DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

ENVISION YOUNTVILLE GENERAL PLAN UPDATE

(SCH: 2018082008)

NOVEMBER 2018

Prepared for:

Town of Yountville
6550 Yount Street
Yountville, CA 94599

Prepared by:

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(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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DRAFT EIR

Chapter **Page Number**

Executive Summary ES-1

1.0 Introduction 1.0-1

1.1 Introduction 1.0-1

1.2 Purpose and Intended Uses of the EIR 1.0-2

1.3 Type of EIR 1.0-2

1.4 Intended Uses of the EIR 1.0-3

1.5 Known Responsible and Trustee Agencies 1.0-3

1.6 Environmental Review Process 1.0-4

1.7 Organization and Scope 1.0-6

1.8 Significance Criteria 1.0-8

1.9 Comments Received on the Notice of Preparation 1.0-9

1.10 Areas of Controversy 1.0-9

2.0 Project Description 2.0-1

2.1 Background and Overview 2.0-1

2.2 Project Location 2.0-2

2.3 Goals, Objectives, and Entitlement Requests 2.0-3

2.4 Description of Proposed General Plan Project 2.0-3

3.1 Aesthetics and Visual Resources 3.1-1

3.1.1 Environmental Setting 3.1-3

3.1.2 Regulatory Setting 3.1-5

3.1.3 Impacts and Mitigation Measures 3.1-6

3.2 Agricultural Resources 3.2-1

3.2.1 Environmental Setting 3.2-1

3.2.2 Regulatory Setting 3.2-4

3.2.3 Impacts and Mitigation Measures 3.2-7

TABLE OF CONTENTS

3.3 Air Quality 3.3-1

3.3.1 Environmental Setting 3.3-1

3.3.2 Regulatory Setting 3.3-12

3.3.3 Thresholds of Significance 3.3-16

3.3.4 Impacts and Mitigation Measures 3.3-17

3.4 Biological Resources 3.4-1

3.4.1 Environmental Setting 3.4-2

3.4.2 Regulatory Setting 3.4-14

3.4.3 Impacts and Mitigation Measures 3.4-17

3.5 Cultural and Tribal Resources 3.5-1

3.5.1 Environmental Setting 3.5-1

3.5.2 Regulatory Setting 3.5-11

3.5.3 Impacts and Mitigation Measures 3.5-15

3.6 Geology and Soils 3.6-1

3.6.1 Environmental Setting 3.6-1

3.6.2 Regulatory Setting 3.6-14

3.6.3 Impacts and Mitigation Measures 3.6-17

3.7 Greenhouse Gases and Energy 3.7-1

3.7.1 Environmental Setting 3.7-1

3.7.2 Regulatory Setting 3.7-8

3.7.3 Impacts and Mitigation Measures 3.7-14

3.8 Hazards and Hazardous Materials 3.8-1

3.8.1 Environmental Setting 3.8-1

3.8.2 Regulatory Setting 3.8-8

3.8.3 Impacts and Mitigation Measures 3.8-15

3.9 Hydrology and Water Quality 3.9-1

3.9.1 Environmental Setting 3.9-1

3.9.2 Regulatory Setting 3.9-8

3.9.3 Impacts and Mitigation Measures 3.9-13

3.10 Land Use 3.10-1
3.10.1 Environmental Setting 3.10-1
3.10.2 Regulatory Setting 3.10-4
3.10.3 Impacts and Mitigation Measures 3.10-7
3.11 Noise 3.11-1
3.11.1 Environmental Setting 3.11-1
3.11.2 Regulatory Setting 3.11-13
3.11.3 Impacts and Mitigation Measures 3.11-16
3.12 Population and Housing 3.12-1
3.12.1 Environmental Setting 3.12-1
3.12.2 Regulatory Setting 3.12-2
3.12.3 Impacts and Mitigation Measures 3.12-4
3.13 Public Services and Recreation 3.13-1
3.13.1 Environmental Setting 3.13-1
3.13.2 Regulatory Setting 3.13-10
3.13.3 Impacts and Mitigation Measures 3.13-14
3.14 Transportation and Circulation 3.14-1
3.14.1 Environmental Setting 3.14-2
3.14.2 Regulatory Setting 3.14-9
3.14.3 Thresholds of Significance 3.14-12
3.14.4 Impacts and Mitigation Measures 3.14-13
3.15 Utilities 3.15-1
3.15.1 Wastewater Services 3.15-1
3.15.2 Water Supplies 3.15-15
3.15.3 Storm Water 3.15-31
3.15.4 Solid Waste 3.15-41
4.0 Other CEQA-Required Topics 4.0-1
4.1 Cumulative Setting and Impact Analysis 4.0-1
4.2 Growth-Inducing Effects 4.0-20
4.3 Significant Irreversible Effects 4.0-22
4.4 Significant and Unavoidable Impacts 4.0-24

TABLE OF CONTENTS

5.0 Alternatives to the Proposed Project 5.0-1
5.1 CEQA Requirements 5.0-1
5.2 Alternatives Considered in this EIR 5.0-1
5.3 Environmental Analysis 5.0-4
5.4 Comparative Evaluation of the Project and Alternatives to Satisfy Project Objectives 5.0-18
6.0 Report Preparers 6.0-1
7.0 References 7.0-1

Table **Page Number**

Table ES-1: Comparison of Alternative Project Impacts to the Proposed General Plan ES-3
Table ES-2: Impacts and Proposed Mitigation Measures ES-4
Table 2.0-1: Proposed Land Use Designation Acreages 2.0-7
Table 2.0-2: Growth Projections 2.0-8
Table 3.2-1: Napa County Primary Crop Types (2016) 3.2-1
Table 3.2-2: FMMP Farmland Classification and Land Use Categories 3.2-4
Table 3.3-1: Federal and State Ambient Air Quality Standards 3.3-8
Table 3.3-2: State and National Attainment Status 3.3-10
Table 3.3-3: Ambient Air Quality Monitoring Data (Napa-Jefferson Avenue) 3.3-11
Table 3.3-4: BAAQMD Thresholds of Significance for Plans 3.3-17
Table 3.3-5: General Plan Build-Out (Year 2040) – Operational Emissions (Tons/Year) 3.3-20
Table 3.3-6: General Plan Build-Out (Year 2040) – Mitigated Operational Emissions (Tons/Year) 3.3-20
Table 3.3-7: Combined Jobs and Housing Growth 3.3-22
Table 3.3-8: Existing and Plus-Project Trips 3.3-22
Table 3.4-1: Cover Types Within the Yountville SOI 3.4-3
Table 3.4-2: Special-Status Plants within 9-Quadrangle Region for General Plan Area 3.4-8
Table 3.4-3: Special-Status Animals within 9-Quadrangle Region for General Plan Area 3.4-11
Table 3.5-1: Resources Listed With The Northwest Information Center File Directory 3.5-5
Table 3.5-2: Buildings listed on the Napa County Historic Property Data File Directory 3.5-6
Table 3.5-3: Historic Places 3.5-9
Table 3.6-1: Richter Magnitudes and Effects 3.6-4
Table 3.6-2: Modified Mercalli Intensities and Effects 3.6-5
Table 3.6-3: Significant Earthquakes in the Region 3.6-6

Table 3.6-4: Liquefaction Potential Based on Sediment Type and Age of Deposit 3.6-7
Table 3.6-5: Soil Erosion Factors 3.6-9
Table 3.6-6: Clear Lake Volcanic Center Holocene Eruptions 3.6-12
Table 3.7-1: Town of Yountville Community GHG emissions by Sector, 2010 ..... 3.7-7
Table 3.7-2: Town of Yountville Government Operations GHG emissions by Sector, 2010 ..... 3.7-7
Table 3.7-3: Unmitigated Operational GHG Emissions under Buildout of the Yountville General Plan 3.7-23
Table 3.7-4: Mitigated Operational GHG Emissions under Buildout of the Yountville General Plan 3.7-23
Table 3.8-1: GeoTracker Sites Within Yountville Study Area 3.8-4
Table 3.8-2: CIWMB Closed Facilities/Sites 3.8-6
Table 3.9-1: State of California Watershed Hierarchy Naming Convention 3.9-2
Table 3.9-2: FEMA Flood Zone Surface Areas in the General Plan Area 3.9-5
Table 3.10-1: Existing Land Uses – Town of Yountville 3.10-1
Table 3.11-1: Typical Noise Levels 3.11-3
Table 3.11-2: Reaction of People and Damage to Buildings for Continuous Vibration Levels 3.11-4
Table 3.11-3: Levels of Groundborne Vibration 3.11-5
Table 3.11-4: Predicted Existing Traffic Noise Levels 3.11-8
Table 3.11-5: Railroad Noise Measurement Results 3.11-9
Table 3.11-6: Approximate Distances to the Railroad Noise Contours 3.11-10
Table 3.11-7: Typical Stationary Source Noise Levels and Distances to Noise Contours 3.11-11
Table 3.11-8: Existing Continuous 24-Hour Ambient Noise Monitoring Results 3.11-12
Table 3.11-9: Existing Short-Term Community Noise Monitoring Results 3.11-12
Table 3.11-10: Noise Standard by Receiving Land Use 3.11-15
Table 3.11-11: Significance of Changes in Cumulative Noise Exposure 3.11-16
Table 3.11-12: Predicted Existing, Existing plus Project, Cumulative, and Cumulative Plus Project Traffic Noise Levels at the Nearest Sensitive Receptors 3.11-17
Table 3.11-13: Construction Noise Equipment 3.11-21
Table 3.11-14: Vibration Levels for Various Construction Equipment 3.11-22
Table 3.12-1: Population Growth - Yountville 3.12-1
Table 3.12-2: Housing Unit Growth - Yountville 3.12-1
Table 3.12-3: Regional Housing Needs Allocation 3.12-2
Table 3.13-1: Crimes by Category 3.13-6
Table 3.13-2: School Enrollment 3.13-7

