks traveling to and from the US 101 freeway interchange. Industrial, manufacturing, warehousing, and freight-dependent uses in Cotati are generally limited to the areas west of US 101.

Section §10.40.110 of the Cotati Municipal Code designates truck routes on Old Redwood Highway, Gravenstein Highway, and East Cotati Avenue. The Municipal Code allows truck drivers to use other City streets as well, as long as those streets comprise the most direct route between the nearest truck route and the freight origin or destination.

METHODS OF ANALYSIS

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents over-capacity, stop-and-go conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

Intersections

The study intersections were analyzed using methodologies published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2000. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

TWO-WAY STOP-CONTROLLED

The Levels of Service for the intersections with side-street stop controls, or those which are unsignalized and have one or two approaches stop controlled, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

ALL-WAY STOP-CONTROLLED

The study intersections with stop signs on all approaches were analyzed using the "All-Way Stop-Controlled" Intersection" methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to a Level of Service.

SIGNALIZED

The study intersections that are currently controlled by a traffic signal were evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology.

The ranges of delay associated with the various levels of service are indicated in Table 3.12-1.

TABLE 3.12-1: INTERSECTION LOS CRITERIA

LOS	*TWO-WAY STROP-CONTROLLED*	*ALL-WAY STOP-CONTROLLED*	*SIGNALIZED*
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.	Delay of 0 to 10 seconds. Many vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Gaps in traffic are less frequent, and drivers may approach while another vehicle is already queued.	Delay of 15 to 25 seconds. Drivers will wait for vehicles to clear from one or more approaches prior to entering the intersection.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.

TABLE 3.12-1: INTERSECTION LOS CRITERIA			
LOS	TWO-WAY STROP-CONTROLLED	ALL-WAY STOP-CONTROLLED	SIGNALIZED
E	Delay of 35 to 50 seconds. Few gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one intersection approach.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods for gaps in traffic, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.
Source: Highway Capacity Manual (Transportation Research Board, 2000)			

Roadway Segments

The roadway segment Level of Service methodology found in Chapter 17, "Urban Street Segments," of the HCM is the basis of the automobile LOS analysis. This method does not address the capacity of a facility, but rather determines operation based on the average travel speed on the corridor, taking into account the time that traffic is moving in addition to the time that it is stopped at intersections. In essence, congestion occurs as traffic volumes increase, and the overall travel speed is reduced due to increased delay. Therefore, the slower the speed, the lower the Level of Service.

As described in the HCM, there are various arterial classifications with different free flow travel speeds and, hence, different Level of Service speeds. The study roadway segments in Cotati analyzed are all considered to be Class IV urban streets, which typically have free-flow speeds ranging from 25 to 35 mph, frequent signalized intersections, a moderate to high density of access points, and moderate levels of pedestrian activity. The relationship between Class IV urban street speeds and Level of Service speed is presented in Table 3.12-2.

TABLE 3.12-2: ROADWAY SEGMENT LEVEL OF SERVICE CRITERIA	
LEVEL OF SERVICE	CLASS IV STREET AVERAGE TRAVEL SPEED
LOS A	>25 mph
LOS B	>19 mph
LOS C	>13 mph
LOS D	>9 mph
LOS E	>7 mph
LOS F	≤7 mph
Source: Highway Capacity Manual, Transportation Research Board, 2000	

Study roadway segment speeds were determined using the Synchro and Simtraffic software applications applying the projected traffic volumes, signal operations, and roadway configurations associated with each analysis scenario. Traffic volumes are randomly “seeded” within the roadway

system by Simtraffic to reflect real-world variability in traffic flows, and the average of 10 simulation runs used to report projected speeds.

Freeway

The freeway analysis methodology contained in Chapter 10 of the HCM, "Freeway Facilities," was used to determine levels of service on US 101. The method analyzes extended lengths of freeway composed of continuously connected basic freeway, weaving, merge, and diverge segments, which are collectively referred to as a freeway facility. For each individual segment, the analysis methodologies from the relevant chapters of the HCM, including Chapter 11 "Basic Freeway Segments," Chapter 12 "Freeway Weaving Segments," and Chapter 13 "Freeway Merge and Diverge Segments," were used. The method uses variables such as traffic volumes, geometric configuration of the freeway (i.e., number of lanes, presence of auxiliary lanes, distance between merges and diverges, widths of lanes and shoulders), topography, the percentage of heavy vehicles, and free-flow speeds. These data are used to determine the density of the segment, which is the criterion used for determining freeway LOS. Density is indicative of the travel speed service flow rates and travel demand on a freeway facility, and is measured in the number of passenger cars per mile per lane. The ranges of vehicle density associated with the various Levels of Service are presented in Table 3.12-3.

TABLE 3.12-3: FREEWAY FACILITY LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE	BASIC FREEWAY SEGMENT DENSITY (PC/MI/LN)	WEAVING, MERGE, AND DIVERGE SEGMENT DENSITY (PC/MI/LN)
A	≤ 11	≤ 10
B	> 11 – 18	> 10 – 20
C	> 18 – 26	> 20 – 28
D	> 26 – 35	> 28 – 35
E	> 35 – 45	> 35
F	> 45 or any component with v/c ratio > 1.00	Demand exceeds capacity

Source: *Highway Capacity Manual*, Transportation Research Board, 2010
pc/mi/ln = passenger cars per mile per lane

EXISTING LEVELS OF SERVICE

Intersections

Currently, 18 of the 20 study intersections are operating at LOS D or better. The all-way stop-controlled intersections at Old Redwood Highway/William Street-George Street and East Cotati Avenue/La Salle Avenue are operating at LOS E during the PM peak hour. A summary of the intersection level of service calculations is contained in Table 3.12-4.

TABLE 3.12-4: SUMMARY OF EXISTING PEAK HOUR INTERSECTION LEVELS OF SERVICE

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
APPROACH	DELAY	LOS	DELAY	LOS
1. Gravenstein Hwy (SR 116)/Alder Ave	0.7	A	0.4	A
Southbound Approach	*14.6*	*B*	*22.9*	*C*
2. Gravenstein Hwy (SR 116)/West Cotati Ave	1.0	A	1.3	A
Northbound Approach	*12.9*	*B*	*20.9*	*C*
3. Gravenstein Hwy (SR 116)/Redwood Dr	13.8	B	26.2	C
4. Gravenstein Hwy (SR 116)/US 101 South Ramps	11.9	B	15.5	B
5. Gravenstein Hwy (SR 116)/US 101 North Ramps	5.5	A	9.5	A
6. Old Redwood Hwy/Commerce Blvd/US 101 North On	8.6	A	6.3	A
7. Old Redwood Hwy/Gravenstein Hwy	20.4	C	34.5	C
8. Old Redwood Hwy/William St-George St	18.4	C	**44.4**	**E**
9. Old Redwood Hwy/West Sierra Ave-East Cotati Ave	23.4	C	29.4	C
10. Old Redwood Hwy/Henry St-Charles St	11.0	B	18.7	C
11. Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	12.1	B	12.1	B
12. West Sierra Ave/US 101 South Onramp-West School St	5.6	A	2.8	A
Southbound Approach	*28.9*	*D*	*14.2*	*B*
13. West Sierra Ave/US 101 North Offramp	1.6	A	4.2	A
Northbound Approach	*11.1*	*B*	*10.7*	*B*
14. West Sierra Ave/East School St	10.3	B	10.3	B
15. East Cotati Ave/Charles St	1.6	A	4.9	A
Northbound Approach	*12.6*	*B*	*33.7*	*D*
16. East Cotati Ave/La Salle Ave	19.2	C	**36.7**	**E**
17. East Cotati Ave/Adrian Dr	11.2	B	11.5	B
18. East Cotati Ave/Lancaster Dr	10.8	B	12.1	B
19. East Cotati Ave/Santero Way	0.5	A	0.5	A
Northbound Approach	*13.8*	*B*	*14.5*	*B*
20. Gravenstein Hwy (SR 116)/Madrone Avenue	3.3	A	1.4	A
Northbound Approach	*14.7*	*B*	*16.6*	*C*
Southbound Approach	*21.6*	*C*	*29.3*	*D*

*NOTES: DELAY IS MEASURED IN AVERAGE SECONDS PER VEHICLE; LOS = LEVEL OF SERVICE; RESULTS FOR MINOR APPROACHES TO TWO-WAY STOP-CONTROLLED INTERSECTIONS ARE INDICATED IN ITALICS; **BOLD** = OPERATION BELOW CITY STANDARDS*

Roadway Segments

All six of the study roadway segments are operating at LOS C or better. A summary of the roadway segment automobile level of service calculations is shown in Table 3.12-5.

TABLE 3.12-5: SUMMARY OF ROADWAY SEGMENT PM PEAK HOUR LEVELS OF SERVICE

CORRIDOR	NORTHBOUND/EASTBOUND		SOUTHBOUND/WESTBOUND	
	AVERAGE SPEED	LOS	AVERAGE SPEED	LOS
Gravenstein Highway *Madrone Ave to Old Redwood Hwy*	25 mph	B	28 mph	A
Old Redwood Highway *Commerce Blvd to East Cotati Ave*	15 mph	C	22 mph	B
Commerce Boulevard *North City limits to Old Redwood Hwy*	24 mph	B	20 mph	B
Old Redwood Highway *East Cotati Ave to Myrtle Ave*	16 mph	C	20 mph	B
West Sierra Avenue *US 101 to Old Redwood Hwy*	22 mph	B	26 mph	A
East Cotati Avenue *Old Redwood Hwy to East City limits*	22 mph	B	19 mph	C

NOTES: LOS = LEVEL OF SERVICE; MPH = MILES PER HOUR

Freeway Facility

Existing freeway facilities including mainline, merge-diverge, and weaving segments were evaluated for the weekday PM peak hour between the Railroad Avenue and Rohnert Park Expressway (RPX) freeway interchanges. Currently, all of the freeway facilities are operating at LOS D or better in the northbound direction and LOS C or better in the southbound direction. A summary of freeway facility levels of service is shown in Table 3.12-6.

TABLE 3.12-6: EXISTING PM PEAK FREEWAY LEVEL OF SERVICE				
US 101 FREEWAY SEGMENT	SEGMENT TYPE	V/C RATIO	DENSITY	LOS
Northbound				
W Railroad Ave to W Sierra Ave off-ramp	Basic Segment	0.77	28.6	D
W Sierra Ave off-ramp	Off-ramp	0.77	31.4	D
W Sierra Ave off-ramp to SR 116 off-ramp	Basic Segment	0.68	24.0	C
SR 116 off-ramp	Off-ramp	0.68	27.8	C
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	0.57	19.6	C
SR 116 on-ramp to RPX off-ramp	Weaving	0.51	19.0	C
RPX off-ramp to RPX EB on-ramp	Basic Segment	0.56	19.2	C
Southbound				
RPX off-ramp to RPX WB on-ramp	Basic Segment	0.54	18.5	C
RPX WB on-ramp	On-Ramp	0.58	23.4	C
RPX EB on-ramp to SR 116 off-ramp	Weaving	0.48	17.5	B
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	0.48	16.3	B
SR 116 on-ramp	On-Ramp	0.56	22.2	C
SR 116 on-ramp to W Sierra Ave on-ramp	Basic Segment	0.56	19.4	C
W Sierra Ave on-ramp	On-Ramp	0.62	24.7	C
W Sierra Ave on-ramp to W Railroad Ave	Basic Segment	0.62	21.5	C
NOTES: V/C RATIO = VOLUME TO CAPACITY RATIO; DENSITY IS MEASURED IN PASSENGER CARS PER MILE PER LANE (PC/MI/LN) LOS = LEVEL OF SERVICE; RPX=ROHNERT PARK EXPRESSWAY; EB=EASTBOUND; WB=WESTBOUND				

3.12.2 REGULATORY SETTING

The City of Cotati 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 Cotati. While the City of Cotati has primary responsibility for the maintenance and operation of transportation facilities within the City, Cotati staff works on a continual basis with responsible regional, state, and federal agencies including the County of Sonoma, Sonoma County Transportation Agency (SCTA), Metropolitan Transportation Commission (MTC), California Department of Transportation (Caltrans), and Federal Highway Administration, as well as others, to maintain, improve, and balance the competing transportation needs of the community and the region.

This section describes transportation policies, laws, and regulations that would apply to the Circulation Element of the proposed General Plan Update. This information provides a context for the impact discussion related to the proposed General Plan Update's consistency with applicable regulatory conditions.

STATE

State of California Complete Streets Act

On September 30, 2008, Governor Schwarzenegger signed AB 1358, the California Complete Streets Act of 2008, into law. As of January 2011, AB 1358 requires any substantive revision of the circulation element of a city or county's general plan to identify how they will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists.

Caltrans

DEPUTY DIRECTIVE 64-R1: COMPLETE STREETS – INTEGRATING THE TRANSPORTATION SYSTEM

In 2001, Caltrans adopted Deputy Directive 64; a policy directive related to non-motorized travel throughout the state. In October 2008, Deputy Directive 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 (DP-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.*

The policy recognizes that "in towns and cities across California, the State highway may be the only through street or may function as a local street," that "these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods," and that "communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality." The policy acknowledges

that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

CALTRANS TRAFFIC IMPACT STUDY GUIDE

The Caltrans *Guide for the Preparation of Traffic Impact Studies*, 2002, includes criteria for evaluating the effects of land use development and changes to the circulation system on State highways. In Cotati, Caltrans oversees operation on US 101, Gravenstein Highway (State Route 116), and the freeway on- and off-ramps serving these two facilities. Caltrans generally endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D," though for select facilities has designated lower LOS targets. In the Cotati-Rohnert Park area, Caltrans considers US 101 to operate unacceptably if its operation falls below LOS E, and State highways and intersections to operate unacceptably if they fall below LOS D[3].

SYSTEM PLANNING REPORTS

Caltrans prepares concept reports that identify how each of its facilities will be developed and managed over a 20-year period. The guiding system planning document for US 101 in Cotati is the *Corridor System Management Plan US 101 North* (CSMP), Caltrans, 2011. The CSMP identifies that major capacity improvement projects on US 101 will be primarily focused on widening the "Narrows" between Novato and Petaluma. Improvements on the remainder of US 101 will be focused on transportation management and intelligent transportation system (ITS) techniques including incident management techniques and ramp metering.

There is currently no active system planning document for Gravenstein Highway (SR 116). The most recent system planning document prepared by Caltrans for the highway was a Route Concept Report (RCR) completed in 1985, now considered by Caltrans to be expired. The 1985 RCR for SR 116 indicates that the highway should be widened to a continuous four-lane expressway with bike lanes between Sebastopol and US 101.

REGIONAL AND LOCAL

Metropolitan Planning Commission

The current Regional Transportation Plan (RTP) produced by MTC, *Plan Bay Area*, was adopted in July 2013. The Plan sets forth regional transportation and land use policy, and provides capital program planning for all regional, state and federally funded projects. In addition, the Plan provides strategic investment recommendations to improve regional transportation system

[3] *Graton Rancheria Casino Project – Draft Environmental Impact Statement (DEIS) Scoping Comments*, submitted by California Department of Transportation (Caltrans) to National Indian Gaming Commission, April 2004

performance through the year 2040, including investments in regional highway, transit, local roadway, bicycle, and pedestrian projects. Transportation projects programmed in the vicinity of Cotati include improvements to local circulation intended to relieve congestion in the community of Penngrove, including improvements to the interchange at US 101/Railroad Avenue. The Plan also programs Countywide funding for roadway rehabilitation, improved transit headways, safe routes to school projects, and bicycle-pedestrian improvements.

Sonoma County Transportation Authority

The SCTA acts as the countywide planning and programming agency for transportation related issues in Sonoma County. SCTA plays a leading role in transportation by securing funds, providing project oversight, and initiating long term planning activities. In 1997 SCTA relinquished its position as the County's Congestion Management Agency (CMA), and as a result, does not maintain or enforce level of service standards on roadway facilities within Sonoma County.

COMPREHENSIVE TRANSPORTATION PLAN

Every four years the SCTA updates the Sonoma Comprehensive Transportation Plan (CTP), a multi-modal transportation plan that documents existing conditions and prioritizes regional transportation needs throughout Sonoma County for the next 25 years. The CTP establishes countywide goals, objectives, and policies for improving mobility on Sonoma County's streets, highways, transit systems, and bicycle/pedestrian facilities, as well as strategies to reduce transportation related impacts. Major roadway projects identified in the CTP relative to Cotati include the installation of bike lanes on West Sierra Avenue from Old Redwood Highway to Stony Point Road, as well as Old Redwood Highway pavement rehabilitation from La Plaza to Gravenstein Highway.

BICYCLE AND PEDESTRIAN MASTER PLAN

The 2008 Cotati Bicycle and Pedestrian Master Plan was developed as a component of the Sonoma County Transportation Authority's *Countywide Bicycle and Pedestrian Master Plan*. The Countywide Plan was prepared to foster local and regional coordination, to plan primary facilities that connect Sonoma County's communities, and to develop long-term system planning. The Plan established bicycle and pedestrian policy for Cotati and the larger Countywide Bicycle System, along with bicycle and pedestrian infrastructure projects, and programmatic improvements. In 2010, the Cotati Plan was updated to reflect recently completed improvements and the addition of several new pedestrian projects.

The principal goal of the Bicycle and Pedestrian Master Plan is "To develop and maintain a comprehensive countywide bicycle and pedestrian transportation system, which includes projects, programs, and policies that work together to provide safe and efficient opportunities for bicyclists and pedestrians to access public transportation, school, work, shopping, services, recreation and residences." A map of proposed and existing bicycle and pedestrian facilities in Cotati, prepared by SCTA and current as of November 2010, is shown in Figure 3.12-3.

Cotati General Plan

The Cotati General Plan is a long-range comprehensive planning document required by state law and adopted by the City in 1998 to set policy and guide future growth, development and conservation of resources. The proposed Project analyzed in this EIR is the 2013 update to the Cotati General Plan. Relevant goals, objectives, policies, and actions from the General Plan update are discussed in the Impacts and Mitigation Measures section of this EIR.

3.12.3 IMPACTS AND MITIGATION MEASURES

This section describes the transportation analysis of the Draft General Plan and identifies potential impacts and mitigation measures that would be associated with adoption of the Plan. Quantitative roadway impact analysis was conducted for 2040 conditions assuming full buildout of the General Plan. A discussion of the transportation analysis methodology is included below, followed by the significance criteria, impact statements and mitigation measures.

TRANSPORTATION ANALYSIS METHODOLOGY

The quantitative transportation analysis was performed using the methodology described below. For other components of the transportation system, the policy framework and actions for the Draft General Plan were evaluated against the significance criteria.

Traffic Modeling

Future traffic volumes for the year 2040 were determined using the SCTA regional travel demand model (SCTM\10) to determine future traffic associated with regional growth and travel patterns, along with a citywide TRAFFIX model that performs a more detailed manual assignment of traffic growth associated with the land uses contained in Cotati's updated General Plan. The year 2040 countywide land use database contained within the SCTA model was modified to hold existing land use quantities within Cotati constant, while still reflecting regional land use and circulation network changes outside the City. Future "no project" turning movement projections were then calculated for the 20 study intersections using the SCTA base and modified future year scenarios. The Future No Project peak hour traffic volumes are shown in Figure 3.12-6.

Future No Project base volumes were then entered in the TRAFFIX trip assignment software, which subsequently adds the increment of traffic growth associated with the Cotati General Plan update. These incremental trip increases were distributed to the circulation system based on the results of "select zone" runs supplied by SCTA for typical residential and employment-based areas of Cotati in the year 2040, as well as existing and anticipated traffic patterns in Cotati.

Two General Plan buildout scenarios were evaluated; these scenarios are described in Chapter 2.0, Project Description. The first scenario examines the impacts associated with buildout of the General Plan within the current (2013) City Limits. The second scenario reflects impacts associated with buildout of the General Plan to the City's SOI/UGB. The net incremental increase in development associated with buildout of each of the two scenarios is shown in Table 3.12-7.

TABLE 3.12-7: NET INCREASE IN DEVELOPMENT BY GENERAL PLAN BUILDOUT SCENARIO		
GENERAL PLAN LAND USE	WITHIN CITY LIMITS	TO SOI/UGB
Residential	1,685 units	2,130 units
Commercial	910.0 ksf	1,233.2 ksf
Office	966.7 ksf	994.7 ksf
Industrial	511.2 ksf	1,106.3 ksf
Rural Agriculture (commercial activities)	n/a	50,000 s.f.
Note: ksf = 1,000 square feet		

Trip Generation

The *Trip Generation Manual*, 9th Edition, 2012, by the Institute of Transportation Engineers (ITE) was used as the basis for determining the potential amount of vehicle traffic generated by the project. This publication is a standard reference used by jurisdictions throughout the country, and is based on actual trip generation studies performed at numerous locations in areas of various populations. The trip generation land use categories used in the analysis are shown in Table 3.12-8.

TABLE 3.12-8: APPLIED ITE TRIP GENERATION RATES	
GENERAL PLAN AND/OR ZONING DESIGNATION	ITE LAND USE CODE AND DESCRIPTION
Rural Residential, Low and Low-Medium Density Residential, Medium Density Residential	210 – Single Family Detached Housing
High Density Residential	220 - Apartment
Commercial – Gravenstein Corridor[1]	820 – Shopping Center 826 – Specialty Retail
Commercial - Downtown Specific Plan[2, 3]	826 – Specialty Retail 931 – Quality Restaurant
Commercial – Areas other than Gravenstein Corridor and Downtown Specific Plan	826 – Specialty Retail
Office	710 – General Office
Commercial/Industrial	770 – Business Park
General Industrial	110 – General Light Industrial
Rural Agriculture (commercial activities)	140 - Manufacturing
Public Facility	495 - Recreational Community Center
Santero Way Specific Plan[3]	220 – Apartment 826 – Specialty Retail 710 – General Office

TABLE 3.12-8: APPLIED ITE TRIP GENERATION RATES	
GENERAL PLAN AND/OR ZONING DESIGNATION	*ITE LAND USE CODE AND DESCRIPTION*
[1] *Assumed split of 75% Shopping Center and 25% Specialty Retail; 30% pass-by deduction applied to Shopping Center uses* [2] *Assumed split of 67% Specialty Retail and 33% Restaurant, which when combined with Office uses results in a total nonresidential split of 40% retail, 20% restaurant, and 40% office,* consistent *with the land use assumptions applied in the Downtown Specific Plan (DSP)* [3] *Applied deductions for mixed use, internal trips, and transit proximity calculated using methodology contained in NCHRP Report 684,* Enhancing Internal Capture Estimation for Mixed-Use Developments*, Transportation Research Board, 2011; DSP deductions calculated to be 30% daily, 20% AM, and 40% PM, and Santero Way Specific Plan calculated to be 15% daily, 15% AM, and 20% PM*	

PASS-BY TRIPS

Some portion of traffic associated with commercial uses is typically drawn from existing traffic on nearby streets. These vehicle trips are not considered "new," but are instead comprised of drivers who are already driving on the adjacent street and choose to make an interim stop. These types of trips are referred to as “pass-by.” Based on data contained in *Trip Generation Handbook, 2nd Edition, An ITE Recommended Practice*, 2004, an average pass-by rate of 30 percent was applied to uses categorized as Shopping Center (ITE Land Use 820).

MIXED-USE AND TRANSIT-ORIENTED DEVELOPMENT TRIP DEDUCTIONS

Internal trips occur in pedestrian-oriented areas with a mix of land uses, and represent trips that are made by walking or bicycling in contrast to driving an automobile. A common example would be trips made by residents and office employees in a mixed-use area walking or biking to nearby shops and restaurants. The proximity and frequency of transit service to individual land uses in a walkable environment also affects the proportion of trips made by private automobile. For the purposes of the General Plan update, mixed-use and transit-oriented development trip reduction rates were based upon data contained in the publication *NCHRP Report 684: Enhancing Internal Capture Estimation for Mixed-Use Developments*, Transportation Research Board (TRB), 2011. These trip reductions were applied to development within the boundaries of the Downtown Specific Plan and the Santero Way Specific Plan (which surrounds the Cotati SMART station). The calculated reductions for the Downtown Specific Plan area are 30 percent for daily trips, 20 percent for a.m. peak hour trips, and 40 percent for p.m. peak hour trips. The calculated reductions for the Santero Way Specific Plan are 15 percent for daily trips, 15 percent for a.m. peak hour trips, and 20 percent for p.m. peak hour trips.

DOUBLE-COUNTING ADJUSTMENT

When using standard ITE trip generation rates at a Citywide or regional level, it is necessary to balance trips to eliminate the effects of double-counting. An example of a double-counted trip would be one made by a resident in Cotati to an office in Cotati, wherein the trip is counted once as an outgoing residential trip and then again as an inbound employment trip. Based on Census journey to work data and “peaking factors” used by MTC in regional models, it was estimated that

a double-counting adjustment reflecting 12 percent of total non-residential trips is appropriate for each of the Cotati General Plan buildout scenarios.

NET TRIPS ADDED AT BUILDOUT OF GENERAL PLAN

The net increase in vehicle trips that is projected to be added to the City and surrounding street network upon buildout of each of the two land use scenarios is shown in Table 3.12-9. The net project-added trips at the 20 study intersections are shown in Figure 3.12-7 for buildout to the City Limits, and in Figure 3.12-8 for buildout to the SOI/UGB.

TABLE 3.12-9: NET ADDITIONAL VEHICLE TRIPS BY GENERAL PLAN BUILDOUT SCENARIO

PERIOD	WITHIN CITY LIMITS	TO SOI/UGB
Daily	47,941	61,064
AM Peak Hour	*3,392*	*4,637*
PM Peak Hour	*4,621*	*6,083*

CUMULATIVE TRAFFIC VOLUMES

The projected cumulative intersection turning movements are shown in Figure 3.12-9 for buildout to the City Limits, and Figure 3.12-10 for buildout to the SOI/UGB. These traffic volumes reflect regional growth in addition to that allowed under buildout of the Cotati General Plan.

General Plan Roadway Improvements

The planned future roadway network is depicted in General Plan Figure CI-1. The following circulation network modifications needed on City streets to support buildout of the General Plan are identified in General Plan Action CI 1b, and included in the cumulative transportation analysis.

- Install a traffic signal on Madrone Avenue at the intersection of Gravenstein Highway, establishing the north leg as the primary roadway connection to Derby Lane and Locust Avenue.
- Eliminate the current skewed intersection at Gravenstein Highway/Derby Lane.
- Realign the eastern portion of Derby Lane so that it extends as an east-west collector street to Alder Avenue.
- Construct a new north-south collector street in the western portion of the City, intersecting Gravenstein Highway approximately midway between Locust Avenue and Alder Avenue. Extend the street northward to Helman Lane and southward to intersect with an eastward extension of Isabel Drive.
- Install a traffic signal on the new north-south collector street at the intersection of Gravenstein Highway.
- Eliminate the intersection at Gravenstein Highway/Alder Avenue once a connection between Alder Avenue and the new north-south collector street is established.
- Construct a minor realignment of West Cotati Avenue to intersect Gravenstein Highway at an improved angle, and install a traffic signal at the intersection.

- Restrict direct access between private parcels and Gravenstein Highway once alternative access is established (i.e., parallel roadways and new intersections as described above).
- Add a southbound right turn pocket on Redwood Drive at the Gravenstein Highway intersection (improvement is only needed with buildout to SOI/UGB).
- Widen Helman Avenue to include a center turn lane in areas with abutting Commercial and/or Industrial uses.
- Eliminate the northbound left-turn pocket at Old Redwood Highway/Commerce Avenue/ US 101 North Onramp and convert to a through lane continuing onto the ramp.
- Eliminate the southbound left-turn movement at Gravenstein Highway/Old Redwood Highway in order to improve efficiency of the intersection (modification is only needed with buildout to SOI/UGB). Drivers currently making this movement would be still be able to reach the Gravenstein Way neighborhood via Wilford Lane, with minimal inconvenience or increases to travel time.
- Install a traffic signal at Old Redwood Highway/William Street-George Street.
- Reassign lanes at the Old Redwood Highway/East Cotati Avenue-West Sierra Avenue intersection to better serve traffic demands. One possible modification includes restriping the southbound approach to include dual left-turn lanes and a combined through/right-turn lane; restriping the westbound approach to include separate through and right-turn lanes; restriping East Cotati Avenue to include dual eastbound through lanes through the La Plaza intersection before merging to a single lane, and eliminating the westbound left-turn lane and movements (except buses).
- Install a traffic signal at East Cotati Avenue/Charles Street.
- Install a traffic signal at East Cotati Avenue/Lasalle Avenue.
- Install a traffic signal at East Cotati Avenue/Santero Way and add a northbound right-turn pocket on Santero Way.
- Install all-way stop-controls at the intersection of West Sierra Avenue/US 101 South Onramp-West School Street.

The following circulation network modifications on roadways owned and operated by jurisdictions other than the City of Cotati (including Caltrans and the County of Sonoma) are identified in General Plan Action CI 1c, and included in the cumulative transportation analysis.

- Reconstruct Gravenstein Highway between Madrone Avenue and Redwood Drive to include sidewalks, bicycle lanes, two vehicle travel lanes in each direction, and left-turn pockets. This widening would be necessary to maintain acceptable LOS on the Gravenstein Highway roadway segment, as well as to maintain queues within available storage between signalized intersections.
- Widen Gravenstein Highway to include two travel lanes in each direction between Madrone Avenue and a point approximately 500 feet to the west of Madrone Avenue (improvement is only needed with buildout to SOI/UGB to maintain acceptable roadway segment LOS and queuing).

- Widen Gravenstein Highway to include three eastbound lanes between a point just west of Redwood Drive and the US 101 South Ramps intersection. This widening would be necessary to maintain acceptable LOS on the Gravenstein Highway roadway segment, acceptable LOS at the Gravenstein Highway/Redwood Drive intersection, and to maintain queues within available storage.
- Add a right-turn lane on the US 101 Southbound off-ramp at Gravenstein Highway (improvement is only needed with buildout to SOI/UGB to avoid queuing onto the mainline freeway).
- Implement coordinated signal timing along the Gravenstein Highway corridor between Old Redwood Highway and Madrone Avenue in order to maintain acceptable LOS on the roadway segment and its signalized intersections, and to maintain queues within available storage.
- Upgrade the US 101 freeway interchange at Railroad Avenue to a full diamond interchange in order to accommodate regional growth, consistent with the SCTA Comprehensive Transportation Plan.
- Complete capacity improvements on Railroad Avenue between Petaluma Hill Road and US 101, including at the Old Redwood Highway/Railroad Avenue intersection. These improvements are intended to relieve existing congestion in the community of Penngrove and to accommodate regional growth, and are included in the SCTA Comprehensive Transportation Plan.

The future intersection lane configurations including the above improvements are shown in Figure 3.12-11.

THRESHOLDS OF SIGNIFICANCE

The following standards of significance are based on Appendix G of the CEQA Guidelines. The project would result in a significant impact on transportation if it would:

1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

    - Intersections: The applied thresholds of significance for intersection impacts are based on those included in Policy CI-3 of the proposed Cotati General Plan. A significant traffic-related impact would occur if implementation of the project would cause intersections to operate below the General Plan's standard of LOS D, or LOS E for intersections within the boundaries of the Downtown Specific Plan. At unsignalized intersections, controlled movements operating at LOS E or LOS F are allowable if 1) the intersection is projected to operate at LOS C or better overall, and 2) the projected traffic volume on the controlled movement is 30 vehicles or less per

hour on approaches with single lanes, or on multi-lane approaches, 30 vehicles or less per hour on lanes serving left turns and through movements.

- Freeway facilities: A significant traffic-related impact would occur if the project would cause freeway facilities to operate below the LOS E threshold, or in cases where the freeway is already projected to operate deficiently at LOS F without the project, failure to maintain the existing measures of effectiveness (MOE). For such instances where the freeway is anticipated to operate at LOS F, the freeway demand-to-capacity ratio (d/c) ratio is calculated and used as the MOE. A Project-attributable increase in the d/c ratio of 0.01 or greater is considered to be a cumulatively significant impact.
- Freeway ramps: A significant traffic-related impact would occur if the project would create or worsen queuing conditions at freeway interchange intersections in which the projected off-ramp queues cannot be accommodated within the available storage space, and extend onto the mainline freeway.

2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature.
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

NO PROJECT TRAFFIC IMPACT ANALYSIS

Following is an assessment of the traffic conditions that would be expected to occur in the year 2040 under a cumulative "no project" scenario that includes growth throughout Sonoma County and the region, including planned infrastructure improvements, but that excludes growth within the City of Cotati that would result from buildout of the proposed General Plan.

Intersections

Under Future No Project conditions, 19 of the 20 study intersections are projected to operate acceptably. The intersection at East Cotati Avenue/La Salle Avenue is projected to operate unacceptably at LOS E during the p.m. peak hour. A summary of the intersection level of service calculations is contained in Table 3.12-10.

TABLE 3.12-10: SUMMARY OF FUTURE NO PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
APPROACH	DELAY	LOS	DELAY	LOS
1. Gravenstein Hwy (SR 116)/Alder Avenue	0.8	A	0.8	A
Southbound Approach	*26.0*	*D*	*43.5*	*E*
2. Gravenstein Hwy (SR 116)/West Cotati Ave	1.2	A	2.0	A
Northbound Approach	*21.1*	*C*	*40.1*	*E*
3. Gravenstein Hwy (SR 116)/Redwood Dr	19.7	B	30.1	C
4. Gravenstein Hwy (SR 116)/US 101 South Ramps	17.8	B	18.6	B
5. Gravenstein Hwy (SR 116)/US 101 North Ramps	7.2	A	11.3	B
6. Old Redwood Hwy/Commerce Blvd/US 101 North On	9.6	A	6.6	A
7. Old Redwood Hwy/Gravenstein Hwy	21.0	C	36.1	D
8. Old Redwood Hwy/William St-George St	19.9	C	33.6	D
9. Old Redwood Hwy/West Sierra Ave-East Cotati Ave	26.6	C	28.5	C
10. Old Redwood Hwy/Henry St-Charles St	10.9	B	12.3	B
11. Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	12.3	B	12.7	B
12. West Sierra Ave/US 101 South Onramp-West School St	5.7	A	2.9	A
Southbound Approach	*31.3*	*D*	*16.0*	*C*
13. West Sierra Ave/US 101 North Offramp	4.6	A	4.8	A
Northbound Approach	*13.4*	*B*	*11.5*	*B*
14. West Sierra Ave/East School St	12.2	B	10.9	B
15. East Cotati Ave/Charles St	2.1	A	6.8	D
Northbound Approach	*16.2*	*C*	*42.8*	*E*
16. East Cotati Ave/La Salle Ave	33.3	D	**40.7**	**E**
17. East Cotati Ave/Adrian Dr	12.2	B	12.3	B
18. East Cotati Ave/Lancaster Dr	12.2	B	13.3	B
19. East Cotati Ave/Santero Way	0.5	A	0.6	A
Northbound Approach	*14.1*	*B*	*14.9*	*B*
20. Gravenstein Hwy (SR 116)/Madrone Avenue	3.9	A	2.1	A
Northbound Approach	*21.3*	*C*	*25.7*	*D*
Southbound Approach	*37.0*	*E*	*62.3*	*F*

*NOTES: DELAY IS MEASURED IN AVERAGE SECONDS PER VEHICLE; LOS = LEVEL OF SERVICE; RESULTS FOR MINOR APPROACHES TO TWO-WAY STOP-CONTROLLED INTERSECTIONS ARE INDICATED IN ITALICS; **BOLD** = OPERATION BELOW CITY STANDARDS*

Roadway Segments

Under Future No Project conditions, the six study roadway segments are projected to operate acceptably at LOS D or better during the p.m. peak hour. The roadway segment level of service calculations are summarized in Table 3.12-11.

TABLE 3.12-11: SUMMARY OF FUTURE NO PROJECT ROADWAY SEGMENT LEVELS OF SERVICE – PM PEAK HOUR

CORRIDOR	NORTHBOUND/EASTBOUND		SOUTHBOUND/WESTBOUND	
	AVERAGE SPEED	LOS	AVERAGE SPEED	LOS
Gravenstein Highway *Madrone Ave to Old Redwood Hwy*	25 mph	B	20 mph	B
Old Redwood Highway *Commerce Blvd to East Cotati Ave*	15 mph	C	23 mph	B
Commerce Boulevard *North City limits to Old Redwood Hwy*	23 mph	B	20 mph	B
Old Redwood Highway *East Cotati Ave to Myrtle Ave*	17 mph	C	22 mph	B
West Sierra Avenue *US 101 to Old Redwood Hwy*	22 mph	B	24 mph	B
East Cotati Avenue *Old Redwood Hwy to East City limits*	22 mph	B	19 mph	C

NOTES: LOS = LEVEL OF SERVICE; MPH = MILES PER HOUR

Freeway Operation

FREEWAY FACILITIES

Under Future No Project conditions, the segment of northbound US 101 between Railroad Avenue and West Sierra Avenue is projected to operate at an unacceptable LOS F during the PM peak hour. Operation in the southbound direction would remain at an acceptable LOS E or better. A summary of freeway facility p.m. peak hour levels of service is shown in Table 3.12-12.

TABLE 3.12-12 SUMMARY OF FUTURE NO PROJECT US 101 LEVELS OF SERVICE – PM PEAK HOUR

FREEWAY DIRECTION SEGMENT	SEGMENT TYPE	DENSITY	LOS
Northbound			
W Railroad Ave to W Sierra Ave off-ramp	Basic Segment	45.4	F
W Sierra Ave off-ramp	Off-ramp	40.8	E
W Sierra Ave off-ramp to SR 116 off-ramp	Basic Segment	36.1	E
SR 116 off-ramp	Off-ramp	36.8	E
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	29.0	D
SR 116 on-ramp to RPX off-ramp	Weaving	29.4	D

RPX off-ramp to RPX EB on-ramp	Basic Segment	24.7	C
Southbound			
RPX off-ramp to RPX WB on-ramp	Basic Segment	23.0	C
RPX WB on-ramp	On-Ramp	30.7	D
RPX EB on-ramp to SR 116 off-ramp	Weaving	23.4	C
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	25.7	C
SR 116 on-ramp	On-Ramp	35.4	E
SR 116 on-ramp to W Sierra Ave on-ramp	Basic Segment	31.8	D
W Sierra Ave on-ramp	On-Ramp	39.7	E
W Sierra Ave on-ramp to W Railroad Ave	Basic Segment	36.1	E

*NOTES: DENSITY IS MEASURED IN PASSENGER CARS PER MILE PER LANE (PC/MI/LN); LOS = LEVEL OF SERVICE; RPX=ROHNERT PARK EXPRESSWAY; EB=EASTBOUND; WB=WESTBOUND; **BOLD** TEXT INDICATES DEFICIENT OPERATION*

FREEWAY RAMP QUEUING

Under General Plan buildout conditions, vehicle queues on the US 101 northbound and southbound off-ramps at Gravenstein Highway are projected to remain within the available storage. A summary of the off-ramp queues is shown in Table 3.12-13.

TABLE 3.12-13: SUMMARY OF FUTURE NO PROJECT GRAVENSTEIN HIGHWAY INTERCHANGE OFF-RAMP QUEUES

FREEWAY RAMP	*AVAILABLE STORAGE[1]*	*95TH PERCENTILE QUEUE – AM PEAK*	*95TH PERCENTILE QUEUE – PM PEAK*
US 101 Southbound Ramps	920 ft.	226 ft.	317 ft.
US 101 Northbound Ramps	1,120 ft.	92 ft.	208 ft.

NOTES: RESULTS OBTAINED FROM THE AVERAGE OF TEN RANDOMLY-SEEDED SIMTRAFFIC RUNS
[1]MEASURED TO GORE POINT MINUS 270 FOOT DECELERATION PER HIGHWAY DESIGN MANUAL FIGURE 504.2B

PROJECT TRAFFIC IMPACT ANALYSIS

Intersections

With buildout of General Plan land uses and completion of the roadway improvements identified in General Plan Actions CI 1b and CI 1c, the 20 study intersections are projected to operate acceptably at LOS D or better. A summary of the intersection level of service calculations for buildout conditions within the City Limits is contained in Table 3.12-14, and a summary of calculations for buildout to the SOI/UGB is contained in Table 3.12-15.

TABLE 3.12-14: SUMMARY OF PEAK HOUR INTERSECTION LEVELS OF SERVICE WITH GENERAL PLAN BUILDOUT TO CITY LIMITS

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
APPROACH	DELAY	LOS	DELAY	LOS
1. Gravenstein Hwy (SR 116)/New North-South Street	8.0	A	16.3	B
2. Gravenstein Hwy (SR 116)/West Cotati Ave	7.5	A	15.9	B
3. Gravenstein Hwy (SR 116)/Redwood Dr	18.0	B	40.8	D
4. Gravenstein Hwy (SR 116)/US 101 South Ramps	42.1	D	30.5	C
5. Gravenstein Hwy (SR 116)/US 101 North Ramps	13.6	B	19.4	B
6. Old Redwood Hwy/Commerce Blvd/US 101 North On	12.0	B	12.6	B
7. Old Redwood Hwy/Gravenstein Hwy	23.9	C	47.4	D
8. Old Redwood Hwy/William St-George St	9.1	A	10.8	B
9. Old Redwood Hwy/West Sierra Ave-East Cotati Ave	35.3	D	35.3	D
10. Old Redwood Hwy/Henry St-Charles St	14.2	B	17.6	C
11. Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	12.9	B	12.3	B
12. West Sierra Ave/US 101 South Onramp-West School St	22.6	C	13.8	B
13. West Sierra Ave/US 101 North Offramp	4.9	A	6.2	A
Northbound Approach	*14.1*	*B*	*10.7*	*B*
14. West Sierra Ave/East School St	16.2	C	18.8	C
15. East Cotati Ave/Charles St	11.3	B	20.5	C
16. East Cotati Ave/La Salle Ave	13.2	B	15.3	B
17. East Cotati Ave/Adrian Dr	19.8	B	17.3	B
18. East Cotati Ave/Lancaster Dr	14.8	B	13.9	B
19. East Cotati Ave/Santero Way	6.2	A	11.4	B
20. Gravenstein Hwy (SR 116)/Madrone Avenue	16.9	B	51.1	D

NOTES: DELAY IS MEASURED IN AVERAGE SECONDS PER VEHICLE; LOS = LEVEL OF SERVICE; RESULTS FOR MINOR APPROACHES TO TWO-WAY STOP-CONTROLLED INTERSECTIONS ARE INDICATED IN ITALICS

TABLE 3.12-15: SUMMARY OF PEAK HOUR INTERSECTION LEVELS OF SERVICE WITH GENERAL PLAN BUILDOUT TO SOI/UGB

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
APPROACH	DELAY	LOS	DELAY	LOS
1. Gravenstein Hwy (SR 116)/New North-South Street	12.1	B	26.4	C
2. Gravenstein Hwy (SR 116)/West Cotati Ave	6.7	A	22.3	C
3. Gravenstein Hwy (SR 116)/Redwood Dr	21.4	C	30.4	C
4. Gravenstein Hwy (SR 116)/US 101 South Ramps	30.2	C	32.4	C
5. Gravenstein Hwy (SR 116)/US 101 North Ramps	14.9	B	31.5	C
6. Old Redwood Hwy/Commerce Blvd/US 101 North On	7.0	A	13.7	B
7. Old Redwood Hwy/Gravenstein Hwy	22.2	C	41.3	D
8. Old Redwood Hwy/William St-George St	9.1	A	11.6	B
9. Old Redwood Hwy/West Sierra Ave-East Cotati Ave	36.1	D	37.4	D
10. Old Redwood Hwy/Henry St-Charles St	16.2	C	21.8	C
11. Old Redwood Hwy/Valparaiso Ave-Myrtle Ave	13.3	B	12.6	B
12. West Sierra Ave/US 101 South Onramp-West School St	25.2	D	15.6	C
13. West Sierra Ave/US 101 North Offramp	5.0	A	6.5	A
Northbound Approach	*16.6*	*C*	*16.0*	*C*
14. West Sierra Ave/East School St	16.2	C	19.6	C
15. East Cotati Ave/Charles St	11.7	B	28.8	C
16. East Cotati Ave/La Salle Ave	13.7	B	16.0	B
17. East Cotati Ave/Adrian Dr	20.8	B	18.1	B
18. East Cotati Ave/Lancaster Dr	15.1	B	14.0	B
19. East Cotati Ave/Santero Way	6.2	A	11.7	B
20. Gravenstein Hwy (SR 116)/Madrone Avenue	17.0	B	26.9	C

NOTES: DELAY IS MEASURED IN AVERAGE SECONDS PER VEHICLE; LOS = LEVEL OF SERVICE; RESULTS FOR MINOR APPROACHES TO TWO-WAY STOP-CONTROLLED INTERSECTIONS ARE INDICATED IN ITALICS

Roadway Segments

With buildout of General Plan land uses and completion of the roadway improvements identified in General Plan Actions CI 1b and CI 1c, the six study roadway segments are projected to operate acceptably at LOS D or better during the p.m. peak hour. Roadway segment level of service calculations for buildout within the City Limits are summarized in Table 3.12-16, and calculations for buildout to the SOI/UGB are summarized in Table 3.12-17.

TABLE 3.12-16: SUMMARY OF ROADWAY SEGMENT PM PEAK HOUR LEVELS OF SERVICE WITH GENERAL PLAN BUILDOUT TO CITY LIMITS

CORRIDOR	NORTHBOUND/EASTBOUND		SOUTHBOUND/WESTBOUND	
	AVERAGE SPEED	LOS	AVERAGE SPEED	LOS
Gravenstein Highway *Madrone Ave to Old Redwood Hwy*	14 mph	C	16 mph	C
Old Redwood Highway *Commerce Blvd to East Cotati Ave*	13 mph	D	22 mph	B
Commerce Boulevard *North City limits to Old Redwood Hwy*	23 mph	B	12 mph	D
Old Redwood Highway *East Cotati Ave to Myrtle Ave*	14 mph	C	17 mph	C
West Sierra Avenue *US 101 to Old Redwood Hwy*	20 mph	B	23 mph	B
East Cotati Avenue *Old Redwood Hwy to East City limits*	18 mph	C	14 mph	C

NOTES: LOS = LEVEL OF SERVICE; MPH = MILES PER HOUR

TABLE 3.12-17: SUMMARY OF ROADWAY SEGMENT PM PEAK HOUR LEVELS OF SERVICE WITH GENERAL PLAN BUILDOUT TO SOI/UGB

CORRIDOR	NORTHBOUND/EASTBOUND		SOUTHBOUND/WESTBOUND	
	AVERAGE SPEED	LOS	AVERAGE SPEED	LOS
Gravenstein Highway *Madrone Ave to Old Redwood Hwy*	12 mph	D	19 mph	C
Old Redwood Highway *Commerce Blvd to East Cotati Ave*	13 mph	D	22 mph	B
Commerce Boulevard *North City limits to Old Redwood Hwy*	23 mph	B	12 mph	D
Old Redwood Highway *East Cotati Ave to Myrtle Ave*	12 mph	D	15 mph	C
West Sierra Avenue *US 101 to Old Redwood Hwy*	20 mph	B	23 mph	B
East Cotati Avenue *Old Redwood Hwy to East City limits*	17 mph	C	14 mph	C

NOTES: LOS = LEVEL OF SERVICE; MPH = MILES PER HOUR

Freeway Operation

FREEWAY FACILITIES

Under conditions with buildout of the Cotati General Plan to either the City Limits or SOI/UGB, the segment of northbound US 101 between Railroad Avenue and West Sierra Avenue is projected to operate at an unacceptable LOS F during the PM peak hour. In the southbound direction, the US 101/SR 116 southbound on-ramp and the mainline US 101 segment between SR 116 and West Sierra Avenue are projected to operate unacceptably with either buildout scenario. Additionally, with buildout to the Cotati SOI/UGB, the US 101 freeway segment between the SR 116 off- and on-ramp and the segment between West Sierra Avenue and Railroad Avenue are projected to operate unacceptably at LOS F.

A summary of freeway facility p.m. peak hour levels of service with General Plan buildout to the City Limits is shown in Table 3.12-18. Freeway facility levels of service with General Plan buildout to the SOI/UGB are shown in Table 3.12-19.

TABLE 3.12-18: SUMMARY OF US 101 PM PEAK HOUR LEVELS OF SERVICE WITH GENERAL PLAN BUILDOUT TO CITY LIMITS

FREEWAY DIRECTION SEGMENT	SEGMENT TYPE	DENSITY	LOS
Northbound			
W Railroad Ave to W Sierra Ave off-ramp	Basic Segment	45.4	F
W Sierra Ave off-ramp	Off-ramp	41.1	E
W Sierra Ave off-ramp to SR 116 off-ramp	Basic Segment	34.3	D
SR 116 off-ramp	Off-ramp	36.2	E
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	25.8	C
SR 116 on-ramp to RPX off-ramp	Weaving	36.5	E
RPX off-ramp to RPX EB on-ramp	Basic Segment	29.0	D
Southbound			
RPX off-ramp to RPX WB on-ramp	Basic Segment	27.5	D
RPX WB on-ramp	On-Ramp	36.3	E
RPX EB on-ramp to SR 116 off-ramp	Weaving	24.7	C
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	32.5	D
SR 116 on-ramp	On-Ramp	53.3	F
SR 116 on-ramp to W Sierra Ave on-ramp	Basic Segment	56.8	F
W Sierra Ave on-ramp	On-Ramp	48.0	E
W Sierra Ave on-ramp to W Railroad Ave	Basic Segment	44.4	E

NOTES: DENSITY IS MEASURED IN PASSENGER CARS PER MILE PER LANE (PC/MI/LN); LOS = LEVEL OF SERVICE; RPX=ROHNERT PARK EXPRESSWAY; EB=EASTBOUND; WB=WESTBOUND; ***BOLD*** *TEXT INDICATES DEFICIENT OPERATION*

TABLE 3.12-19 SUMMARY OF US 101 PM PEAK HOUR LEVELS OF SERVICE WITH GENERAL PLAN BUILDOUT TO SOI/UGB

FREEWAY DIRECTION SEGMENT	SEGMENT TYPE	DENSITY	LOS
Northbound			
W Railroad Ave to W Sierra Ave off-ramp	Basic Segment	45.4	**F**
W Sierra Ave off-ramp	Off-ramp	41.2	E
W Sierra Ave off-ramp to SR 116 off-ramp	Basic Segment	34.3	D
SR 116 off-ramp	Off-ramp	36.3	E
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	25.2	C
SR 116 on-ramp to RPX off-ramp	Weaving	38.5	E
RPX off-ramp to RPX EB on-ramp	Basic Segment	30.4	D
Southbound			
RPX off-ramp to RPX WB on-ramp	Basic Segment	28.9	D
RPX WB on-ramp	On-Ramp	38.0	E
RPX EB on-ramp to SR 116 off-ramp	Weaving	29.4	D
SR 116 off-ramp to SR 116 on-ramp	Basic Segment	58.4	**F**
SR 116 on-ramp	On-Ramp	58.5	**F**
SR 116 on-ramp to W Sierra Ave on-ramp	Basic Segment	59.5	**F**
W Sierra Ave on-ramp	On-Ramp	49.4	E
W Sierra Ave on-ramp to W Railroad Ave	Basic Segment	45.7	**F**

*NOTES: DENSITY IS MEASURED IN PASSENGER CARS PER MILE PER LANE (PC/MI/LN); LOS = LEVEL OF SERVICE; RPX=ROHNERT PARK EXPRESSWAY; EB=EASTBOUND; WB=WESTBOUND; **BOLD** TEXT INDICATES DEFICIENT OPERATION*

In order to determine whether the increases in traffic on US 101 caused by buildout of the Cotati General Plan would be considered cumulatively significant, the relative increase in the demand-to-capacity ratio (d/c) on the mainline freeway segments projected to operate unacceptably at LOS F was calculated for the year 2040, comparing what would occur assuming no growth in Cotati versus what would occur under either of the two buildout conditions (buildout to City Limits or the SOI/UGB). A d/c ratio increase of 0.010 or greater is considered to be cumulatively significant.

Buildout of the General Plan to the City Limits is projected to cause the freeway d/c ratio to increase by 0.10 in the northbound direction between Railroad Avenue and West Sierra Avenue, and by 0.11 in the southbound direction between SR 116 and West Sierra Avenue, both of which would be considered significant. With General Plan buildout to the SOI/UGB, the d/c ratio is projected to increase by 0.13 in the northbound direction between Railroad Avenue and West Sierra Avenue, by 0.16 in the southbound direction between SR 116 and West Sierra Avenue, and

by 0.20 between West Sierra Avenue and Railroad Avenue. These increases are also considered to be significant. A summary of the findings is shown in Table 3.12-20.

TABLE 3.12-20: COTATI GENERAL PLAN IMPACT TO US 101 SEGMENTS OPERATING AT LOS F BUILDOUT (YEAR 2040) PM PEAK HOUR

FREEWAY DIRECTION SEGMENT	NO GROWTH WITHIN COTATI	COTATI BUILDOUT TO CITY LIMITS		COTATI BUILDOUT TO SOI/UGB	
	D/C	D/C	CHANGE	D/C	CHANGE
Northbound					
Railroad Ave to W Sierra Ave off-ramp	1.11	1.21	**0.10**	1.24	**0.13**
Southbound					
SR 116 on-ramp to W Sierra Ave on-ramp	0.83	0.94	**0.11**	0.99	**0.16**
W Sierra Ave on-ramp to Railroad Ave	0.90	1.05	0.15*	1.10	**0.20**

NOTES: D/C = FREEWAY DEMAND TO CAPACITY RATIO; **BOLD** TEXT INDICATES SIGNIFICANT CUMULATIVE IMPACT
*NOT CONSIDERED AN IMPACT SINCE SEGMENT IS PROJECTED TO OPERATE ACCEPTABLY UNDER THIS SCENARIO

FREEWAY RAMP QUEUING

Under General Plan buildout conditions, vehicle queues on the US 101 northbound and southbound off-ramps at Gravenstein Highway are projected to remain within the available storage. A summary of the off-ramp queues is shown in Table 3.12-21.

TABLE 3.12-21: SUMMARY OF GRAVENSTEIN HIGHWAY INTERCHANGE OFF-RAMP QUEUES AT BUILDOUT

FREEWAY RAMP BUILDOUT SCENARIO	AVAILABLE STORAGE[1]	95TH PERCENTILE QUEUE – AM PEAK	95TH PERCENTILE QUEUE – PM PEAK
US 101 Southbound Ramps			
Buildout to City Limits	920 ft.	554 ft.	499 ft.
Buildout to SOI/UGB	920 ft.	590 ft.	869 ft.
US 101 Northbound Ramps			
Buildout to City Limits	1,120 ft.	273 ft.	504 ft.
Buildout to SOI/UGB	1,120 ft.	399 ft.	544 ft.

NOTES: RESULTS OBTAINED FROM THE AVERAGE OF TEN RANDOMLY-SEEDED SIMTRAFFIC RUNS
[1]MEASURED TO GORE POINT MINUS 270 FOOT DECELERATION PER HIGHWAY DESIGN MANUAL FIGURE 504.2B

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: Implementation of the proposed General Plan would result in acceptable traffic operation at the study intersections and roadway segments controlled by the City of Cotati, though the ability to fully fund all identified improvements is uncertain (Significant and Unavoidable)

Development allowed under the 2013 Cotati General Plan Update would result in increased use of the City's circulation system. The 1998 General Plan established a standard of LOS D for intersections. Policy CI 1.3 of the proposed 2013 General Plan update maintains this threshold, with additional detail outlining methodologies and differences between signalized and unsignalized intersections, as well as establishment of a lower LOS E threshold within the boundaries of the Downtown Specific Plan area for projects within the City limits that are consistent with the General Plan. Action CI 1b under Policy CI 1.9 identifies the roadway improvements included in the General Plan to maintain the safety and efficiency of the City's roadway network at buildout. Actions CI 1n and CI 1o require the City to update its traffic impact fee, requiring new development to contribute toward the future circulation improvements identified in the General Plan. The General Plan update also includes measures to reduce vehicle miles travelled and associated traffic effects through encouraging alternative modes of travel, including public transit, bicycle, and pedestrian modes.

As shown in Tables 3.12-10 and 3.12-11, implementation of the General Plan update would result in acceptable operation of LOS D or better at all study intersections under Cotati's jurisdiction (intersection numbers 6-19, which exclude those on Caltrans-owned SR 116). While the City is scheduled to update its traffic impact fee shortly after adoption of the General Plan, and the resulting impact fee once adopted will require developers to financially contribute toward needed improvements, uncertainty exists as to whether sufficient funds would ultimately exist to complete all of the circulation improvements identified in the General Plan.

The General Plan includes a set of policies and actions designed to reduce impacts by striving to achieve acceptable travel conditions on local roadways through adequately planning and funding roadway improvements. Applicable General Plan policies and actions require development projects to address their project-level impacts, pay their proportional-share of roadway improvements, and/or provide necessary off-site improvements. The policies and actions also indicate that the City shall continue to seek funding for circulation improvements from diverse sources, and emphasize the use of transportation demand management (TDM) and intelligent transportation systems technologies (ITS) to reduce traffic impacts.

Through the planned adoption and implementation of the traffic impact fee update, along with roadway improvements that the City will require developers to construct as part of their projects, many of the circulation improvements identified in the General Plan as being needed to support citywide buildout will be constructed. It cannot be guaranteed, however, that full funding to achieve all improvements will ultimately be collected, nor can it be guaranteed that individual

improvements can be fully funded and constructed by the time they are needed. Given this uncertainty, the potential impacts to City of Cotati intersections and roadway segments would be considered a **significant and unavoidable impact**, and no further mitigation is available.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 1.1 *Ensure that the City's circulation network is maintained and improved over time to support buildout of the General Plan in a manner that is consistent with the City's Circulation Diagram Figure CI-1.*

Policy CI 1.2 *Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, and bicycle/pedestrian paths that effectively accommodates vehicular and non-vehicular traffic in a manner that considers the context of surrounding land uses and the needs of all roadway users.*

Policy CI 1.3 *Establish a minimum motor vehicle Level of Service (LOS) standard of LOS D at intersections.*

Policy CI 1.5 *Through the development review process, CEQA process, and through long-range infrastructure planning efforts, identify circulation network improvements and mitigation measures necessary to maintain the City's level of service standards.*

Policy CI 1.7 *Maximize the use of federal and other matching funding sources to provide ongoing maintenance, operation, and management of the City's circulation network.*

Policy CI 1.20 *Require new development to contribute its proportional share cost of circulation improvements necessary to address cumulative transportation impacts on roadways throughout the City as well as the bicycle and pedestrian network.*

Policy CI 3.2 *Work with SCTA and/or RCPA to monitor the need for and locations of additional park-and-ride lots in Cotati in order to increase the number of trips made by transit and carpooling.*

Policy CI 3.3 *Work with major employers and representatives from Sonoma State University to implement Transportation Demand Management (TDM) programs. Examples of TDM programs may include (but are not limited to) subsidized transit passes, guaranteed ride home, carpool matching, telecommuting, alternative work schedules, car sharing, employer-sponsored vanpools, priced workplace parking, and preferential parking for carpools and/or low-emission vehicles.*

Policy CI 3.4 *Coordinate with Sonoma State University to minimize traffic impacts through strategic scheduling of classes and major events, implementation of TDM measures, and on-campus parking management.*

Actions

Action CI 1a: *Continually seek opportunities to fund maintenance of and improvements to the circulation network, including through active pursuit of a wide range of grant sources.*

<u>Action CI 1b:</u> Complete the following roadway improvements on City streets to improve the safety and efficiency of the current circulation system, and to support buildout of the General Plan.

- *Install a traffic signal on Madrone Avenue at the intersection of Gravenstein Highway, establishing the north leg as the primary roadway connection to Derby Lane and Locust Avenue.*
- *Eliminate the current skewed intersection at Gravenstein Highway/Derby Lane.*
- *Realign the eastern portion of Derby Lane so that it extends as an east-west collector street to Alder Avenue.*
- *Construct a new north-south collector street in the western portion of the City, intersecting Gravenstein Highway approximately midway between Locust Avenue and Alder Avenue. Extend the street northward to Helman Lane and southward to intersect with an eastward extension of Isabel Drive.*
- *Install a traffic signal on the new north-south collector street at the intersection of Gravenstein Highway.*
- *Eliminate the intersection at Gravenstein Highway/Alder Avenue once a connection between Alder Avenue and the new north-south collector street is established.*
- *Construct a minor realignment of West Cotati Avenue to intersect Gravenstein Highway at an improved angle, and install a traffic signal at the intersection.*
- *Restrict direct access between private parcels and Gravenstein Highway once alternative access is established (i.e., parallel roadways and new intersections as described above).*
- *Add a southbound right-turn pocket on Redwood Drive at the Gravenstein Highway intersection (improvement is only needed with buildout to SOI/UGB).*
- *Widen Helman Avenue to include a center turn lane in areas with abutting Commercial and/or Industrial uses.*
- *Eliminate the northbound left-turn pocket at Old Redwood Highway/Commerce Avenue/ US 101 North Onramp and convert to a through lane.*
- *Eliminate the southbound left-turn movement at Gravenstein Highway/Old Redwood Highway (modification is only needed with buildout to SOI/UGB).*
- *Install a traffic signal at Old Redwood Highway/William Street-George Street.*
- *Reassign lanes at the Old Redwood Highway/East Cotati Avenue-West Sierra Avenue intersection to better serve traffic demands. One possible modification includes restriping the southbound approach to include dual left-turn lanes and a combined through/right-turn lane; restriping the westbound approach to include separate through and right-turn lanes; restriping East Cotati Avenue to include dual eastbound through lanes through the La Plaza intersection before merging to a single lane, and eliminating the westbound left-turn lane and movements (except buses).*
- *Install a traffic signal at East Cotati Avenue/Charles Street.*
- *Install a traffic signal at East Cotati Avenue/La Salle Avenue.*
- *Install a traffic signal at East Cotati Avenue/Santero Way and add a northbound right-turn pocket.*
- *Install all-way stop-controls at the intersection of West Sierra Avenue/US 101 South Onramp-West School Street*

Action CI 1e: As part of the development review and planning process, review general plan amendments, zone change requests, specific plans, and development projects to ensure that adequate circulation improvements are included, that the project addresses its proportional-share of impacts to the City's circulation network, and that the project provides for complete streets to the extent feasible.

Action CI 1f: Update the City's Capital Improvement Program (CIP) to include, as appropriate, the roadway improvements necessary to support buildout of the General Plan.

Action CI 1g: Routinely monitor the performance of the circulation network, optimizing traffic signals and utilizing Intelligent Transportation Systems (ITS) measures where beneficial to maximize efficiency of the existing network on a regular basis.

Action CI 1o: Continue to maintain and routinely update a development impact fee program to fund Citywide transportation improvements.

Action CI 1p: In coordination with Caltrans, establish an impact fee that allows future development along the State-owned portion of Gravenstein Highway to contribute a proportional-share of the funding for future circulation improvements within Cotati on this corridor.

Action CI 1q: As part of the development review process, require new development to mitigate circulation impacts by making improvements to the motorized and non-motorized circulation networks as necessary, and in a fair manner with an established nexus between the level of impact and required improvements and/or contributions.

Action CI 1r: As part of the development review process, ensure that new development facilitates walking, biking, and transit modes; incorporates streets that are designed to maintain safe and efficient traffic flow; constructs or (if deemed appropriate by the City Engineer) contributes funds toward construction of off-site improvements necessary to mitigate traffic impacts; provides adequate emergency vehicle access; and pays development impact fees that contribute to cumulative circulation improvements.

Action CI 3b: Establish specific TDM requirements for projects and consider making requirements sector-based (e.g., residential, commercial, industrial).

Impact 3.12-2: General Plan buildout as well as regional growth would require improvements on Gravenstein Highway, a Caltrans facility. Because the City does not control the funding or timing of these improvements, the City cannot determine that the improvements will be made in time to accommodate regional and local growth (Significant and Unavoidable)

Development allowed under the Cotati General Plan update would result in increased use of Gravenstein Highway (SR 116), a regional highway facility owned and operated by Caltrans that also serves local traffic within Cotati. Caltrans has established a standard of LOS D for intersections in the study area that are on the State highway system. Under Policy CI 1.9 of the Cotati General Plan update, Action CI 1b identifies roadway improvements on City streets and intersections that

are needed to maintain the safety and efficiency of the City's roadway network at buildout, and Action CI 1c identifies roadway improvements needed on facilities owned by jurisdictions other than the City of Cotati (including Caltrans and the County of Sonoma) to support both regional traffic growth and buildout of the City's General Plan.

The most recent system planning document prepared by Caltrans for the Gravenstein Highway (SR 116) is a Route Concept Report (RCR) completed in 1985. The 1985 RCR for SR 116 indicates that the highway should be widened to a continuous four-lane expressway with bike lanes between Sebastopol and US 101 in order to accommodate future traffic growth. Caltrans now considers RCRs to be expired documents used for reference purposes, and instead uses a system planning document referred to as a Transportation Concept Report (TCR) for state highways. As of the writing of this document (2013), Caltrans has not yet released a TCR for SR 116.

As shown in Tables 3.12-10 and 3.12-11, implementation of the General Plan update would result in acceptable operation of LOS D or better at all study intersections including those on Gravenstein Highway (intersection numbers 1-5 and 20). While implementation of the General Plan would result in acceptable LOS, the ability to fund and construct the widening of Gravenstein Highway is uncertain because the roadway is under the jurisdiction of Caltrans, and not the City of Cotati. While Caltrans has previously identified the need to widen the highway to accommodate regional growth, the ability of Caltrans to fund and implement this widening cannot be assured. Further, traffic generated by development in the City of Cotati only accounts for a portion of the need for future improvements on Gravenstein Highway, and the remaining cost of necessary improvements associated with regional traffic growth would need to be funded separately.