Table 3.13-3: Existing Parks and Recreation Facilities 3.13-9
Table 3.13-4: Yountville Park Standards and Parkland Needs 3.13-9
Table 3.14-1: Intersection LOS Criteria 3.14-2
Table 3.14-2: Summary of Existing Peak Hour Intersection LOS 3.14-5
Table 3.14-3: Existing and Planned Bicycle Facilities 3.14-6
Table 3.14-4: Applied ITE Trip Generation Rates 3.14-13
Table 3.14-5: Net Additional PM Peak Hour Vehicle Trips – Proposed General Plan 3.14-13
Table 3.14-6: Summary of Existing Plus Project PM Peak Hour Intersection LOS 3.14-14
Table 3.14-7: Veterans Home Increase in Development and ITE Trip Generation Rates 3.14-16
Table 3.14-8: Summary of Cumulative Baseline PM Peak Hour Intersection LOS 3.14-16
Table 3.14-9: Summary of Cumulative Plus Project PM Peak Hour Intersection LOS 3.14-17
Table 3.15-1: RSA+ 2015 Analysis of Capacity at WWTP 3.15-5
Table 3.15-2: Projected Increase in Wastewater Flows (General Plan Buildout) 3.15-11
Table 3.15-3: Yountville Water Supplies 3.15-16
Table 3.15-4: Amount of CDVA Water Purchased 3.15-17
Table 3.15-5: Projected Water Demand 3.15-27
Table 3.15-6: Unincorporated Napa County Waste Diversion Rate 3.15-42
Table 4.0-1: Population and Household Growth 4.0-3
Table 4.0-2: Town of Yountville Land Use Designations in Town Limits 4.0-3
Table 4.0-3: Proposed Land Use Designation Acreages 4.0-4
Table 4.0-4: Veterans Home Increase in Development and ITE Trip Generation 4.0-15
Table 4.0-5: Summary of Cumulative Baseline PM Peak Hour Intersection LOS 4.0-15
Table 4.0-6: Summary of Cumulative Plus Project PM Peak Hour Intersection LOS 4.0-16
Table 5.0-1: Alternatives Comparison 5.0-3
Table 5.0-2: Net Additional PM Peak Hour Vehicle Trips for General Plan Alternatives 5.0-3
Table 5.0-3: Summary of Existing Plus Project Alternative C (Existing General Plan) PM Peak Hour Intersection LOS 5.0-14
Table 5.0-4: Summary of Cumulative Plus Project Alternative PM Peak Hour Intersection LOS 5.0-15
Table 5.0-5: Comparison of Alternative Project Impacts to the Proposed General Plan 5.0-17

Figures

Note: Figures are located at the end of the chapters.

Figure 2.0-1 Regional Location Map
Figure 2.0-2 Vicinity Map

Figure 2.0-3 Aerial View of General Plan Area
Figure 2.0-4 USGS Topographic Map
Figure 2.0-5 Proposed Land Use Map
Figure 2.0-6 Vacant, Infill, and Agricultural Sites
Figure 3.2-1 Farmland Classifications
Figure 3.4-1 Land Cover Types
Figure 3.4-2 Special Status Species – 9 Quad Search
Figure 3.4-2 Special Status Species – 1-mile Radius
Figure 3.6-1 Known Faults in Project Area
Figure 3.6-2 General Plan Area Soils
Figure 3.6-3 Expansive Soils
Figure 3.9-1 Hydrologic Areas
Figure 3.9-2 FEMA Flood Insurance Rate Map
Figure 3.9-3 Dam Inundation Areas
Figure 3.11-1 Noise Measurement Sites
Figure 3.11-2 Future Noise Contours
Figure 3.14-1 Circulation Area
Figure 3.14-2 Study Intersections
Figure 3.14-3 Lane Configurations
Figure 3.14-4 Existing Traffic Volumes
Figure 3.14-5 Bicycle Facilities
Figure 3.14-6 Pedestrian Facilities
Figure 3.14-7 Transit Facilities
Figure 3.14-8 Cumulative Baseline Traffic Volumes
Figure 3.14-9 Project Traffic Volumes
Figure 5.0-1 Existing General Plan Land Use and Zoning
Figure 5.0-2 General Plan Alternative Traffic Volumes

Appendices

Appendix A – Notice of Preparation and NOP Comments

Appendix B – Air Quality, Greenhouse Gas, and Energy Modeling

Appendix C – Noise Data

Appendix D – Traffic Data

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PURPOSE

The Town of Yountville (Town), as the lead agency, has determined that the Envision General Plan Update (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 Town, other responsible and trustee agencies, and the general public of the potential environmental consequences of approval and implementation of the 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 Town, 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/visual resources, agricultural resources, air quality, biological/natural resources, cultural/tribal resources, geology/soils, greenhouse gases/climate change, hazards, hydrology/water quality, land use, noise, population/housing, public services/recreation, transportation/circulation, utilities, and cumulative impacts. During the NOP process, two comment letters were received from interested agencies. The comments are summarized in Chapter 1.0 (Introduction), and are also provided in Appendix A.

ALTERNATIVES TO THE PROPOSED PROJECT

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 A**: Alternative A would reduce the potential development density and intensities through the following land use changes:

    - Reduce the floor-area-ratio (FAR) for the Agricultural land use designation to 0.01.

    Alternative A was developed to reduce the impacts associated with aesthetics, agricultural resources, air quality, greenhouse gas emissions, noise, and public services, transportation/circulation. This alternative would decrease the non-residential growth potential by 53,104 square feet (SF). There would be no change to potential residential development under this alternative. This alternative could accommodate up to 231 residential dwelling units (DUs) (including 155 single family and 76 multifamily/mixed

use/live-work) and up to 116,451 SF of non-residential uses (including 84,491 SF commercial, 21,684 SF office, and 13,276 SF agricultural).

- **Alternative B**: Alternative B would reduce the potential development densities and intensities through the following land use changes.

    - Limit development west of Washington Street to a two-story maximum height limit.
    - Designate the agricultural land located east of Washington Street and north of Land Lane along the Town's southeast boundary as Mixed Residential on 4.5 acres with the Affordable Housing Overlay, and designate the remaining portion of the site as Agricultural (approximately 12 acres).

    Alternative B was developed to reduce impacts associated with aesthetics, agricultural resources, air quality, greenhouse gas emissions, noise, public services, transportation/circulation, utilities. This alternative would decrease the residential growth potential by 54 DU and would increase the non-residential growth potential by 26,523 SF associated with development of land designated Agricultural. This alternative could accommodate up to 177 residential units (including 44 single family and 133 multifamily/mixed use/live-work) and up to 196,078 SF of non-residential uses (including 84,491 SF commercial, 21,684 SF office, and 92,903 SF agricultural).

- **Alternative C - No Project Alternative**: Under Alternative C, the Town would not adopt the General Plan Update. The existing Yountville General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, goals, policies, or programs would occur. The existing Land Use Map is shown on Figure 5.0-1. This alternative would increase the residential growth potential by 82 DU and would decrease the non-residential growth potential by 31,245 SF. This alternative could accommodate up to 313 residential units (including 164 single family and 149 multifamily/mixed use/live-work) and up to 138,310 SF of non-residential uses (including 71,930 SF commercial and 66,380 SF agricultural).

A comparative analysis of the proposed project and each of the project alternatives is provided in Table ES-1 below. As shown in the table, Alternative A would reduce impacts in all areas, Alternative B would reduce or slightly reduce impacts in five areas, and Alternative C would not decrease impacts in any area. It is noted that the significant and unavoidable impacts associated with degradation of the visual character of the site and its surroundings, conversion of Important Farmlands to non-agricultural uses, and construction noise would still occur under all three alternatives. Therefore, Alternative A is the environmentally superior alternative.

TABLE ES-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED GENERAL PLAN

ENVIRONMENTAL ISSUE	*ALTERNATIVE A*	*ALTERNATIVE B*	*ALTERNATIVE C*
Adverse Effects on Visual Character	Less	Less	Comparable or Slightly Worse
Farmland Conversion	Less	Less	Comparable
Air Quality and Greenhouse Gas Emissions	Less	Slightly Less	Comparable
Noise Exposure	Less	Slightly Less	Comparable
Intersection Operations and Alternative Transportation	Less	Slightly Less	Worse
Public Services and Utilities	Less	Slightly Less	Comparable
Other Issues	Less	Slightly Less	Comparable
Irreversible Effects	Less	Less	Comparable or Worse

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. "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: 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 a scenic vista and substantial degradation of the visual character of the site and its surroundings	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	SU
Impact 3.1-2: General Plan implementation could result in substantial damage to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway	LS	*None Required*	LS
Impact 3.1-3: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare	LS	*None Required*	LS
AGRICULTURAL RESOURCES			
Impact 3.2-1: General Plan implementation would result in the conversion of Important Farmlands, including Prime Farmland, to non-agricultural use	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	SU
Impact 3.2-2: General Plan implementation would not result in significant conflicts with existing agricultural zoning or Williamson Act contracts or involve other changes which could result in the conversion of Farmland to non-agricultural use	LS	*None Required*	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*
AIR QUALITY			
Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants	LS	*None Required*	LS
Impact 3.3-2: General Plan implementation would not cause health risks associated with toxic air contaminants	LS	*None Required*	LS
Impact 3.3-3: General Plan implementation would not create objectionable odors	LS	*None Required*	LS
BIOLOGICAL RESOURCES			
Impact 3.4-1: General Plan implementation could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	LS	*None Required*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.4-2: General Plan implementation would not result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	LS	*None Required*	LS
Impact 3.4-3: General Plan implementation may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	LS	*None Required*	LS
Impact 3.4-4: General Plan implementation may result in interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites nursery sites	LS	*None Required*	LS
Impact 3.4-5: General Plan implementation would not result in conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	*None Required*	LS
Impact 3.4-6: General Plan implementation would not result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other	NI	*None Required*	NI

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*
approved local, regional, or state habitat conservation plan			
CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: General Plan implementation would not cause a substantial adverse change to a significant historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5, or a significant tribal cultural resource, as defined in Public Resources Code Section 21074	LS	*None Required*	LS
Impact 3.5-2: General Plan implementation would not directly or indirectly destroy a unique paleontological resource	LS	*None Required*	LS
Impact 3.5-3: General Plan implementation would not disturb human remains, including those interred outside of dedicated cemeteries	LS	*None Required*	LS
GEOLOGY AND SOILS			
Impact 3.6-1: General Plan implementation would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides	LS	*None Required*	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 3.6-2: General Plan implementation would not result in substantial soil erosion or the loss of topsoil	LS	*None Required*	LS
Impact 3.6-3: General Plan implementation would not result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse	LS	*None Required*	LS
Impact 3.6-4: General Plan implementation would not result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property	LS	*None Required*	LS
Impact 3.6-5: General Plan implementation would not result significant impacts associated with development on 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 3.7-1: General Plan implementation would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	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 3.7-2: General Plan implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	LS	*None Required*	LS
Impact 3.7-3: General Plan implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources	LS	*None Required*	LS
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: General Plan implementation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	LS	*None Required*	LS
Impact 3.8-2: General Plan implementation would not have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS	*None Required*	LS
Impact 3.8-3: General Plan implementation would not 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