General Plan Policy CI 4.7 and Action CI 4a state that Cotati will work with surrounding jurisdictions to implement a regional transportation impact fee program that may be used, for example, to fund circulation improvements on facilities like Gravenstein Highway that serve both local and regional traffic, or for one jurisdiction to fund improvements to offset its traffic impacts in a neighboring jurisdiction. Action CI 1p also indicates that the City shall, in consultation with Caltrans, establish an impact fee that allows development along the portion of Gravenstein Highway within the City to contribute a proportional-share of the costs associated with improving this Caltrans-owned facility. While implementation of this policy and these actions would ensure that the City's proportional-share of funding from new development projects would be applied toward roadway impacts on facilities including Gravenstein Highway, to date such impact fee programs have not been created. Further, there is no guarantee that full or partial funding for the identified improvements will be available from the State within the planning horizon of this General Plan, that mechanisms will be in place in Cotati for the collection and administration of such funding, or that the roadway capacity expansion project to reduce the identified impacts will actually be constructed. While the policies and actions in the General Plan would address the City's proportional share of the improvements and ensure safe access to developments, the ability to fund and construct the widening of Gravenstein Highway and other improvements outside the City's control (as listed in General Plan Action CI 1c) also relies on funding from other non-City

sources. Given the current lack of a regional fee program, or another identified source of funding to mitigate this regional funding, this impact would remain **significant and unavoidable** and no further mitigation is available.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 1.1 *Ensure that the City's circulation network is maintained and improved over time to support buildout of the General Plan in a manner that is consistent with the City's Circulation Diagram Figure CI-1.*

Policy CI 1.2 *Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, and bicycle/pedestrian paths that effectively accommodates vehicular and non-vehicular traffic in a manner that considers the context of surrounding land uses and the needs of all roadway users.*

Policy CI 1.3 *Establish a minimum motor vehicle Level of Service (LOS) standard of LOS D at intersections.*

Policy CI 1.5 *Through the development review process, CEQA process, and through long-range infrastructure planning efforts, identify circulation network improvements and mitigation measures necessary to maintain the City's level of service standards.*

Policy CI 1.7 *Maximize the use of federal and other matching funding sources to provide ongoing maintenance, operation, and management of the City's circulation network.*

Policy CI 1.20 *Require new development to contribute its proportional share cost of circulation improvements necessary to address cumulative transportation impacts on roadways throughout the City as well as the bicycle and pedestrian network.*

Policy CI 3.2 *Work with SCTA and/or RCPA to monitor the need for and locations of additional park-and-ride lots in Cotati in order to increase the number of trips made by transit and carpooling.*

Policy CI 3.3 *Work with major employers and representatives from Sonoma State University to implement Transportation Demand Management (TDM) programs. Examples of TDM programs may include (but are not limited to) subsidized transit passes, guaranteed ride home, carpool matching, telecommuting, alternative work schedules, car sharing, employer-sponsored vanpools, priced workplace parking, and preferential parking for carpools and/or low-emission vehicles.*

Policy CI 3.4 *Coordinate with Sonoma State University to minimize traffic impacts through strategic scheduling of classes and major events, implementation of TDM measures, and on-campus parking management.*

Policy CI 4.1 *Continue to participate in efforts that coordinate the planning and operation of the regional circulation system.*

Policy CI 4.3 *Actively work with Sonoma County and SCTA in coordinating improvements to major roads in the unincorporated areas surrounding Cotati. Major roads include Old Redwood Highway, Railroad Avenue, Petaluma Hill Road, West Sierra Avenue, and Stony Point Road.*

Policy CI 4.4 *Continue to consult with Caltrans and Sonoma County on transportation planning, operations, and funding to improve automobile and non-automobile circulation on Gravenstein Highway and the City's U.S. 101 freeway interchanges at West Sierra Avenue, Gravenstein Highway, and Railroad Avenue.*

Policy CI 4.5 *Coordinate with the County, neighboring jurisdictions, and Caltrans to ensure that significant traffic impacts to Cotati from outside the City's jurisdiction are appropriately mitigated.*

Policy CI 4.6 *Provide local support to regional agencies in the implementation of Intelligent Transportation Systems (ITS) measures that improve the efficiency of the area's roadway and transit networks.*

Policy CI 4.7 *Proactively work with surrounding jurisdictions to implement a regional transportation impact fee program. Regional transportation impact fees may be used, for example, to fund regional or sub-regional circulation improvements, or to allow proportional share contributions to be made by development in one jurisdiction on behalf of needed mitigations/improvements in a neighboring jurisdiction.*

Actions

Action CI 1a: *Continually seek opportunities to fund maintenance of and improvements to the circulation network, including through active pursuit of a wide range of grant sources.*

Action CI 1b: *Complete the following roadway improvements on City streets to improve the safety and efficiency of the current circulation system, and to support buildout of the General Plan.*

- *Install a traffic signal on Madrone Avenue at the intersection of Gravenstein Highway, establishing the north leg as the primary roadway connection to Derby Lane and Locust Avenue.*
- *Eliminate the current skewed intersection at Gravenstein Highway/Derby Lane.*
- *Realign the eastern portion of Derby Lane so that it extends as an east-west collector street to Alder Avenue.*
- *Construct a new north-south collector street in the western portion of the City, intersecting Gravenstein Highway approximately midway between Locust Avenue and Alder Avenue. Extend the street northward to Helman Lane and southward to intersect with an eastward extension of Isabel Drive.*
- *Install a traffic signal on the new north-south collector street at the intersection of Gravenstein Highway.*
- *Eliminate the intersection at Gravenstein Highway/Alder Avenue once a connection between Alder Avenue and the new north-south collector street is established.*
- *Construct a minor realignment of West Cotati Avenue to intersect Gravenstein Highway at an improved angle, and install a traffic signal at the intersection.*
- *Restrict direct access between private parcels and Gravenstein Highway once alternative access is established (i.e., parallel roadways and new intersections as described above).*

- *Add a southbound right turn pocket on Redwood Drive at the Gravenstein Highway intersection (improvement is only needed with buildout to SOI/UGB).*

Action CI 1c: *Work collaboratively with Caltrans, the County of Sonoma, and the Sonoma County Transportation Authority to identify funding sources and complete the following improvements on roadways owned by these agencies within and near the City of Cotati.*

- *Reconstruct Gravenstein Highway between Madrone Avenue and Redwood Drive to include sidewalks, bicycle lanes, two vehicle travel lanes in each direction, and left turn pockets.*
- *Widen Gravenstein Highway to include two travel lanes in each direction between Madrone Avenue and a point approximately 500 feet to the west of Madrone Avenue (improvement is only needed with buildout to SOI/UGB).*
- *Widen Gravenstein Highway to include three eastbound lanes between a point just west of Redwood Drive and the US 101 South Ramps intersection.*
- *Add a right turn lane on the US 101 Southbound off-ramp at Gravenstein Highway (improvement is only needed with buildout to SOI/UGB).*
- *Implement coordinated signal timing along the Gravenstein Highway corridor between Old Redwood Highway and Madrone Avenue.*
- *Upgrade the US 101 freeway interchange at Railroad Avenue to a full diamond interchange.*
- *Complete capacity improvements on Railroad Avenue between Petaluma Hill Road and US 101.*

Action CI 1e: *As part of the development review and planning process, review general plan amendments, zone change requests, specific plans, and development projects to ensure that adequate circulation improvements are included, that the project addresses its proportional-share of impacts to the City's circulation network, and that the project provides for complete streets to the extent feasible.*

Action CI 1f: *Update the City's Capital Improvement Program (CIP) to include, as appropriate, the roadway improvements necessary to support buildout of the General Plan.*

Action CI 1g: *Routinely monitor the performance of the circulation network, optimizing traffic signals and utilizing Intelligent Transportation Systems (ITS) measures where beneficial to maximize efficiency of the existing network on a regular basis.*

Action CI 1o: *Continue to maintain and routinely update a development impact fee program to fund Citywide transportation improvements.*

Action CI 1p: *In coordination with Caltrans, establish an impact fee that allows future development along the State-owned portion of Gravenstein Highway to contribute a proportional-share of the funding for future circulation improvements within Cotati on this corridor.*

Action CI 1q: *As part of the development review process, require new development to mitigate circulation impacts by making improvements to the motorized and non-motorized circulation networks as necessary, and in a fair manner with an established nexus between the level of impact and required improvements and/or contributions.*

Action CI 1r: *As part of the development review process, ensure that new development facilitates walking, biking, and transit modes; incorporates streets that are designed to maintain*

safe and efficient traffic flow; constructs or (if deemed appropriate by the City Engineer) contributes funds toward construction of off-site improvements necessary to mitigate traffic impacts; provides adequate emergency vehicle access; and pays development impact fees that contribute to cumulative circulation improvements.

Action CI 3b: Establish specific TDM requirements for projects and consider making requirements sector-based (e.g., residential, commercial, industrial).

Action CI 4a: Work with the SCTA, County of Sonoma, and City of Rohnert Park to develop a system that allows for the collection of regional transportation impact fees and/or a mechanism to collect and fund transportation mitigations between jurisdictions.

Impact 3.12-3: Implementation of the proposed General Plan would contribute to unacceptable operation on US 101 freeway facilities (Significant and Unavoidable)

Development allowed under the Cotati General Plan Update would result in increased use of US 101. Caltrans has established a standard of LOS E for US 101 in this portion of Sonoma County. As shown in Tables 3.12-14 and 3.12-15, several segments on US 101 are projected to operate unacceptably at LOS F in the future (year 2040) due to regional growth including buildout of the Cotati General Plan. The share of traffic growth attributable to buildout of Cotati's General Plan is considered to be cumulatively significant, as shown in Table 3.12-16.

The projected unacceptable operation on US 101 could be mitigated by widening the freeway to include additional through lanes in each direction. Further widening of US 101 is not included in the SCTA's Comprehensive Transportation Plan, nor do any financing mechanisms currently exist to fund the improvement. Widening the freeway would require major reconstruction of multiple freeway structures, right-of-way acquisition including many homes and businesses, potential relocation of City streets paralleling the freeway corridor (including Redwood Drive and Commerce Boulevard), and the likely creation of additional secondary environmental impacts. The environmental, social, and financial impacts render such a widening project infeasible.

The Metropolitan Transportation Commission, County of Sonoma, City of Cotati, and SCTA recognize that US 101 will experience congestion into the foreseeable future, and that there will be no further major capacity enhancements such as expansions or new freeways. All four jurisdictions concur in various planning and policy documents that long-range solutions to regional mobility must focus on better land use planning that supports transit and alternative transportation modes; stronger jobs-housing balance; and increased support of transportation demand measures. While the Cotati General Plan emphasizes each of these goals, its potential impact to US 101 would remain **significant and unavoidable**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 3.2 *Work with SCTA and/or RCPA to monitor the need for and locations of additional park-and-ride lots in Cotati in order to increase the number of trips made by transit and carpooling.*

Policy CI 3.3 *Work with major employers and representatives from Sonoma State University to implement Transportation Demand Management (TDM) programs. Examples of TDM programs may include (but are not limited to) subsidized transit passes, guaranteed ride home, carpool matching, telecommuting, alternative work schedules, car sharing, employer-sponsored vanpools, priced workplace parking, and preferential parking for carpools and/or low-emission vehicles.*

Policy CI 3.4 *Coordinate with Sonoma State University to minimize traffic impacts through strategic scheduling of classes and major events, implementation of TDM measures, and on-campus parking management.*

Policy CI 4.1 *Continue to participate in efforts that coordinate the planning and operation of the regional circulation system.*

Policy CI 4.4 *Continue to consult with Caltrans and Sonoma County on transportation planning, operations, and funding to improve automobile and non-automobile circulation on Gravenstein Highway and the City's US 101 freeway interchanges at West Sierra Avenue, Gravenstein Highway, and Railroad Avenue.*

Policy CI 4.6 *Provide local support to regional agencies in the implementation of Intelligent Transportation Systems (ITS) measures that improve the efficiency of the area's roadway and transit networks.*

Policy CI 4.7 *Proactively work with surrounding jurisdictions to implement a regional transportation impact fee program. Regional transportation impact fees may be used, for example, to fund regional or sub-regional circulation improvements, or to allow proportional share contributions to be made by development in one jurisdiction on behalf of needed mitigations/improvements in a neighboring jurisdiction.*

Policy LU 2.5: *Locate medium and higher density housing within easy walking or bicycling distance of public facilities, services, transit, and major employers.*

Policy LU 2.10: *Encourage mixed-use, pedestrian-, and transit-oriented development, with a focus on the Hub and major corridors.*

Policy LU 3.8: *Design future commercial retail with a pedestrian and bicyclist orientation.*

Actions

Action CI 3b: Establish specific TDM requirements for projects and consider making requirements sector-based (e.g., residential, commercial, industrial).

Action CI 4a: *Work with the SCTA, County of Sonoma, and City of Rohnert Park to develop a system that allows for the collection of regional transportation impact fees and/or a mechanism to collect and fund transportation mitigations between jurisdictions.*

Impact 3.12-4: The proposed General Plan would not conflict with an applicable congestion management program (No Impact)

The Sonoma County Transportation Authority relinquished its position as the County's Congestion Management Agency (CMA) in 1997, and as a result, does not maintain or enforce an applicable congestion management program or level of service standards on roadway facilities within Sonoma County including within the City of Cotati. Therefore, there is **no impact**.

Impact 3.12-5: The proposed General Plan would not result in a change in air traffic patterns (No Impact)

The City has no existing or planned airport facilities and is not located near any airports, approach, or departure zones. Development attributable to the General Plan would be expected to have **no impact** to air traffic.

Impact 3.12-6: Implementation of the proposed General Plan would not substantially increase hazards due to a design feature (Less than Significant)

The City maintains improvement standards that guide the construction of new transportation facilities to minimize design hazards for all users of the system. Through the environmental review process, land use proposals that would add traffic to streets not designed to current standards are carefully evaluated. If needed, mitigations are identified and the project is conditioned to construct or provide funding for an improvement that would minimize or eliminate the hazard. Typical improvements include shoulder widening, adding turn pockets, adding sidewalks or crosswalks, realigning sharp curves, prohibiting certain turning movements, signalizing intersections, and other improvements. New and upgraded roadways needed to accommodate new development will be designed according to applicable federal, state, and local design standards. This includes new roadways designated in the General Plan in the western portion of the City, as well as the reconfiguration of existing streets such as Alder Avenue and West Cotati Avenue.

Development and infrastructure projects in Cotati would be required to comply with the General Plan, Land Use Code, and applicable state and local regulations. The General Plan also establishes several policies and actions that are intended to result in roadway designs that safely accommodate all users and reinforce lower driving speeds where appropriate to enhance safety. Specifically, General Plan Policy CI 1.18 indicates that intersections shall be designed to provide safe access for all users, and Policy CI 1.24 indicates that streets in business areas shall be designed to effectively accommodate delivery activity. Action CI 1j requires the City to monitor collision reports annually and prioritize areas to implement safety improvements, Action CI 1l requires new

local streets to use a design speed of 25 mph or less, Action CI 1m indicates that intersections shall be designed to minimize pedestrian and bicycle crossing distances, Action CI 1r requires new development to design streets to support safe traffic flow, and Action CI 2f supports establishing a rural road design standard that safely accommodates pedestrians and bicyclists. Further, the General Plan update does not contain any provisions that would increase hazards due to design features of incompatible uses. Therefore, this impact is **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 1.8 *Maintain safe travel conditions for all modes of travel.*

Policy CI 1.9 *Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.*

Policy CI 1.18 *Intersections shall be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities.*

Policy CI 1.24 *Ensure that streets in business areas are designed to effectively accommodate delivery activity.*

Actions

Action CI 1j: *Monitor collision reports on an annual basis. Prioritize locations with high collision rates for safety improvements. Through the use of available City funds or grants, apply techniques such as installation of traffic control or warning devices, implementation of traffic calming, geometric modifications, increased enforcement, etc., to improve safety.*

Action CI 1l: *Require developers to design local roadways (i.e., streets other than arterials and collectors) for speeds of 25 miles per hour or less.*

Action CI 1m: *Review plans for new or modified intersections to ensure that lane configurations are limited where possible to provide for moderate speeds and pedestrian and cyclist safety, and that curb extensions are installed where appropriate to reduce driving speeds and shorten pedestrian crossing distances.*

Action CI 1r: *As part of the development review process, ensure that new development facilitates walking, biking, and transit modes; incorporates streets that are designed to maintain safe and efficient traffic flow; constructs or (if deemed appropriate by the City Engineer) contributes funds toward construction of off-site improvements necessary to mitigate traffic impacts; provides adequate emergency vehicle access; and pays development impact fees that contribute to cumulative circulation improvements.*

Action CI 2f: *Develop a rural roads standard to ensure that rural roads provide accommodations for pedestrians and bicyclists.*

Impact 3.12-7: Emergency Access (Less than Significant)

Implementation of the proposed General Plan update would result in increased development densities and intensities, would result in new roadways, and would increase the number of users on the City's transportation system. There will be a need to ensure that adequate emergency access provisions are made to accommodate increased population and growth. As shown in Tables 3.12-10 and 3.12-11, implementation of the General Plan is projected to result in LOS D or better operation at all study intersections. Further, as shown in Tables 3.12-12 and 3.12-13, key roadway facilities in Cotati are also projected to operate at LOS D or better, and are not expected to encounter congestion that would impede emergency access. In the western portion of Cotati where some existing roadways would be eliminated, new connections with upgraded roadways would be created, maintaining effective emergency access. As a result, the Plan's impacts to emergency circulation and access are considered to be **less than significant**.

In addition to maintaining traffic flows that facilitate emergency response, General Plan Policies CI 1.10 and CI 1.14 specify that new streets in the Downtown Specific Plan area and in residential neighborhoods maintain a "grid" pattern, which improves emergency response by providing multiple points of access and alternative travel routes. Policy CI 1.16 also indicates that streets shall be designed to accommodate emergency vehicles.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 1.10 *Implement a grid network of streets that is consistent with both the configuration and character described in the Downtown Specific Plan.*

Policy CI 1.14 *Design new residential streets as a grid roadway system, to the extent practical.*

Policy CI 1.16 *Ensure that residential street widths are no greater than needed to accommodate emergency vehicles.*

Actions

Action CI 1r: *As part of the development review process, ensure that new development facilitates walking, biking, and transit modes; incorporates streets that are designed to maintain safe and efficient traffic flow; constructs or (if deemed appropriate by the City Engineer) contributes funds toward construction of off-site improvements necessary to mitigate traffic impacts; provides adequate emergency vehicle access; and pays development impact fees that contribute to cumulative circulation improvements.*

Impact 3.12-8: The proposed General Plan would accommodate increased demand for public transit and supports a shift in trips from automobile to transit modes (Less than Significant)

Implementation of the Cotati General Plan could lead to increases in the City's population and employment that would increase the demand for transit services offered by Sonoma County Transit and Golden Gate Transit. While there are not established standards regarding transit levels of service that have been adopted by the City or transit agencies, the General Plan includes policies that support transit-oriented development patterns, strengthen ties between the pedestrian and bicycle networks to transit, promote enhancements to transit facilities, and support increased transit coverage and frequencies in Cotati.

Policies CI 2.14 and CI 2.15 indicate that the City shall seek funding for bus shelters and ensure that adequate lighting is provided at bus stops, Policy CI 2.16 calls for continued coordination with Sonoma County Transit toward educating the public about using the transit system, and Policies CI 2.17, CI 2.22, and CI 3.2 focus on improving park-and-ride facilities at major transit stops and continuing to monitor the need and locations for additional park-and-ride lots, and Policies CI 2.19 through CI 2.21 emphasize strengthening connections to and facilities at the Cotati SMART commuter rail station. Policy CI 2.18 and Action CI 2i state that the City of Cotati shall pursue improvements and funding to increase transit frequencies, hours of transit operation, and transit service areas in Cotati, including establishment of a contract with Sonoma County Transit to provide funding for these transit services as funding becomes available. Given the General Plan's emphasis on increasing transit usage, improving transit facilities, and desire to fund future improvements to transit service, any potential impacts to transit are considered to be **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 1.6 *When analyzing impacts to the circulation network created by new development or roadway improvements, consider the needs of all users including those with disabilities, ensuring that pedestrians, bicyclists, and transit riders are considered at an equal level to the needs of automobile drivers.*

Policy CI 2.14 *Through a Capital Improvement Program and joint funding from Sonoma County and Golden Gate Transit, the City shall maintain and, where feasible, continue to build lighted and sheltered seating facilities at bus stops where appropriate.*

Policy CI 2.15 *Ensure that adequate lighting is provided at all bus stops.*

Policy CI 2.16 *Continue to work with Sonoma County Transit to create an effective Rider Awareness Program that will educate the public on the existing transit systems.*

Policy CI 2.17 *Safe and continuous pedestrian, vehicular, and bicycle access shall be provided at all transit park-and-ride facilities.*

Policy CI 2.18 *Pursue improvements and funding to increase transit ridership, increase transit frequencies on key corridors, increase the hours of transit operation, and expand regular transit service in portions of Cotati that currently have no public transit.*

Policy CI 2.19 *Establish the SMART multi-modal transit station on East Cotati Avenue and Santero Way to provide a link between commuter rail, bus, pedestrian, and bicycle travel and to provide retail and services to serve SMART transit users.*

Policy CI 2.20 *Ensure that effective transit linkages are in place between the SMART commuter rail station and the City's primary activity and employment centers.*

Policy CI 2.21 *Coordinate with SMART in seeking opportunities to fund and construct improvements that improve multimodal access to the Cotati rail station.*

Policy CI 2.22 *Encourage the use of park and ride facilities in safe and convenient locations.*

Policy CI 3.2 *Work with SCTA and/or RCPA to monitor the need for and locations of additional park-and-ride lots in Cotati in order to increase the number of trips made by transit and carpooling.*

Actions

Action CI 2i: *As funding becomes available, the City should coordinate a contract with Sonoma County Transit to provide more frequent headways, extend service hours, and serve a greater portion of the City. The City would review and renew the contract as necessary.*

- *Bus headways of 30 minutes or less are desirable on routes serving Old Redwood Highway and East Cotati Avenue.*
- *Local bus service operating until 10 PM would be desirable.*
- *New or modified routes that serve the southern and western portions of Cotati should be prioritized.*

Action CI 2j: *Compile a list of bus stops with inadequate lighting, and through the Capital Improvement Program, install street lights at those stops as funding is available.*

Action CI 2k: *Study the feasibility of establishing a public or private shuttle system to serve the SMART commuter rail station, strengthening ties to the Hub as well as major employers and schools in and surrounding Cotati.*

Impact 3.12-9: The proposed General Plan is consistent with adopted bicycle and pedestrian plans, and supports enhancements that emphasize bicycle and pedestrian circulation (Less than Significant)

Implementation of the Cotati General Plan would improve the existing bicycle and pedestrian circulation infrastructure and require future development to provide multimodal circulation improvements. Increases in the City's population and employment that could result under implementation of the General Plan would also likely lead to increases in pedestrian and bicycle travel beyond current levels, which are shown in Figures 3.12-4A and 3.12-4B. Policies CI 2.1 and CI 2.11 indicate that the City of Cotati shall establish and maintain a network of pedestrian and bicycle facilities that are consistent with the City's Bicycle and Pedestrian Master Plan. An excerpt of the currently-adopted plan is shown in Figure 3.12-3. Policy CI 2.3 and Action CI 2a require development projects to construct pedestrian and bicycle improvements consistent with the Bicycle and Pedestrian Master Plan, and Policy CI 2.12 indicates that the City will incorporate facilities shown in the Bicycle and Pedestrian Master Plan into public road construction projects. Action CI 1n indicates that the City shall implement circulation impact fees that support not only roadway improvements, but also facilities shown in the Bicycle and Pedestrian Master Plan. Given the proposed General Plan's focus on enhancing Cotati's multimodal circulation system, consistency with the Bicycle and Pedestrian Master Plan and any future updates of that Plan, requirements for future development to construct multimodal improvements, and commitment to fund larger bicycle and pedestrian improvement projects through impact fees, the potential impacts to pedestrian and bicycle circulation are considered to be **less than significant**.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CI 1.2 *Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, and bicycle/pedestrian paths that effectively accommodates vehicular and non-vehicular traffic in a manner that considers the context of surrounding land uses and the needs of all roadway users.*

Policy CI 1.6 *When analyzing impacts to the circulation network created by new development or roadway improvements, consider the needs of all users including those with disabilities, ensuring that pedestrians, bicyclists, and transit riders are considered at an equal level to the needs of automobile drivers.*

Policy CI 1.9 *Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.*

Policy CI 1.11 *Retain the viewpoint of the pedestrian as the primary perspective when identifying Hub-related traffic improvements.*

Policy CI 1.12 *Enhance the safety of pedestrian crossings in the Hub area while ensuring a delightful downtown experience.*

Policy CI 1.17 *Intersections shall be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities.*

Policy CI 1.19 *Require new development to include effective linkages to the surrounding circulation system for all modes of travel, to the extent feasible.*

Policy CI 1.20 *Require new development to contribute its proportional share cost of circulation improvements necessary to address cumulative transportation impacts on roadways throughout the City as well as the bicycle and pedestrian network.*

Policy CI 1.21 *Require development projects to provide land dedications or pay fees in order to provide bike paths, sidewalks, and walkways.*

Policy CI 2.1 *Establish and maintain a system of pedestrian facilities and crossing enhancements that are consistent with the City's Bicycle and Pedestrian Master Plan.*

Policy CI 2.2 *Support establishment of special assessments of affected property owners in order to provide funding to install walkways and fill gaps in the existing pedestrian network.*

Policy CI 2.3 *Require development projects to construct sidewalks and walkways on and off-site in order to maintain consistency with the City's Bicycle and Pedestrian Master Plan, and as dictated by the location of transit stops and common pedestrian destinations.*

Policy CI 2.4 *When it can be shown that construction of a sidewalk would be at odds with an existing neighborhood's aesthetic and the historic nature of the area, alternatives such as an off-street path or wider paved shoulders may be considered, particularly on low-volume local streets.*

Policy CI 2.5 *In semi-rural areas and locations where sidewalks are not planned, provide wide shoulders to accommodate pedestrians and bicyclists.*

Policy CI 2.6 *Create an accessible circulation network that is consistent with guidelines established by the Americans with Disabilities Act (ADA), allowing mobility-impaired users such as the disabled and elderly to safely and effectively travel within and beyond the City.*

Policy CI 2.7 *Provide benches, covered resting areas, and bicycle parking along off-street pedestrian and bicycle facilities such as the Laguna de Santa Rosa path.*

Policy CI 2.8 *Where possible, integrate multi-use path facilities into utility corridor rights-of-way.*

Policy CI 2.9 *Work with utility providers to reduce or eliminate barriers to pedestrian and bicyclist mobility created by utility infrastructure (such as utility poles that obstruct accessibility).*

Policy CI 2.10 *Continue to provide secure bicycle racks in the Hub, future and existing commercial areas, park and ride transit facilities, schools, and multiple unit residential developments.*

Policy CI 2.11 *Establish and maintain bicycle facilities that are consistent with the network depicted in the City's Bicycle and Pedestrian Master Plan.*

Policy CI 2.12 *Public road construction projects shall incorporate facilities identified in the Bicycle and Pedestrian Master Plan to the greatest extent feasible.*

Policy CI 2.13 *Bicycle parking facilities such as bike racks, bike lockers, and secure bike corrals shall be provided at locations where there is a concentration of residents, visitors, students, or employees.*

Policy CI 2.23 *Prioritize bicycle and pedestrian safety for students travelling to and from school.*

Policy CI 2.24 *Develop a Safe Routes to School Program for Thomas Page School and schools in Rohnert Park that serve the Cotati population.*

Actions

Action CI 1a: *Continually seek opportunities to fund maintenance of and improvements to the circulation network, including through active pursuit of a wide range of grant sources.*

Action CI 1m: *Review plans for new or modified intersections to ensure that lane configurations are limited where possible to provide for moderate speeds and pedestrian and cyclist safety, and that curb extensions are installed where appropriate to reduce driving speeds and shorten pedestrian crossing distances.*

Action CI 1n: *Prepare an Impact Fee Study to support an updated development impact fee that requires new development to pay its proportional share of circulation improvements, including but not limited to the improvements shown on Figure CI 1 and listed under Actions 1b and 1c, as well as pedestrian and bicycle facilities such as those included in the Bicycle and Pedestrian Master Plan.*

Action CI 1p: In coordination with Caltrans, establish an impact fee that allows future development along the State-owned portion of Gravenstein Highway to contribute a proportional-share of the funding for future circulation improvements within Cotati on this corridor.

Action CI 1q: *As part of the development review process, require new development to mitigate circulation impacts by making improvements to the motorized and non-motorized circulation networks as necessary, and in a fair manner with an established nexus between the level of impact and required improvements and/or contributions.*

Action CI 1r: *As part of the development review process, ensure that new development facilitates walking, biking, and transit modes; incorporates streets that are designed to maintain safe and efficient traffic flow; constructs or (if deemed appropriate by the City Engineer) contributes funds toward construction of off-site improvements necessary to mitigate traffic impacts; provides adequate emergency vehicle access; and pays development impact fees that contribute to cumulative circulation improvements.*

Action CI 2a: *As part of the development process, review development applications to ensure compliance with the City's Bicycle and Pedestrian Master Plan.*

Action CI 2b: *Review traffic signal timing plans to ensure adequate crossing times for all users at signalized intersections.*

Action CI 2c: *Review all transportation improvements to ensure installation in accordance with current accessibility standards.*

Policy CI 2d: *Regularly review transportation corridors to identify barriers encountered by persons with disabilities, including locations where there are not ADA-compliant curb cuts and ramps, and address such obstacles in the Capital Improvement Program, to the extent that funding for such activities is available.*

Action CI 2f: *Develop a rural roads standard to ensure that rural roads provide accommodations for pedestrians and bicyclists.*

Action CI 2g: *Public Works shall include construction of bicycle and pathway facilities in the City's Capital Improvement Program.*

Action CI 2h: *Public Works shall ensure that bicycle loop detectors at traffic signals are clearly identified with stencils, if in-ground loops are used for detection.*

Action CI 2l: *Identify potential bicycle and pedestrian connections from East Cotati Avenue and School Street locations east of US 101 to Thomas Page Elementary School. Along rural streets, determine the feasibility of developing a bicycle/pedestrian path along one side of the road.*

Action CI 2m: *As part of the development review process, ensure that new development projects, particularly those along potential Safe Routes to School shown on Figure CI-2, provide bicycle and pedestrian improvements to facilitate the implementation of a Safe Routes to School plan for Thomas Page Elementary School.*

Action CI 2n: *Coordinate with the Cotati-Rohnert Park Unified School District, City of Rohnert Park, Sonoma County Transportation Authority, Sonoma County Department of Public Health, and the Sonoma County Bicycle Coalition to fund and initiate development of a Safe Routes to School Program.*

Action CI 2o: *Once adopted, routinely review and update the Safe Routes to School plan, to reflect the current circulation infrastructure, student travel patterns, identified hazards, and school characteristics.*

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Cotati General Plan Update

Figure 3.12-1A
Existing Circulation Network and Lane Configurations

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Cotati General Plan Update

Figure 3.12-1B
Existing Circulation Network and Lane Configurations

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Cotati General Plan Update

Figure 3.12-2A
Existing Traffic Volumes

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Cotati General Plan Update

Figure 3.12-2B
Existing Traffic Volumes

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Cotati General Plan Update

Figure 3.12-3
Cotati Bicycle and Pedestrian Master Plan

BIKE ROUTES
- CLASS I, EXISTING
- CLASS I, PROPOSED
- Highlighted Route on the Regional Network
- CLASS II, EXISTING
- CLASS II, PROPOSED
- Highlighted Route on the Regional Network
- CLASS III, EXISTING
- CLASS III, PROPOSED
- Highlighted Route on the Regional Network
- Bicycle Boulevard

BICYCLE AMENITIES
- Bike Parking - Existing
- Bike Parking - Proposed
- Showers/Lockers - Existing
- Showers/Lockers - Proposed

PEDESTRIAN ENHANCEMENTS
- EXISTING CROSSING
- PROPOSED CROSSING
- PROPOSED SIDEWALK IMPROVEMENT

PEDESTRIAN ORIENTED AREAS
- Pedestrian Districts
- Link - EXISTING
- Link - PROPOSED

MULTIMODAL CONNECTIONS
- EXISTING
- PROPOSED
- Bus Stops - EXISTING

TRANSPORTATION FEATURES
- Street or Road
- Highway
- Freeway
- Railroad

GEOGRAPHIC ELEMENTS
- City Sphere of Influence
- Cotati City Limits
- Other City Limits
- Publicly Owned Land
- City Halls
- Waterway

SCHOOLS
- ELEMENTARY
- MIDDLE
- HIGH SCHOOL

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Study Intersection

Cotati General Plan Update

Figure 3.12-4A
Pedestrian and Bicycle Volumes

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Cotati General Plan Update

Figure 3.12-4B
Pedestrian and Bicycle Volumes

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Cotati General Plan Update

Figure 3.12-5
Bus Transit Routes

GGT 80/101
GGT 74
SCT 10
SCT 12
SCT 26
SCT 44
SCT 48
SCT 48 Express

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Cotati General Plan Update

Figure 3.12-6
Future No Project
Traffic Volumes

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Cotati General Plan Update

Figure 3.12-7
Added Trips - Buildout within Existing City Limits

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Cotati General Plan Update

Figure 3.12-8
Added Trips - Buildout to Sphere of Influence

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Cotati General Plan Update

Figure 3.12-9
Cumulative plus General Plan Buildout within City Limits

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Cotati General Plan Update

Figure 3.12-10
Cumulative plus General Plan Buildout to Sphere of Influence

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Cotati General Plan Update

Figure 3.12-11
Future Lane Configurations with General Plan Improvements

* Additional Mitigation with Buildout to Sphere of Influence

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Utilities are critical to providing safe drinking water, disposal and treatment of wastewater, and solid waste disposal. This section provides a background discussion of the utility systems in Cotati including water supplies, wastewater, and solid waste. This section is organized with an existing setting, regulatory setting, and impact analysis. No comments were received regarding utilities during the Notice of Preparation scoping process.

3.13.1 WATER SUPPLIES

The City of Cotati owns and operates a water supply and distribution system that supplies potable water to residences and businesses within the City limits. The City's potable water supply comes primarily from water purchased from the Sonoma County Water Agency (SCWA) and water pumped from groundwater wells owned and operated by the City.

KEY TERMS

Acre feet: The volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to approximately 325,851.4 gallons.

BGS: Below ground surface.

GPD: Gallons per day.

GPM: Gallons per minute.

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

MG: Million gallons

MGD: Million gallons per day

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is replenished naturally through precipitation, but is lost naturally through evaporation and seepage into soil.

WATER SUPPLIES

The City's main water supply is water that it receives from the SCWA. The SCWA water supply is comprised of ground water from the Russian River permitted under a surface water diversion right for infiltration and groundwater from SCWA wells. In addition to the primary SCWA water supply, the City uses local groundwater supply from three municipal well sites located within city limits. Prior to 1992, the City used groundwater to supply more than half of its demands. More recently,

the City's water strategy has been to primarily supply its demands by use of its SCWA water supply and to use its local groundwater supplies to supplement its needs during peak periods and also during periods of drought. The City's local groundwater supply is a key element of its drought contingency plan and is planned to remain as such throughout the 25-30 year planning horizon of the 2010 UWMP. (Cotati UWMP, 2011) The City actively seeks to balance the use of its SCWA water supplies and its local groundwater supplies in a way that ensures a sustainable yield of local groundwater.

Additionally, as described in the City's 2010 UWMP, the City desires to implement a system that would allow for the delivery and use of recycled wastewater that is treated at the Santa Rosa Subregional System. Table 3.13-1 summarizes the City's current water supply as well as future (planned) water supplies during normal water years through 2030.

TABLE 3.13-1 CURRENT AND PLANNED WATER SUPPLIES (AFY)

Water Supply Sources	2010	2015	2020	2025	2030	2035
SCWA water supply	646	816	974	1,065	1,155	1,246
Supplier Produced Groundwater	295	530	530	530	530	530
Recycled Water	0	13	32	32	32	32
Future Water Conservation[(A)]	-	104	148	191	232	268
Total	941	1,463	1,684	1,818	1,949	2,076

SOURCE: CITY OF COTATI 2010 URBAN WATER MANAGEMENT PLAN, TABLE 4.6;
(A): BASED ON 2010 URBAN WATER MANAGEMENT PLAN WATER DEMAND ANALYSIS AND WATER CONSERVATION MEASURES UPDATE (MADDEUS WATER MANAGEMENT).

SCWA Water Supply

The following description of the SCWA water system is excerpted from the SCWA's 2010 UWMP and the City's 2010 UWMP.

Most of the SCWA's water supply is from the Russian River. Water is impounded at the Coyote Valley Dam, forming the Lake Mendocino reservoir, and the Warm Springs Dam on Dry Creek, forming the Lake Sonoma reservoir. The SCWA was the local sponsor of these projects and has the right to control water supply releases from both reservoirs. These dams are federal projects under the jurisdiction of the United States Army Corps of Engineers (Corps). The SCWA owns and operates diversion facilities on the Russian River in the Wohler Bridge area, which divert water from the natural flow of the Russian River, water released from Lake Sonoma, and water released from Lake Mendocino. The SCWA contracts with the Corps for water stored and released from the water supply pool of each dam. Lake Sonoma has a design capacity of 381,000 acre-feet (AF) and a design water supply pool capacity of 245,000 AF. Lake Mendocino has a design capacity of 122,500 AF and a water supply pool capacity of 68,400 AF, which can be increased in the summer to 111,000 acre-feet. Lake Mendocino also captures water released into Potter Valley by Pacific Gas and Electric (PG&E), which operates a hydropower generation station at the head of Potter Valley. Water for the power station is diverted through a tunnel from the South Fork of the Eel River via the Cape Horn Dam regulation facility.

SCWA diverts water from the river near Wohler Bridge into infiltration ponds and pumps groundwater principally via six Ranney Collectors (large diameter shallow wells about 90 feet deep relative to the stream bed). A system of aqueducts, booster pumps, and tanks then distribute the water to various major water contractors and a handful of other SCWA customers located to the south of the Russian River in Sonoma and Marin counties. The water contractors operate retail water systems that provide water principally for municipal use.

The SCWA's water supply has been augmented by groundwater extracted from seven wells located in the Mirabel area. These wells are currently not operated as primary production facilities, but provide standby production and may be used as primary facilities if needed. The SCWA also operates the Occidental and Todd Road groundwater wells to supplement supply.