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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 3.8-4: General Plan implementation would not result in safety hazards associated with public airports or private airstrips	NI	*None Required*	NI
Impact 3.8-5: General Plan implementation would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	*None Required*	LS
Impact 3.8-6: General Plan implementation would not 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	LS	*None Required*	LS
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: General Plan implementation would not result in a violation of water quality standards or waste discharge requirements	LS	*None Required*	LS
Impact 3.9-2: General Plan implementation would not result in the depletion of groundwater supplies or interfere substantially with groundwater recharge	LS	*None Required*	LS
Impact 3.9-3: General Plan implementation would not alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff	LS	*None Required*	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 3.9-4: General Plan implementation would not otherwise substantially degrade water quality	LS	*None Required*	LS
Impact 3.9-5: General Plan implementation would 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	LS	*None Required*	LS
Impact 3.9-6: General Plan implementation 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			
Impact 3.10-1: General Plan implementation would not physically divide an established community	LS	*None Required*	LS
Impact 3.10-2: General Plan implementation would not 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 3.10-3: General Plan implementation would not conflict with an applicable habitat conservation plan or natural community conservation plan	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*
NOISE			
Impact 3.11-1: General Plan implementation has the potential to increase traffic noise levels at existing receptors	LS	*None Required*	LS
Impact 3.11-2: General Plan implementation has the potential to expose new sensitive receptors to excessive exterior and interior traffic noise	LS	*None Required*	LS
Impact 3.11-3: General Plan implementation could result in temporary or periodic increases in ambient noise levels in the project vicinity	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	SU
Impact 3.11-4: General Plan implementation has the potential to expose persons to or generate excessive groundborne vibrations associated with construction activities	LS	*None Required*	LS
Impact 3.11-5: General Plan implementation has the potential to expose existing and future sensitive receptors to substantial noise from stationary noise sources	LS	*None Required*	LS
POPULATION AND HOUSING			
Impact 3.12-1: General Plan implementation would not induce substantial population growth	LS	*None Required*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.12-2: General Plan implementation would not displace substantial numbers of people or existing housing	LS	*None Required*	LS
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1: General Plan implementation would not result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services	LS	*None Required*	LS
Impact 3.12-2: General Plan implementation would not result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities	LS	*None Required*	LS
Impact 3.12-3: General Plan implementation would not increase demand for schools or result in the need to construct new schools	LS	*None Required*	LS
TRANSPORTATION AND CIRCULATION			
Impact 3.14-1: Implementation of the project could not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system and could not conflict with any applicable congestion management program	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.14-2: The project would not conflict with an applicable congestion management program	NI	*None Required*	NI
Impact 3.14-3: Implementation of the project would not result in changes in air traffic patterns	NI	*None Required*	NI
Impact 3.14-4: Implementation of the proposed project would not substantially increase hazards due to a design feature	LS	*None Required*	LS
Impact 3.14-5: Implementation of the proposed project would not result in impacts related to emergency access	LS	*None Required*	LS
Impact 3.14-6: Implementation of the project would not conflict with adopted plans or policies relating to public transit, bicycle, and/or pedestrian facilities	LS	*None Required*	LS
UTILITIES			
Impact 3.15-1: General Plan implementation would not exceed wastewater treatment capacity or the requirements of the RWQCB	LS	*None Required*	LS
Impact 3.15-2: General Plan implementation may require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant	LS	*None Required*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
environmental effects			
Impact 3.15-3: General Plan implementation would result in an increased demand for water supplies	LS	*None Required*	LS
Impact 3.15-4: General Plan implementation may 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	LS	*None Required*	LS
Impact 3.15-5: General Plan implementation would result in less than significant impacts associated with new or expanded stormwater drainage facilities	LS	*None Required*	LS
Impact 3.15-6: General Plan implementation would be served by a landfill with sufficient permitted capacity to accommodate the Plan's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste	LS	*None Required*	LS
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region	LCC	*None Required*	LCC
Impact 4.2: Cumulative Impact to Agricultural Lands and Resources	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	CC and SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.3: Cumulative Impact on the Region's Air Quality	LCC	*None Required*	LCC
Impact 4.4: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	LCC	*None Required*	LCC
Impact 4.5: Cumulative Impacts on Known and Undiscovered Cultural Resources	LCC	*None Required*	LCC
Impact 4.6: Cumulative Impacts Related to Geology and Soils	LCC	*None Required*	LCC
Impact 4.7: Cumulative Impacts Related to Greenhouse Gases and Climate Change	LCC	*None Required*	LCC
Impact 4.8: Cumulative Impacts Related to Hazardous Materials	LCC	*None Required*	LCC
Impact 4.9: Cumulative Impacts to Hydrology and Water Quality	LCC	*None Required*	LCC
Impact 4.10: Cumulative Impact on Communities and Local Land Uses	LCC	*None Required*	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	LCC	*None Required*	LCC
Impact 4.12: Cumulative Impact on Population and Housing	LCC	*None Required*	LCC

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.13: Cumulative Impact on Public Services and Recreation	LCC	*None Required*	LCC
Impact 4.14: Cumulative Impact on the Transportation Network	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	CC and SU
Impact 4.15: Cumulative Impact on Utilities	LCC	*None Required*	LCC
Impact 4.16: Irreversible Effects	PS	*Mitigated to the greatest extent feasible through General Plan Policies and Programs. No additional feasible mitigation is available.*	CC and SU

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

1.1 INTRODUCTION

In late 2016, Yountville began a multi-year process to update the Town's 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 Yountville General Plan Update process, a series of Existing Conditions Reports were prepared to establish a baseline of existing conditions in the Town.

The updated Envision Yountville General Plan includes a framework of goals, policies, and programs that will guide the community toward its common vision. The General Plan is supported with a variety of maps and figures, including a Land Use Map.

ENVISION YOUNTVILLE GENERAL PLAN UPDATE

General Plan

The Envision Yountville General Plan includes a comprehensive set of goals, policies, and implementation programs, as well as an updated Land Use Map (see Figure 2.0-6). The State requires that the General Plan include seven mandatory elements: Land Use, Circulation, Housing, Open Space, Noise, Safety, and Conservation. The Housing Element was updated separately from the rest of the General Plan in 2015 and is not anticipated to require significant revisions. The Envision Yountville General Plan will include all of the State-mandated elements, as well as optional elements addressing History, Community and Quality of Life, and Economic Sustainability.

Each element of the Envision Yountville General Plan contains a series of goals, policies, and programs, which provide guidance to the Town on how to achieve the goals of the General Plan through directing change, managing growth, and managing resources over the life of the General Plan.

Existing Conditions Report

The Existing Conditions Reports represent a "snapshot" of Yountville's current (2016-2017) trends and conditions. The Existing Conditions Reports address a wide range of topics within the Town, such as demographic and economic conditions, land use, circulation, public facilities, safety, and environmental resources. The Existing Conditions Reports provides decision-makers, the Town Advisory Group, the public, and Town staff with context for the General Plan Update. The Existing Conditions Reports were used to develop the environmental settings contained within this Draft EIR.

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 Zoning and Design Review Board and Town 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, were identified; policies and programs were incorporated into the General Plan policy document in order to reduce or avoid potential environmental impacts.

1.2 PURPOSE AND INTENDED USES OF THE EIR

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

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

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, which 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 Town of Yountville, 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 Envision Yountville 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 Napa County, including the Local Agency Formation Commission (LAFCO) or Napa County, which may use this EIR during the preparation of environmental documents related to Municipal Service Reviews and Spheres of Influence relevant to Yountville.

1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

As required by CEQA, this EIR identifies lead, responsible, and trustee agencies. The Town of Yountville is the "Lead Agency" for the project because it holds principal responsibility for approving the project. The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by

law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

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

- California Department of Fish and Wildlife (CDFW);
- California Department of Transportation (Caltrans);
- Regional Water Quality Control Board (RWQCB);
- LAFCO of Napa County
- U.S. Army Corps of Engineers (USACE);
- U.S. Fish and Wildlife Service (USFWS).

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 AND INITIAL STUDY

The Town circulated a NOP of an EIR for the proposed General Plan on August 3, 2018 to trustee agencies, the State Clearinghouse, and the public. A public scoping meeting was held on August 27, 2018, to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and responses to the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of project impacts, mitigation measures for impacts found to be significant or potentially significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR evaluates the potential environmental effects from adoption and implementation of the General Plan in 18 different environmental topic categories, and identifies for each category whether the Plan is expected to have no impact or a less than significant impact, and also provides a detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the Town filed a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

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

Sandra Liston, Planning & Building Director
Town of Yountville
6550 Yount Street
Yountville, CA 94599
sliston@yville.com

RESPONSE TO COMMENTS/FINAL EIR

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

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

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

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

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

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

Following review and consideration of the Final EIR, the Town may take action to approve, approve with modifications, or reject the project. If the project is approved, a Mitigation Monitoring Program, as described below, would also be adopted in accordance with Public Resources Code

Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. This Mitigation Monitoring Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.7 ORGANIZATION AND SCOPE

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

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the General Plan, 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 General Plan.

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 the potential environmental effects from adoption and implementation of the General Plan in 18 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 after the incorporation of mitigation measures.

The following environmental topics are addressed in this section:

- Aesthetics;
- Agricultural Resources;
- Air Quality;
- Biological Resources;
- Cultural and Tribal Resources;
- Geology and Soils;
- Greenhouse Gases and Energy;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Population and Housing;
- Public Services and Recreation;
- Transportation and Traffic;
- 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 impacts, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

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

CHAPTER 6.0 – REPORT PREPARERS

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

CHAPTER 7.0 – REFERENCES

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

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis. The EIR and appendices are available in electronic format. The appendices can be viewed at the Town of Yountville Planning and Building Department, 6650 Yount Street, or online at:

https://www.envisionyountville.com/project-library.html

1.8 SIGNIFICANCE CRITERIA

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

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

This CEQA document relies on four levels of impacts:

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

Each resource area uses a distinct set of significance criteria. For example, a proposed project resulting in an exposure of persons to noise levels in excess of standards established in the local general plan or community plan would be considered a significant impact. If existing levels, without the proposed project, already exceed the standards, an increase in noise levels of 3 dB attributable to the proposed would be considered significant. Construction of appropriate sound walls could reduce the impact to a less-than-significant level. If criteria for determining the significance of a potential environmental impact relative to a specific environmental resource is not identified in the Guidelines, criteria were developed for this Draft EIR consistent with the past pattern and practice of the Town of Yountville.