Surface Water Quality

The quality of SCWA's water deliveries is regulated by the California Department of Public Health (CDPH), which requires regular collection and testing of water samples to ensure that the quality meets Federal and state regulatory standards and does not exceed maximum contaminant levels (MCLs). The SCWA's water quality testing has consistently yielded results within the acceptable regulatory limits since the late 1950s.

The SCWA treats its water supplies by chlorination for residual disinfection. The SCWA also adds sodium hydroxide for pH adjustment to prevent copper plumbing corrosion and copper in the wastewater. The SCWA's water is of high quality, due to the natural filtration process utilized by the SCWA's Ranney Collectors.

The quality of the SCWA's surface water and groundwater supply sources over the next 25 years is expected to continue to meet State and Federal regulatory standards. Surface and groundwater will continue to be treated to meet drinking water standards and no impacts to water supplies due to water quality deficiencies are foreseen to occur in the next 25 years (SCWA UWMP, 2010).

Water Rights and City Diversion Facilities

The City takes water from the SCWA system from two turnouts located on the Cotati Intertie Aqueduct to approximately 2,500 water service connections throughout the city. Under the water supply agreement with the SCWA, the City has an entitlement maximum of 1,520 acre-feet per year (AFY). This agreement is in effect until January 30, 2040. The combined Russian River supply and SCWA groundwater supply is herein referred to as the SCWA water supply. The SCWA can provide the City water by either supplying 100% of that supply through its Russian River supply or supplementing that supply through the SCWA groundwater supply.

The water rights by which the City of Cotati obtains Russian River water are held by the SCWA and permitted by the California State Water Resources Control Board (SWRCB). The SCWA has the right to divert up to a total of 75,000 AFY for its water contractors and customers. The SCWA has filed an application for various petitions pertinent to the City's water supply with the SWRCB, which would include water rights diversions from the Russian River to 101,00 AFY. Water supply

projections in the 2010 SCWA UWMP includes the assumption that surface water supplies from the Russian River will increase to above 75,000 AFY by 2027 to 80,000 AFY in 2035.

The City of Cotati is one of eight water contractors that have entered into a water supply agreement with the SCWA for the delivery of Russian River water to its customers. In addition to water contractors, the SCWA has multiple other water transmission system customers, including the Marin Municipal Water District and Forestville Water District. The water contractors consist of:

- City of Cotati
- City of Petaluma
- City of Rohnert Park
- City of Santa Rosa
- City of Sonoma
- Valley of the Moon Water District
- North Marin Water District
- Town of Windsor

Governance of the relationship between the water contractors and the SCWA is through the Water Advisory Committee (WAC), which is comprised of an elected official from each of the water contractors. The WAC meets quarterly or as needed, and is supported by a Technical Advisory Committee (TAC). The TAC is comprised of technical staff from each of the water contractors and meets monthly or as needed. Subcommittees of the TAC are established on an ad hoc basis.

City Groundwater Supply

There are currently three groundwater wells located within the City's water distribution system. The following provides a general summary of the wells, based on information provided by the 2011 Cotati Water Distribution System Master Plan (WDSMP).

- **Well No. 1A:** Well 1, which was constructed in 1975 and subsequently renovated and changed to well 1A in the early 1990s, is equipped with a 25 horse power (HP) vertical turbine pump. The 25 HP pump is rated for a capacity of roughly 425 gallons per minute (gpm) at approximately 125 feet of head. Well 1A was further renovated in 2010, and the iron and manganese filter was renovated in 2011. The 25 HP well pump fills an on-site 10,000 gallon storage tank that supplies a 40 HP booster pump with a capacity ranging from 340 gpm to 390 gpm.

- **Well No. 2:** Well 2, which was constructed in 1976 and renovated in 2009, is equipped with a 50 HP vertical turbine pump. The 50 HP pump is rated for a capacity of roughly 380 gpm at approximately 380 feet of head.

- **Well No. 3:** Well 3, which was constructed in 1979 and subsequently renovated in 2010, is equipped with a 100 HP vertical turbine pump. The 100 HP pump is rated for a capacity of roughly 700 gpm at approximately 380 feet of head. The iron and manganese filter was renovated in 2011. The City is in the process of converting this well to install a submersible pump.

Table 3.13-2 shows the location and general information for each of the City's three wells.

TABLE 3.13-2 CITY OF COTATI GROUNDWATER WELLS

Facility Name	Location	Pump Station Elevation (feet)	Design Capacity (gpm)	Design Head (feet)
Well 1A	90 East Sierra Avenue (in the Hub)	106	425	125
Well 1A Booster	90 East Sierra Avenue (in the Hub)	106	340-390	430
Well 2	8562 Lakewood Avenue	111.8	380	380
Well 3	Northwest corner of Cotati, near Houser Street	94.5	700	380

SOURCE: WDSMP, 2011, TABLE 5.2

Hydrogeology

The following discussion of the hydrogeology associated with the City's groundwater supply was derived from the 2008 *City of Cotati Groundwater Supply Assessment* (Luhdorff and Scalmanini).

The City is located in the southern portion of the Santa Rosa Plain (SRP) Subbasin, which is one of three subbasins that comprise the Santa Rosa Valley (SRV) Groundwater Basin. The SRV Groundwater Basin drains to the northwest toward the Russian River and then to the Pacific Ocean. The SRP Subbasin extends from just south of the City limits to the Russian River plain (south of Healdsburg). The City uses groundwater pumped from the SRP Subbasin for a portion of its water supply.

The SRV Groundwater Basin is in the northwest trending structural province of the Coast Ranges and contains a number of mapped folds and faults. The valley is formed by the Windsor syncline and is bounded by the Rodgers Creek fault on the east and the Meacham Hill and Tolay faults on the west. Several buried faults have been mapped within the valley, most notably the Sebastopol fault, which extends from the City of Cotati northwest to the City of Sebastopol, and the Petaluma Valley fault, which is mapped by some geologists as extending as far north as Cotati. The SRP Subbasin contains three primary water bearing units: the Wilson Grove Formation, Quaternary

alluvial fan deposits, and Quaternary alluvium. City wells located east of the Sebastopol fault appear to be completed in the Quaternary alluvial fan deposits, and wells located west of the fault may be completed in older Petaluma Formation deposits.

DWR investigated the hydraulic properties of the Sebastopol fault but was unable to find clear evidence that the fault acts as a barrier to groundwater flow. An independent analysis done to support the 2008 Groundwater Supply Assessment (GSA) appeared to confirm the DWR investigation, since water level hydrographs of the three City wells show similar trends to nearby Rohnert Park wells even though some of these are on opposite sides of the mapped location of the fault. Water levels in all of the City wells are influenced by Rohnert Park pumpage, which also suggests that the Sebastopol fault does not act as a significant barrier to groundwater flow in the Cotati area.

In the southern SRP Subbasin, groundwater is produced largely from the upper 800 feet of the sedimentary deposits. Geologic cross sections and well profiles provide a generalized depiction of the subsurface geologic conditions that was used to divide the aquifer into depth zones to facilitate the analysis of groundwater levels. These zones do not represent laterally extensive aquifers but are strictly depth based for purposes of evaluating hydrogeologic conditions. These designations are based on an approximate correlation to the geologic units and on water well completion depths. The vertical zones of the aquifer system were designated:

- Shallow (0 to 200 foot depth),
- Intermediate (200 to 600 foot depth),
- Deep (600 to 800 foot depth), and
- Lower (depths greater than 800 feet).

Most municipal and agricultural wells in the southern SRP Subbasin are completed primarily in the intermediate zone. This includes the City's three municipal wells, although two City wells (1A and 3) are also completed partially in the deep zone.

Groundwater Pumpage

The following discussion of the groundwater pumpage associated with the City's groundwater supply was derived from the 2008 *City of Cotati Groundwater Supply Assessment* (Luhdorff and Scalmanini) and the 2010 Cotati Urban Water Management Plan (Carollo, 2011).

The City's total annual pumpage increased from 41 AF in 1974 to 684 AF in 1988 and has generally decreased since 1988 as SCWA surface water deliveries increased. The City's annual municipal pumpage averaged 412 AF during 1990-2003. Much greater decreases have occurred since 2003, and the 2004-2006 pumpage averaged only 78 AF. Decreased pumpage in recent years is the result of the City's water resources strategy, which is to rely primarily on SCWA water supplies and to utilize groundwater only as needed to supplement those supplies. In 2010 the City pumped 295 AF of water. As described in the 2010 UWMP, groundwater pumping is projected to increase to 530 AFY on an annual basis between 2015 and 2035.

Non-municipal pumpage for the area located between the City limits and the urban growth boundary (UGB) is unmetered, and current annual pumpage in this area was estimated for the GSA study to be about 463 AF. This includes 162 AF for rural residential use, 35 AF for commercial use, and 266 AF for agricultural use. There is also an estimated 17 AF of non-municipal pumpage that occurs within the City limits. The total annual non-municipal pumpage (about 480 AF) is slightly more that the average municipal pumpage during 1990-2003 and considerably more than the average municipal pumpage during 2004-2006 (78 AF). If historical non-municipal pumpage is assumed to be similar to current levels, the total pumpage in the City's UGB averaged about 892 AF for the 1990-2003 period. Divided by the area of the UGB, this represents an annual "unit" pumpage of 0.35 AF/acre.

In addition to the City, there are three other municipal pumpers in the southern portion of the SRP Subbasin. These are the City of Rohnert Park, Sonoma State University, and SCWA. Rohnert Park is the largest groundwater producer in this area, and its annual pumpage increased from 907 AF in 1970 to a high of 5,487 AF in 1995. Since 1995, Rohnert Park has decreased its reliance on groundwater due to a shift toward greater use of SCWA deliveries. As a result, Rohnert Park's annual pumpage decreased to 846 AF in 2005 and 348 AF in 2006.

Historical pumpage estimates in the SRP Subbasin were made by DWR for its 1987 study, by Todd Engineers (Todd, 2004) for the Sonoma County Canon Manor West Environmental Impact Report, and by Winzler & Kelly (W&K, 2007) for the Rohnert Park Urban Water Management Plan. The estimated unit pumpage was 0.32 to 0.36 AF/acre based on the DWR (1987) study that used an 81,000-acre study area similar to the boundaries of the SRP Subbasin. The Todd (2004) and W&K (2007) used similar study areas of 25,000 to 25,500 acres based on the upper Laguna watershed boundaries. These study areas encompassed the southern portion of the SRP Subbasin, including the Cities of Cotati and Rohnert Park. Estimated average annual pumpage for the Todd (2004) study was about 8,500 AF or 0.33 AF/acre during 1986-2001. The estimated average annual pumpage for the W&K (2007) study area during 1990-1997 was about 8,700 AF or 0.35 AF/acre. These unit pumpage values are very similar to the unit pumpage estimated for the City's UGB.

Groundwater Conditions

The U.S. Geological Survey, in cooperation with the Sonoma County Water Agency and other stakeholders in the area (cities of Cotati, Rohnert Park, Santa Rosa, and Sebastopol, town of Windsor, Cal-American Water Company, and the County of Sonoma), over a seven-year period, studied the major groundwater basins of Sonoma County, characterized the hydrology of the Santa Rosa Plain (SRP), and developed tools to better understand and manage the groundwater system. In 2013 the USGS Study: Hydrologic and Geochemical Characterization of the Santa Rosa Plan Watershed, Sonoma County, California (USGS Study) was released. The objectives of the study were: (1) to develop an updated assessment of the hydrogeology and geochemistry of the Santa Rosa Plain; (2) to develop a fully coupled surface-water and groundwater-flow model for the Santa Rosa Plain watershed; and (3) to evaluate the potential hydrologic effects of alternative groundwater-management strategies for the basin. Additional studies are planned to address all objectives.

The Study describes the surface-water and groundwater hydrology, hydrogeology, and water-quality characteristics of the Santa Rosa Plain watershed and also includes a conceptual model of the hydrologic system in support of the first objective. The Study determined that the basin is subdivided into two primary compartments termed the Windsor subbasin in the north and the Cotati subbasin in the south, which are separated by the Trenton fault. These two areas represent the deepest parts of the basin and range from 6,000 to 10,000 feet deep.

The 167,410-acre Santa Rosa Plain watershed includes the Santa Rosa Plain and Rincon Valley groundwater subbasins, as well as parts of the Wilson Grove Formation Highlands groundwater basin, Kenwood Valley groundwater basin, Healdsburg area groundwater subbasin, and Alexander Valley groundwater subbasin. The Santa Rosa Plain drains northwest toward the Russian River, and is thus part of the North Coast Hydrologic Region. The groundwater system beneath the Santa Rosa Plain provides water to residents and municipal systems, irrigation water for agriculture, and baseflow to streams, surface water bodies and associated ecosystems. An estimated 10,500 permitted water-supply wells are located within the Santa Rosa Plain.

It is a large and geologically complex, with multiple aquifers that exhibit wide variations in well yields and groundwater quality. In addition, the groundwater system is subdivided into several compartments that are separated by fault zones, including the Rodgers Creek Fault, the Sebastopol Fault, and the Trenton Fault. Groundwater flows through and is stored in sedimentary and volcanic formations, which include recent Alluvium/Glen Ellen, Wilson Grove, Petaluma, and the Sonoma Volcanics.

Important hydrologic characteristics of the Santa Rosa Plain watershed groundwater-flow system include those that determine the ability of the groundwater system to transmit water, to store and release water, and to allow for vertical passage of water between layers, as well as those that control the flow of water across geologic or hydrologic boundaries. The movement of infiltrated recharge through the saturated groundwater system is controlled by topography, aquifer and aquitard properties, the magnitude of natural discharge, and pumping. Aquifer and aquitard properties depend on the type of sediments and rocks composing the hydrogeologic system. Groundwater is contained in the pore spaces of the Quaternary alluvial materials and Tertiary sedimentary rocks, including the Glen Ellen Formation, the Wilson Grove Formation, the Petaluma Formation, and Sonoma Volcanics. These units, although lithologically heterogeneous, generally form a continuous body of saturated material. The most permeable formations are the Glen Ellen and Wilson Grove formations. The Petaluma Formation has low productivity but is widely distributed.

Water-bearing strata is found only within the Cenozoic sedimentary formations, and not within Tertiary volcanic rocks, which are primarily the Sonoma Volcanics. However, the volcanic rocks provide substantial quantities of water to wells on the valley floor and in the mountains along the eastern side of the valley. The groundwater-storage capacity of the SRP groundwater subbasin within the depth range of 10 to 200 feet is estimated to be about 950,000 acre feet. The storage capacity over an average thickness of 400 feet is estimated to be about 4,300,000 acre feet. Neither of these estimates includes the amount of groundwater contained in the Sonoma Volcanics. The Sonoma Volcanics, however, contain discontinuous aquifers that in some of the

more porous and permeable lithologic packages can yield several hundred to several thousand gallons of water per minute to wells. The sustainable yield of the basin is less than the storage capacity because of potential negative effects of withdrawing all groundwater in storage.

Groundwater is primarily recharged through the infiltration of precipitation and through seepage from streambeds. Groundwater leaves the basin through wells, springs, evapotranspiration from plants, and as both subsurface outflow and seasonal groundwater contribution to streamflows in some areas of the basin. Pumping is the largest cause of discharge from the basin, with the most significant proportion being agricultural and residential pumpage. Public supply pumpage represents around 15% of the total.

In general, groundwater levels in shallow aquifers fluctuate seasonally with rainfall and are largely stable over time. The water in these aquifers is relatively young, often less than 50 years old. In contrast, groundwater within deeper aquifers commonly exceeds 4,000 years in age, with the oldest dated groundwater exceeding 30,000 years in age. Some deeper wells show overall stability, others show overall declining trends and still others show historical declining trends followed by recent increases in groundwater levels. A historical groundwater pumping depression that formed in the southern Santa Rosa Plain in the 1980's and 1990's has nearly fully recovered as water conservation efforts have reduced usage per capita while imported surface water from the Russian River also replaced a portion of the groundwater use in this area over the past decade.

Groundwater Quality

Groundwater quality in the City's water supply wells is generally good, but two wells have elevated iron and manganese concentrations. The City's wells are sampled triennially for complete general minerals and trace elements as required by the Department of Public Health (DPH) for all public water systems, and Wells 1A and 3 are also sampled monthly for iron and manganese. Raw groundwater produced from the three City wells meets primary state drinking water standards, and treated groundwater from these wells also meets secondary drinking water standards (Cotati Groundwater Supply Assessment, 2008).

WATER DISTRIBUTION INFRASTRUCTURE

The water system is comprised of three groundwater wells, two turnouts from the Sonoma County Water Agency (SCWA), two storage facilities (only one in operation with a 1.0 million gallon capacity), and approximately 150,000 lineal feet of distribution piping ranging in size from 2-inch to 24-inch pipes. The existing water distribution system consists of a single pressure zone with an approximate hydraulic grade line elevation ranging from 288 to 294 feet (Cotati Downtown Specific Plan Water Supply Assessment, Winzler and Kelly, 2008). See Figure 3.13-1 for the service area boundary and general water system information.

Turnouts

The City's water system currently has two metered turnout connections to the SCWA's 48-inch aqueduct that runs through the City along West Sierra Avenue and East Cotati Avenue. Each turnout facility is equipped with an isolation valve, a meter and a pressure reducing valve, which

regulates downstream pressure to approximately 70 psi. Turnout No. 1 is located at the intersection of West Sierra Avenue and Cypress Avenue. Turnout No. 2 is located along East Cotati Avenue, east of LaSalle Avenue (WDSMP, 2011).

Water Storage

The City owns two water storage tanks. The West Sierra Avenue storage tank was constructed in 1997 and is a knuckle-roofed, welded steel storage tank with a total storage capacity of 1.0 MG. The facility is located west of Highway 101, just south of West Sierra Avenue, outside of the City limits. The tank has a base elevation over 249 feet and an overflow elevation of 274 feet. The high operating water surface elevation in the tank is 272 feet and the tank has a combined inlet/outlet pipe (WDSMP, 2011).

The Cypress Avenue storage tank is a 100,000 gallon storage tank located at the end of Loma Linda Avenue. This storage tank is currently out of service but the City is proceeding with plans to remove the existing storage tank and replace it with a 400,000 gallon tank. (WDSMP, 2011).

REGULATORY SETTING – WATER SUPPLIES

STATE

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund ("SRF") and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

California Code of Regulations

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminants levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

Urban Water Management Planning Act

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An "urban water supplier" is a

public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 connections or supplying more than 3,000 acre-feet of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier's water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources must receive a copy of an adopted urban water management plan. Although the City has created urban water management plans in recent years, it is not required to under state law.

Senate Bill (SB) 610 and Assembly Bill (AB) 901

The State Legislature passed SB 610 and AB 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights and contracts.

AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

Senate Bill (SB) 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

LOCAL

City of Cotati Municipal Code

Chapter 13 of the Cotati Municipal Code includes regulations regarding the process for connecting to the City's municipal water system. This Code section includes information regarding connection applications, rates, fees, watercourse and natural drainage management, and the City's water shortage contingency plan.

City of Cotati Urban Water Management Plan

The City's 2010 Urban Water Management Plan (UWMP) was finalized in August 2011. The purpose of the UWMP is to evaluate whether a water supplier, in this case the City, can meet the water demands of its water customers as projected over a 20- or 25-year period. This evaluation is accomplished through analysis of current and projected water supply and demand for normal or average conditions, as well as during water shortages.

City of Cotati Water Distribution System Master Plan

The City of Cotati's Water Distribution System Master Plan (WDSMP) provides a planning tool for upgrading the City's potable water distribution system to support planned growth through the year 2035. The Water Distribution System Master Plan includes a summary of existing water system facilities, an analysis of potable water demand, an analysis of fire flow demand, the development of a hydraulic model, an analysis of existing and planned supply, an analysis of storage capacity and infrastructure, and a capital improvement plan that identifies projects and improvements needed for the water system to meet performance requirements through the year 2035. The Master Plan was finalized in September 2011.

Sonoma County Water Agency Urban Water Management Plan

In June 2011, the SCWA approved the 2010 Urban Water Management Plan, which includes updated water supply and projection data. The SCWA UWMP describes the regulatory conditions under which it receives and distributes water, its existing and projected water supply, constraints to the water supply, and water conservation measures. A summary of the SCWA's water supplies, facilities, and water rights is provided below.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

2. Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: Increased Demand for Water Supply (Less than Significant)

Implementation of the 2013 General Plan would result in increased population and employment growth within the City's Planning Area, and a corresponding increase in the demand for additional water supplies.

As described in Chapter 2.0, the 2013 General Plan is expected to accommodate approximately 1,541 new residential dwelling units, 910,013 square feet of new commercial space, 511,320 square feet of new industrial space, and 966,706 square feet of new office space within the City Limits. This new growth would increase the City's population by approximately 3,775 residents. The full development of the new commercial, office, and industrial uses shown in Table 2-3 would increase the employment opportunities in Cotati by approximately 6,766 employees.

As shown in Table 2-4, buildout of the General Plan within the City Limits and the SOI could yield up to 2,140 new residential units, 1,233,160 square feet of new commercial space, 1,106,391 square feet of new industrial space, and 994,694 square feet of new office space within the City Limits and the Sphere of Influence. This new growth would increase the Planning Area's population by approximately 5,243 residents. The full development of the new commercial, office, and industrial uses shown in Table 2-4 would increase the employment opportunities in the Cotati Planning Area by approximately 8,819 employees.

Water uses within the Cotati service area include single-family residences, apartments, condominiums, commercial uses, irrigation, government uses, miscellaneous uses, pools, and mobile home customers. The historical and projected population within the City's service area and deliveries to City water customers are identified below in Table 3.13-3. Water volumes in Table 3.13-3 are presented in acre-feet per year, and identify the AFY demand of water supplies on a per capita basis.

Table 3.13-3: Cotati 2010 UWMP Historical and Projected Water Demand			
Year	*Population (actual or projected)*	*Total Volume of Water Delivered or Projected*	*Acre-Feet Per Year (AFY) Demand Per Capita*
2005	7,418	964	0.13
2010	7,711	803	0.10
2015	8,105	1,024	0.13
2020	8,518	1,056	0.12
2025	8,953	1,142	0.13
2030	9,409	1,253	0.13
2035	9,889	1,340	0.14

Source: Cotati 2010 UWMP, Pages 3-12 through 3-14, Tables 3.7 through 3.11

Notes: Water accounts and total volume of water delivered for years 2005 and 2010 are based on metered consumption data within the Cotati service area. Water volume deliveries for 2015 through 2035 are based on projections contained in the 2010 UWMP.

The City of Cotati provides water services to all users within the City, and would provide water services to any future development that may occur following implementation of the 2013 General Plan.

In order to project future water demands associated with General Plan buildout, water demand is tied to population growth, and the average per capita water demand generated by that new population growth. The average per capita water demand between 2005 and 2035, as shown in Table 3.13-3 above, is 0.126 AFY, which equates to 112.4 gallons per person per day. However, in the year 2035, which is the buildout analysis year for the General Plan, the 2010 UWMP assumes a per capita demand of 0.14 AFY. Therefore, this analysis of water demand is based on the per capita use of 0.14 AFY. The 2013 General Plan would accommodate a broad range of uses, so the use of a per capita figure is intended to provide an average figure that approximates the average water demand associated with the range of uses that could occur in the Cotati Planning Area upon full buildout of the 2013 General Plan.

According to the California Department of Finance's population estimates, the 2013 population of the City of Cotati was 7,310. As described above, buildout of the 2013 General Plan within the City limits could increase population growth in the City by up to 3,775 residents, resulting in a total population within the City limits at buildout of 11,085 residents. Within the entire Planning Area, the total population may reach up to 12,553 residents. These population projections associated with General Plan buildout exceed the population projections used for 2035 water demand estimates in the 2010 Cotati Urban Water Management Plan.

Utilizing the water usage rate of 0.14 AFY per capita, at General Plan buildout within the existing City limits, the total water demand would be 1,551.9 AFY (11,085 x 0.14). Full buildout of the Planning Area would result in a water demand of 1,757.42 AFY (12,553 x 0.14). As shown above in Table 3.13-1, in 2035 the projected water supply available to the City of Cotati in 2035 is 2,076 AFY, which exceeds the projected water demand associated with full buildout of the General Plan, including the Planning Area. So while the proposed 2013 General Plan would exceed the population projections used in the 2010 Cotati Urban Water Management Plan, the projected water demand associated within buildout of the 2013 General Plan would not exceed the City's projected 2035 water supply.

The reliability of the City's water sources is dependent on the SCWA's ability deliver water supplies based on flow from the Russian River. The City's wholesale water supply provided by SCWA is subject to dry year reductions, due to seasonal and climatic shortages, pursuant to the State Water Board's Decision 1610. Demand curtailments are required to be entailed by 30 percent for a portion of the year if the water volume in Lake Sonoma is less than 100,000 AF prior to July 15, per Decision 1610. As described in the SCWA 2010 UWMP, this condition has not been experienced on the Russian River system, but the SCWA modeling simulations for single-dry years predict that the storage levels in Lake Sonoma will fall below the 100,000 AF prior to July 15. Therefore, the SCWA projects that demand curtailments will be required for a portion of the year. Single-dry year reductions are predicted to reach 18 percent of normal demand by the year 2035. As of August 2014, the storage levels in Lake Sonoma are at approximately 64% of capacity, slightly over 150,000 acre-feet.

The City can supplement possible SCWA supply reductions with groundwater use. The City's historic water use records show that groundwater levels have not declined and the City can reliably supply historic demands with the use of groundwater (2010 UWMP). The City is using an annual maximum extraction volume of 530 AFY for production capacity of their three groundwater wells, per the 2008 Luhdorff and Scalmanini report. Due to the storage volume available within the Santa Rosa Plain groundwater basin, it is not anticipated that groundwater supply would be affected in multiple-dry years. This is further explained in Section 5.4, Drought Planning of the 2010 UWMP.

The 2013 General Plan includes policies and actions designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Policy CSF 2.2 requires that prior to the approval of development, infrastructure, Specific Plans, or other projects that would result in increased demand for public water conveyance and treatment, projects must demonstrate proof of adequate water supply (e.g., that existing services are adequate to accommodate the increased demand, or improvements to the capacity of the system to meet increased demand will be made prior to project implementation) and that potential cumulative impacts to water users and the environment will be addressed. Policy CSF 2.6 calls for the City to continue to work with the Sonoma County Water Agency (SCWA) to maintain water supply agreements to ensure an adequate water supply for the City. Policy CSF 2.9 requires the City to routinely assess the City's ability to meet demand for potable water by periodically updating the Water Master Plan. The 2013 General Plan also includes a range of policies and

actions that call for continued and ongoing water conservation measures, and measures to increase the availability and use of recycled water in order to decrease water supply demands from existing sources.

Given that projected water demands associated with General Plan buildout would not exceed the projected water supplies described in the 2010 Cotati Urban Water Management Plan, and that the 2013 General Plan includes a comprehensive set of goals, policies and actions to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are **less than significant.** The policies and actions listed below would further assist in ensuring that adequate water supplies are available to serve new growth projected under the 2013 General Plan.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy CSF 1.1: *Require all development projects to demonstrate, to the satisfaction of the City Engineer, that the City's public services and utilities can accommodate the increased demand for services associated with the project.*

Policy CSF 1.2: *Require new development to offset or mitigate impacts to public services and facilities to ensure that service levels for existing users are not degraded or impaired by new development, to the satisfaction of the City Engineer.*

Policy CSF 1.3: *Limit approvals of new development to areas where adequate infrastructure and services are available or will be provided by the development.*

Policy CSF 1.4: *Maintain development fees at a sufficient level to finance infrastructure costs.*

Policy CSF 1.5: *As new areas are considered for annexation and development, priority for public services and facilities shall be given to existing development within the annexation area not currently served by City services.*

Policy CSF 1.6: *Require development, infrastructure, and long-term planning projects to be consistent with all applicable City plans and programs related to public services and facilities, including but not limited to the Water Master Plan, the Sanitary Sewer Master Plan and the Capital Improvement Plan. New projects shall assist with the implementation of these plans through the provision of fair-share payments, construction of improvements, or other means identified as appropriate by the City Engineer.*

Policy CSF 2.1: *Continuously implement a comprehensive water strategy that balances the need to supply potable and non-potable water supplies to all users served by the City with water use reduction strategies and strategies to increase the use of alternative water supplies.*

Policy CSF 2.2: *Prior to the approval of development, infrastructure, Specific Plans, or other projects that would result in increased demand for public water production, conveyance, treatment or storage, project proponents must demonstrate proof of adequate water supply (e.g., that existing services are adequate to accommodate the increased demand, or improvements to the*

capacity of the system to meet increased demand will be made prior to project implementation) and that potential cumulative impacts to water users and the environment will be addressed.

Policy: CSF 2.3 *Ensure the water system and supply is adequate to match rate of development.*

Policy CSF 2.4: *Priority is given to serving existing water uses over new water uses.*

Policy CSF 2.5: *Prioritize water system improvements to areas identified for economic growth (commercial and industrial development as well as related housing) in the next 5-10 years.*

Policy CSF 2.6: *Continue to work with the Sonoma County Water Agency (SCWA) to maintain water supply agreements to ensure an adequate water supply for the City.*

Policy CSF 2.7: *Support SCWA efforts to increase permitted surface water diversion rights from the Russian River, as necessary to support future growth.*

Policy CSF 2.8: *Support conjunctive groundwater use, to the extent feasible, in order to increase the reliability and flexibility of the City's water supply.*

Policy CSF 2.9: *Routinely assess the City's ability to meet demand for potable water by periodically updating the Water Master Plan.*

Policy CSF 2.10: *Continue efforts to reduce water use and increase water conservation.*

Policy CSF 2.11: *Procure recycled water supplies from the Santa Rosa Subregional Wastewater Treatment and Reclamation System where economically feasible.*

Policy CSF 2.12: *Use recycled water for landscaping irrigation at City parks and City facilities where economically feasible.*

Policy CSF 2.13: *Maintain and ensure adequate emergency water supplies, including the Sonoma County Water Agency and City of Rohnert Park interties, for mutual benefit in case of emergency.*

Policy CSF 2.14: *Continue to implement the City's water waste and water conservation requirements established under Chapter 13.30 of the Municipal Code.*

Policy CSF 2.15: *Continue to implement Chapter 13.36 of the Municipal Code and to work with the Environmental Health Division of Sonoma County's Permit and Resource Management Department to ensure that septic tanks do not contaminate the water supply in Cotati.*

Actions

Action CSF 1a: Periodically review and update the various Master Plans for the provision and/or extension of public services. These plans can include the Water Master Plan, the Sanitary Sewer Master Plan, and the City's Capital Improvement Plan. Cost estimates for improvements identified within each respective plan will be used as a basis for establishing and periodically updating development fees. As part of the next update for each of these plans, the update shall include a more streamlined process to facilitate smaller development projects. This process may involve an

equivalent dwelling unit (EDU)-type fee and accompanying study to determine EDU allocations. (Public Works Department, Planning Department, City Engineer)

Action CSF 1b: As part of the development review process, evaluate the degree of impact a development will have on the City's infrastructure. The City Council shall ensure that appropriate impact fees and assessments are levied accordingly.

Action CSF 2a: As part of the development review process, determine the potential impacts of development and infrastructure projects on the water system and ensure that new development contributes its fair share toward necessary water infrastructure and supply. The Planning Department and the City Engineer shall be responsible for ensuring that the assessments are made.

Action CSF 2b: Achieve water use reductions through implementation of the Demand Management Measures (DMM) contained in the water supply assessment, Urban Water Management Plan, or other appropriate measures as applicable.

Action CSF 2c: Develop mechanisms and infrastructure to deliver recycled water to City water users from the Santa Rosa Subregional Treatment and Reclamation System.

Action CSF 2d: Coordinate with the Sonoma County Water Agency, and continue to participate in planning efforts for the Santa Rosa Plain Groundwater Management Plan to ensure more reliable conjunctive groundwater use.

Action CSF 2e: Develop a public outreach and incentive program to expand and promote the use of recycled water once delivery infrastructure becomes available (this action may be in conjunction with the Conservation Guide discussed in the Conservation Element).

Action CSF 2f: Through the planning process and the Conservation Guide discussed in the Conservation Element, the City shall implement its water waste and water conservation requirements established in Chapter 13.30 of the Municipal Code.

Action CSF 2g: Update the City's water waste and conservation strategy established in Chapter 13.30 of the Municipal Code to be consistent with current BMPs for water conservation, including measures identified by the Sonoma County Water Agency, Sonoma-Marin Water Saving Partnership, and California Urban Water Conservation Council. Ensure that the Conservation Guide (see Conservation Element) includes the mandatory and voluntary measures identified in Chapter 13.30.

Impact 3.13-2: Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

Development and growth in the City under the 2013 General Plan would result in increased demand for water supplies, including water conveyance and treatment infrastructure. The 2013 General Plan includes policies and actions to ensure that water supplies are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available water supplies.

As described under Impact 3.13-1, above, the projected 2035 water supplies are adequate to meet demand that would be generated by buildout of the 2013 General Plan. As such, implementation and buildout of the General Plan would not result in the need to construct or expand water supply and treatment facilities that have not already been described and accounted for the in the City's relevant water master plans, which include the 2010 Urban Water Management Plan and the 2011 Water Distribution Master Plan.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's General Plan, Land Use Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2013 General Plan includes a range of policies and actions (listed above) to ensure that water supplies are provided in a timely fashion, are adequately funded, that new development funds its fair share of services, and that the provision of water supplies to new projects does not adversely affect the supply and reliability of supplies to existing customers.

Future development in the Planning 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 offsite improvements to the water distribution system in order to connect new project sites to the City's existing water infrastructure network. The specific impacts of providing new and expanded waster distribution infrastructure cannot be determined at this time, as the 2013 General Plan 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, 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 2013 General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.13, and 4.0) of this Draft EIR.

This Draft EIR addresses the potential impacts of development that may occur under the 2013 General Plan, including residential, commercial, office, industrial, public facilities, and a range of other uses that are accommodated by the project. Where potentially significant or significant

impacts are identified, this EIR identifies mitigation measures to reduce the impact and discloses which impacts cannot be reduced to a less than significant impact. There are no additional environmental impacts, apart from those disclosed in the relevant chapters of this EIR that are anticipated to occur. Therefore, this impact is considered **less than significant** and no additional mitigation is necessary.

3.13.2 WASTEWATER

The City of Cotati owns and operates a wastewater (sewer) collection and transmission system. Sewage is conveyed to the Santa Rosa Subregional Wastewater Reclamation System for treatment at the Laguna Treatment Plant.

KEY TERMS

Effluent: Effluent is an outflowing of water from a natural body of water, or from a man-made structure. Effluent in the man-made sense is generally considered to be water pollution, such as the outflow from a sewage treatment facility or the wastewater discharge from industrial facilities. In the context of waste water treatment plants, effluent that has been treated is sometimes called secondary effluent, or treated effluent.

NPDES: Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

WWTP: Wastewater treatment plant. Treatment of wastewater may include the following processes: screening to remove large waste items; grit removal to allow sand, gravel, and sediment to settle out; primary sedimentation where sludge can settle out of the wastewater; secondary treatment to substantially degrade the biological content of the sewage; tertiary treatment to raise the quality of the effluent before it is discharged; and, discharge.

COTATI WASTEWATER COLLECTION SYSTEM

The following discussion of the City's wastewater system is derived primarily from the Cotati Sewer Collection System Master Plan (Carollo, 2011).

The City owns and operates a sanitary sewer collection system that provides sanitary sewer, or wastewater, service to approximately 1,200 acres in and around the City's limits. The sanitary sewer system is comprised of four lift stations, approximately 140,300 lineal feet of collection piping ranging in size from six inches to 24 inches, approximately 484 manholes, approximately 150 cleanouts, and a 24-inch transfer interceptor which carries wastewater to the Santa Rosa Subregional Treatment Plant (also referred to as the Laguna Wastewater Treatment Plant LWWTP)

for treatment. The locations of the City's wastewater system's key facilities are shown on Figure 3.13-2.

Sanitary Sewer Collection Zones

The City's sewer collection system can be categorized into nine separate collection zones, which are summarized below.

North Central Cotati Zone: The North Central Cotati Zone is comprised of the collection network located in the development area north and northwest of the Hub, and east of Highway 101. In addition to flows originating within this zone, the zone receives flow directly from the West Hub Zone, the East Hub Zone, and the East Cotati Avenue Zone via an interceptor connection. This zone discharges directly into the Helman Lane Sanitary Sewer Interceptor.

West Hub Zone: The West Hub Zone is comprised of the western portion of the City Hub and all sewered area west of Old Redwood Highway with the exception of those included in the Gravenstein Highway Zone. In addition to flows originating within the zone, this zone also receives flow directly from the Quail Hollow Zone via the Quail Hollow Lift Station. The West Hub Zone discharges directly into the North Central Cotati Zone.

East Hub Zone: The East Hub Zone is comprised of the eastern portion of the City Hub, sewered areas east of Old Redwood Highway from Myrtle Avenue to St. Josephs Way and the area along East Cotati Avenue from the Hub to LaSalle Avenue. In addition to flows originating within this zone, the zone also receives flow directly from the Benson Lane Zone via the Benson Lane Lift Station. The East Hub Zone discharges directly into the North Central Cotati Zone.

East Cotati Avenue Zone: The East Cotati Avenue Zone is comprised of sewered areas along East Cotati Avenue east of LaSalle Avenue, the area bounded by Lincoln Avenue, Loretto Avenue, and Lakewood Avenue, and all areas within the City's limits which straddle the Northwestern Railroad tracks. In addition to flows originating within this zone, the zone also receives flow directly from the New Century Park Zone via the New Century Park Lift Station. The East Cotati Avenue Zone discharges directly into the North Central Cotati Zone via the East Cotati Avenue Sanitary Sewer Interceptor.

New Century Park Zone: The New Century Park Zone is comprised of the New Century Park Subdivision. This zone receives no upstream zone flow. The New Century Park Subdivision discharges directly into the East Cotati Avenue Zone via the New Century Park Lift Station.

Quail Hollow Zone: The Quail Hollow Zone is comprised of the Quail Hollow Subdivision and the southeast portions of the Macklin Subdivision. This zone receives no upstream zone flow. The Quail Hollow Zone discharges directly into the West Hub Zone via the Quail Hollow Lift Station.

Benson Lane Zone: The Benson Lane Zone is comprised of approximately twelve sewer connections along Benson Lane. This zone receives no upstream zone flow. The Benson Lane Zone discharges directly into the East Hub Zone via the Benson Lift Station.

Northwest Cotati Zone: The Northwest Cotati Zone is comprised of the development area bounded by Copeland Creek, Laguna de Santa Rosa Creek and Highway 101. This zone receives no upstream zone flow. The Northwest Cotati Zone discharges directly into the Helman Lane Sanitary Sewer Interceptor via the Redwood Drive Lift Station.

Gravenstein Highway Zone: The Gravenstein Highway Zone is comprised of the sewered areas along Madrone Avenue, Gravenstein Highway and Redwood Drive (south of Helman Lane). This zone receives no upstream zone flow. The Gravenstein Highway Zone discharges directly into the Helman Lane Sanitary Sewer Interceptor.

Sanitary Sewer Lift Stations

The City's sewer collection system contains four lift stations, which are described below.

Redwood Drive Lift Station: The Redwood Drive Lift Station, located at 6817 Redwood Drive, was constructed in 2000 and began pumping operations in May 2001. The lift station is equipped with two 5 hp submersible sewage pumps, each capable of pumping 250 gpm at 34 feet total dynamic head (TDH). The lift station has an associated 2,500 lineal feet of 6-inch force main that discharges to a manhole located along Redwood Drive just south of Copeland Creek.

Benson Lane Lift Station: The Benson Lane Lift Station, located at 54 Benson Lane, was constructed and began pumping operations in 1974. The lift station is equipped with two 3.2 hp submersible sewage pumps, each capable of pumping approximately 130 gpm at 21 feet of TDH. The lift station has an associated 200 lineal feet of 4-inch force main which discharges to a manhole at the intersection of Benson Lane and Park Avenue.

Quail Hollow Lift Station: The Quail Hollow Lift Station, located at 230 Myrtle Avenue, was constructed and began pumping operations in 1988. The lift station is equipped with two 3.2 hp submersible pumps capable of pumping approximately 120 gpm at 27 feet of TDH. The lift station has an associated 2,400 lineal feet of 6-inch force main which discharges to a manhole at the intersection of Myrtle Avenue and Old Redwood Highway.

New Century Park Lift Station: The New Century Park Lift Station, located at 287 Eagle Drive, was constructed and began pumping operations in 1986. The lift station is equipped with two 3.2 hp submersible sewage pumps capable of pumping approximately 280 gpm at 24 feet of TDH. The lift station has an associated 350 lineal feet of 6-inch force main which discharges to a manhole at the intersection of Loretto Avenue and LaSalle Avenue.

Sanitary Sewer Interceptors

The City's sanitary sewer system has two major gravity interceptors, which are described below.

East Cotati Avenue Sanitary Sewer Interceptor (ECASSI): Prior to 1998, wastewater flows from the New Century Park and East Cotati Avenue Zones were discharged into the City of Rohnert Park's sewer system via two outlet connections at the intersections of East Cotati Avenue and Adrian Drive; and East Cotati Avenue and Lancaster Drive. In 1998, the City constructed the ECASSI to divert the flows from the Rohnert Park system and redirect them to the North Central Cotati Zone.

This 12-inch interceptor originates from a manhole at the intersection of East Cotati Avenue and Adrian Street and runs west along East Cotati Avenue to the Laguna de Santa Rosa Creek. The interceptor then turns northwest, running along the creek to a manhole at the east end of Gravenstein Lane where it discharges to the North Central Cotati Zone. The interceptor has a total length of approximately 4,260 lineal feet.

Helman Lane Sanitary Sewer Interceptor (HLSSI): Constructed in 1996, the HLSSI serves as the City's sole main transfer interceptor, carrying 100% of the City's wastewater to the LWWTP for treatment. The 24-inch interceptor originates from a manhole at the intersection of Redwood Drive and Helman Lane. The HLSSI runs northwest along Helman Lane and continues beyond the City limits to the LWWTP. The interceptor has a total length of approximately 21,300 lineal feet.

WASTEWATER FLOWS

Wastewater consists of dry weather flow (DWF) and wet weather flow (WWF). DWF (or base flow) is flow generated by routine water usage in the residential, commercial, business and industrial sectors of the sewer system. The other component of DWF is the contribution of dry weather groundwater infiltration (GWI) into the sewer system. Dry weather GWI will enter the sewer system when the relative depth of the groundwater table is higher than the depth of the pipeline and when the susceptibility of the sanitary sewer pipe allows infiltration through defects such as cracks, misaligned joints and broken pipelines.

WWF includes storm water inflow, trench infiltration, and GWI. The storm water inflow and trench infiltration comprise the WWF component termed I/I. The response in the sewer system to rainfall is seen immediately (as with inflow) or within hours after the storm (as with infiltration), especially near creeks or other water bodies.

GWI, which is not specific to a single rainfall event, but rather to the effects on the sewer system over the entire wet weather season. The depth of the groundwater table rising above the pipe invert elevation causes GWI. Sewer pipes within close proximity to a body of water can be greatly influenced by groundwater effects. As the groundwater table fluctuates over the wet weather season, this fluctuation is seen as a mounding effect in flow monitoring data. This may be considerable in the City's service area, particularly in sewers located near the Laguna de Santa Rosa Creek.

BASE WASTEWATER FLOW

The base wastewater flow (BWF) is the flow generated by the City's customers. The flow has a diurnal pattern that varies depending on the type of use. Commercial and industrial patterns, though they vary depending on the type of use, typically have more consistent higher flows during business hours, and lower flows at night. Furthermore, the diurnal flow pattern experienced during a weekend may vary from the diurnal flow experienced during a weekday.

AVERAGE DRY WEATHER FLOW

The average dry weather flow (ADWF) is the average flow that occurs on a daily basis during the dry weather season. The ADWF includes the BWF generated by the City's residential, commercial, and industrial users, plus the dry weather GWI component.

PEAK WET WEATHER FLOW (DESIGN FLOW)

Peak wet weather flow (PWWF) is the highest observed hourly flow that occurs following a design storm event. Wet weather I/I causes flows in the collection system to increase. PWWF is typically used for designing sewers and lift stations.

Wastewater Flow Volumes

The City of Cotati's wastewater flows and projected ADWF are shown below in Table 3.13-4.

Table 3.13-4: City of Cotati Wastewater Flows

	EXISTING (2010)	*BUILDOUT (2035)*
Average Dry Weather Flow	0.47 mgd	0.66 mgd
Design Flow	3.90 mgd	4.60 mgd
Peaking Factor	8.5	7.0

SOURCE: COTATI SEWER COLLECTION SYSTEM MASTER PLAN (2011), PAGE 4-16

WASTEWATER TREATMENT

The City of Santa Rosa Utilities Department is responsible for managing the Subregional Wastewater Treatment and Reclamation system, which handles the wastewater treatment for the City of Cotati. Wastewater generated by the City of Cotati is treated at the Laguna Wastewater Treatment Plant, located west of Cotati.

Subregional Agreement

In 1975, the City of Santa Rosa executed an Agreement with the Cities of Rohnert Park, Sebastopol and the South Park County Sanitation District for treatment of wastewater at the Laguna Treatment Plant. At that time, Cotati's wastewater flowed through Rohnert Park's collection system and the combined flow continued to the Laguna Treatment Plant. In 1994, Cotati's wastewater flow was segregated from Rohnert Park; Cotati executed the Third Amended Agreement and became a "Subregional" partner with the cities of Santa Rosa, Rohnert Park and the South Park County Sanitation District. Currently, all wastewater from Cotati flows directly to the Laguna Treatment Plant via Cotati's Helman Lane 24-inch trunkline. The Third Amended Agreement assigned a flow allocation of 0.624 million gallons per day (mgd) to Cotati. In 2002, under the Fourth Amended Agreement, Cotati's flow allocation was increased to 0.76 mgd to incrementally meet treatment capacity needs for its General Plan buildout (DSP EIR, page 4.13-2).

Laguna Plant Wastewater Treatment Capacity

According to the City of Santa Rosa's 2007 Update to the Recycled Water Master Plan, the City of Santa Rosa's current National Pollutant Discharge Elimination System (NPDES) permit allows the City to treat, reuse, and discharge the annual flow resulting from receiving a daily average dry weather flow (ADWF) of 21.34 million gallons per day (mgd) at the Laguna Plant. According to the City of Santa Rosa Utility Department website (accessed 5/3/11), the Laguna Plant has an average daily dry weather flow of 17.5 million gallons per day, which represents approximately 82 percent of the permitted capacity of the plant.

Table 3.13-5 shows the sources and volume of the ADWF treated at the Laguna Plant in 2000, which is the most recent data available in the City of Santa Rosa's 2007 Update to the Recycled Water Master Plan.

Table 3.13-5: Laguna Wastewater Treatment Plant ADWF (2000)

Member Entity	ADWF (mgd)	Percent
Rohnert Park and Sonoma State University	3.60	20.11
Santa Rosa and South Park County Sanitation District	13.17	73.51
Sebastopol	0.63	3.54
Cotati	0.51	2.84
Total	**17.91**	**100.00**

SOURCE: CITY OF SANTA ROSA'S 2007 UPDATE TO THE RECYCLED WATER MASTER PLAN, TABLE 1.

As shown in the table above, the wastewater generated by the City of Cotati represented less than three percent of the total wastewater treated at the Laguna Wastewater Treatment Plant in the year 2000.

City of Santa Rosa's 2007 Update to the Recycled Water Master Plan estimates that in 2020, total ADWF to the Laguna Plant will be approximately 25.89 mgd, which exceeds the current NPDES permit capacity of the plant.

Laguna Plant Wastewater Treatment Process

The following summary of the wastewater treatment process at the Laguna Plant was derived from the City of Santa Rosa Utility Department's website[1] (accessed 5/3/11).

Primary Treatment

Sewage from homes, business, and industry arrives at the treatment plant by passing through large bar screens that remove wood, paper, and plastics from the water. Sand and gravel then settle out in the grit tank and are removed. Clarification tanks allow lighter materials to float to the

[1] http://ci.santa-rosa.ca.us/departments/utilities/treatment/treatment/Pages/process.aspx

surface and be skimmed off. Heavier material, called biosolids, falls to the bottom and is pumped to anaerobic digesters. Bacteria in the digesters break solids down, creating methane gas.

Methane powered generators serve as the source of energy for a sixth of the treatment process. Solids are digested for up to thirty days, reducing their volume by 50%. Following a dewatering process, biosolids are blended with greenwaste material to create compost, or they are applied directly to farmers' fields as fertilizer. A small quantity is sent to the landfill.

Secondary Treatment

After the majority of solids have been removed, water flows into aeration basins. The aeration basins are tanks injected with oxygen to stimulate the growth of microorganisms and their consumption of dissolved wastes. These microorganisms modify pollutants to reduce their impact on the environment.

As the water moves toward the next treatment phase, the microorganisms are removed in clarification tanks. As they settle to the bottom of the clarifiers, they are returned to the aeration basins to re-supply the self-sustaining population of microorganisms. Clean water continues on to further treatment.

Tertiary Treatment and Disinfection

The water flows through a four-foot bed of coal. This small, black, granular coal (like the type used in some fish aquariums) acts as a filter to trap fine suspended solids and some potential pathogens, or disease causing organisms. Finally, ultraviolet light (UV) removes bacteria and viruses by destroying their DNA, the genetic material needed to reproduce. The reclaimed water then leaves the plant, and is clean enough for many approved reuse purposes.

ON-SITE SYSTEMS

On-site systems, commonly referred to as septic systems, are useful for handling the wastewater disposal needs of individual dwellings or commercial establishments for which connection to community facilities is not feasible. An on-site system consists of a septic tank that receives wastewater, allows the heavier solids to settle in the tank, and releases the remainder to an attached leach field. The leach field consists of underground perforated parallel lines through which water can seep into the surrounding soil. The solids which settled out of the wastewater in the septic tank must be periodically removed.

Septic tanks work well in areas of low density development where there is sufficient room to separate leach lines from potable water wells and lines. On-site systems are relatively inexpensive, easy to maintain, and contribute to water recharge in the area. However, on-site systems require certain soil conditions, topography, and water table conditions in order to work. If the proper conditions are not present, the leach field can become saturated and groundwater may become contaminated.

A serious problem associated with on-site systems is the potential for groundwater contamination. On-site systems that serve commercial or industrial establishments may dispose of chemicals that are not adequately filtered prior to being leached into the soil. For industrial properties where

groundwater contamination is a concern due to chemical waste, chlorine injection or evaporation ponds must be provided in order to ensure safe disposal of sewage.

Properties in Cotati that are within 200 feet of an existing City wastewater conveyance line are required to connect to the City's wastewater system (Cotati Municipal Code Chapter 13.36.030). Property owners with parcels further than 200 feet from an existing City wastewater conveyance line wishing to install and operate a septic system must receive a permit from the Sonoma County Permit and Resource Management Department. Consistent with SRWCB requirements established by AB 885, described below, the County's septic system application process requires applicants to provide detailed information regarding soil types, percolation rates, distances to ground water and detailed site plans.

REGULATORY SETTING - WASTEWATER

STATE

State Water Resources Control Board/Regional Water Quality Control Board

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of state waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The City of Cotati falls within the jurisdiction of the North Coast RWQCB.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The SWRCB's role has historically been one of providing overall policy direction, organizational and technical assistance, and a communications link to the state legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

Individual On-site Sewage Disposal System Regulations

Regulation of individual on-site sewage disposal systems in and around the City of Cotati occurs at a variety of levels, including by the SWRCB, through the North Coast RWQCB, and locally, by the Sonoma County Permit and Resources Management Department. Recently, the State of California

enacted legislation that will require the establishment of statewide standards for on-site sewage disposal systems. The following sections describe the primary regulatory mechanisms in place for on-site sewage disposal systems.

Regional Water Quality Control Board Basin Plan for the North Coast Region

The North Coast RWQCB has adopted policies and requirements pertaining to on-site sewage disposal systems, commonly referred to as the Basin Plan. The most recent North Coast RWQCB Basin Plan was adopted in March 2011.

The on-site sewage disposal systems element of the Basin Plan sets forth various objectives, guidelines, general principles and recommendations for the use of on-site sewage disposal systems that cover a variety of topics. Mandatory requirements for the siting and design of on-site sewage disposal systems are reflected in the Basin Plan. Included for all on-site sewage disposal systems are specific criteria related to separation distances to groundwater, setbacks to water features, soil conditions, percolation rates, special design systems, and leachfield replacement area. Further discussion of these criteria is provided later in this section.

Assembly Bill 885 (AB 885)

AB 885 was passed by the California Legislature in September 2000, and mandates the establishment of statewide standards to regulate the placement and use of on-site wastewater treatment systems (OWTS). The SWRCB has been charged with developing this critical set of uniform statewide standards for on-site sewage disposal systems that are required to be incorporated into all RWQCB Basin Plans in the near future. For the past several years the SWRCB has been in the process of developing statewide regulations for on-site wastewater treatment systems per AB 885. The key aspects of the proposed regulations include:

Site Evaluation Practices. The proposed regulations will mandate more thorough and consistent soil and site evaluation practices for all new and repair/replacement OWTS for verification of soil depth and groundwater levels. Current practices focus primarily on attaining minimum horizontal setbacks and determination of groundwater separation, not on determination of soil texture, structure or depth. Proposed definitions for soil (especially rock content and weathered bedrock) will require more thorough and extensive soil profile evaluations and stricter interpretations of suitability than under current practices.

Operation and Maintenance (O&M) Manuals. The proposed AB 885 regulations require the preparation of an O&M manual for all new and repair/replacement OWTS.

Septic Tank Risers and Effluent Filters. Access risers to “near” grade and the use of effluent filters will be required under the proposed regulations. These requirements will apply to new standard systems as well as supplemental treatment systems, and for any tank replacements.

Supplemental Treatment Systems. The proposed regulations have minimum vertical separation requirements that will lead to increased use of supplemental treatment systems. Minimum vertical

separation is the depth of continuous unsaturated, undisturbed earthen material between the bottom of the dispersal system and the top of the seasonal high groundwater level, impermeable strata, or bedrock.

Dispersal System Siting and Design Criteria. The proposed dispersal system siting and design requirements are generally consistent with and/or less restrictive than the current RWQCB Basin Plan. Many of the requirements are structured to allow for more latitude in the use of supplemental treatment to overcome soil depth/suitability constraints for OWTS. Based on the soil definitions in the proposed regulations, there is likely to be an increased need to specify supplemental treatment systems and shallow dispersal designs (including mounds) for sites that may have been permitted for conventional trench designs under current practices.

Groundwater Quality and Septic Tank Monitoring. The proposed AB 885 regulations will mandate new groundwater sampling and septic tank inspections requirements for new and existing OWTS. The proposed regulations do not explicitly require the City to enforce this requirement or to collect and maintain any of the results from sampling that is performed. However, as the local agency responsible for implementing the regulations, at a minimum, Sonoma County would be obligated to provide some level of oversight for these activities.

Record Keeping. The proposed requirements specify only that system owners maintain copies of the Record Plan and the O&M Manual for the OWTS.

LOCAL

Cotati Municipal Code

Chapter 13.37.010 of the Cotati Municipal Code allows for the discharge of waste from any premises within the city onto land or to any natural outlet, only if the discharge complies with all requirements of the Regional Water Quality Control Board and of all other local, state and federal laws and regulations.

Cotati Sewer Collection System Master Plan

The City's Sewer Collection System Master Plan (SCSMP) evaluates the adequacy of the City's sewer collection system, identifies system deficiencies (present and future), and develops prioritized recommendations to meet the City's collection needs through the year 2035. The Sewer Collection System Master Plan contains a summary of the existing sewer system facilities, an evaluation of sewage flows, an evaluation of inflow and infiltration flows, development of a hydraulic model, the identification of existing and future system deficiencies, and prioritized recommendations and cost estimates for improving the system through the year 2035. The City finalized the Sewer Collection System Master Plan in September 2011.

Santa Rosa Recycled Water Master Plan

The purpose of the Santa Rosa Recycled Water Master Plan is to assist the City in deciding how to manage additional wastewater flows into the Subregional Water Reclamation System resulting from updates to the general plans of partner cities within the subregional system. It also must

describe methods for managing current and future flows that are discharged and which are affected by new regulations, including the California Toxics Rule (CTR). The sum of these flows is the incremental flow to be addressed by the Incremental Recycled Water Program (IRWP). The City of Santa Rosa (City) is the managing partner for the Subregional System. The Master Plan formulates a course of actions for implementing facilities under the IRWP to manage the incremental flow. All areas where these facilities would be implemented are within Sonoma County, except for a small portion of the Geysers Steamfield, which is located in Lake County.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it will:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-3: Potential to exceed wastewater treatment capacity or the requirements of the RWQCB (Cumulatively Considerable and Significant and Unavoidable)

The City of Santa Rosa Utilities Department is responsible for managing the Subregional Wastewater Treatment and Reclamation system, which handles the wastewater treatment for the City of Cotati. Wastewater generated by the City of Cotati is treated at the Laguna Wastewater Treatment Plant, located to the west of Cotati.

In 1975, the City of Santa Rosa executed an Agreement with the Cities of Rohnert Park, Sebastopol and the South Park County Sanitation District for treatment of wastewater at the Laguna Treatment Plant. At that time, Cotati's wastewater flowed through Rohnert Park's collection system and the combined flow continued to the Laguna Treatment Plant. In 1994, Cotati's wastewater flow was segregated from Rohnert Park; Cotati executed the Third Amended Agreement and became a "Subregional" partner with the cities of Santa Rosa, Rohnert Park and the South Park County Sanitation District. Currently, all wastewater from Cotati flows directly to the Laguna Treatment Plant via Cotati's Helman Lane 24-inch trunkline. The Third Amended Agreement assigned a flow allocation of 0.624 million gallons per day (mgd) to Cotati. In 2002, under the Fourth Amended Agreement, Cotati's flow allocation was increased to 0.76 mgd to

incrementally meet treatment capacity needs for its 1998 General Plan buildout (DSP EIR, page 4.13-2).

Existing (2010) ADWF generated in Cotati is 0.47 mgd, as shown in Table 3.13-4. The 2011 Cotati Sewer Collection System Master Plan estimated that the future (2035) ADWF would be 0.66 mgd. The estimate of 0.66 mgd shown in the 2011 Sewer Collection System Master Plan (Table 4.5) is based on a 2035 population of 9,889. Buildout of the 2013 General Plan is projected to result in a total buildout population of 11,085 residents within the City limits, and 12,553 residents within the entire Planning Area. These growth projections represent a 12% increase and a 26.9% increase, respectively, when compared to the population growth projections used in the 2011 Sewer Collection System Master Plan 2035 ADWF projections.

Upon full buildout of the 2013 General Plan within the City limits, total ADWF is projected to be 0.74 mgd. Within the entire Planning Area, the ADWF would be 0.83 mgd upon full buildout of the General Plan. These ADWF projections exceed the projections used in the 2011 Sewer Collection System Master Plan.

The generation of 0.74 mgd associated with General Plan buildout within the City limits is within the flow allocation of 0.76 mgd allocated to Cotati under the 2002 fourth amendment to the Subregional Partnership with the City of Santa Rosa. However, the 0.83 mgd ADWF associated with full buildout of the Planning Area would exceed the 0.76 mgd allocation under the existing Subregional agreement terms.

The Laguna Wastewater Treatment Plant is a tertiary-level treatment facility with the capacity to process 21.34 million gallons per day (mgd).[2] According to the Treatment Plant utility overview website, average daily dry weather flow is 17.5 million gallons, using about 82% of the plant's permitted capacity.

According to the 2007 Update to the Incremental Recycled Water Plan, the Laguna Treatment Plant will be expanding total permitted treatment capacity from 21.34 mgd to 25.9 mgd. The plan states that, at the earliest, total 2020 projected flow demand will be 25.89 mgd.[3]

Future Subregional Partner wastewater treatment allocations for the Laguna Treatment Plant will be based on approved General Plans or General Plan updates (including the 2013 Cotati General Plan). At the time of preparation of this EIR, Cotati's capacity allocation remains at 0.76 mgd. In order to meet projected flows under cumulative General Plan buildout conditions, the City's allocation would need to be increased to at least 0.83 mgd.

The City of Santa Rosa's 2007 Update to the Recycled Water Master Plan estimates that in 2020, total ADWF to the Laguna Plant will be approximately 25.89 mgd, which exceeds the current NPDES permit capacity of the plant. While the City of Cotati is projected to contribute approximately 3.2% of the wastewater treated at the Laguna Plant, under 2035 buildout

[2] City of Santa Rosa 2007 Update to the Recycled Water Master Plan, p. S-2.
[3] City of Santa Rosa, 2007 Update to the Recycled Water Master Plan, p. 1-11.

conditions, the existing permitted capacity of the Plant would be exceeded if all other partners contribute their projected flows.

Annual wet weather flow projections are used to determine how to manage total system inflows and outflows throughout each year. Wet weather inflow to the plant is sensitive to hydrologic conditions, including rainfall events, Russian River flows, and groundwater levels. Among these factors, Laguna Plant wet weather inflow correlates most consistently with Russian River flow.

A water balance model was developed to simulate Laguna Plant daily inflow and daily outflows to storage, reuse, and discharge. The model uses 67 years of Russian River flow data in an algorithm to project future flows. The model yielded a peak wet weather daily inflow to the Laguna Plant of 101 mgd, corresponding to an ADWF of 25.9 mgd. This represents the highest daily plant inflow based on 67 years of record. The water balance model was further used to simulate the amount of water in storage, being discharged, or reused at any time of year for future programs.

General Plan Policy CSF 2.16 requires the City to work with the Santa Rosa Subregional Wastewater System and neighboring cities to assist in the maintenance of an adequate sewage treatment and disposal system for the region. Action CSF 2l requires that upon adoption of the General Plan, the City shall apply to the subregional partners for an incremental increase in its wastewater flow allocation to meet projected demand though 2035. And Action CSF 2m requires the City to coordinate with the Laguna Wastewater Treatment Plant to increase the National Pollutant Discharge Elimination System (NPDES) permit capacity of the plant to meet projected 2035 demand for all sources of wastewater treated at the plant.

The following General Plan policies and actions would assist in reducing wastewater generation flows in Cotati to the greatest extent feasible, and would ensure that new development is not approved until it can be demonstrated that adequate wastewater treatment capacity exists to serve new and existing development demands.

2013 General Plan Policies and Actions that Mitigate Potential Impacts

Policies

Policy CSF 1.1: *Require all development projects to demonstrate, to the satisfaction of the City Engineer, that the City's public services and utilities can accommodate the increased demand for services associated with the project.*

Policy CSF 1.2: *Require new development to offset or mitigate impacts to public services and facilities to ensure that service levels for existing users are not degraded or impaired by new development, to the satisfaction of the City Engineer.*

Policy CSF 1.3: *Limit approvals of new development to areas where adequate infrastructure and services are available or will be provided by the development.*

Policy CSF 1.4: *Maintain development fees at a sufficient level to finance infrastructure costs.*

Policy CSF 1.5: *As new areas are considered for annexation and development, priority for public services and facilities shall be given to existing development within the annexation area not currently served by City services.*

Policy CSF 1.6: *Require development, infrastructure, and long-term planning projects to be consistent with all applicable City plans and programs related to public services and facilities, including but not limited to the Water Master Plan, the Sanitary Sewer Master Plan and the Capital Improvement Plan. New projects shall assist with the implementation of these plans through the provision of fair-share payments, construction of improvements, or other means identified as appropriate by the City Engineer.*

Policy CSF 2.16: *Work with the Santa Rosa Subregional Wastewater System and neighboring cities to assist in the maintenance of an adequate sewage treatment and disposal system for the region.*

Policy CSF 2.17: *Ensure sewage system capacity is adequate to match the rate of development.*

Policy CSF 2.18: *Maintain adequate sewage conveyance infrastructure to meet existing and projected demand throughout the life of the General Plan.*

Policy CSF 2.19: *Maintain the sewage conveyance infrastructure to reduce the risks of ground and surface water contamination associated with accidental wastewater discharge and system leakage.*

Policy CSF 2.20: *Ensure adequate funding is available for needed improvements to the wastewater conveyance infrastructure to reduce stormwater infiltration to the greatest extent feasible.*

Policy CSF 2.21: *Comply with the current Statewide General Waste Discharge Requirements concerning the operation and maintenance of the City's sanitary sewer collection system.*

Policy CSF 2.22: *Prior to the approval of development that would result in increased demand for municipal sewage conveyance and treatment, require projects to demonstrate that existing services are adequate to accommodate the increased demand or that improvements to the capacity of the system to meet increased demand will be made prior to project implementation.*

Policy CSF 2.23: *Periodically review and update the Sewer Collection System Master Plan.*

Policy CSF 2.24: *Review new development for consistency with the Sewer Collection System Master Plan and require new development to pay fair-share payments towards implementation of system improvements identified in the Sewer Collection System Master Plan, as determined by the City Engineer.*

Policy CSF 2.25: *Prioritize sewer service improvements to areas within the City that pose a threat to public health and the environment as a result of deficiencies in existing sewer or septic systems.*

Policy CSF 2.26: *Assist and facilitate the expansion of municipal sewer services to residential areas adjacent to the existing municipal service area that are currently served by septic systems, when such expansion does not create a new demand for growth. Residential areas with development densities of more than one unit per two acres where existing septic systems are failing shall be given top priority for assistance.*

Policy CSF 2.27: *Ensure future sewer and septic systems are designed to meet or exceed all applicable water quality standards and are located to protect waterways and groundwater resources.*

Actions

Action CSF 1a: Periodically review and update the various Master Plans for the provision and/or extension of public services. These plans can include the Water Master Plan, the Sanitary Sewer Master Plan, and the City's Capital Improvement Plan. Cost estimates for improvements identified within each respective plan will be used as a basis for establishing and periodically updating development fees. As part of the next update for each of these plans, the update shall include a more streamlined process to facilitate smaller development projects. This process may involve an equivalent dwelling unit (EDU)-type fee and accompanying study to determine EDU allocations. (Public Works Department, Planning Department, City Engineer)

Action CSF 1b: As part of the development review process, evaluate the degree of impact a development will have on the City's infrastructure. The City Council shall ensure that appropriate impact fees and assessments are levied accordingly.

Action CSF 2h: Coordinate Cotati's sewage system with other affected municipalities (Santa Rosa, Rohnert Park, Sebastopol, and Sonoma County) to bring about more efficient and effective solutions for the affected region.

Action CSF 2i: Develop a program to reduce sewer usage. Continue to implement the low flow toilet retrofit program.

Action CSF 2j: Continue to participate in the Santa Rosa Subregional Sewage System efforts to expand capacity and locate appropriate uses for the treated wastewater.

Action CSF 2k: The Planning Department and City Engineer shall monitor sewer capacity. The remaining sewer capacity shall be offered to serve the existing homes in newly annexed areas prior to the issuance of any new building permits.

Action CSF 2l: Continue to monitor wastewater flow generation rates within the City's service area and apply to the subregional partners for an incremental increase in wastewater flow allocation to meet projected demand prior to any exceedance of the City's wastewater flow allocation under the Subregional Partnership.

Action CSF 2m: Coordinate with the Laguna Wastewater Treatment Plant to increase the National Pollutant Discharge Elimination System (NPDES) permit capacity of the plant to meet projected 2035 demand for all sources of wastewater treated at the plant.

Action CSF 2n: Perform regular cleaning and inspection to help eliminate sanitary sewer overflows.

Implementation of the policies and actions identified above would assist in ensuring that adequate treatment plant capacity and permitted capacity is available to meet 2035 buildout conditions, including wastewater demands generated by the City of Cotati and the rest of the Regional Partners. However, at the time of preparation of this EIR, an increase in permitted capacity cannot

be guaranteed. As such, this impact is considered **cumulatively considerable and significant and unavoidable.**

2013 Cotati General Plan Policy CSF 2.16, and Actions 2l and 2m would reduce this impact to the greatest degree feasible, but not to a less than significant or less than cumulatively considerable level.

Impact 3.13-4: Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

Development under the 2013 General Plan would result in increased wastewater flows, resulting in the need for additional 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, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the 2013 General Plan does not propose development nor does it designate specific sites for new or expanded public facilities.

Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily 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 2013 General Plan, such as impacts associated with construction activities including 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 3.13, 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, 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 of this Draft EIR to reduce the impact and discloses which impacts cannot be reduced to a less than significant impact.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's General Plan, Land Use Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2013 General Plan includes policies and actions 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 CSF 2.22 requires development that will result in increased wastewater demand to demonstrate adequate capacity or that improvements to provide adequate capacity will be made prior to project implementation. Policies CSF 2.20 and 2.24 provide assurances that adequate funding will be available, through the payment of fair-share development infrastructure fees, to provide necessary improvements and ensure coordination with wastewater treatment providers to plan for necessary improvements to accommodate growth. This is a **less than significant** impact.

3.13.3 SOLID WASTE

The City of Cotati is a member of the Sonoma County Waste Management Agency (SCWMA), a joint powers authority for the nine cities and County of Sonoma, which was formed in 1992 and has a current sunset of 2017. Solid waste, recycling, and compost pickup within Cotati is currently provided by Redwood Empire Disposal.

KEY TERMS

Transfer station: A facility for the temporary deposition of some wastes. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal or treatment.

Class I landfill: A landfill that accepts for disposal 20 tons or more of municipal solid waste daily (based on an annual average); or one that does not qualify as a Class II or Class III municipal solid waste landfill. A Class I landfill is authorized to accept hazardous waste.