The significance criteria are identified at the beginning of the impacts discussion for each resource area. These significance criteria promote consistent evaluation of impacts for all alternatives

considered, even though significance criteria are necessarily different for each resource considered.

1.9 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The Town received two written comments on the NOP for the proposed General Plan Draft EIR. A brief summary of each comment letter is provided in the list below. A copy of each letter is provided in Appendix A of this Draft EIR. A public scoping meeting was held on August 27, 2018 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Oral comments received at the NOP scoping meeting are also included in Appendix A.

1. California Department of Transportation – Patricia Maurice, District Branch Chief
2. Native American Heritage Commission – Sharaya Souza, Staff Analyst

1.10 AREAS OF CONTROVERSY

No areas of controversy have been identified. Aspects of the proposed General Plan that could be of public concern include the following:

- Aesthetics,
- Growth effects,
- Public services and utilities, and
- Transportation and circulation.

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This chapter provides a comprehensive description of the Envision Yountville General Plan Update (proposed project), including the General Plan Elements, land use designations, and growth projections.

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

2.1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities 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 jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) 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 of 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 (Government Code Section 65860(c)).

GENERAL PLAN UPDATE PROCESS

The following section summarizes the outreach and public input that was received during the Envision Yountville General Plan Update process.

Visioning – Speaker Series

The Town initiated the Envision Yountville process in early 2017. During February through May 2018, the Town held five public workshops (the Speaker Series) to help kick-off the Envision Yountville General Plan Update process. A diverse group of Town residents and stakeholders attended the Speaker Series at Town Hall. The workshops provided an opportunity for the public

to offer their thoughts on what they value about their community and the town and what important issues should be addressed in preparing the General Plan Update.

Each workshop included a presentation by the consultant team that explained the role of the General Plan, an overview of the Envision Yountville 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 Envision Yountville team. Each workshop focused on different themes and topics to be addressed in the Envision Yountville General Plan.

Town Advisory Group

The Town Advisory Group worked with staff and the consultant team to develop the goals, objectives, policies and action items to be included in the Envision Yountville General Plan Update, and also worked to develop and refine the draft Land Use Map. The Town Advisory Group met a total of ten times between July 2017 and August 2018 to work on the General Plan Update.

2.2 PROJECT LOCATION

GENERAL PLAN AREA

The Town of Yountville is located in Napa County, approximately 40 miles north of San Francisco and 50 miles southwest of Sacramento. The Town comprises approximately 1.5 square miles, straddling Highway 29 in the heart of the Napa Valley, located between the cities of Napa and St. Helena. See Figure 2.0-1, Regional Location Map. The Town's business district and residential neighborhoods lie to the east of Highway 29, while the Veterans Home is to the west.

The Town limits include the area within the Town's boundary, over which the Town exercises land use authority and provides public services. Figure 2.0-2 shows the Town Limits and the adopted SOI.

Figure 2.0-3 shows an aerial view of the Town and its vicinity. The General Plan area is located approximately 100 to 600 feet above MSL. Figure 2.0-4 shows the U.S. Geological Survey (USGS) Topographic Map of the General Plan area.

SURROUNDING LAND USES

The land uses outside of the Yountville Town Limits are located in unincorporated Napa County. The Napa County General Plan designates the majority of the area surrounding the Town Limits as Open Space: Agricultural Resources. The area to the north, west, and south of the Veterans Home is designated Open Space: Agriculture, Watershed, and Open Space by the County General Plan. The areas surrounding the Town Limits are primarily used for agricultural or open space uses, with the Napa River located east of the Town.

2.3 GOALS AND OBJECTIVES

GOALS AND OBJECTIVES

Consistent with California Environmental Quality Act (CEQA) Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the project shall be discussed. The overall purpose of the Envision Yountville General Plan Update is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The key components of the General Plan include broad goals for the future of Yountville, objectives for meeting those goals, and specific policies and action items that will help implement the goals and objectives. General Plan goals are identified in each element of the General Plan.

The General Plan is intended to accommodate up to 231 dwelling units (DU) and up to 169,646 square feet (SF) of non-residential uses upon buildout.

2.4 DESCRIPTION OF PROPOSED GENERAL PLAN PROJECT

ENVISION YOUNTVILLE GENERAL PLAN CONTENTS

The Town of Yountville is preparing a comprehensive update to its existing General Plan, which was adopted in 1994 with updates to the Circulation Element in 2016 and the Housing Element in 2015. The update is expected to be complete in 2019.

The Envision Yountville General Plan will include a comprehensive set of goals, objectives, policies and implementation programs, as well as an updated Land Use Map (see Figure 2.0-5). The State requires that the General Plan include seven mandatory elements: Land Use, Circulation, Housing, Open Space, Noise, Safety, and Conservation. The Housing Element was updated separately from the rest of the General Plan in 2015 and is not anticipated to require significant revisions. The Envision Yountville General Plan will include all of the State-mandated elements in its chapters, as well as optional chapters addressing Our History, Community and Quality of Life, and Economic Sustainability.

- The **Land Use Chapter** designates the general distribution and intensity of residential, commercial, parks, agricultural, public facilities, and other categories of public and private land uses. The Land Use Chapter includes the Land Use Map, which identifies land use designations for each parcel in the Town limits and SOI (Figure 2.0-5).
- The **Circulation Chapter** correlates closely with the Land Use Chapter, and identifies the general locations and extent of existing and proposed streets, roads, highways, and bicycle and pedestrian facilities necessary to support a multi-modal transportation system. This element is intended to facilitate mobility of people and goods throughout Yountville by a variety of transportation modes, including bicycle, pedestrian, and automobile.
- The **Open Space and Conservation Chapter** addresses the provision of open space for the conservation of natural resources, including habitat, watercourses, agricultural, land and scenic views, and for park, playfield, and recreational facilities and addresses the

conservation, development, and use of natural resources, including issues associated with riparian environments, native plant and animal species, soils, archaeological and cultural resources, air quality, water supply and quality, and greenhouse gases.

- The **Noise Chapter** establishes standards and policies to protect the community from the harmful and annoying effects of exposure to excessive noise levels and unwanted noise. This element includes strategies to reduce land use conflicts that may result in exposure to unacceptable noise levels.
- The **Safety and Hazards Chapter** establishes policies and programs to protect the community from risk associated with geologic, seismic, flood, and fire hazards, as well as setting standards for emergency preparedness.
- The **Our History Chapter** (optional chapter) describes Yountville's history and historical resources and provides a framework for the protection and conservation of cultural and historical resources.
- The **Community and Quality of Life Chapter** (optional chapter) is designed to support and enhance the high quality of life in Yountville, through programs to encourage good neighbor practices, protect historic resources, arts and culture, and to maintain a vibrant and diverse economy.
- The **Economic Sustainability Chapter** (optional chapter) addresses the economic needs of the Town, including fostering economic vitality, supporting new businesses, and attracting new businesses.

GOALS, OBJECTIVES, POLICIES, AND PROGRAMS

Each element of the Envision Yountville General Plan contains a series of goals, policies, and programs, which provide guidance to the Town on how to direct change, manage growth, and manage resources over the 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 Town seeks to create through the implementation of the General Plan.
- A **policy** is a specific statement that guides decision-making as the Town works to achieve its goals and objectives. Once adopted, policies represent statements of Town regulations. The General Plan's policies set out the standards that will be used by Town staff, the Zoning and Design Review Board, and the Town Council in the review of land development projects, resource protection activities, infrastructure improvements, and other Town actions. Policies are on-going throughout the life of the General Plan.
- A **program** is an implementation measure, procedure, technique, or specific action to be undertaken by the Town to help achieve a specified goal or implement an adopted policy. The Town must take additional steps to implement each action item in the General Plan. A program is something that can and will be completed.

GENERAL PLAN LAND USE DESIGNATIONS

The Land Use Element 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.

Single Family Residential

The Single Family Residential land use designation is applied to areas suitable for detached single family homes and related residential uses in low density settings. Other compatible uses may be permitted. Densities up to 7 DU per gross acre are allowed.

Mixed Residential

The Mixed Residential land use designation is intended to encourage development of a variety of housing and ownership types, including single family and multifamily dwellings, and related residential uses. Other compatible uses may be permitted. Densities of 8 to 10 DU per gross acre are allowed; density may be increased up to 25 DU per gross acre within an affordable housing overlay.

Manufactured Home Park Residential

The Manufactured Home Park land use designation is applied to areas appropriate for manufactured housing and related residential uses. Other compatible uses may be permitted. Densities up to 8 DU per gross acre are allowed.

Master Planned Residential

The Master Planned Residential land use designation is applied to residential areas developed with an approved master plan. Other compatible uses may be allowed. Maximum residential density is identified on the approved master plan.

Planned Development

The Planned Development land use designation is applied to areas appropriate for mixed land uses in conjunction with affordable housing units in excess of what is provided in other residential districts. All uses permitted or conditionally permitted in the Zoning Code are included in this designation. Maximum residential density and maximum non-residential floor area ratio (FAR) is identified on the approved master development plan.

Residential-Scaled Commercial

The Residential-Scaled Commercial land use designation is applied to properties on the east side of Washington Street that are adjacent to residential neighborhoods. A variety of neighborhood retail, professional office, and service uses are allowed. Higher intensity retail and service uses may be permitted. Maximum permitted FAR is 0.25, with an additional 0.15 FAR for residential and

professional office uses if certain findings can be made as detailed in Title 18 of the Yountville Municipal Code.

Primary Commercial

The Primary Commercial land use designation applies to properties on the west side of Washington Street and is intended to reinforce Washington Street as the main commercial street in Yountville. Professional office uses are allowed and commercial uses and mixed commercial and residential uses may be permitted. Maximum permitted FAR is 0.25, with an additional 0.15 FAR for residential and professional office uses if certain findings can be made as detailed in Title 18 of the Yountville Municipal Code. On the west side of Washington Street between California Drive and Humboldt Street, the 0.15 FAR bonus may be permitted for retail and service uses that increase business diversity and other benefits to residents and are not restaurant, alcohol, or cannabis-related uses.