Class II landfill: A landfill that (1) accepts less than 20 tons daily of municipal solid waste (based on an annual average); (2) is located on a site where there is no evidence of groundwater pollution caused or contributed by the landfill; (3) is not connected by road to a Class I municipal solid waste landfill, or, if connected by road, is located more than 50 miles from a Class I municipal solid waste landfill; and (4) serves a community that experiences (for at least three months each year) an interruption in access to surface transportation, preventing access to a Class I landfill, or a community with no practicable waste management alternative. A Class II landfill is not authorized to accept hazardous waste.

Class III landfill: A landfill that is not connected by road to a Class I landfill or a landfill that is located at least 50 miles from a Class I landfill. Class III landfills can accept no more than an average of one ton daily of ash from incinerated municipal solid waste or less than five tons daily of municipal solid waste. A Class III landfill is not authorized to accept hazardous waste.

SOLID WASTE GENERATION AND DIVERSION

CalRecycle has established a per resident disposal target rate of 7.1 pounds per day (PPD) and a per employee disposal rate of 18.3 PPD for the SCWMA. The SCWMA has met and exceeded these targets in recent years, achieving a disposal rate of 3.9 PPD per resident and 10.6 PPD per employee in 2010.

Through the requirements of AB 939, the California Department of Resources Recycling and Recovery (CalRecycle), requires the SCWMA, on behalf of the cities and the County of Sonoma, to calculate its diversion rate. The diversion rate is the percentage of total waste that a jurisdiction diverted from disposal at CalRecycle-permitted landfills and transformation facilities through reduction, reuse, recycling programs, and composting programs. Jurisdictions were required by law to achieve 50 percent diversion for the year 2000.

In 2011 an estimated 1,262,000 tons of waste material was generated. Of this amount, approximately 322,000 tons were disposed of in a landfill, while the rest was diverted, recycled, composted, or otherwise reused. In 2011 approximately 74% of the waste stream was diverted from landfilling.

As of 2007, jurisdictions' diversion rates were no longer calculated by CalRecycle to determine compliance with AB 939. Instead, a per capita disposal rate was used as a benchmark of program effectiveness. The statutory change was instituted by SB 1016 (2008). Sonoma County's waste diversion rates from 2003 through 20011 are shown in Table 3.13-6. As shown below, the County has seen a steady increase in the volume of waste diverted, as indicated by the decrease waste generated per person per day between 2007 and 2011.

Table 3.13-6: Sonoma County Waste Diversion Rate	
Year	**Waste Diversion Rate**
2011	3.5 lbs/person/day[1]
2010	4.1 lbs/person/day[1]
2009	3.9 lbs/person/day[1]
2008	4.5 lbs/person/day[1]
2007	5 lbs/person/day[1]
2006	64%
2005	61%
2004	58%
2003	55.1%

SOURCE: SCWA WASTE STREAM PROFILES. AVAILABLE AT: HTTP://WWW.RECYCLENOW.ORG/AGENCY/WASTE_STREAM_PROFILES.ASP ACCESSED JULY 1, 2011.

Note 1: *Per Capita Disposal Rate — The average amount of waste disposed within a county per person for a given year. This benchmark simply divides the total waste generated within a jurisdiction by the population (or sometimes employment data) and number of days in the year. The switch from a diversion rate to a per capita disposal rate simplifies the reporting process between a jurisdiction and CalRecycle and assists in a more timely evaluation of waste diversion progress.*

WASTE COLLECTION SERVICES

Redwood Empire Disposal offers weekly garbage service to residential and commercial customers in the City. Included in the residential fee for garbage service is a weekly curbside recycling program and weekly 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 all refuse accounts. Depending on the area, commercial accounts may choose from 1.5, 2, 3, 4, 6 cubic yard bins. Commercial collection services are offered up to five times a week. Small commercial generators may subscribe to weekly cart service, but will need to bring their carts to the roadside (http://unicycler.com/commercial/sonoma/cotati. Accessed 5/20/11).

WASTE DISPOSAL FACILITIES

Information regarding waste disposal facilities has been taken from the CalRecycle website databases (http://www.calrecycle.ca.gov/databases/), the Sonoma County Waste Management Agency website, accessed in June 2014, and the 2013 Sonoma County and Republic Services Master Operations Agreement.

Central Disposal Site

Sonoma County's Central Disposal Site features a full spectrum of waste management programs to serve the 467,000 residents and thousands of businesses in Sonoma County. The 398-acre Central Disposal Site integrates reuse & recycling, household hazardous waste management services, yard

debris and food waste composting, solid waste disposal, along with production of electrical energy and vehicle fuel from landfill gas in a coordinated system at a single location.

The Central Disposal Site has a permitted daily capacity of 2,500 tons. Its 172-acre waste disposal area has a total permitted capacity of 19,779,250 cubic yards, with a remaining capacity of 9,470,629 cubic yards (47.9 percent). The permit for this facility is scheduled to be reviewed in March 2015. The Central Disposal Site was closed in 2005 following the discovery that a damaged dump protective liner might lead to ground water contamination. The liner was repaired, and the facility re-opened in September 2010.

Sonoma County and the cities within the SCWMA recently entered into a Master Operations Agreement (MOA) with Republic Services, a private waste services company, to develop and implement a long-term strategy for solid waste disposal and recycling. Under the MOA, the County would retain ownership of the Central Disposal Site and enter into a long-term operations contract with Republic Services. The County and the cities within Sonoma County would commit their waste flow to Republic Services for a 20-year term. In exchange for the 20-year waste flow commitment, each city receives indemnification in perpetuity against liabilities and costs associated with facility closures and remediation. The MOA provides a funding mechanism to implement future facility expansions at the Central Disposal Site in order to meet future waste generation demand.

Diversion Facilities

The SCWMA's primary diversion facility is located at the Central Disposal Site, and SCWMA also maintains transfer stations in Annapolis, Occidental, Sonoma, Healdsburg, and Guerneville. At all these disposal sites, the SCWMA receives both source-separated recyclables and refuse. Large transfer trailers haul refuse from the transfer stations to the Central Disposal Site for landfilling. Other transfer trailers haul wood waste and yard debris from three of the transfer stations (Sonoma, Guerneville, and Healdsburg) to the central landfill for processing.

COMPOSTING

The municipal composting program is operated by Sonoma Compost Company under contract with the Sonoma County Waste Management Agency. Sonoma Compost Company is responsible for processing all yard debris and vegetative food waste collected from Refuse Disposal sites and from weekly pick up of residential curbside green waste. Activities occur on a 25-acre portion of the Central Disposal Site between Cotati and Petaluma.

The yard debris is hand-sorted to remove unacceptable materials such as plastic bags and other non-organic items and then ground, and placed in windrows for about 10-12 weeks to produce a soil amendment. Specialty soil products are created by adding chicken feathers from local poultry processors, rice hulls and duck manure.

Compost produced in the municipal program is listed as an allowed material by the Organic Materials Review Institute for use in the production of organic food and fiber. Because of this listing, compost produced by Sonoma Compost Company is used on a number of California

Certified Organic Farms (CCOF). In 2008, 92,000 tons of yard debris was transformed into a valuable soil amendment.

SCWMA offers residents within its jurisdiction the option of including yard debris and many types of food items in greenwaste recycling bins, which are picked up curbside and disposed of through composting. Food items that may be included in curbside bins include: fruit and peelings, vegetables and peelings, pasta and rice, bread, tea bags, coffee grounds and filters, and eggshells. SCWMA also provides information and resources to assist residents with composting at home.

SCWMA also operates a commercial veggie scrap composting program. Vegetable food scraps that can't be donated, such as spoiled fruits and vegetables, stale bakery items and kitchen prep trimmings, can be composted into a beneficial soil amendment, thus greatly reducing the amount of material going into landfill. Restaurants, grocery stores, schools, hospitals and other facilities can benefit by participating in garbage company pick up, by directly hauling material to the municipal composting program or by composting food scraps on-site.

RECYCLING

Most of Sonoma County's single-stream recycling is sorted and baled for shipping at North Bay Corporation's Materials Recovery Facility in Santa Rosa.

The process starts when giant mounds of recycling are sorted daily in a process which incorporates both mechanical and human sorting. The first sort is done by hand where large pieces of cardboard, rigid plastics, garbage, and plastic bags are removed.

Next, the material is pushed up a large conveyor belt with a row of rods that contain series of offset lobes (similar to a cam shaft) which "float" the lighter material, such as paper, to an upper belt which feeds directly to the baler where paper and other fiber products are collected and prepared for shipping.

Beverage/food/household containers and smaller bits of paper fall through the first set of cams onto another belt. These are fed up a second incline conveyor containing a smaller set of offset lobes to capture the smaller pieces of paper. That belt feeds to a baler for processing.

The beverage/food/household containers which fall through to the container line pass under a strong magnet which removes all steel cans and other magnetic materials. Remaining plastic containers are sorted into different grades by hand, and an "eddy" current pushes aluminum cans into a collection hopper.

REGULATORY SETTING – SOLID WASTE

FEDERAL

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the Act as it stands today governs the management of solid and hazardous waste and underground

storage tanks (USTs). RCRA, enacted in 1976, is an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the federal program.

STATE

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the State to prepare a Source Reduction and Recycling Element to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory State waste diversion goals of 25 percent by 1995 and 50 percent by 2000. The purpose of AB 939 is to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible." The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows: Source Reduction; Recycling; Composting; Transformation; and Disposal. Norcal Waste Systems of Butte County, Inc. provides for source reduction through the collection of greenwaste and recycling as part of the waste disposal program, which is available in many areas of Colusa County.

California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a "model ordinance" relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include "adequate, accessible, and convenient areas for collecting and loading recyclable materials." For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

LOCAL

Sonoma County Integrated Waste Management Plan

The Sonoma County Integrated Waste Management Plan is the primary local solid waste management planning document that demonstrates reduction of the amount of solid waste landfilled, long-term ability to ensure the implementation of countywide diversion programs, and provision of adequate disposal capacity for local jurisdictions through the siting of disposal and transformation facilities. This planning document is known as the Countywide Integrated Waste Management Plan (CoIWMP), and includes the Source Reduction and Recycling Element (SRRE),

Household Hazardous Waste Element (HHWE), Non-Disposal Facility Element (NDFE), and the Siting Element.

SCWMA Waste Reduction Program for Carryout Bags

To address the growing problem of carryout bag waste, on February 19, 2014 the cities and the County members of the Sonoma County Waste Management Agency passed Ordinance No. 2014-2 establishing a Waste Reduction Program for Carryout Bags. The ordinance, which goes into effect on September 1, 2014, applies to all grocery stores and retail establishments. The ordinance does not apply to eating establishments (stand-alone restaurants, delis, etc.) and non-profit charitable reusers. The ordinance prohibits all singlesing-use plastic carryout bags, and requires a minimum 10-cent charge on compliant recycled paper bags.

Cotati Municipal Code, Chapter 8.08: Solid Waste Management

Chapter 8.08 of the Cotati Municipal Code contains specific requirements related to:

- Pre-collection and storage of solid waste
- Waste ownership and responsibilities
- Waste collection
- Transfer station services
- Waste disposal, and
- Solid waste handling

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it will:

1. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
2. Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-5: The project would be served by a landfill for solid waste disposal needs and will require compliance with various laws and regulations (Less than Significant)

Development under the 2013 General Plan will generate a population increase within the entire Cotati Planning Area of approximately 5,243 persons and an increase in employment of approximately 8,819 jobs upon general plan buildout.

As described above, the SCWMA has achieved a disposal rate of 3.9 PPD per resident and 10.6 PPD per employee in 2010. Assuming these disposal rates remain constant throughout the life of the General Plan, the new growth under 2013 General Plan buildout would result in an increase of approximately 113,928 pounds per day of solid waste (5,202 x 3.9) + (8,819 x 10.6), which equals 56.96 tons per day or 20,791.9 tons of solid waste per year.

The City's annual increase in solid waste generation is well within the permitted capacity of the Central Disposal Site serving the City and does not exceed the daily permitted capacity of any of the landfill. The Central Disposal Site has a permitted daily capacity of 2,500 tons. Its 172-acre waste disposal area has a total permitted capacity of 19,779,250 cubic yards, with a remaining capacity of 9,470,629 cubic yards (47.9 percent). In 2012, the Sonoma County Central Disposal Site averaged approximately 1,250 tons per day of materials received, which is significantly below the facility's permitted capacity of 2,500 tons per day. The facility has enough capacity to serve the City through the general plan horizon.

Sonoma County and the cities within the SCWMA recently entered into a Master Operations Agreement (MOA) with Republic Services, a private waste services company, to develop and implement a long-term strategy for solid waste disposal and recycling. Under the MOA, the County would retain ownership of the Central Disposal Site and enter into a long-term operations contract with Republic Services. The County and the cities within Sonoma County would commit their waste flow to Republic Services for a 20-year term. In exchange for the 20-year waste flow commitment, each city receives indemnification in perpetuity against liabilities and costs associated with facility closures and remediation. The MOA provides a funding mechanism to implement future facility expansions at the Central Disposal Site in order to meet future waste generation demand.

While there is adequate permitted landfill capacity to accommodate future growth, the 2013 General Plan includes policies and actions to further reduce the project's impact on solid waste services, as identified below. The 2013 General Plan would not exceed the permitted capacity of the landfill serving the City and the 2013 General Plan will comply with regulations related to solid waste. Therefore, impacts to solid waste are **less than significant** and no mitigation is necessary.

2013 GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policies

Policy CSF 3.1: *Provide adequate waste disposal, recycling and reuse services, including programs that improve public access to solid waste collection and recycling facilities.*

Policy CSF 3.2: *Reduce solid waste and increase reduction, reuse, and/or recycling, in compliance with the Countywide Integrated Waste Management Plan.*

Policy CSF 3.3: *Work with the Sonoma County Waste Management Agency to identify environmental and economical means to meet the need for solid waste disposal.*

Policy CSF 3.4: *Require and/or support the operation of resource recovery facilities by the City waste hauler and the disposal site operators.*

Policy CSF 3.5: *City operations shall use recycled materials whenever feasible.*

Policy CSF 3.6: *Support programs that re-use recycled materials and solid waste, such as the use of biomass waste for energy production.*

Policy CSF 3.7: *Continue to coordinate with Sonoma County to require all businesses and residents to comply with the local and State requirements regarding the proper disposal of toxic and hazardous materials and waste.*

Policy CSF 3.8: *Require new or significantly remodeled residential and all non-residential development to incorporate sufficient, attractive, and convenient interior and exterior storage areas for recyclables and green waste.*

Actions

Action CSF 3a: Work with the refuse collection contractor and the Sonoma County Waste Management Agency to continue and expand an effective recycling and composting program of glass, paper, aluminum, plastic, and other recyclable materials, as well as compostable materials including yard debris and vegetative food scraps.

Action CSF 3b: Require the City's refuse collection contractor to be responsible for periodic press releases which remind residents about the recycling and composting program.

Action CSF 3c: Work with the City's refuse collection contractor and Sonoma County Waste Management Agency to provide a higher level of recycling and composting services for multiple family projects.

Action CSF 3d: Undertake a solid waste disposal and reduction education program in collaboration with the Sonoma County Waste Management Agency. The outreach program shall include information related to the proper disposal and resources for the disposal of household hazardous wastes, including, but not limited to:

- *Motor oil*
- *Electronics*
- *Medications/pharmaceuticals*
- *Batteries*
- *Paint*
- *Syringes/needles*
- *Treated Wood*
- *Fluorescent lamps/CFLs*

Action CSF 3e: Amend or revise the City's procurement process to favor the purchase of recycled products and/or materials that contain recycled materials.

Cotati General Plan Update

Figure 3.13-1: Water System Infrastructure

Infrastructure

- Water Well
- Water Tank
- Water Turnout
- Aqueduct
- Pipeline

USGS Hydrography

- Stream or River
- Canal or Ditch

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 500 1,000 2,000 Feet

1:30,000

Data sources: USGS National Hydrography Dataset, FEMA, California DWR, Cotati GIS. Map date: April 28, 2011. Revised January 15, 2013.

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Cotati General Plan Update

Figure 3.13-2: Sewer System Infrastructure

Infrastructure

- Sewer Lift Stations
- Sewer Siphons
- Sewer Pipelines

USGS Hydrography

- Stream or River
- Canal or Ditch

Planning Areas

- Cotati City Limits
- SOI/Urban Growth Boundary

0 500 1,000 2,000 Feet

1:30,000

Data sources: USGS National Hydrography Dataset, FEMA, California DWR, Cotati GIS. Map date: May 4, 2011. Revised January 15, 2013.

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CEQA requires an 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, irreversible impacts, and growth inducement associated with the 2013 General Plan.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Cotati Planning Area, which includes the City limits, Sphere of Influence, and Urban Growth Boundary. The cumulative analysis area also includes portions of unincorporated Sonoma County surrounding the Cotati Planning Area, and growth anticipated within the City of Rohnert Park, as identified in the Rohnert Park General Plan.

Population Growth

Population in the cumulative analysis area has steadily grown over the last several decades as shown by Table 4.0-1. The population in Sonoma County has increased by 64 percent since 1980, while the population in the City of Cotati has increased by 118 percent since 1980. Over the past decade (since 2000), the population in Sonoma County increased from 458,614 to 490,423 persons, an increase of seven percent, while the population of Cotati has increased from 6,471 to 7,310, an increase of 13 percent. In recent decades, the largest population growth occurred between 1980 and 1990, with Sonoma County's population growing by 30 percent, and Cotati's population growing by 71 percent. In the past three years, population growth in the County and the City has slowed significantly, increasing by one percent or less.

The Association of Bay Area Governments (ABAG) projects population growth in the San Francisco Bay area. The adopted Plan Bay Area does not include population projections at the local level, but rather presents regional projections. Plan Bay Area 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.

The California Department of Finance projects that the population of Sonoma County will increase to 551,621 by 2035, which is an increase of 12.5 percent.

TABLE 4.0-1: POPULATION GROWTH					
	1980	*1990*	*2000*	*2010*	*2013*
Cotati					
Population	3,346	5,714	6,471	7,265	7,310
Percent Change	-	71%	13%	12%	<1%
Sonoma County					
Population	299,681	388,222	458,614	483,878	490,423
Percent Change	-	30%	18%	6%	1%

SOURCE: CALIFORNIA DEPARTMENT OF FINANCE, 2000;US CENSUS, 2000; US CENSUS, 2010; CALIFORNIA DEPARTMENT OF FINANCE, 2013

Land Use

Existing land uses in the Cotati Planning Area can be characterized in broad terms of residential, commercial, agricultural, and rural lands. As shown in Table 4.0-2, the predominant land uses within the City of Cotati are residential uses, ranging from the low to medium density ranges. Within the SOI/UGB, the predominant land uses are Agriculture and Rural Residential.

TABLE 4.0-2: EXISTING GENERAL PLAN LAND USE DESIGNATIONS WITHIN THE PLANNING AREA		
LAND USE	PARCELS	ACREAGE
City Limits		
Agriculture (A)	0	0
Rural Residential (RR)	82	105.8
Low Density Residential (LDR)	143	145.67
Low/Medium Residential (LMDR)	1,145	234.78
Medium Density Residential (MDR)	792	103.57
High Density Residential (HDR)	177	29.98
General Commercial (GC)	77	110.8
Commercial Industrial (CI)	83	108.61
Open Space/Parks (OSP)	11	21.75
Public Facilities (PF)	8	21.73
Specific Plan (SP)	243	83.39
No Designation and/or Right of Way	155	254.58
TOTAL- City Limits	**2,916**	**1220.66**
Sphere of Influence (SOI) and Urban Growth Boundary (UGB)		
Agriculture (A)	127	592.9
Rural Residential (RR)	183	490.67

TABLE 4.0-2: EXISTING GENERAL PLAN LAND USE DESIGNATIONS WITHIN THE PLANNING AREA		
LAND USE	PARCELS	ACREAGE
Low Density Residential (LDR)	29	93.63
Low/Medium Residential (LMDR)	36	30.87
Medium Density Residential (MDR)	0	0
High Density Residential (HDR)	0	0
General Commercial (GC)	2	8.03
Commercial Industrial (CI)	14	43.23
Open Space/Parks (OSP)	2	4.93
Public Facilities (PF)	0	0
Specific Plan (SP)	0	0
No Designation and/or Right of Way	38	48.79
TOTAL- SOI	**431**	**1313.05**

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]). Cumulative impact analysis may be less detailed than the analysis of the Project's individual effects (State CEQA Guidelines 15130[b]).

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 potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. Because of the programmatic nature of the 2013 General Plan, this Draft EIR uses the projection approach for the cumulative analysis and considers buildout of the 2013 General Plan.

Cumulative Impacts

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. In consideration of the cumulative scenario described above, the proposed project may contribute to the following cumulative impacts.

AESTHETICS

Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region (Considerable Contribution and Significant and Unavoidable)

Significant visual resources in the Planning Area include views of the Sonoma Mountains, views of Liberty Valley, expansive views of agricultural lands, wildlife habitat areas, the Laguna de Santa Rosa, and various creek corridors. These resources can be viewed from public vantage points, including highways, roads, open space areas, and private residences throughout the Planning Area.

Buildout of the proposed 2013 General Plan would allow for new development to occur in areas that have historically been used for agricultural operations and areas that have been previously undeveloped. The introduction of new development into previously undisturbed areas or areas that have been historically used for agricultural operations may result in potentially significant impacts to scenic resources or result in the degradation of the Planning Area's visual character.

While growth is anticipated to occur in the cumulative analysis area, the majority of growth is anticipated to occur in and around existing urban development within the Cotati City limits. Development of land uses and associated infrastructure is planned to occur in the future to accommodate growth envisioned in the general plans that are effective within the cumulative analysis area, including Sonoma County and the City of Rohnert Park.

The 2013 General Plan is representative of this planned development within the City limits of Cotati and the unincorporated portions of Sonoma County within the cumulative analysis area. Regional growth has and will continue to result in a cumulative aesthetic effect by converting undeveloped land into developed and occupied areas and increasing overall levels of nighttime lighting. Cumulative development entails grading/landform alteration, the development of structures, and the installation of roadways and other infrastructure that has altered and will continue to permanently alter the region's existing visual character. Subsequent projects implemented under the 2013 General Plan would be required to be consistent with the policies and actions of the 2013 General Plan and adopted regulations pertaining to aesthetics and lighting in Cotati. However, even with implementation of adopted policies and regulations, the 2013 General Plan has the potential to considerably contribute to permanent changes in visual character, such as obstruction of scenic views, conversion of existing visual character, and increased lighting. No feasible mitigation is available to fully reduce the cumulative effect on visual character, or to mitigate the proposed project's contribution to a less-than-significant level. Therefore, the 2013 General Plan's contribution to this cumulative impact is considerable and the impact is **significant and unavoidable**.

AIR QUALITY

Impact 4.2: Cumulative Impact 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 District's most current plan is the 2010 Clean Air Plan. The 2010 Clean Air Plan (CAP) is the primary tool used to protect air quality within the jurisdictional boundaries of the BAAQMD. The BAAQMD CEQA Guidelines recommends that lead agencies consider the following questions relative to this consistency determination:

1. Does the project support the primary goals of the 2010 Clean Air Plan?
2. Does the project include applicable control measures from the 2010 Clean Air Plan?
3. Does the project disrupt or hinder implementation of any 2010 Clean Air Plan control measures?

The primary goals of the 2010 Clean Air Plan are to:

- Attain air quality standards;
- Reduce population exposure and protect public health in the Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

The 2010 Clean Air Plan's first primary goal is to protect air quality. The 2010 Clean Air Plan contains 55 control measures aimed at reducing air pollution in the Bay Area. Along with the traditional stationary, area, mobile source and transportation control measures, the 2010 Clean Air Plan contains a number of new control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. The BAAQMD encourages lead agencies to incorporate these Land Use and Local Impact (LUM) measures and Energy and Climate measures (ECM) into proposed project designs and plan elements.

The 2013 Cotati General Plan Conservation Element includes an extensive list of policies and action measures that are specifically aimed at improving air quality. These policies and action measures, which are presented in Section 3.2, are consistent with the intent of the BAAQMD's control measures. Additionally, the General Plan Land Use Element and Land Use Map provides further implementation of the BAAQMD's control measures by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns to not expose sensitive receptors to pollutant concentrations.

Additionally, the Circulation Element includes a wide range of policies and action items that would effectively reduce vehicle miles travelled throughout the Planning Area, through the use of complete streets and multi-modal transportation systems. These applicable policies and actions items are described in greater detail in Section 3.12, Transportation and Circulation.

The policies and action items included throughout the 2013 Cotati General Plan, most specifically within the Conservation, Land Use, and Circulation Elements, cover the full breadth of air quality issues as recommended in the 2010 Clean Air Plan.

The 2010 Clean Air Plan's second primary goal is to address public health. The 2010 Clean Air Plan addresses public health through identifying control measures to maximize the reduction in population exposure to air pollutants and by including a category titled Land Use and Local Impacts Measures that is intended to address localized impacts of air pollution and to help local jurisdictions to pursue transit-oriented infill development in priority areas.

The 2010 Clean Air Plan's final primary goal of protecting the climate is to reduce greenhouse gases to protect the climate. The General Plan Conservation Element includes an extensive list of policies and action measures that are specifically aimed at reducing greenhouse gas emissions/climate change. These policies and action measures are presented in more detail in Section 3.6 Greenhouse Gas Emissions.

If approval of the General Plan would not cause the disruption, delay or otherwise hinder the implementation of any air quality plan control measure, it may be considered consistent with the 2010 CAP. The General Plan does not cause the disruption, delay or otherwise hinder the implementation of any air quality plan control measure; therefore, it is consistent with the 2010 CAP. Implementation of the General Plan would have a **less than cumulatively considerable impact** relative to this topic.

BIOLOGICAL RESOURCES

Impact 4.3: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less than Cumulatively Considerable)

Cumulative development anticipated in the cumulative analysis area may result in impacts to biological resources, including the permanent loss of habitat for special-status species, corridor fragmentation, direct and indirect to special-status species, and reduction and degradation of sensitive habitat. 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;

- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- 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;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

Subsequent development projects will be required to comply with the General Plan and adopted state, federal, and local regulations for the protection of special-status species. Policy CON 1.1 defines sensitive habitats to include, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., sensitive natural communities, and other habitats designated by state and federal agencies and laws. Policy CON 1.2 requires preservation and enhancement of those biological communities that contribute to the City's and the region's rich biodiversity including, but not limited to, annual grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, and agricultural lands.

Policy CON 1.3 directs the City to attempt to resolve conflicts between sensitive habitat areas and adjoining urbanized lands in a manner which recognizes the public interests in both resource protection and the need to provide for residential and job-generating land uses. Policy CON 1.4 requires the City to focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses. Implementation of the General Plan policies identified above, in addition to other policies identified in Section 3.3, would effectively preserve and protect sensitive natural habitat, and focus conservation and preservation efforts on the most sensitive habitat in the Planning Area. While cumulative development throughout the region may result in impacts to sensitive natural habitat, the proposed project's contribution to this impact would **be less than cumulatively considerable**.

CULTURAL RESOURCES

Impact 4.4: Cumulative Impacts on Known and Undiscovered Cultural Resources (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the 2013 General Plan may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. The 2013 General Plan policies and actions, as well as state and federal regulations, will reduce the risk to people in the region. As discussed in Section 3.4, each project would require project-specific surveys for potential resources and to evaluate any resources discovered during construction activities. Adherence to these policies, actions and regulations will avoid and/or minimize a cumulative loss of these important resources if they are found during project-specific surveys or construction. Therefore, the 2013 General Plan's incremental contribution to cumulative cultural resource impacts would be **less than cumulatively considerable**.

GEOLOGY, SOILS, AND MINERALS

Impact 4.5: Cumulative Impacts related to Geology and Soils (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the 2013 General Plan will result in risks associated with geology and soils. For example, there will always be a chance that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. Additionally, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Other geologic risk such as liquefaction, landsliding, lateral spreading, and soil expansion are also geologic risks that are present.

While some cumulative impacts will occur in the region as individual projects are constructed, the 2013 General Plan policies and actions, as well as state and federal regulations, will reduce the risk to people in the region. Considering the protection granted by local, state, and federal agencies and their requirements for the seismic design, as discussed in Section 3.5, the overall cumulative impact would not be significant. By the same token, the 2013 General Plan's incremental contribution to cumulative geologic and soil impacts would be **less than cumulatively considerable**.

GREENHOUSE GASES AND CLIMATE CHANGE

Impact 4.6: Increased Greenhouse Gas Emissions May Contribute to Climate Change (Less than Cumulatively Considerable)

The 2013 General Plan was developed to maximize the preservation of agricultural and open space lands, and to concentrate new urban development around and within existing established communities inside the Cotati City limits. The 2013 General Plan includes numerous policies that promote and encourage infill development, increased residential densities within existing communities, and permanent preservation of open space and agricultural lands.

The 2013 Cotati General Plan was developed with extensive input from the community. The core themes expressed by the community for inclusion in the General Plan closely mirror the policy priorities established by CAPCOA and AB 32.

In order to determine if the proposed project would generate GHGs that may have a significant effect on the environment, the City of Cotati has relied on the proposed project's consistency with previously adopted plans and programs aimed at reducing GHG levels both locally and regionally. In California, the primary legislation related to statewide GHG reduction targets is AB 32, which calls for reducing statewide GHG emissions to 1990 levels by 2020.

The City of Cotati participates in the Sonoma County Regional Climate Protection Authority (RCPA). The RCPA was created in 2009 to improve coordination on climate change issues and establish a clearinghouse for efforts to reduce greenhouse gas (GHG) emissions. The RCPA is made up of the same Board of Directors as the SCTA and includes representatives from each of the nine cities in Sonoma County (including Cotati) and the Sonoma County Board of Supervisors.

The RCPA has published, and is in the process of implementing, the Community Climate Action Plan (CCAP), which recommends regional solutions to reduce emissions from buildings, transportation, the electrical grid, agriculture, forestry, and solid waste. As described in the CCAP, implementation of all major quantified GHG reduction solutions identified in the CCAP will achieve a 22 percent reduction below 1990 GHG levels, which is approximately 37 percent below business as usual GHG projections. These reduction targets are comparable to, and consistent with, the goals established by AB 32.

The extensive list of policies and action items provided in Section 3.6 demonstrate Cotati's commitment to reducing GHGs and climate change impacts through General Plan implementation to the greatest degree feasible. The City has taken a comprehensive approach to climate change through development of the 2013 General Plan.

The 2013 General Plan Land Use Map was developed to maximize the preservation of agricultural and open space lands in areas outside of the City's Sphere of Influence. The Land Use Element places an emphasis on concentrating new urban development around and within existing established urbanized areas of the City. The General Plan includes numerous policies that promote and encourage infill development, increased residential densities, and permanent preservation of open space through the use of clustered development patterns.

The Circulation Element includes policies that require and promote the development of "complete streets", which provide opportunities for multimodal transportation and reduced VMT. The Circulation Element also promotes the development and expansion of several forms of alternative transit, including bicycle transportation, rail, bus routes, and pedestrian connectivity.

The Conservation Element includes several policies that require water and energy conservation measures in new and existing development, and promotes the use of green building practices. This element also promotes the continued implementation of the City's municipal GHG reduction plan, and participation in the Countywide CCAP, both of which will greatly assist in reducing GHG emissions in Cotati.

The Open Space Element includes policies and actions that require the preservation of open space lands and the maintenance of open space buffers around urbanized areas.

All of the policies and actions identified above would encourage the development of a compact urban community, while preserving the agricultural and open space resources in the Planning Area. The City's comprehensive approach to this issue in the 2013 General Plan would result in increased local employment opportunities, increased transportation and transit options, and the incorporation of conservation and energy efficiency into new development.

The proposed 2030 General Plan is consistent with the policy guidance provided by CAPCOA and the BAAQMD, and would assist the state in meeting the GHG reduction goals established by AB 32. In addition to the proposed project's consistency with the CCAP and AB 32, new projects are required to fully implement the City's Green Building Standards. Compliance with the City's Green Building Standards would reduce GHG emissions from future development to the greatest extent feasible, and would further ensure that the General Plan and any future development following adoption of the General Plan would be consistent with all applicable plans and policies adopted for the purpose of reducing GHG emissions. This is a **less than cumulatively considerable impact.**

HAZARDS

Impact 4.7: Cumulative impacts from hazardous materials and human health risks. (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the 2013 General Plan may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels, diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the 2013 General Plan, some will inevitably transport or use hazardous materials within ¼ mile of a school, or other sensitive receptors such as hospitals and residences.

While some cumulative impacts will occur in the region as individual projects are constructed, the 2013 General Plan policies and actions, as well as state and federal regulations, will reduce the risk to people in the region. Considering the protection granted by local, state, and federal agencies and their requirements for the use of hazardous materials in the region, as discussed in Section 3.7, the overall cumulative impact would not be significant. By the same token, the 2013 General Plan's incremental contribution to cumulative hazards and human health impacts would be **less than cumulatively considerable**.

HYDROLOGY AND WATER QUALITY

Impact 4.8: Cumulative impacts to Hydrology and Water Quality. (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the 2013 General Plan has the potential to have construction and dewatering related water quality

impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns.

While some cumulative impacts will occur in the region as individual projects are constructed, the 2013 General Plan policies and actions, as well as state and federal regulations, will substantially reduce the impacts. Considering the protection granted by local, state, and federal agencies and their permit and monitoring requirements, as discussed in Section 3.8, the overall cumulative impact would not be significant. By the same token, the 2013 General Plan's incremental contribution to cumulative hydrology impacts would be **less than cumulatively considerable**.

LAND USE, AGRICULTURE, AND POPULATION

Impact 4.9: Cumulative Impact on Communities and Local Land Uses (Less than Considerable Contribution)

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. It may be determined in the project-specific design phase of a development project that an individual project may require removal of homes and result in the displacement of people and housing; however, these effects are not cumulatively considerable because there is adequate replacement housing available under the 2013 General Plan. Additionally, any removal of homes would require adequate compensation to the homeowner in accordance with federal and state laws.

The land uses allowed under the 2013 General Plan provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas, as well as limited new growth within the SOI/UGB, but would not create physical division within existing communities. New development and redevelopment projects would be designed to complement the character of existing neighborhoods and provide connectivity between existing development and new development within the cumulative analysis area. The 2013 General Plan does not include any new roadways, infrastructure, or other features that would divide existing communities. The 2013 General Plan's incremental contribution to cumulative land use and population impacts would be **less than cumulatively considerable**.

Impact 4.10: Cumulative Impacts on Agricultural Lands (Less than Considerable Contribution)

As shown in Table 3.9-1, there is a total of 419.82 acres of Important Farmlands located within the Planning Area. The vast majority of these Important Farmlands are classified as Farmland of Local Importance (393.12 acres), and only 36.42 acres of Farmland of Local Importance are located within the City limits. There are no other categories of Important Farmlands located within the City limits. The location of the Important Farmlands is shown on Figure 3.9-1.