Old Town Commercial

The Old Town Commercial designation is applied to specified properties on North Washington Street. It is intended to reflect Yountville's commercial beginnings and to promote the preservation of the historic character of the area. Professional office uses are allowed. Retail, service, restaurant, lodging, and mixed residential and commercial uses may be permitted, with higher intensity uses directed to the west side of Washington and lower intensity uses directed to the east side of street. Maximum permitted FAR is 0.25, with an additional 0.15 FAR for residential and professional office uses if certain findings can be made as detailed in Title 18 of the Yountville Municipal Code.

Retained Commercial

The Retained Commercial land use designation is intended to establish a transitional buffer between commercial uses in the Town's commercial core and the residential uses of Old Town Historic District. The purpose of the designation is to retain existing commercial uses and structures and encourage the commercial development of parcels with existing residential development. Existing restaurant and lodging uses are allowed. Other compatible uses may be permitted. Existing FAR for the commercial uses existing at the time of the development of the district may be maintained. A maximum FAR of 0.40 is permitted for the expansion of existing commercial uses with supportive or residential uses on an existing commercial or adjacent parcel within the district

Old Town Historic

The Old Town Historic land use designation is intended to maintain Old Town's historical character and provide for predominately single-family houses and related residential uses on small lots. Other compatible uses may be permitted. Densities up to 8 DU per gross acre are allowed.

Parks and Playfields

The Parks and Playfields land use designation is applied to areas dedicated to outdoor leisure and recreation. A maximum FAR of 0.10 is allowed.

Public Facilities

The Public Facilities land use designation is applied to areas appropriate for governmental, public utility, and public educational facilities. Other compatible uses may be permitted. A maximum FAR of 0.25 is allowed.

Agricultural

The Agricultural land use designation is applied to lands intended to be maintained in agricultural use. Additionally, commercial facilities for processing or retail sale of agricultural products that are grown on the premises may be permitted. Residential densities up to 1 DU per 10 gross acres and a maximum nonresidential FAR of 0.05 is allowed.

Table 2.0-1 shows the total acreage for each designation shown on the proposed Land Use Map.

TABLE 2.0-1: PROPOSED LAND USE DESIGNATION ACREAGES

PROPOSED LAND USE DESIGNATION	*TOTAL ACRES*
Single Family Residential	33.79
Mixed Residential	39.26
Manufactured Home Park	31.30
Master Planned Residential	47.37
Planned Development	12.64
Residential-Scaled Commercial	7.70
Primary Commercial	34.13
Old Town Commercial	4.83
Retained Commercial	1.10
Old Town Historic	24.61
Parks and Playfields	12.70
Public Facilities	577.94
Agricultural	33.60

GROWTH PROJECTIONS

While no specific development projects are proposed as part of the General Plan, the General Plan will accommodate future growth in Yountville. This development is anticipated to occur: 1) within the change areas identified in Section 5.3, Change Areas, of the Land Use Chapter of the General Plan, and 2) on vacant and infill sites throughout the Town. Table 2.0-2 summarizes the proposed General Plan Land Use Map growth projections.

TABLE 2.0-2: GROWTH PROJECTIONS

TYPE OF DEVELOPMENT	*RESIDENTIAL UNITS*	*NON-RESIDENTIAL SF*
Single Family	155	--
Multifamily	76	--
Commercial[1]	--	81,582
Office	--	21,684
Agricultural	--	66,380
Total	**231 DU**	**169,646 SF**

[1] INCLUDES 3 HOTEL ROOMS ARE ASSOCIATED WITH AN APPROVED PROJECT; ADDITIONAL HOTEL ROOMS MAY BE DEVELOPED AS PART OF THE COMMERCIAL SQUARE FOOTAGE IDENTIFIED ABOVE

Future development and other projects accommodated by the General Plan may occur throughout the Town and SOI. Potential sites for development, including redevelopment of existing uses, are shown in Figure 2.0-6. As shown in Table 2.0-2, full buildout of the proposed General Plan Land Use Map within the General Plan area is estimated to result in up to:

- 231 dwelling units
- 169,646 square feet of non-residential uses, consisting of:
    - 77,454 commercial SF (which may include restaurants, shopping, services hotel uses)
    - 3 hotel rooms (Note: these 3 rooms are associated with an approved project; additional hotel rooms may be developed as part of the commercial square footage identified above)
    - 21,684 office SF
    - 66,380 agricultural SF

ENTITLEMENT REQUESTS AND OTHER APPROVALS

The Town of Yountville is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the CEQA, Section 15050. The Envision Yountville General Plan will be presented to the Planning Commission for review and recommendation and to the Town Council for comment, review, and consideration for adoption. The Town Council has the sole discretionary authority to approve and adopt the Envision Yountville General Plan. In order to approve the proposed project, the Town Council would consider the following actions:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Approval of the General Plan.

SUBSEQUENT USE OF THE EIR

This EIR provides a review of environmental effects associated with implementation of the proposed General Plan. When considering approval of subsequent activities under the proposed General Plan, the Town of Yountville 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 Development, or Master Development Plan approvals;
- Revision to the Yountville Zoning Ordinance;
- Water, sewer, and other infrastructure master plans;
- Development plan approvals, such as tentative subdivision maps, variances, conditional use permits, and other land use permits;
- Development Agreements;
- Property rezoning consistent with the General Plan;
- Permit issuances and other approvals necessary for public and private development projects;
- Issuance of permits and other approvals necessary for implementation of the General Plan;
- Sphere of Influence (SOI) updates prepared by the Local Agency Formation Commission (LAFCO); and
- Annexations processed by LAFCO.

OTHER GOVERNMENTAL AGENCY APPROVALS

Town 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;
- Local Agency Formation Commission of Napa County (LAFCO) approvals for annexation of any lands into the boundaries of the Town of Yountville;
- 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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Figure 2.0-1. Regional Location Map