The majority of Important Farmlands within the Planning Area are designated Agriculture by the proposed Land Use Map. This land use designation would protect these Important Farmlands from urbanization, and would support their continued use as agricultural lands throughout the life of the proposed General Plan. Some areas of Important Farmlands within the Planning Area,

outside of the City limits are designated Rural Residential. The Rural Residential land use designation identifies areas with limited variety of agricultural and rural uses, primarily along the southern and western city borders. The RR designation allows agricultural uses such as orchards, vineyards, and grazing as well as low-density residential and associated neighborhood retail uses, where development and agricultural uses maintain existing natural vegetation and topography to the maximum extent feasible.

The General Plan Land Use Map provides for the protection and continued agricultural viability of Important Farmlands located throughout the City's Sphere of Influence and Urban Growth Boundary. However, approximately 36.42 acres of Farmland of Local Importance within the City limits may be converted to urbanized land uses upon full buildout of the General Plan. These 36.42 acres of Farmland of Local Importance are not under Williamson Act Contract, and represent less than nine percent of the total acreage of Important Farmlands within the Planning Area.

The 2013 General Plan has taken a proactive approach towards focusing new growth and development towards infill locations, and protecting open space areas and agricultural lands throughout the Sphere of Influence and Urban Growth Boundary. Policy OS 1.2 calls for the preservation of designated open space for conservation, recreation, and agricultural uses. Policy OS 1.3 calls for the protection of rural (Agricultural and Rural Residential) and natural open space lands from urbanization.

While implementation of the 2013 General Plan would result in the future urbanization of a small amount of Farmland of Local Importance, over 90 percent of the Important Farmlands within the Planning Area would be preserved and protected for ongoing viable agricultural use upon buildout of the General Plan. Future development in Sonoma County, outside of the Cotati Planning Area may result in cumulative impacts related to agricultural land conversion. However, given the strong agricultural protection policies contained in the 2013 Cotati General Plan, coupled with the General Plan's proactive approach towards focusing new growth and development towards infill locations, and protecting open space areas and agricultural lands throughout the Sphere of Influence and Urban Growth Boundary, the proposed project would have a **less than cumulatively considerable** contribution to this impact.

NOISE

Impact 4.11: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise (Considerable Contribution and Significant and Unavoidable)

Development in the cumulative analysis area would cause some areas to experience greater construction and operational noise disturbances relative to others. This would result as noise sensitive development becomes more clustered near noise producing land uses, including roadways. The 2013 General Plan indirectly increases noise levels by accommodating additional growth and ultimately allowing more traffic on roadways.

The 2013 General Plan establishes noise-related policies that, when implemented, protect sensitive receptors from significant noise. The policies that are laid out in the Noise Element of the

2013 General Plan are consistent with federal and state regulations designed to protect noise sensitive receptors. Although the policy and regulatory controls for noise-related impacts are in place in the cumulative analysis area, subsequent development allowed under the 2013 General Plan would result in an increase in noise. For most projects, consistency with the adopted policies and action would help to reduce exposure of sensitive receptors to noise levels. However, it may not be feasible to mitigate this impact to a less-than-significant level in all instances, particularly in areas where existing development is located near proposed development. Although the policy and regulatory controls for noise related impacts are in place in the cumulative analysis area, subsequent development projects may result in an increase in ambient noise levels at specific project locations, which may subject surrounding land uses to increases in ambient noise levels.

Table 3.10-13 in Section 3.10, shows the existing and cumulative noise levels associated with traffic on the local roadway network, including projects within the City and within the City's sphere of influence. Cumulative conditions include traffic due to buildout of the General Plan in addition to pass through traffic from other jurisdictions. The table also shows the estimated noise level increases which may occur under cumulative conditions.

Cumulative conditions would contribute to an exceedance of the City's transportation noise standards and result in significant increases in traffic noise levels at existing sensitive receptors. However, as indicated by Table 3.10-13, the related traffic noise level increases under cumulative conditions would generally be the same as those under Existing plus Project conditions (see Impact 3.10-2). Increases of 3 dB or greater are anticipated along Gravenstein Highway (SR 116) and along Alder Avenue. Cumulative traffic would add one additional significant increase that would not occur under Existing plus Project conditions, along Gravenstein Highway (SR 116), west of Madrone Avenue.

The General Plan includes policies and actions that are intended to reduce noise increases associated with traffic. Specifically, policies N 1.1, N 1.2, N 1.3, N 1.6, N 1.7, N 1.10, N 1.11, N 1.13, and N 1.14 would reduce noise increases associated with traffic, as described in Impact 3.10-1. As described in Impact 3.10-1, some traffic noise impacts cannot be mitigated to a less-than-significant level due the proximity of sensitive receivers to major roadways, and because noise attenuation may not be feasible in all circumstances. As a result, this is a **cumulatively considerable and significant and unavoidable** impact.

PUBLIC SERVICES AND RECREATION

Impact 4.12: Cumulative Impact on Public Services and Recreation (Less than Cumulatively Considerable)

Cumulative growth that would occur within the cumulative analysis area over the life of the 2013 General Plan will 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 public services and recreation increases, there will likely be a need to increase staffing and equipment in order to maintain acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative

buildings, schools, parks, fire departments, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

The 2013 General Plan includes a range of policies and actions that would ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. The 2013 General Plan includes policies to ensure that fire protection and law enforcement services keep pace with new development and that school, library, and governmental services are adequately planned and provided. The 2013 General Plan also includes an action to maintain a Capital Improvement Program to defray the cost of developing public facilities. The 2013 General Plan's incremental contribution to cumulative public services and recreation impacts would be **less than cumulatively considerable**.

TRANSPORTATION AND CIRCULATION

Impact 4.13: Cumulative Impact on the Transportation Network (Considerable Contribution and Significant and Unavoidable)

As described in Section 3.12, the projected cumulative intersection turning movements are shown in Figure 3.12-8 for buildout to the City Limits, and Figure 3.12-9 for buildout to the SOI/UGB. These traffic volumes reflect regional growth accounted for in the SCTA traffic model, in addition to that allowed under buildout of the Cotati General Plan.

The planned future roadway network is depicted in General Plan Figure CI-1. The following circulation network modifications needed on City streets to support buildout of the General Plan are identified in General Plan Action CI 1b, and included in the cumulative transportation analysis.

- Install a traffic signal on Madrone Avenue at the intersection of Gravenstein Highway, establishing the north leg as the primary roadway connection to Derby Lane and Locust Avenue.
- Eliminate the current skewed intersection at Gravenstein Highway/Derby Lane.
- Realign the eastern portion of Derby Lane so that it extends as an east-west collector street to Alder Avenue.
- Construct a new north-south collector street in the western portion of the City, intersecting Gravenstein Highway approximately midway between Locust Avenue and Alder Avenue. Extend the street northward to Helman Lane and southward to intersect with an extension of Isabel Drive as warranted by future development.
- Install a traffic signal on the new north-south collector street at the intersection of Gravenstein Highway.
- Eliminate the intersection at Gravenstein Highway/Alder Avenue once a connection between Alder Avenue and the new north-south collector street is established.
- Construct a minor realignment of West Cotati Avenue to intersect Gravenstein Highway at an improved angle, and install a traffic signal at the intersection.

- Add a southbound right turn pocket on Redwood Drive at the Gravenstein Highway intersection (improvement is only needed with buildout to SOI/UGB).
- Widen Helman Avenue to include a center turn lane in areas with abutting Commercial and/or Industrial uses.
- Eliminate the northbound left-turn pocket at Old Redwood Highway/Commerce Avenue/ US 101 North Onramp and convert to a through lane.
- Eliminate the southbound left-turn movement at Gravenstein Highway/Old Redwood Highway (modification is only needed with buildout to SOI/UGB).
- Install a traffic signal at Old Redwood Highway/William Street-George Street.
- Reassign lanes at the Old Redwood Highway/East Cotati Avenue-West Sierra Avenue intersection to better serve traffic demands. One possible modification includes restriping the southbound approach to include dual left-turn lanes and a combined through/right-turn lane; restriping the westbound approach to include separate through and right-turn lanes; restriping East Cotati Avenue to include dual eastbound through lanes through the La Plaza intersection before merging to a single lane, and eliminating the westbound left-turn lane and movements (except buses).
- Install a traffic signal at East Cotati Avenue/Charles Street.
- Install a traffic signal at East Cotati Avenue/Lasalle Avenue.
- Install a traffic signal at East Cotati Avenue/Santero Way and add a northbound right-turn pocket.
- Install all-way stop-controls at the intersection of West Sierra Avenue/US 101 South Onramp-West School Street

The following circulation network modifications on roadways owned and operated by jurisdictions other than the City of Cotati (including Caltrans and the County of Sonoma) are identified in General Plan Action CI 1b, and included in the cumulative transportation analysis.

- Reconstruct Gravenstein Highway between Madrone Avenue and Redwood Drive to include sidewalks, bicycle lanes, two vehicle travel lanes in each direction, and left-turn pockets.
- Widen Gravenstein Highway to include two travel lanes in each direction between Madrone Avenue and a point approximately 500 feet to the west of Madrone Avenue (improvement is only needed with buildout to SOI/UGB).
- Widen Gravenstein Highway to include three eastbound lanes between a point just west of Redwood Drive and the US 101 South Ramps intersection.
- Add a right-turn lane on the US 101 Southbound off-ramp at Gravenstein Highway (improvement is only needed with buildout to SOI/UGB).
- Implement coordinated signal timing along the Gravenstein Highway corridor between Old Redwood Highway and Madrone Avenue.

- Upgrade the US 101 freeway interchange at Railroad Avenue to a full diamond interchange.
- Complete capacity improvements on Railroad Avenue between Petaluma Hill Road and US 101.

The future intersection lane configurations including the above improvements are shown in Figure 3.12-10.

With buildout of General Plan land uses and completion of the roadway improvements identified in General Plan Actions CI 1b and CI 1c, the 20 study intersections are projected to operate acceptably at LOS D or better. A summary of the intersection level of service calculations for buildout conditions within the City Limits is contained in Table 3.12-10, and a summary of calculations for buildout to the SOI/UGB is contained in Table 3.12-11.

With buildout of General Plan land uses and completion of the roadway improvements identified in General Plan Actions CI 1b and CI 1c, the six study roadway segments are projected to operate acceptably at LOS D or better during the p.m. peak hour. Roadway segment level of service calculations for buildout within the City Limits are summarized in Table 3.12-12, and calculations for buildout to the SOI/UGB are summarized in Table 3.12-13.

Under conditions with buildout of the Cotati General Plan to either the City Limits or SOI/UGB, the segment of northbound US 101 between Railroad Avenue and West Sierra Avenue is projected to operate at an unacceptable LOS F during the PM peak hour. In the southbound direction, the SR 116 on-ramp and mainline segment between SR 116 and West Sierra Avenue are projected to operate unacceptably with either buildout scenario. Additionally, with buildout to the Cotati SOI/UGB, the freeway segment between the SR 116 off- and on-ramp and the segment between West Sierra Avenue and Railroad Avenue are projected to operate unacceptably at LOS F.

A summary of freeway facility p.m. peak hour levels of service with General Plan buildout to the City Limits is shown in Table 3.12-14. Freeway facility levels of service with General Plan buildout to the SOI/UGB are shown in Table 3.12-15.

In order to determine whether the increases in traffic on US 101 caused by buildout of the Cotati General Plan would be considered cumulatively significant, the relative increase in the demand-to-capacity ratio (d/c) on mainline freeway segments was calculated for the year 2040, comparing what would occur assuming no growth in Cotati versus what would occur under either of the two buildout conditions (buildout to City Limits or the SOI/UGB). A d/c ratio increase of 0.010 or greater is considered to be cumulatively significant.

Buildout of the General Plan to the City Limits is projected to cause the freeway d/c ratio to increase by 0.10 in the northbound direction between Railroad Avenue and West Sierra Avenue, and by 0.11 in the southbound direction between SR 116 and West Sierra Avenue, both of which would be considered cumulatively significant. With General Plan buildout to the SOI/UGB, the d/c ratio is projected to increase by 0.13 in the northbound direction between Railroad Avenue and West Sierra Avenue, by 0.16 in the southbound direction between SR 116 and West Sierra Avenue,

and by 0.20 between West Sierra Avenue and Railroad Avenue. These increases are also considered to be cumulatively significant. A summary of the findings is shown in Table 3.12-16.

The projected unacceptable operation on US 101 could be mitigated by widening the freeway to include additional through lanes in each direction. Further widening of US 101 is not included in the SCTA's Comprehensive Transportation Plan, nor do any financing mechanisms currently exist to fund the improvement. Widening the freeway would require major reconstruction of multiple freeway structures, right-of-way acquisition including many homes and businesses, potential relocation of City streets paralleling the freeway corridor (including Redwood Drive and Commerce Boulevard), and the likely creation of additional secondary environmental impacts. The environmental, social, and financial impacts render such a widening project infeasible.

The Metropolitan Transportation Commission, County of Sonoma, City of Cotati, and SCTA recognize that US 101 will experience congestion into the foreseeable future, and that there will be no further major capacity enhancements such as expansions or new freeways. All four jurisdictions concur in various planning and policy documents that long-range solutions to regional mobility must focus on better land use planning that supports transit and alternative transportation modes; stronger jobs-housing balance; and increased support of transportation demand measures. While the Cotati General Plan emphasizes each of these goals, its potential impact to US 101 would remain **cumulatively considerable and significant and unavoidable**.

UTILITIES AND SERVICE SYSTEMS

Impact 4.14: Cumulative Impact on Utilities (Considerable Contribution and Significant and Unavoidable)

Cumulative growth that would occur within the cumulative analysis area over the life of the 2013 General Plan will result increased demand for water service, sewer service, and solid waste disposal services.

Water: The City of Cotati provides water services to all users within the City, and would provide water services to any future development that may occur following implementation of the 2013 General Plan. Implementation of the 2013 General Plan would result in increased population and employment growth within the City's Planning Area, and a corresponding increase in the demand for additional water supplies. In order to project future water demands associated with General Plan buildout, water demand is tied to population growth, and the average per capita water demand generated by that new population growth. The average per capita water demand between 2005 and 2035, as shown in Table 3.13-3 above, is 0.126 AFY, which equates to 112.4 gallons per person per day. However, in the year 2035, which is the buildout analysis year for the General Plan, the 2010 UWMP assumes a per capita demand of 0.14 AFY. Therefore, this analysis of water demand is based on the per capita use of 0.14 AFY. The 2013 General Plan would accommodate a broad range of uses, so the use of a per capita figure is intended to provide an average figure that approximates the average water demand associated with the range of uses that could occur in the Cotati Planning Area upon full buildout of the 2013 General Plan.

Utilizing the water usage rate of 0.14 AFY per capita, at General Plan buildout within the existing City limits, the total water demand would be 1,551.9 AFY (11,085 x 0.14). Full buildout of the Planning Area would result in a water demand of 1,757.42 AFY (12,553 x 0.14). As shown above in Table 3.13-1, in 2035 the projected water supply available to the City of Cotati in 2035 is 2,076 AFY, which exceeds the projected water demand associated with full buildout of the General Plan, including the Planning Area. So while the proposed 2013 General Plan would exceed the population projections used in the 2010 Cotati Urban Water Management Plan, the projected water demand associated within buildout of the 2013 General Plan would not exceed the City's projected 2035 water supply.

The reliability of the City's water sources is dependent on the SCWA's ability deliver water supplies based on flow from the Russian River. The City's wholesale water supply provided by SCWA is subject to dry year reductions, due to seasonal and climatic shortages, pursuant to the State Water Board's Decision 1610. Demand curtailments are required to be entailed by 30 percent for a portion of the year if the water volume in Lake Sonoma is less than 100,000 AF prior to July 15, per Decision 1610. As described in the SCWA 2010 UWMP, this condition has not been experienced on the Russian River system, but the SCWA modeling simulations for single-dry years predict that the storage levels in Lake Sonoma will fall below the 100,000 AF prior to July 15. Therefore, the SCWA projects that demand curtailments will be required for a portion of the year. Single-dry year reductions are predicted to reach 18 percent of normal demand by the year 2035. As of August 2014, the storage levels in Lake Sonoma are at approximately 64% of capacity, slightly over 150,000 acre-feet.

The City can supplement possible SCWA supply reductions with groundwater use. The City's historic water use records show that groundwater levels have not declined and the City can reliably supply historic demands with the use of groundwater (2010 UWMP). The City is using an annual maximum extraction volume of 530 AFY for production capacity of their three groundwater wells, per the 2008 Luhdorff and Scalmanini report. Due to the storage volume available within the Santa Rosa Plain groundwater basin, it is not anticipated that groundwater supply would be affected in multiple-dry years. This is further explained in Section 5.4, Drought Planning of the 2010 UWMP.

The 2013 General Plan includes policies and actions designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Policy CSF 2.2 requires that prior to the approval of development, infrastructure, Specific Plans, or other projects that would result in increased demand for public water conveyance and treatment, projects must demonstrate proof of adequate water supply (e.g., that existing services are adequate to accommodate the increased demand, or improvements to the capacity of the system to meet increased demand will be made prior to project implementation) and that potential cumulative impacts to water users and the environment will be addressed. Policy CSF 2.6 calls for the City to continue to work with the Sonoma County Water Agency (SCWA) to maintain water supply agreements to ensure an adequate water supply for the City. Policy CSF 2.9 requires the City to routinely assess the City's ability to meet demand for potable water by periodically

updating the Water Master Plan. The 2013 General Plan also includes a range of policies and actions that call for continued and ongoing water conservation measures, and measures to increase the availability and use of recycled water in order to decrease water supply demands from existing sources.

Given that projected water demands associated with General Plan buildout would not exceed the projected water supplies described in the 2010 Cotati Urban Water Management Plan, and that the 2013 General Plan includes a comprehensive set of goals, policies and actions to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are **less than cumulatively considerable.**

Wastewater: As described in greater detail in Section 3.13, upon full buildout of the 2013 General Plan within the City limits, total ADWF is projected to be 0.74 mgd. Within the entire Planning Area, the ADWF would be 0.83 mgd upon full buildout of the General Plan. These ADWF projections exceed the projections used in the 2011 Sewer Collection System Master Plan.

The generation of 0.74 mgd associated with General Plan buildout within the City limits is within the flow allocation of 0.76 mgd allocated to Cotati under the 2002 fourth amendment to the Subregional Partnership with the City of Santa Rosa. However, the 0.83 mgd ADWF associated with full buildout of the Planning Area would exceed the 0.76 mgd allocation under the existing Subregional agreement terms.

The Laguna Wastewater Treatment Plant is a tertiary-level treatment facility with the capacity to process 21.34 million gallons per day (mgd).[1] According to the Treatment Plant utility overview website, average daily dry weather flow is 17.5 million gallons, using about 82% of the plant's permitted capacity.

According to the 2007 Update to the Incremental Recycled Water Plan, the Laguna Treatment Plant will be expanding total permitted treatment capacity from 21.34 mgd to 25.9 mgd. The plan states that, at the earliest, total 2020 projected flow demand will be 25.89 mgd.[2]

Future Subregional Partner wastewater treatment allocations for the Laguna Treatment Plant will be based on approved General Plans or General Plan updates (including the 2013 Cotati General Plan). At the time of preparation of this EIR, Cotati's capacity allocation remains at 0.76 mgd. In order to meet projected flows under cumulative General Plan buildout conditions, the City's allocation would need to be increased to at least 0.83 mgd.

The City of Santa Rosa's 2007 Update to the Recycled Water Master Plan estimates that in 2020, total ADWF to the Laguna Plant will be approximately 25.89 mgd, which exceeds the current NPDES permit capacity of the plant. While the City of Cotati is projected to contribute approximately 3.2% of the wastewater treated at the Laguna Plant, under 2035 buildout conditions, the existing permitted capacity of the Plant would be exceeded.

[1] City of Santa Rosa 2007 Update to the Recycled Water Master Plan, p. S-2.
[2] City of Santa Rosa, 2007 Update to the Recycled Water Master Plan, p. 1-11.

General Plan Policy CSF 2.16 requires the City to work with the Santa Rosa Subregional Wastewater System and neighboring cities to assist in the maintenance of an adequate sewage treatment and disposal system for the region. Action CSF 2l requires that upon adoption of the General Plan, the City shall apply to the subregional partners for an incremental increase in its wastewater flow allocation to meet projected demand though 2035. And Action CSF 2m requires the City to coordinate with the Laguna Wastewater Treatment Plant to increase the National Pollutant Discharge Elimination System (NPDES) permit capacity of the plant to meet projected 2035 demand for all sources of wastewater treated at the plant.

Implementation of the policies and actions identified in greater detail in Section 3.13 would assist in ensuring that adequate treatment plant capacity and permitted capacity is available to meet 2035 buildout conditions, including wastewater demands generated by the City of Cotati and the rest of the Regional Partners. However, at the time of preparation of this EIR, an increase in permitted capacity cannot be guaranteed. As such, this impact is considered **cumulatively considerable and significant and unavoidable.**

Solid Waste: Development under the 2013 General Plan will generate a population increase within the entire Cotati Planning Area of approximately 5,243 persons and an increase in employment of approximately 8,819 jobs upon general plan buildout.

As described in Section 3.13, the SCWMA has achieved a disposal rate of 3.9 PPD per resident and 10.6 PPD per employee in 2010. Assuming these disposal rates remain constant throughout the life of the General Plan, the new growth under 2013 General Plan buildout would result in an increase of approximately 113,928 pounds per day of solid waste (5,202 x 3.9) + (8,819 x 10.6), which equals 56.96 tons per day or 20,791.9 tons of solid waste per year.

The City's annual increase in solid waste generation is well within the permitted capacity of the Central Disposal Site serving the City and does not exceed the daily permitted capacity of any of the landfill. The Central Disposal Site has a permitted daily capacity of 2,500 tons. Its 172-acre waste disposal area has a total permitted capacity of 19,779,250 cubic yards, with a remaining capacity of 9,470,629 cubic yards (47.9 percent). In 2012, the Sonoma County Central Disposal Site averaged approximately 1,250 tons per day of materials received, which is significantly below the facility's permitted capacity of 2,500 tons per day. The facility has enough capacity to serve the City through the general plan horizon.

While there is adequate permitted landfill capacity to accommodate future growth, the 2013 General Plan includes policies and actions to further reduce the project's impact on solid waste services, as identified below. The 2013 General Plan would not exceed the permitted capacity of the landfill serving the City and the 2013 General Plan will comply with regulations related to solid waste. Therefore, impacts to solid waste are **less than cumulatively considerable.**

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. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way 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…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand *(Napa Citizens for Honest Government v. Napa County Board of Supervisors)*. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The State CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The 2013 General Plan is a long term plan intended to accommodate projected population, housing and employment growth, including the appropriate balance among these factors with the necessary public services and infrastructure. The 2013 General Plan would serve as a comprehensive, long-term plan for the physical development of Cotati. Projected growth is

described in Section 3.10 Land Use, Agriculture, and Population, and the environmental consequences related to the potential growth are fully assessed in each topical section. By definition, the 2013 General Plan is intended to provide for and address future growth in the City.

Because the 2013 General Plan provides a framework for development through its land use map, land use designations, goals, policies, and actions it would directly induce population and employment growth in the Cotati Planning Area by designating land for development that is more intense, in some instances, than current designations allow. The analysis of the indirect growth-inducing impacts for the 2013 General Plan focuses on the following factors: inducement of unanticipated population growth; encourage economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and result in service, facility, or infrastructure demand in excess of existing and planned growth.

The 2013 General Plan accommodates future growth in Cotati, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to accommodate future growth. The 2013 General Plan is oriented toward the economic growth of the City, with emphasis given to encouraging development of a broader array of businesses, increasing local employment opportunities, and providing residential development as necessary to serve economic growth. The 2030 General Plan would accommodate approximately 2,140 new residential units, 1,233,160 square feet of new commercial space, 1,106,391 square feet of new industrial space, and 994,694 square feet of new office space within the City Limits and the Sphere of Influence through 2035, as described in Chapter 2.0. This new growth would increase the Planning Area's population by approximately 5,243 residents. Depending on growth rates, the actual growth during the life of the General Plan, could be lower or higher, but would not exceed the theoretical maximum buildout described in Chapter 2.0.

The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, 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 also, transportation. While these factors would likely result in growth in Cotati during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth under the proposed General Plan would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The Association of Bay Area Governments (ABAG) projects population growth in the San Francisco Bay area. The adopted Plan Bay Area does not include population projections at the local level, but rather presents regional projections. Plan Bay Area 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.

The proposed General Plan is intended to accommodate the City'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 proposed General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. 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 3.8 and 3.10 through 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact.

4.3 SIGNIFICANT IRREVERSIBLE EFFECTS

CEQA requires that EIRs prepared for the adoption of a plan, policy, or ordinance of a public agency must include a discussion of significant irreversible environmental changes of project implementation. CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes as:

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

Consumption of Nonrenewable Resources

Consumption of nonrenewable resources refers to the loss of physical features within the natural environment, including the conversion of agricultural lands, loss of access to mining reserves, and nonrenewable energy use. The Cotati Planning Area has multiple nonrenewable resources including agricultural resources, biological resources, water resources, and energy resources.

One of the objectives of the 2013 General Plan is to conserve agricultural and other natural resources within the SOI/UGB. As such, the 2013 General Plan focuses most new development to infill areas, and areas surrounding existing neighborhoods and urbanized areas. As a result of this design, the 2013 General Plan will minimize the potential for impacts to the nonrenewable

resources in the Planning Area, including agricultural resources, biological resources, water resources, and energy resources.

Non-renewable energy resources such as electricity, natural gas, propane, gasoline, and diesel would be consumed during the construction and operation of development projects allowed under the 2013 General Plan. The 2013 General Plan includes a variety of policies that seek conserve, protect, and enhance energy resources. These policies focus on energy efficiency in the design, materials, construction, and use of buildings, the use of alternative energy systems, and alternative transportation modes.

Irretrievable Commitments/Irreversible Physical Changes

The 2013 General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the 2013 General Plan would result in irretrievable commitments by introducing development onto sites that are presently undeveloped. The conversion of agricultural lands to urban uses would result in an irretrievable loss of agricultural land, wildlife habitats, and open space. Additionally, development will physically change the environment in terms of aesthetics, air emission, noise, traffic, open space, and natural resources. These physical changes are irreversible after development occurs. Therefore, the 2013 General Plan would result in changes in land use within the Planning Area that would commit future generations to these uses.

Impact 4.15: Irreversible Effects (Significant and Unavoidable)

In summary, the 2030 General Plan includes an extensive policy framework that is designed to address land use and environmental issues to the greatest extent feasible while allowing growth and economic prosperity for the City. However, even with the policies and actions that will serve to reduce potential significant impacts, the 2013 General Plan will result in significant irreversible changes. This impact is considered a **significant and unavoidable** impact under CEQA.

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 2013 General Plan are discussed in Chapter 3 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL IMPACTS

- Impact 3.1-1: General Plan Implementation could result in Substantial Adverse Effects on Visual Character, including Scenic Vistas or Scenic Resources (significant and unavoidable)
- Impact 3.10-1: Traffic Noise Sources (Significant and Unavoidable)
- Impact 3.10-7: Cumulative Noise Impacts (Significant and Unavoidable)

- Impact 3.12-1: Implementation of the proposed General Plan would result in acceptable traffic operation at the study intersections and roadway segments controlled by the City of Cotati, though the ability to fully fund all identified improvements is uncertain (Significant and Unavoidable)
- Impact 3.12-2: Implementation of the proposed General Plan would result in acceptable traffic operation on Gravenstein Highway, though the funding and timing of improvements needed to accommodate regional and local growth on the highway is uncertain (Significant and Unavoidable)
- Impact 3.12-3: Implementation of the proposed General Plan would contribute to unacceptable operation on US 101 freeway facilities (Significant and Unavoidable)
- Impact 3.13-3: Potential to exceed wastewater treatment capacity or the requirements of the RWQCB (Cumulatively Considerable and Significant and Unavoidable)

SIGNIFICANT AND UNAVOIDABLE CUMULATIVE IMPACTS

- Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region (Considerable Contribution and Significant and Unavoidable)
- Impact 4.11: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise (Considerable Contribution and Significant and Unavoidable)
- Impact 4.13: Cumulative Impact on the Transportation Network (Considerable Contribution and Significant and Unavoidable)
- Impact 4.14: Cumulative Impact on Utilities (Considerable Contribution and Significant and Unavoidable)
- Impact 4.15: Irreversible Effects (Significant and Unavoidable)

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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 of the 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.

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the General Plan. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

FACTORS GUIDING SELECTION OF ALTERNATIVES

The alternatives to the General Plan Update selected for analysis in the EIR were developed to minimize significant environmental impacts while fulfilling the basic objectives of the project. The significant environmental impacts associated with the project relate to aesthetic and visual resources, traffic noise, roadway impacts to Caltrans facilities, increased demand for wastewater treatment, irreversible effects of growth, and cumulative effects associated with biological resources, noise, circulation, and utilities. Significant impacts are summarized in Chapter 4 and described in greater detail in Chapters 3.1 through 3.13.

As described in Chapter 2, Project Description, the following objectives have been identified for the proposed project.

- Reflect the current goals and vision expressed by City residents, businesses, decision-makers, and other stakeholders;
- Address issues and concerns identified by City residents, businesses, decision-makers, and other stakeholders;
- Maintain and enhance the City's small-town character and quality of life;
- Increase opportunities for economic development, including programs that attract new business and industry to Cotati, and programs that assist and strengthen existing local businesses;
- Increase opportunities for bicycle and pedestrian connectivity; and
- Address new requirements of State law.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

The proposed General Plan Update would result in the following significant and unavoidable impacts, which are described in Sections 3.1 through 4.0:

SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL IMPACTS

- Impact 3.1-1: General Plan Implementation could result in Substantial Adverse Effects on Visual Character, including Scenic Vistas or Scenic Resources (significant and unavoidable)
- Impact 3.10-1: Traffic Noise Sources (Significant and Unavoidable)
- Impact 3.10-7: Cumulative Noise Impacts (Significant and Unavoidable)
- Impact 3.12-1: Implementation of the proposed General Plan would result in acceptable traffic operation at the study intersections and roadway segments controlled by the City of Cotati, though the ability to fully fund all identified improvements is uncertain (Significant and Unavoidable)
- Impact 3.12-2: Implementation of the proposed General Plan would result in acceptable traffic operation on Gravenstein Highway, though the funding and timing of improvements needed to accommodate regional and local growth on the highway is uncertain (Significant and Unavoidable)
- Impact 3.12-3: Implementation of the proposed General Plan would contribute to unacceptable operation on US 101 freeway facilities (Significant and Unavoidable)
- Impact 3.13-3: Potential to exceed wastewater treatment capacity or the requirements of the RWQCB (Cumulatively Considerable and Significant and Unavoidable)

SIGNIFICANT AND UNAVOIDABLE CUMULATIVE IMPACTS

- Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region (Considerable Contribution and Significant and Unavoidable)
- Impact 4.11: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise (Considerable Contribution and Significant and Unavoidable)
- Impact 4.13: Cumulative Impact on the Transportation Network (Considerable Contribution and Significant and Unavoidable)
- Impact 4.14: Cumulative Impact on Utilities (Considerable Contribution and Significant and Unavoidable)
- Impact 4.15: Irreversible Effects (Significant and Unavoidable)

ALTERNATIVES TO THE GENERAL PLAN UPDATE

Three alternatives to the General Plan Update were considered based on the analysis performed to identify the environmental effects of the proposed project. Since the General Plan Update was prepared with the intent to be a self-mitigating document, project alternatives focused on amending land uses to address significant impacts. The alternatives analyzed in this EIR include the following:

- Alternative 1: No Project Alternative. Under Alternative 1, the City would not adopt the General Plan Update. The 1998 General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map (see Figure 3.9-3), Circulation Diagram, goals, policies, or actions would occur. Subsequent projects, such as amending the Municipal Code, including the Land Use Code and zoning map, and the Design Review Criteria would not occur.

- Alternative 2: Open Space and Parks/Reduced Development Alternative. As shown on Figure 5.0-1, Alternative 2 would revise the General Plan Update to increase the amount of open space and parks uses and reduce development associated with commercial, industrial, and residential uses. General Commercial, Commercial Industrial, and Low Medium Density Residential uses would be decreased in the City and SOI and would be replaced with less intense uses, primarily Open Space/Parks. This alternative was developed to reduce impacts associated with scenic resources, traffic noise, traffic impacts to US 101 and SR 116, and to reduce cumulative impacts associated with development.

- Alternative 3: Reduced Land Use Intensity Alternative. Under Alternative 3, urban and industrial development under the General Plan Update Land Use Map would be focused more tightly around the City as shown on Figure 5.0-2. General Commercial, Commercial Industrial, and Low Medium Density Residential uses would be decreased in the City and SOI and would be replaced with less intense uses, such as agricultural and rural residential. This alternative was developed to reduce impacts associated with scenic resources, traffic noise, traffic impacts to US 101 and SR 116, and to reduce cumulative impacts associated with development.

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 issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5-7 summarizes the comparative effects of each alternative.

ALTERNATIVE 1 - NO PROJECT

Under Alternative 1, the City would continue to implement the adopted 1998 General Plan and no changes would be made to address the requirements of state law. Since adoption of the 1998 General Plan, state legislation has been passed requiring the City to address new safety and circulation requirements in the General Plan and to address greenhouse gas emissions. These requirements of state law would not be addressed.

The General Plan goals, objectives, policies, and actions as well as the Land Use Map would not be updated to address the vision and concerns of the City's residents, property owners, decision-makers, and other stakeholders that actively participated in the Visioning and goal and policy development process.

Alternative 1 would not result in the updates to the Economic Vitality Element that focus on business retention and attraction, marketing and branding of Cotati, and high-quality employment opportunities for Cotati residents. Alternative 1 would not improve the jobs:housing balance in comparison to the proposed project as it would not provide for increased potential for industrial and commercial growth on the Land Use Map.

The Community Health and Wellness Element would not be adopted under Alternative 1. Therefore, the goals, policies, and actions associated with improving public health would not be implemented.

The Circulation Element would not be updated to include policies and actions addressing complete streets, including safety, access, and mobility for all roadway users. The action providing for a Traffic Impact Fee to address needed circulation improvements would not be implemented.

The Conservation and Open Space Elements would not be updated to include comprehensive programs and actions to address protection of natural resources and open space, conservation of habitat for special-status species, protection of air quality, reduction of greenhouse gas emissions, and protection of cultural and historic resources.

Alternative 1 would result in the continuation of existing conditions and development levels, as described in Chapter 3.9, Land Use, and shown on Figure 3.9-3. New growth would be allowed as envisioned under the 1998 General Plan, with land uses required to be consistent with the 1998 General Plan Land Use Map as shown on Figure 3.10-1 and summarized in Table 5-1. As shown in Table 5-1, Alternative 1 would result in a reduction in Agriculture (-592.9 acres) and Parks (-28.4 acres), replacing these uses primarily with Rural Residential (606.8 acres).

Alternative 1 would also result in increased acreage for General Commercial (112.3 acres), Office (17.4 acres), and Public Facilities (9.6 acres). Approximately 80 acres of General Commercial that is shown in Alternative 1 would be redesignated to Specific Plan under the Project and would result in land uses consistent with the applicable Specific Plan under either alternative. Alternative 1 would also result in decreases in Low Density Residential, Medium Density Residential, and High Density Residential as shown in Table 5-1.

TABLE 5-1: ALTERNATIVE 1 V. PROPOSED GENERAL PLAN LAND USE DESIGNATIONS COMPARISON

LAND USE DESIGNATION	*PROPOSED PROJECT - GENERAL PLAN UPDATE (ACRES)*		*ALTERNATIVE 1 – NO PROJECT (ACRES)*		*DIFFERENCE*	
	CITY	*SOI*	*CITY*	*SOI*	*CITY*	*SOI*
Agriculture	0	592.9	0	0	0.0	-592.9
Open Space/Parks	47.7	8.7	19.3	8.7	-28.4	0.0
General Commercial/Highway Commercial	110.8	8.0	192.4	38.7	81.6	30.7
Commercial Industrial/General Industrial	108.6	43.2	108.6	0	0.0	-43.2
Office	0	0	17.4	0	17.4	0.0
Specific Plan	81.5	0	0	0	-81.5	0.0
Rural Residential	105.8	490.7	120.5	1,082.8	14.7	592.1
Low Density Residential	145.7	93.6	137.0	97.0	-8.7	3.4
Low/Medium Density Residential	233.0	30.9	229.9	36.5	-3.1	5.6
Medium Density Residential	102.2	0	87.6	0	-14.6	0.0
High Density Residential	29.8	0	27.4	0	-2.4	0.0
Public Facilities	16.8	0	26.4	0	9.6	0.0
No Label/ROW	238.6	48.8	254.22	64.93	15.6	16.1
TOTAL	**1,220.6**	**1,316.9**	**1,220.7**	**1,328.6**	**0.1**	**11.7[1]**

[1]The existing General Plan identifies several parcels in the SOI that were removed from the SOI as part of the 2013 update.

Under Alternative 1, there would be a reduction in residential growth (-138 units) and an increase in jobs-creating uses (22,317 s.f. of commercial uses and 28,429 s.f. of office uses) within the City limits. Alternative 1 would result in a 4.9 jobs:housing ratio associated with new development accommodated within the City, compared to the 4.4 ratio associated with the proposed project. However, under buildout conditions, Alternative 1 would result in a reduced jobs:housing ratio of 3.7 compared with the proposed project (4.1).

Under cumulative conditions, development in the SOI under Alternative 1 would result in an increase in residential units (220 units) and an increase in office uses (88,949 s.f.) and a decrease in industrial uses (-595,071 s.f.).

TABLE 5-2: FUTURE GROWTH UNDER THE PROPOSED PROJECT AND ALTERNATIVE 1

	City				SOI			
	Residential (# of Units)	Commercial (sq. ft.)	Industrial (sq. ft.)	Office (sq. ft.)	Residential (# of Units)	Commercial (sq. ft.)	Industrial (sq. ft.)	Office (sq. ft.)
Proposed Project	1,541	910,014	511,230	966,706	599	323,147	595,071	27,988
Alternative 1	1,403	932,331	511,230	995,153	819	323,565	0	116,937
Difference	**<138>**	**22,317**	**0**	**28,429**	**220**	**418**	**<595,071>**	**88,949**

Under Alternative 1, the 1998 General Plan policy framework would still be in effect, which would constitute a business-as-usual approach to land use regulation in the City. The policy framework proposed by the General Plan Update that encourages a mix and balance of uses to provide an improved ratio of local jobs to population, would ensure that development pays its fair-share of necessary roadway, public service, and other infrastructure improvements, and provides for protection of natural resources would not occur. This alternative would not include safety policies, particularly those related to flooding, required by State law. This alternative would not include various policies provided to ensure protection of environmental resources, both at the project level and under cumulative conditions, consistent with the objectives of CEQA.

Further, this alternative would not prevent all potential impacts associated with increased development, because development would continue to occur. The land disturbance associated with this alternative is expected to be less than the proposed project under project-level conditions and slightly less than the proposed project under cumulative conditions. The reduction in land disturbance would result in a reduction in associated impacts to aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, and hydrology and water quality compared to the proposed project.

At the project level, development within the City limits would result in a slight reduction in the amount of trip generation (approximately 330 less trips), resulting in comparable traffic and associated air quality and noise impact reductions. Under cumulative conditions, this alternative would result in a reduction of approximately 1,910 trips generated within the SOI compared with the Project and would result in a reduction in associated traffic-related impacts, particularly along SR 116. There would be less demand for public services and utilities, resulting in a reduction in environmental impacts associated with facilities improvements to provide public services and utilities.

This alternative fails to meet three of the basic project objectives, which are: 1) to bring the City's General Plan into consistency with State laws pertaining to General Plan updates, 2) to reflect the current goals and visions for the City based on input received during the public participation process, and 3) to address current issues and concerns raised during the public participation process. Therefore, Alternative 1 (No Project) was rejected from further consideration as a CEQA alternative. However, the environmental effects associated with Alternative 1 are summarized in Table 5-5 to provide a general comparison between the adopted 1998 General Plan (Alternative 1), the proposed project, and Alternatives 2 and 3.

ALTERNATIVE 2 – OPEN SPACE AND PARKS/REDUCED DEVELOPMENT ALTERNATIVE

Alternative 2 would revise the General Plan Update to increase the amount of open space and parks uses and reduce development associated with commercial, industrial, and residential uses. General Commercial, Commercial Industrial, and Low Medium Density Residential uses would be decreased in the City and SOI and would be replaced with less intense uses, primarily Open Space. This alternative was developed to reduce impacts associated with scenic resources, traffic noise, traffic impacts to US 101 and SR 116, and to reduce cumulative impacts associated with development.

Land use designations under Alternative 2 would be modified as shown on Figure 5-1 and summarized in Table 5-3. The goals, objectives, policies, and actions of the General Plan Update would apply to subsequent development, planning and infrastructure projects.

As shown in Table 5-3 below, Alternative 2 would convert 27.0 acres of land designated within the City for General Commercial and Low Density Residential uses to Open Space and Parks. Within the SOI, this alternative would result in an increase in lands designated Open Space/Parks (266 acres) and a decrease in lands designated Agriculture (-134.8 acres), General Commercial (-8 acres), Commercial Industrial (-19.8 acres), Rural Residential (-15.4 acres), Low Density Residential (-68.4 acres), and Low/Medium Density Residential (-19.6 acres).

TABLE 5-3: ALTERNATIVE 2 V. PROPOSED GENERAL PLAN LAND USE DESIGNATIONS COMPARISON

LAND USE DESIGNATION	*PROPOSED PROJECT - GENERAL PLAN UPDATE (ACRES)*		*ALTERNATIVE 2 – REVISED LAND USE (ACRES)*		*DIFFERENCE*	
	CITY	*SOI*	*CITY*	*SOI*	*CITY*	*SOI*
Agriculture	0	592.9	0	458.1	0.0	-134.8
Open Space/Parks	47.7	8.7	74.7	274.7	27.0	266.0
General Commercial	110.8	8.0	95.5	0	-15.3	-8.0
Commercial Industrial	108.6	43.2	108.6	23.5	0	-19.8
Specific Plan	81.5	0	81.5	0	0	0
Rural Residential	105.8	490.7	105.8	475.3	0	-15.4
Low Density Residential	145.7	93.6	134.0	25.2	-11.7	-68.4
Low/Medium Density Residential	233.0	30.9	233.0	11.3	0	-19.6
Medium Density Residential	102.2	0	102.2	0	0	0
High Density Residential	29.8	0	29.8	0	0	0
Public Facilities	16.8	0	16.8	0	0	0
No Label/ROW	238.6	48.8	238.6	48.8	0	0
TOTAL	**1,220.7**	**1,316.9**	**1,220.7**	**1,316.9**	**-**	**-**

During the planning horizon, the total amount of residential units within the City under Alternative 2 would be comparable to the proposed project (a reduction of 21 units) and there would be a decrease in non-residential uses (-127,245 commercial s.f. and -53,393 office s.f.).

Under cumulative conditions, future development within the SOI would be significantly decreased in comparison to the proposed project. There would be a reduction of 232 residential units, 185,414 s.f. of commercial, 275,693 s.f. of industrial, and 27,989 s.f. of office uses within the SOI. Alternative 2 would result in a 4.4 jobs:housing ratio associated with new development accommodated within the City, which is the same as the 4.4 ratio associated with the proposed project. However, under buildout conditions, Alternative 2 would result in a reduced jobs:housing ratio of 3.8 compared with the proposed project (4.1).

The additional land area designated Open Space/Parks under this alternative would be identified for permanent open space or passive park use and would not result in development. The development footprint of this alternative would be significantly reduced in comparison to the Project, resulting in an associated reduction to impacts associated with aesthetics (changes in visual character, potential lighting and glare), biological resources (impacts to special-status species and sensitive habitats), cultural resources (potential disturbance of prehistoric, historic, archaeological, and paleontological resources), geology and soils (unstable soils and geologic units), and hydrology and water quality (changes to drainage and flooding patterns, water quality, erosion).

At the project-level, development under Alternative 2 within the City limits would result in a reduction of approximately 3,770 daily trips, an 8% reduction in daily traffic compared to the proposed project. This would also result in a reduction in associated air quality and noise impacts. Under cumulative conditions, this alternative would result in a reduction of approximately 13,310 trips a 22% reduction compared to the proposed project. There would be less demand for public services and utilities, resulting in a reduction in environmental impacts associated with facilities improvements to provide public services and utilities.

TABLE 5-4: FUTURE GROWTH UNDER THE PROPOSED PROJECT AND ALTERNATIVE 2

	City				SOI			
	Residential (# of Units)	**Commercial (sq. ft.)**	**Industrial (sq. ft.)**	**Office (sq. ft.)**	**Residential (# of Units)**	**Commercial (sq. ft.)**	**Industrial (sq. ft.)**	**Office (sq. ft.)**
Proposed Project	1,541	910,014	511,230	966,706	599	323,147	595,071	27,988
Alternative 2	1,520	782,769	511,230	913,313	367	137,733	319,378	0
Difference	**<21>**	**<127,245>**	**0**	**<53,393>**	**<232>**	**<185,414>**	**<275,693>**	**<27,988>**

Potentially significant impacts that would be reduced to less than significant as described in Sections 3.1 through 4.0 would also be reduced to less than significant with implementation of the proposed General Plan policies and actions described in Sections 3.1 through 4.0. Alternative 2 would not result in an increase in the significance of any impacts or new environmental impacts in comparison to the proposed project. The potential for Alternative 2 to reduce or avoid significant and unavoidable impacts that would occur under the proposed project is discussed below.

Adverse Effects on Visual Character

The proposed project would result in significant and unavoidable impacts associated with adverse effects on visual character, including scenic resources, as described under Impact 3.1-1 in Section 3.1. Under Alternative 2, development patterns within the City would be generally comparable to the proposed project, with less commercial, industrial, office, and residential growth occurring along the western portion of SR 116 past Alder Avenue to the City limits. While 27 acres of land would be designated for less intense land uses within the City, the potential for commercial and residential development along the SR 116 corridor and residential development in the south and southwest areas of the City could result in significant changes in visual character. Therefore, impacts associated with Alternative 2 would be reduced but not avoided in comparison to the proposed project.

Traffic Noise Sources

The proposed project would result in significant and unavoidable impacts associated with the increases in traffic noise levels, as described under Impact 3.10-1 in Chapter 3.10, with increases of 3 dB or greater along Gravenstein Highway (SR 116), east of Madrone Avenue, and along Alder Avenue. This alternative would result in decreased growth in the City (1.4% decrease in residential units and 7.5% decrease in non-residential development) and is anticipated to have reduced traffic noise levels, but would not avoid significant impacts associated with traffic noise. Therefore, Alternative 2 would result in less of an impact than the proposed project, though those impacts would still remain significant and unavoidable.

Cumulative Noise Impacts

The proposed project would have a considerable contribution to noise impacts that would be in significant and unavoidable under cumulative conditions, as described under Impact 3.10-7 in Chapter 3.10, with increases of 3 dB or greater along Gravenstein Highway (SR 116), both east and west of Madrone Avenue, and along Alder Avenue. This alternative would result in decreased growth in the City and SOI and would result in a reduction in noise levels. However, Alternative 2 is anticipated to considerably contribute to increases of 3dB or greater under cumulative conditions and, thus, would not fully avoid the impact. Alternative 2 would have a reduced contribution to cumulative traffic noise and would result in a reduction in impacts compared to the proposed project, though those impacts would still remain significant and unavoidable.

Traffic Operation at the Study Intersections and Roadway Segments Controlled by the City of Cotati

The proposed project would result in significant and unavoidable impacts associated with traffic operations on City-controlled study intersections and roadway segments, as described under Impact 3.12-1 in Chapter 3.12. Alternative 2 would result in a reduction of approximately 3,770 daily trips within the City, an 8% reduction compared to the proposed project, and a reduction of 13,310 trips within the City and SOI, a 22% reduction compared to the proposed project, under cumulative conditions. Under Alternative 2, through the planned adoption and

implementation of the traffic impact fee update, along with roadway improvements that the City will require developers to construct as part of their projects, many of the circulation improvements identified in the General Plan as being needed to support citywide buildout will be constructed. It cannot be guaranteed, however, that full funding to achieve all improvements will ultimately be collected, nor can it be guaranteed that individual improvements can be fully funded and constructed by the time they are needed, as described in greater detail under Impact 3.12-1. Therefore, while Alternative 2 would result in less traffic on City-controlled roadway segments and intersections in comparison to the proposed project, impacts to these facilities would remain significant and unavoidable as the City would not be able to ensure that the improvements envisioned for these facilities in the General Plan would occur, as described in Chapter 3.12.

Traffic Operations on Gravenstein Highway

The proposed project would result in significant and unavoidable impacts associated with traffic operations on Gravenstein Highway, as described under Impact 3.12-2 in Chapter 3.12. Alternative 2 would result in a reduction of approximately 3,770 daily trips within the City, an 8% reduction compared to the proposed project, and a reduction of 13,310 trips within the City and SOI, a 22% reduction compared to the proposed project, under cumulative conditions. Under Alternative 2, Gravenstein Highway (SR 116) would remain under the jurisdiction of Caltrans and improvements to the facility would be outside of the City's control as described under Impact 3.12-2. Therefore, while Alternative 2 would result in less traffic on Gravenstein Highway in comparison to the proposed project, impacts to the facility would remain significant and unavoidable as the City would not be able to ensure that the improvements envisioned for this facility in the General Plan would occur, as described in Chapter 3.12.

Traffic Operations on US 101 Facilities

The proposed project would result in significant and unavoidable impacts associated with traffic operations on US 101 facilities, as described under Impact 3.12-3 in Chapter 3.12. Alternative 2 would result in a reduction of approximately 3,770 daily trips within the City, an 8% reduction compared to the proposed project, and a reduction of 13,310 trips within the City and SOI, a 22% reduction compared to the proposed project, under cumulative conditions. Under Alternative 2, US 101 facilities would remain under the jurisdiction of Caltrans and improvements to the facility would be outside of the City's control as described under Impact 3.12-2. Therefore, while Alternative 2 would result in less traffic on US 101 and associated on- and off-ramps in comparison to the proposed project, implementation of measures to reduce impacts associated with facilities under the jurisdiction of Caltrans would remain outside of the control of the County, as described in Chapter 3.12. This impact would remain significant and unavoidable.

Potential to Exceed Wastewater Treatment Capacity

The proposed project would result in increased demand for wastewater treatment in excess of the permitted capacity available to the City as described under Impact 3.13-3 in Chapter 3.13. Under Alternative 2, development within the City would require treatment of approximately

0.70 mgd of wastewater and would remain within the treatment capacity available of 0.76 mgd. Under cumulative conditions, development within the City and SOI would require treatment of approximately 0.758 mgd of wastewater and would also remain within the City's permitted treatment capacity. Therefore, Alternative 2 would avoid the significant and unavoidable impact associated with wastewater treatment that would occur with the proposed project.

Cumulative: Visual Character

The proposed project would have a considerable contribution to significant cumulative impacts associated with visual character as described under Impact 4.1. Under cumulative conditions, Alternative 2 would result in a reduced growth and development pattern, particularly in the western and southeast areas of the City and SOI (see Figure 5-1). Alternative 2 would provide for increased areas of recreational and open space uses and would result in aesthetic improvements in comparison to the proposed project. However, Alternative 2 would also result in substantial visual changes to the City and surrounding area and would have a considerable contribution to significant and unavoidable impacts associated with visual character.

Cumulative: Noise

The proposed project would have a considerable contribution to significant cumulative impacts associated with noise as described under Impact 4.11. Under cumulative conditions, Alternative 2 would result in less residential, commercial, industrial, and office development. This difference would be appreciable under cumulative conditions and this alternative would have less of an impact than the proposed project. However, the cumulative level of development would result in significant and unavoidable increases in traffic noise levels and would also increase the cumulative exposure of sensitive receptors.

Cumulative: Transportation

The proposed project would have a considerable contribution to significant cumulative impacts on the transportation network, associated with increased traffic levels and the need for additional circulation facilities, as described under Impact 4.13. Under cumulative conditions, Alternative 2 would result in less development and would result in approximately 13,310 fewer daily trips. However, significant impacts to Gravenstein Highway and US 101 would occur, as described previously. Therefore, although Alternative 2 would result in a reduction in impacts compared to the proposed project, the contribution to cumulative traffic would remain considerable.

Cumulative: Utilities

The proposed project would result in increased demand for wastewater treatment in excess of the permitted capacity available to the City as described under Impact 4.14. Under Alternative 2, development within the City and SOI would require treatment of approximately 0.758 mgd under cumulative conditions and would remain within the treatment capacity available of 0.76 mgd. Therefore, Alternative 2 would not have a considerable contribution to cumulative impacts associated with wastewater treatment and would have less of an impact than the proposed project.

Irreversible Effects

The proposed project would have a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 4.15. During the planning horizon, development under Alternative 2 would be reduced in comparison to the proposed project, as described above. Under cumulative conditions, Alternative 2 would result in less residential development and less industrial, commercial, and office development (see Table 5-4). Alternative 2 would result in the permanent development of up to 1,945 new residential units and approximately 2.9 million square feet of industrial, commercial, and office uses. Alternative 2 would use non-renewable resources, including metals, stone, and other materials, related to construction and result in on-going demand for fossil fuels and other resources associated with energy production at levels comparable to the proposed project. The associated irretrievable commitment of non-renewable resources and permanent conversion of agricultural, open space, and other undeveloped lands under Alternative 2 would be a significant impact. Therefore, while Alternative 2 would have a reduced impact in comparison to the proposed project, the irreversible effects would remain significant and unavoidable.

ALTERNATIVE 3 – REDUCED LAND USE INTENSITY

Alternative 3: Reduced Land Use Intensity Alternative. Under Alternative 3, urban and industrial development under the General Plan Update Land Use Map would be focused more tightly around the City. General Commercial, Commercial Industrial, and Low Medium Density Residential uses would be decreased in the City and SOI and would be replaced with less intense uses, such as agricultural and rural residential. This alternative was developed to reduce impacts associated with scenic resources, traffic noise, traffic impacts to US 101 and SR 116, and to reduce cumulative impacts associated with development.

Alternative 3 was created to reduce environmental impacts associated with the growth accommodated by the General Plan Update by reducing the extent to which growth could occur. Development intensities along the Gravenstein Highway corridor and in the Alder Avenue area were reduced in order to reduce significant impacts associated with traffic and noise that were specific to these areas.

Under Alternative 3, future growth would be more tightly concentrated in and around the City and growth outside of the City would be more focused on Agricultural and Rural Residential uses. Land uses would be modified from those under the General Plan Update as shown on Figure 5-2 and summarized in Table 5-5. The goals, objectives, policies, and actions of the General Plan Update would apply to subsequent development, planning and infrastructure projects.

Land use designations under Alternative 3 would be modified as shown on Figure 5-2 and summarized in Table 5-5. As shown in Table 5-5 below, Alternative 2 would convert 19.8 acres of land designated within the City for General Commercial, Low Density Residential, and Low/Medium Density Residential uses to Agriculture. Within the SOI, this alternative would result in an increase in lands designated Agriculture (33.4 acres) and Rural Residential (56.6 acres) and a decrease in lands designated General Commercial (-8.0 acres), Commercial

Industrial (-19.8 acres), Low Density Residential (-42.6 acres), and Low/Medium Density Residential (-19.6 acres).

TABLE 5-5: ALTERNATIVE 3 V. PROPOSED GENERAL PLAN LAND USE DESIGNATIONS COMPARISON

LAND USE DESIGNATION	PROPOSED PROJECT - GENERAL PLAN UPDATE (ACRES)		ALTERNATIVE 3 – REVISED LAND USE (ACRES)		DIFFERENCE	
	CITY	SOI	CITY	SOI	CITY	SOI
Agriculture	0	592.9	19.8	626.3	19.8	33.4
Open Space/Parks	47.7	8.7	47.7	8.7	0	0
General Commercial	110.8	8.0	102.7	0	-8.1	-8.0
Commercial Industrial	108.6	43.2	108.6	23.5	0	-19.8
Specific Plan	81.5	0	81.5	0	0	0
Rural Residential	105.8	490.7	105.8	547.2	0	56.6
Low Density Residential	145.7	93.6	141.2	51.0	-4.5	-42.7
Low/Medium Density Residential	233.0	30.9	225.8	11.3	-7.2	-19.6
Medium Density Residential	102.2	0	102.2	0	0	0
High Density Residential	29.8	0	29.8	0	0	0
Public Facilities	16.8	0	16.8	0	0	0
No Label/ROW	238.6	48.8	238.6	48.8	0	0
TOTAL	**1,220.7**	**1,316.9**	**1,220.7**	**1,316.9**	**-**	**-**

During the planning horizon, the total amount of residential growth within the City under Alternative 3 would be slightly reduced in comparison to the proposed project (a reduction of 57 units) and there would be a decrease in non-residential uses (-67,660 commercial s.f. and -28,294 office s.f.). Under cumulative conditions, future development within the SOI would be significantly decreased in comparison to the proposed project. There would be a reduction of 206 residential units, 185,414 s.f. of commercial, 275,693 s.f. of industrial, and 27,989 s.f. of office uses within the SOI. Alternative 3 would result in a jobs:housing ratio of 4.6 associated with new development within the City, which is slightly higher than the 4.4 ratio associated with the proposed project. However, under buildout conditions, Alternative 3 would result in a reduced jobs:housing ratio of 4.0 compared with the proposed project (4.1).

The additional land area designated Rural Residential and Agricultural uses would allow residential development and, in the Agricultural designation, non-residential commercial and visitor-serving uses. The development footprint of this alternative would be reduced in comparison to the Project, resulting in an associated reduction to impacts associated with aesthetics (changes in visual character, potential lighting and glare), biological resources (impacts to special-status species and sensitive habitats), cultural resources (potential disturbance of prehistoric, historic, archaeological, and paleontological resources), geology and soils (unstable soils and geologic units), and hydrology and water quality (changes to drainage and flooding patterns, water quality, erosion).

At the project-level, development under Alternative 3 within the City limits would result in a reduction of approximately 2,440 daily trips, an 8% reduction in daily traffic compared to the proposed project. This would also result in a reduction in associated air quality and noise impacts. Under cumulative conditions, this alternative would result in a reduction of approximately 11,734 trips, a 22% reduction compared to the proposed project. There would be less demand for public services and utilities, resulting in a reduction in environmental impacts associated with facilities improvements to provide public services and utilities.

TABLE 5-6: FUTURE GROWTH UNDER THE PROPOSED PROJECT AND ALTERNATIVE 3

	City				SOI			
	Residential (# of Units)	**Commercial (sq. ft.)**	**Industrial (sq. ft.)**	**Office (sq. ft.)**	**Residential (# of Units)**	**Commercial (sq. ft.)**	**Industrial (sq. ft.)**	**Office (sq. ft.)**
Proposed Project	1,541	910,014	511,230	966,706	599	323,147	595,071	27,988
Alternative 3	1,484	842,354	511,230	938,412	393	137,733	319,378	0
Difference	**<57>**	**<67,660>**	**0**	**<28,294>**	**<206>**	**<185,414>**	**<275,693>**	**<27,988>**

Adverse Effects on Visual Character

The proposed project would result in significant and unavoidable impacts associated with adverse effects on visual character, including scenic resources, as described under Impact 3.1-1 in Section 3.1. Under Alternative 3, development patterns within the City would be generally comparable to the proposed project, with less commercial, industrial, and office growth occurring along the western portion of SR 116 past Alder Avenue to the City limits. While 19.8 acres of land would be designated for less intense land uses within the City, the potential for commercial and residential development along the SR 116 corridor and residential development in the south and southwest areas of the City could result in significant changes in visual character under this alternative. Therefore, impacts associated with Alternative 3 would be reduced but not avoided in comparison to the proposed project.

Traffic Noise Sources

The proposed project would result in significant and unavoidable impacts associated with the increases in traffic noise levels, as described under Impact 3.10-1 in Chapter 3.10, with increases of 3 dB or greater along Gravenstein Highway (SR 116), east of Madrone Avenue, and along Alder Avenue. This alternative would result in decreased growth in the City (3.8% decrease in residential units and 3.7% decrease in non-residential development), which would result in a 5% daily trip reduction. This reduction in traffic would have reduced traffic noise levels in comparison to the proposed project, but would not avoid significant impacts associated with traffic noise.

Cumulative Noise Impacts

The proposed project would have a considerable contribution to noise impacts that would be in significant and unavoidable under cumulative conditions, as described under Impact 3.10-7 in Chapter 3.10, with increases of 3 dB or greater along Gravenstein Highway (SR 116), both east and west of Madrone Avenue, and along Alder Avenue. This alternative would result in

decreased growth in the City and SOI that would result in a 19% reduction in daily trips under cumulative conditions. This would result in a reduction in noise levels. However, Alternative 3 is anticipated to considerably contribute to increases of 3dB or greater under cumulative conditions and, thus, would not fully avoid the impact. Alternative 3 would have a reduced contribution to cumulative traffic noise compared to the proposed project.

Traffic Operation at the Study Intersections and Roadway Segments Controlled by the City of Cotati

The proposed project would result in significant and unavoidable impacts associated with traffic operations on City-controlled study intersections and roadway segments, as described under Impact 3.12-1 in Chapter 3.12. Alternative 3 would result in a reduction of approximately 2,440 daily trips within the City, a 5% reduction compared to the proposed project, and a reduction of 11,730 trips within the City and SOI, a 19% reduction compared to the proposed project, under cumulative conditions. Under Alternative 3, through the planned adoption and implementation of the traffic impact fee update, along with roadway improvements that the City will require developers to construct as part of their projects, many of the circulation improvements identified in the General Plan as being needed to support citywide buildout will be constructed. It cannot be guaranteed, however, that full funding to achieve all improvements will ultimately be collected, nor can it be guaranteed that individual improvements can be fully funded and constructed by the time they are needed, as described in greater detail under Impact 3.12-1. Therefore, while Alternative 3 would result in less traffic on City-controlled roadway segments and intersections in comparison to the proposed project, impacts to these facilities would remain significant and unavoidable as the City would not be able to ensure that the improvements envisioned for these facilities in the General Plan would occur, as described in Chapter 3.12.

Traffic Operations on Gravenstein Highway

The proposed project would result in significant and unavoidable impacts associated with traffic operations on Gravenstein Highway, as described under Impact 3.12-2 in Chapter 3.12. Alternative 3 would result in a reduction of approximately 2,440 daily trips within the City, a 5% reduction compared to the proposed project, and a reduction of 11,730 trips within the City and SOI, a 19% reduction compared to the proposed project, under cumulative conditions. Under Alternative 3, Gravenstein Highway (SR 116) would remain under the jurisdiction of Caltrans and improvements to the facility would be outside of the City's control as described under Impact 3.12-2. Therefore, while Alternative 3 would result in less traffic on Gravenstein Highway in comparison to the proposed project, impacts to the facility would remain significant and unavoidable as the City would not be able to ensure that the improvements envisioned for this facility in the General Plan would occur, as described in Chapter 3.12.

Traffic Operations on US 101 Facilities

The proposed project would result in significant and unavoidable impacts associated with traffic operations on US 101 facilities, as described under Impact 3.12-3 in Chapter 3.12. Alternative 3 would result in a reduction of approximately 2,440 daily trips within the City, a 5% reduction

compared to the proposed project, and a reduction of 11,730 trips within the City and SOI, a 19% reduction compared to the proposed project, under cumulative conditions. Under Alternative 3, US 101 facilities would remain under the jurisdiction of Caltrans and improvements to the facility would be outside of the City's control as described under Impact 3.12-2. Therefore, while Alternative 3 would result in less traffic on US 101 and associated on- and off-ramps in comparison to the proposed project, implementation of measures to reduce impacts associated with facilities under the jurisdiction of Caltrans would remain outside of the control of the County, as described in Chapter 3.12. This impact would remain significant and unavoidable.

Potential to Exceed Wastewater Treatment Capacity

The proposed project would result in increased demand for wastewater treatment in excess of the permitted capacity available to the City as described under Impact 3.13-3 in Chapter 3.13. Under Alternative 3, development within the City would require treatment of approximately 0.71 mgd of wastewater and would remain within the treatment capacity available of 0.76 mgd. Under cumulative conditions, development within the City and SOI would require treatment of approximately 0.77 mgd of wastewater and would exceed the City's permitted treatment capacity. Therefore, Alternative 3 would reduce, but not avoid, the significant and unavoidable impact associated with wastewater treatment and would have less of an impact than the proposed project.

Cumulative: Visual Character

The proposed project would have a considerable contribution to significant cumulative impacts associated with visual character as described under Impact 4.1. Under cumulative conditions, Alternative 3 would result in a less intense growth and development pattern, particularly in the western and southeast areas of the City and SOI (see Figure 5-2). Alternative 3 would provide for increased areas of agricultural uses and would result in aesthetic improvements in comparison to the proposed project. However, Alternative 3 would also result in substantial visual changes to the City and surrounding area and would have a considerable contribution to significant and unavoidable impacts associated with visual character.

Cumulative: Noise

The proposed project would have a considerable contribution to significant cumulative impacts associated with noise as described under Impact 4.11. Under cumulative conditions, Alternative 3 would result in less residential, commercial, industrial, and office development. This difference would be appreciable under cumulative conditions and this alternative would have less of an impact than the proposed project. However, the cumulative level of development would result in significant and unavoidable increases in traffic noise levels and would also increase the cumulative exposure of sensitive receptors.

Cumulative: Transportation

The proposed project would have a considerable contribution to significant cumulative impacts on the transportation network, associated with increased traffic levels and the need for

additional circulation facilities, as described under Impact 4.13. Under cumulative conditions, Alternative 3 would result in less development and would result in approximately 11,730 fewer daily trips. However, significant impacts to Gravenstein Highway and US 101 would occur, as described previously. Therefore, although Alternative 3 would have less of an impact than the proposed project, the contribution to cumulative traffic would remain considerable.

Cumulative: Utilities

The proposed project would result in increased demand for wastewater treatment in excess of the permitted capacity available to the City as described under Impact 4.14. Under Alternative 3, development within the City and SOI would require treatment of approximately 0.77 mgd under cumulative conditions and would exceed the treatment capacity available of 0.76 mgd. Therefore, Alternative 3 would have a considerable contribution to cumulative impacts associated with wastewater treatment but would reduce the impact in comparison to the proposed project.

Irreversible Effects

The proposed project would have a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 4.15. During the planning horizon, development under Alternative 3 would be reduced in comparison to the proposed project, as described above. Under cumulative conditions, Alternative 3 would result in less residential development and less industrial, commercial, and office development (see Table 5-6). Alternative 3 would result in the permanent development of up to 1,935 new residential units and approximately 3.0 million square feet of industrial, commercial, and office uses. Alternative 3 would use non-renewable resources, including metals, stone, and other materials, related to construction and result in on-going demand for fossil fuels and other resources associated with energy production at levels comparable to the proposed project. The associated irretrievable commitment of non-renewable resources and permanent conversion of agricultural, open space, and other undeveloped lands under Alternative 3 would be a significant impact. Therefore, while Alternative 3 would have a reduced impact in comparison to the proposed project, the irreversible effects would remain significant and unavoidable.

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 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 project.

As summarized in Table 5-7 below, Alternative 2 (Open Space and Parks/Reduced Development) is the environmentally superior alternative because it provides the greatest reduction of potential impacts in comparison to the other alternatives. Alternatives 3 (Reduced Land Use Intensity) and 1 (No Project) would have reduced environmental impacts compared to the proposed project.

TABLE 5-7: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*PROPOSED PROJECT*	*ALTERNATIVE 1*	*ALTERNATIVE 2*	*ALTERNATIVE 3*
Aesthetics	3 - Same	2 - Better	1 - Best	2 - Better
Air Quality	3 – Same	2 – Better	1 - Best	2 – Better
Biological Resources	3 – Same	2 – Better	1 - Best	2 – Better
Cultural Resources	3 – Same	2 – Better	1 - Best	2 – Better
Geology and Soils	3 – Same	2 – Better	1 - Best	2 – Better
Greenhouse Gases and Climate Change	3 – Same	2 – Better	1 - Best	2 – Better
Hazards and Hazardous Materials	3 – Same	2 – Better	1 - Best	2 – Better
Hydrology and Water Quality	3 – Same	2 – Better	1 - Best	2 – Better
Land Use, Population, and Agricultural Resources	3 – Same	2 – Better	1 - Best	2 – Better
Noise	3 – Same	2 – Better	1 - Best	2 – Better
Public Services	3 – Same	2 – Better	1 - Best	2 – Better
Transportation and Circulation	3 – Same	2 – Better	1 - Best	2 – Better
Utilities	3 – Same	2 – Better	1 - Best	2 – Better
Cumulative Impacts	3 – Same	2 – Better	1 - Best	2 – Better
Irreversible Effects	3 – Same	2 - Better	1 - Best	2 - Better
SUMMARY	**45 - Same**	**30 - Better**	**15 – Best**	**30 - Better**

COTATI GENERAL PLAN UPDATE

Figure 5.0-1: Alternative 2

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Land Use Designations

- A - Agriculture
- RR - Rural Residential
- LDR - Low Density Residential
- LMDR - Low/Medium Density Residential
- MDR - Medium Density Residential
- HDR - High Density Residential
- GC - General Commercial
- P - Open Space/Parks
- PF - Public Facilities
- CI - Commercial Industrial
- SP - Specific Plan

Planning Areas

- City Boundary
- Sphere of Influence/Urban Growth Boundary
- Downtown Specific Plan Area
- Santero Way Specific Plan Boundary

COTATI GENERAL PLAN UPDATE

Figure 5.0-2: Alternative 3

N W E S

0 1,000 2,000
Feet

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CITY OF COTATI

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Tom Origer ..... Principal Archaeologist

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