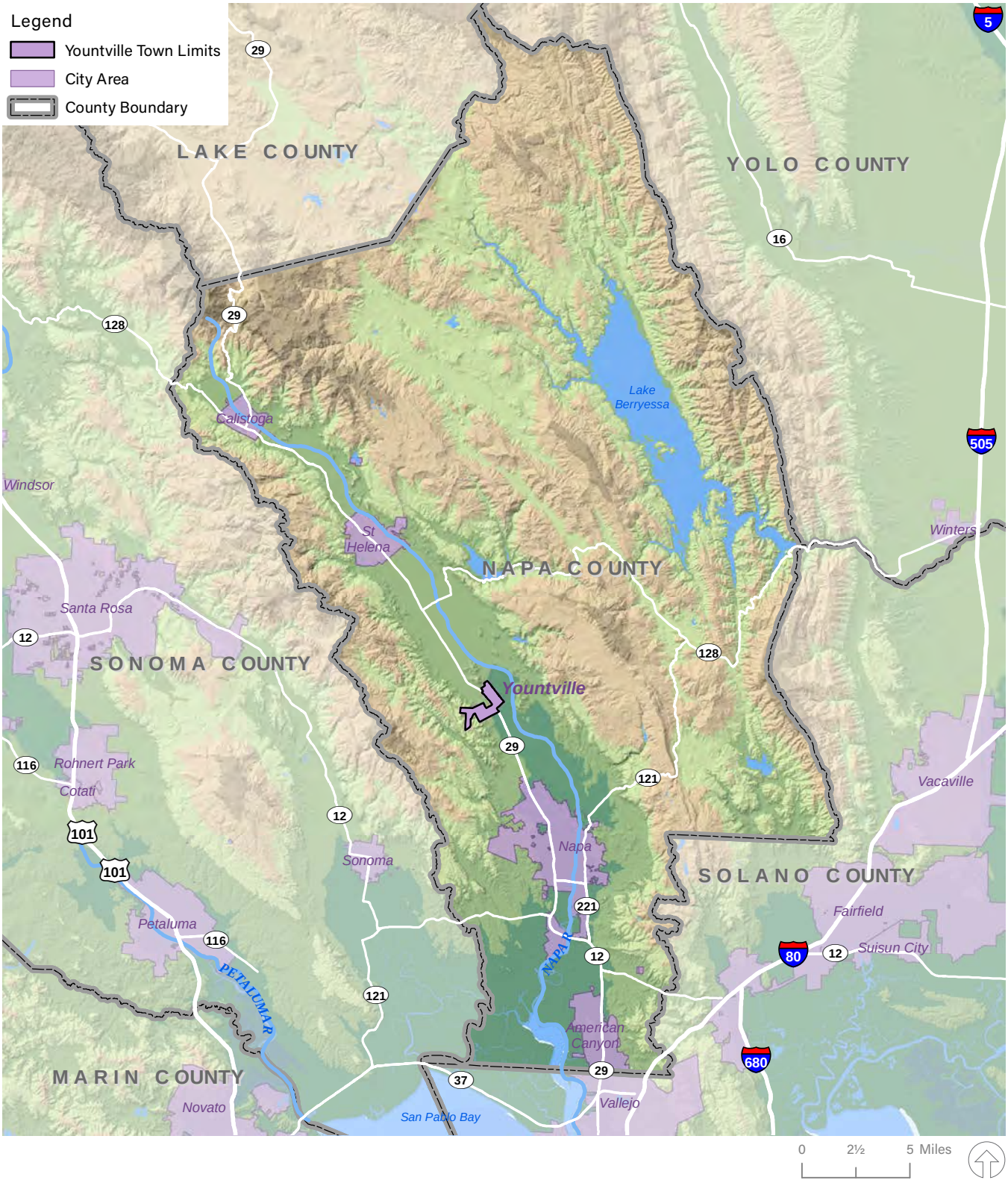

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Figure 2.0-2. Vicinity Map

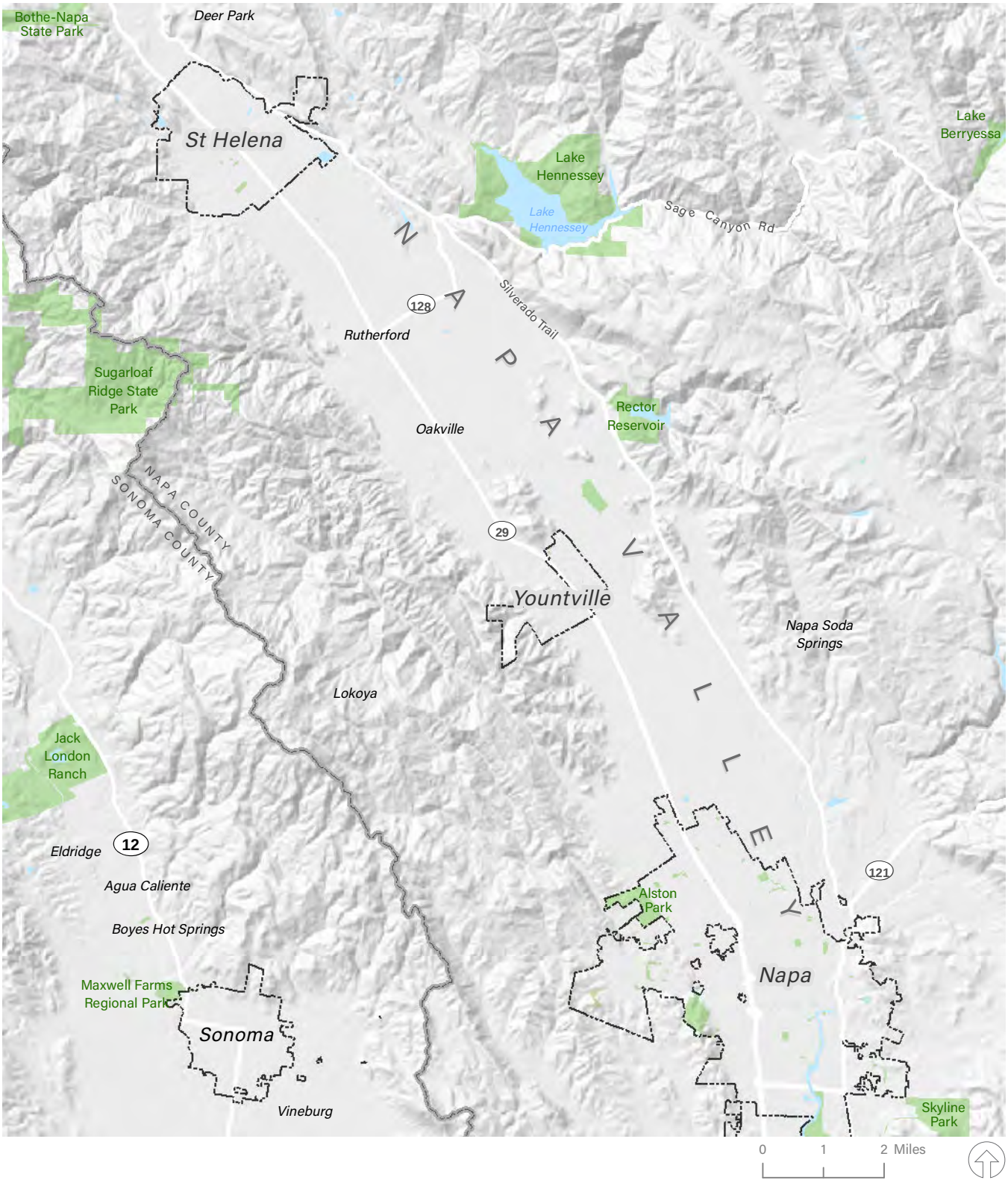

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Figure 2.0-3. Aerial View of General Plan Area

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Figure 2.0-4. USGS Topographic Map

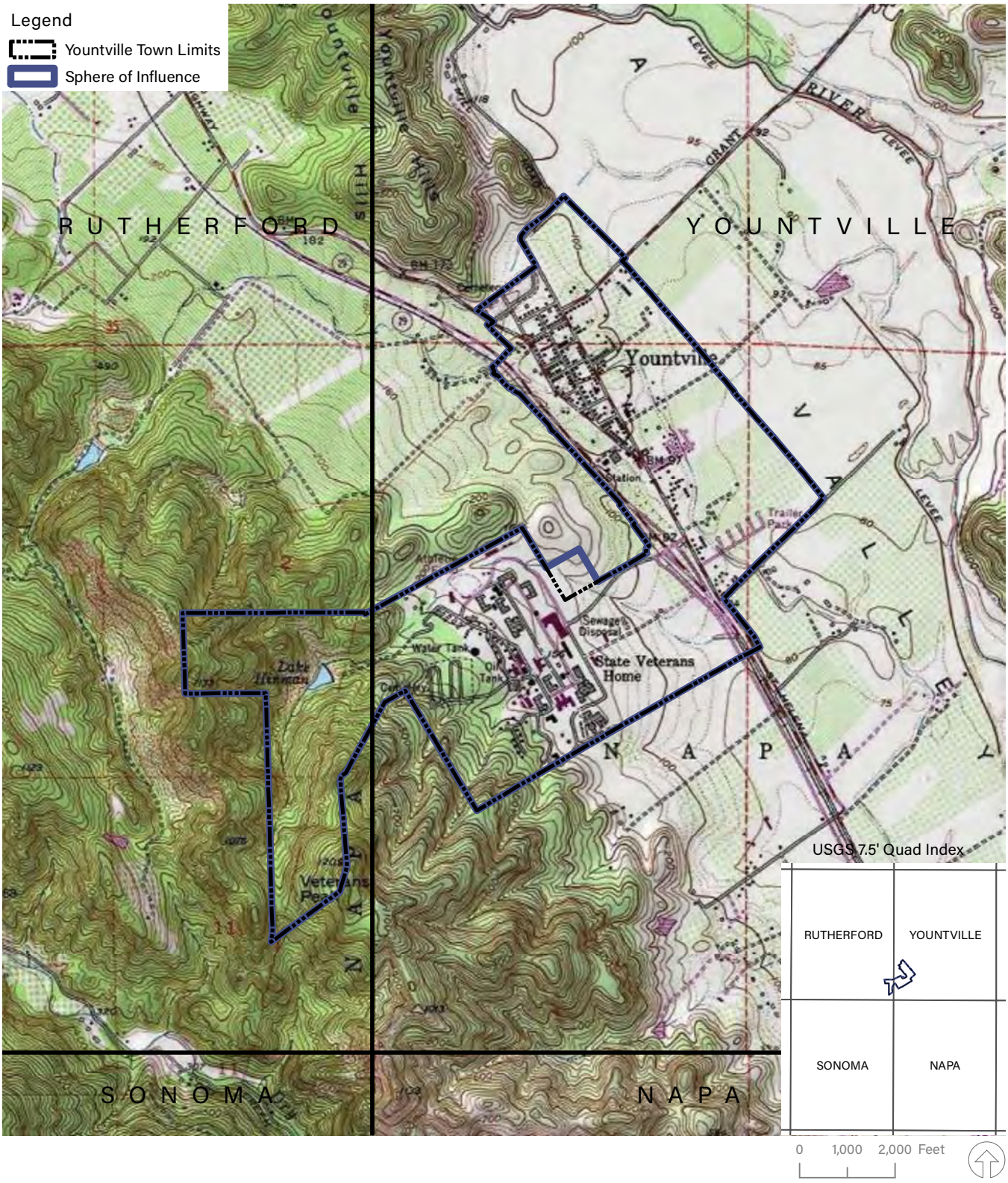

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Figure 2.0-5. Proposed Land Use Map

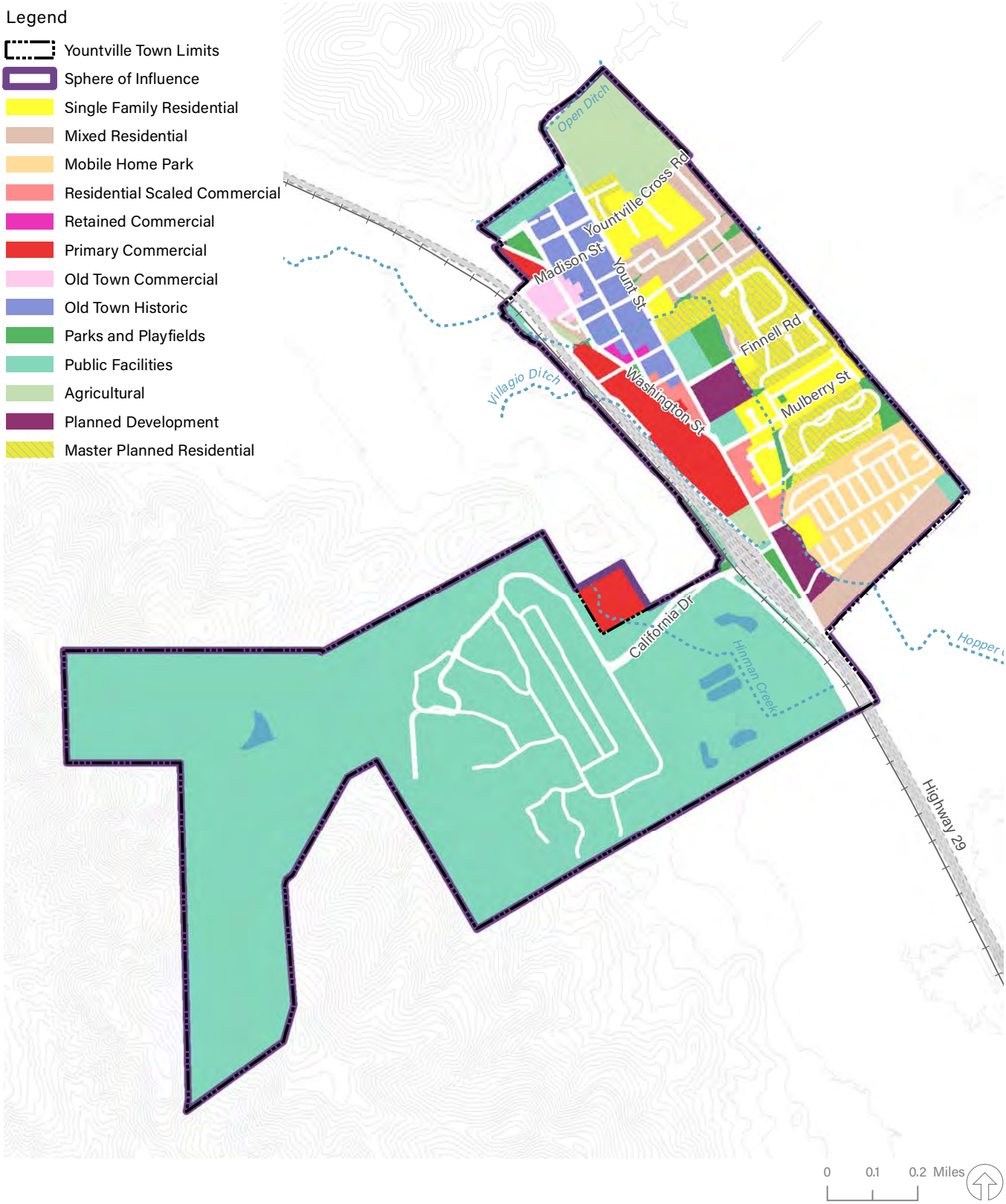

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Figure 2.0-6. Vacant, Infill, and Agricultural Sites

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This section provides a background discussion of the scenic highways and corridors, and natural scenic resources such as waterways, open space areas, and prominent visual features found in Yountville and the General Plan area. This section is organized with an existing setting, regulatory setting, and impact analysis.

This section was prepared based on several reconnaissance-level site visits to the General Plan area conducted between Summer 2017 and Summer 2018, a review of aerial and street-level photographs of the General Plan area, and a review of various existing reports, including the adopted General Plan. Additional sources of information included the California Department of Transportation's (Caltrans) Designated Scenic Route map for Napa County.

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

CONCEPTS AND TERMINOLOGY

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

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

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

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.

- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.

- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

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

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

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 on 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.

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

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

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

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Yountville is located in Napa Valley, which is a large, relatively narrow stretch of land extending along the State Route (SR) 29 corridor within the mountains of the California Coast Range. The valley extends from the southern border of the City of Napa to near the county's northwestern border with Sonoma County, and retains a rural, agricultural character. Orderly rows of vineyards are prevalent on the valley floor and appear as a patchwork within grasslands and oak woodlands on the surrounding hillsides. Vineyards and other agricultural uses occupy more than half of the land on the valley floor. Combined with the naturally-occurring vegetation, this gives the entire valley a natural, yet managed, appearance. The Napa River flows through Napa Valley and drains to San Pablo Bay, a northern arm of the San Francisco Bay that is located at the southern edge of the valley. Other smaller streams drain the mountainous areas and flow into the Napa River.

Urban development is concentrated in the cities of Napa, American Canyon, St. Helena, and Calistoga and the Town of Yountville. The edges of these communities are typically softened by rural residences, which exist all around the area, as well as open space and public uses within the communities, resulting in very few abrupt delineations between city/town borders and farmland. Structures associated with agriculture, including wineries and wine tasting rooms, are also scattered among the vineyards. As a consequence, the built landscape is an important component of the valley floor, yielding mainly to vineyards and other large agricultural lands, and woven into the visual fabric elsewhere. The natural environment – stands of mature valley oak, and streams and their riparian surroundings – serve as buffers between residences and agricultural uses in many locations, further softening edges in the area.

Many of the scenic views from the floor of the Napa Valley include distinctive buildings. Several of the homes, wineries, and other facilities prominently feature stone masonry and historical design styles that communicate to viewers a sense of history and preservation. Many of Napa's wineries

look timeless and classic, and some include grand mansions built in the late 1800s and early 1900s. Other wineries display high-style contemporary architecture, and many more incorporate vernacular buildings intentionally crafted to reinforce the character of Napa's rural, agricultural landscape. After dark, Napa County, with its thousands of acres of open space and concentrated urbanization, is a naturally low-light, dark-sky environment.

Approximately 280 miles of county-designated scenic roadways are located within Napa County, including SR 29. These highways traverse areas of natural scenic beauty and recreational interest, providing residents and visitors an enjoyable travel experience.

The Town of Yountville is to a variety of historic buildings and places, including the French Laundry, a Michelin 3-star restaurant, and boasts numerous other Michelin star rated restaurants.

SCENIC HIGHWAYS AND CORRIDORS

According to the California Scenic Highway Mapping System, administered by Caltrans, there are no officially designated State Scenic Highways within Napa County. There are, however, two Eligible State Scenic Highway Corridors within Napa County that have not been officially designated. SR 29, which passes through the Town of Yountville, is designated as an Eligible State Scenic Highway Corridor. Additionally, a portion of SR 121, which does not pass through or adjacent to the Town of Yountville, is also designated an Eligible State Scenic Highway. A portion of SR 29 provides views of portions of Yountville and the immediate surrounding areas.

Locally identified scenic routes within the Town of Yountville include SR 29. In addition, outside of the Yountville area, there are numerous views from roadways and pathways throughout Napa County, including from the nearby mountains, as well as rural vineyard views located in the flatland areas and the surrounding hillsides.

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.

SR 29, which bisects the General Plan area in a northwest-southeast direction, is a notable source of existing daytime glare and nighttime lighting. Glare results from vehicle windshields and paint, whereas nighttime lighting is generated by vehicle headlights.

Sources of glare in urbanized portions of the General Plan area come from light reflecting off surfaces, including glass, and certain siding and paving materials. The urbanized areas predominantly in east of SR 29 contain sidewalks and paved parking areas which reflect street and vehicle lights. The existing light environment found in the General Plan area is considered typical of suburban areas, while the other less developed and undeveloped areas would be more typical of rural areas.

3.1.2 REGULATORY SETTING

FEDERAL

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

STATE

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.

LOCAL

Yountville Municipal Code

Chapter 17.144, Design Review, establishes design review requirements for development projects with the intent to preserve and enhance the natural beauty of the area, to maintain and improve the relationships between individual development and the attractiveness of the Town and individual neighborhoods, and to prevent the dissipation of beauty, amenity, and usefulness through encouraging creative design and a balance between private preferences and the public interest.

Chapter 17.128, Outdoor Lighting, of the Municipal Code creates standards for outdoor lighting in order to:

A. Prevent nuisances created by light pollution, glare, and light trespass caused by inappropriate or misaligned light fixtures and over-lighting;
B. Improve nighttime public safety, utility, and security;
C. To promote lighting practices and systems that conserve energy;
D. To phase out existing nonconforming fixtures, including those owned by the Town and other public agencies; and
E. Preserve the dark night sky. (Ord. 334-03)

Title 18, Design Standards, of the Yountville Municipal Code has a direct influence on physical aspects of Yountville. These design standards outline detailed standards for specific components of development related to the Town structure and building types. These include regulations for street width, parking, driveways, walls, fences, landscape, refuse, utilities, FAR, building height, yards and setbacks or similar quantifiable components of design.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

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

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

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: General Plan implementation could result in substantial adverse effects on a scenic vista and substantial degradation of the visual character of the site and its surroundings (Significant and Unavoidable)

The Town's General Plan designates the views provided from the town cemetery along the Town's northern limits as a scenic vista. While not specifically established as scenic vistas, the Town's adopted General Plan also identifies view corridors, including north-south view corridors looking north along Washington, Jefferson, and Yount Streets and east-west corridors looking west from Oak Circle and Creek and Webber Streets and looking east along Finnell Road and Mulberry Street.

Buildout of the proposed General Plan would allow for new development to occur in areas that have historically been used for agricultural operations, areas that have been previously undeveloped, and developed areas that could intensify. The introduction of new development into previously undisturbed areas or areas may result in impacts to scenic vistas and view corridors as well as result in the degradation of the visual character of the General Plan area through new or expanded development. Additionally, new development may result in changes to the skyline throughout the General Plan area, which may obstruct or interfere with views of the surrounding hillsides.

Development under the proposed General Plan and the land use designations identified on the Land Use Map would allow for increased agricultural, commercial, and mixed residential uses along the boundary of the Town. The Yountville Hills, located west of the Town, provided for visually significant natural feature visible from the Town. Additionally, views of agricultural fields and vineyards generally surround the Town on all sides. New development within the General Plan area has the potential to interrupt views of the surrounding foothills, hillsides, and agricultural lands from numerous vantage points within Yountville.

However, the proposed General Plan has been developed to preserve expansive areas of open space through retaining agricultural and open space designations as shown on Figure 2.0-5 and to ensure that new development is designed to serve as an extension of the existing urban landscape and minimizes interruption of views of local hillsides, natural resources, riparian areas, open space, and agricultural lands.

The scenic vista from the Town cemetery would be preserved, as no development is anticipated on the cemetery site and any development on the agricultural parcel located east of the cemetery would be required to maintain view corridors, as discussed below.

The Land Use Map would retain the Town's compact urban form and character and does not propose to extend the Town limits or SOI beyond those existing limits. There are agricultural areas within the Town that could be developed, including one area north of Yountville Cross Road and west of Yount Street, and one area north of Land Street and east of Washington Street, as well as areas with development potential that provide existing public views that are considered scenic, including view of vineyards, open space, and hillsides.

Agricultural parcels with development potential are shown in Figure 2.0-6. The General Plan Land Use Map identifies the northern agricultural parcel (north of Yountville Cross Road) as Agricultural. The site forms an appropriate transition between the more urban town uses and the agricultural uses in the county. The Agricultural land use designation on this site would ensure that this area remains relatively undeveloped by limiting the amount of development that could occur, which would assist in preserving the scenic value of the lands surrounding the Town limits to the north.

The Land Use Map identifies the agricultural parcel located west of Washington Street and north of Webber Avenue as Primary Commercial. This parcel is currently a garden area, with several buildings, a greenhouse, and paved parking and maintenance/operations areas located on the site. From this site, there are views from Washington Street to the west, across this parcel, of agricultural land and the mountain range.

The Land Use Map identifies the agricultural land located east of Washington Street and north of Land Lane as Mixed Residential. This parcel is currently planted with vineyards.

Additionally, there are several areas that are vacant sites that could be developed as well as infill sites that could be redeveloped at increased intensities, which may result in new buildings or renovations to existing buildings; these areas include the vacant and infill areas shown in Figure 2.0-6. Development in these areas could involve new buildings and facilities, increased building heights (i.e., building heights above two stories), and revised building layouts. Development of vacant and infill areas has the potential to obstruct views of the hillside and open space areas west and east of the Town.

While future development has the potential to affect existing views and scenic resources, the General Plan includes policies and programs to ensure that existing view corridors are maintained and that future development is scaled and designed to respect natural surroundings and ensure that buildings do not obstruct view corridors. Future development would be required to be consistent with the General Plan. A central theme of the General Plan is to preserve and protect the Town's natural resources, view corridors, and agricultural heritage and character by concentrating new growth in and around existing urbanized areas, and protecting the existing visual character of the General Plan area. This is expressed in Policy OS-3.1, which requires the scenic beauty of Yountville to be maintained and view corridors to be protected. This policy is supported by Program OS-3.1a, which requires all new development to maintain existing view corridors, including important north, east, and west view corridors, Program 3.1b, which requires view corridors to be established for streets within new development, and Program 3.1c, which which protects view corridors through regulating signs, buildings, and other facilities and structures.

In addition to the policies and programs identified above that provide protection for open space resources and visually prominent resources in the General Plan area, a range of policies and programs contained in the Land Use Element are intended to maintain and enhance the overall visual character of the General Plan area, and to avoid the installation of structures or features that conflict with the character of the surrounding area. Policy LU-2.1 requires that new development, remodels, and additions be scaled and designed to integrate with the neighborhood, Town, and natural surroundings. Policy LU-2.4 requires the use of massing techniques that mitigate heavy or

bulky forms (such as modulating building mass, partial upper stories, setbacks for upper story volume, variety of roof forms), ensure that building placement that does not obstruct view corridors, and ensure that the building design that is compatible with adjacent structures to ensure that new buildings do not overwhelm their sites or their neighborhoods. Policy LU-2.9 requires new development to maintain significant natural, historic, and cultural characteristics of the site. Policy LU-4.1 further support and promote a quality built environment through the use of design standards and design review. Policy LU-5.1 requires that residential development be scaled and designed to be compatible with neighboring properties. Policy 6.1 ensures that development along Washington Street ensures that the business area continued to be characterized by its view corridors and low intensity development. Policy LU-6.9 requires new development to include a landscape buffer between the building and street to soften the building edge and provide natural beauty.

While future development would result in changes to the existing visual character, the implementation of the General Plan policies and programs described herein would ensure that new urban residential and non-residential development in the General Plan area ensures that view corridors are maintained, is developed to be visually compatible with nearby natural and open space resources, and is visually compatible with existing development, which would limit impacts to scenic resources and limit visual degradation by preserving views as well as areas of open space, agricultural lands, and undisturbed land within the Town. 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 programs listed below would further ensure that new development is designed in a way that enhances the visual quality of the community, compliments the visual character of the Town, and that adverse effects on public views are minimized. Therefore, the impact would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-2.1 Compatibility of Development. Require that new development, remodels, and additions be of a scale, intensity, and design that integrates with the immediate neighborhood, the town as a whole, and the natural surroundings.

Policy LU-2.3 Setbacks. Provide building setbacks along streets, pedestrian and bike paths, and easements for proposed new development and additions.

Policy LU-2.4 Building Massing. Require use of massing techniques that mitigate heavy or bulky forms (such as modulating building mass, partial upper stories, setbacks for upper story volume, variety of roof forms), building placement that does not obstruct view corridors, and building design that is compatible with adjacent structures to ensure that new buildings do not overwhelm their sites or their neighborhoods.

Policy LU-2.5 Maximum Building Height. Permit three-story buildings only to the west of Washington Street between California Drive and Humboldt Street on the condition that the project and its uses will provide a community benefit such as affordable housing, non–food or non–wine retail, stand-alone office, or services. Permit two-story buildings for the remainder of town. All buildings shall adhere to the requirements for massing in Policy LU-2.4.

Policy LU-2.9 Preservation of Site Characteristics. Require new developments to maintain significant natural, historic, and cultural characteristics of their respective sites.

Policy LU-2.10 Natural Grade. Prohibit raising the natural grade in excess of that necessary for adequate drainage.

Policy LU-4.1 Design Standards. Maintain and periodically update architectural design standards and require design review for all new and modified commercial and residential buildings. Designs should strive to protect local character.

Policy LU-5.1 Scale of Development. Require new residential development, remodels, and additions to avoid a design approach that exaggerates height, bulk, or mass or results in design that is not compatible with neighboring properties.

Policy LU-5.5 Multifamily Massing. Support multifamily development that is integrated and visually compatible with single-family houses.

Policy LU-6.1 Washington Street. Maintain policies, land use designations, and design standards that create a viable, vibrant and attractive central Washington Street business area that is characterized by walkability, view corridors, low intensity development, and an active streetscape.

> *Program LU-7.5a Design Standards Ordinance Amendment. Amend the Design Standards Ordinance to allow an FAR bonus for retail and service uses on the west side of Washington Street between California Drive and Humboldt Street as shown in the area in Figure LU-1.*

Policy LU-6.9 Integrate Natural Beauty. Ensure that all new development, remodels, and additions include an appropriate landscape buffer between building and street. The goal is to soften the building edge and avoid an overemphasis on hardscape.

Policy OS-3.1 Scenic Views. Maintain the scenic beauty of Yountville and protect view corridors from the Town towards the surrounding vineyards and mountains.

> *Program OS-3.1a Existing View Corridors. Require all new development to maintain existing view corridors shown in Figure OS-2 View Corridors. These include:*
>
> - *North view corridors, including Washington, Jefferson, and Yount Streets and Stags View Lane; and*
> - *East view corridors, including Lande Way, Mount Avenue extension, Forrester Lane, Finnell Road, Heritage Way, Mulberry Street, and Oak Circle; and*
> - *West view corridors, including Creek Street extension, Webber Street, driveway south of V Marketplace, Mulberry Street extension, and Oak Circle extension.*
>
> *Program OS-3.1b New View Corridors. Require all new development that includes new streets to establish appropriate view corridors and consider establishing other view corridors as needed.*
>
> *Program OS-3.1c Development within View Corridors. Protect view corridors from regulating signs, buildings, utilities, accessory facilities, or similar structures as established in the Design Standards Ordinance.*

Policy HO-1.3 Multifamily Design. Encourage the design of multifamily units to integrate with the Town's character.

Impact 3.1-2: General Plan implementation could result in substantial damage to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway (Less than Significant)

According to the California Scenic Highway Mapping System, administered by Caltrans, there are no officially designated State Scenic Highways within Napa County. The process for local jurisdictions to nominate an eligible scenic highway for official designation is summarized in the Regulatory Setting section of this chapter. Because there are no official state scenic highways in Yountville or Napa County, implementation of the General Plan would have a **less-than-significant** impact related to this topic.

Impact 3.1-3: 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 General Plan would introduce new sources of daytime glare into previously undeveloped areas of the General Plan area. Daytime glare impacts would be most severe in areas that have been previously undisturbed, and in areas that receive a high level of daily viewership, such as the SR 29 corridor that bisects the General Plan area.

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

The General Plan includes Policy LU-2.1, which requires new development to be compatible with the immediate neighborhood as well as the natural surroundings, and Policy LU-4.3, which requires the review of all development proposals, planning projects, and infrastructure projects to minimize off-site and night sky impacts of outdoor lighting. The Town's Outdoor Lighting Ordinance applies to new and existing outdoor lighting within the Town and currently requires that all outdoor lighting fixtures be designed, located, installed, and directed in order to prevent glare, light trespass, and light pollution. Future development within the General Plan area would be subject to the General Plan and Municipal Code requirements.

Implementation of the General Plan, as well as the existing Municipal Code requirements, would ensure that lighting associated with future development projects is compatible with existing uses and the natural beauty of the area and that project lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the

design requirements, and the subsequent design review of future projects within the General Plan area, would ensure that excessively reflective building materials are not used, and that future projects would not result in significant impacts related to daytime glare. As such, through implementation of the General Plan and existing Town requirements, the Town can ensure that adverse impacts associated with daytime glare and nighttime lighting are reduced to a **less than significant** level.

GENERAL PLAN POLICIES AND PROGRAM THAT MITIGATE POTENTIAL IMPACTS

Policy LU-2.1 Compatibility of Development. Require that new development, remodels, and additions be of a scale, intensity, and design that integrates with the immediate neighborhood, the town as a whole, and the natural surroundings.

Policy LU-4.3 Outdoor Lighting. Review all development proposals, planning projects, and infrastructure projects to minimize off-site and night sky impacts of outdoor lighting. The review should include the construction and operation of the project.

> *Program LU-4.3a Lighting Design Guidelines. Consider amending the Outdoor Lighting Ordinance to update standards for exterior lighting that support Dark Sky principles, addressing such issues as security, appearance, intensity, and light spillage.*

This section provides a background discussion of agricultural lands and agricultural resources found in the General Plan area. This section is organized with an existing setting, regulatory setting, and impact analysis.

There are no forest resources or zoning for forest lands located on the General Plan area. There are no lands within or adjacent to the Town or the General Plan area that are Forest Land as defined by Public Resources Code Section 12220(g), or Timber Land as defined by Public Resources Code Section 4526. There are also no parcels 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.

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

3.2.1 ENVIRONMENTAL SETTING

REGIONAL AGRICULTURAL RESOURCES

Agricultural areas are widespread throughout Napa County, with approximately 51,000 acres of active agricultural land consisting primarily of vineyards, with smaller areas of crops and orchards. Napa County's land provides for a variety of agricultural uses, including row crops, field crops, orchards, and vineyards, as well as grazing land for cattle. Countywide agricultural acreage production identified in the Napa County 2016 Crop Report are summarized in Table 3.2-1.

TABLE 3.2-1: NAPA COUNTY PRIMARY CROP TYPES (2016)

CROP TYPE	*PRODUCING ACRES / PRODUCTION AREA*
Fruit and Nut Crops - Red Winegrapes	33,464 acres
Fruit and Nut Crops - White Winegrapes	9,985 acres
Fruit and Nut Crops - Olives	142 acres
Floral & Nursery Crops	538,700 sf
Vegetable crops	26
Field Crops – Hay	425
Field Crops - Pasture & Rangeland	95,000

Source: 2016 Crop Report, Napa County Agricultural Commissioner, April 18, 2017

Napa County occupies an important position in California's vast agricultural output, producing wine and other high-value crops that are enjoyed throughout the world.

Yountville and the surrounding area contain agricultural land, which is primarily located within unincorporated Napa County surrounding the town from all sides (see Figure 3.2-1). These areas primarily contain vineyards. In addition to the farmlands shown on Figure 3.2-1, one small agricultural area exists within the Town limits: the Villagio Vineyard located southwest of the intersection of Washington Street and Oak Circle.

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 Napa County Important Farmland Map classifies farmlands as described below.

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.

Prime Farmland is the designation on two agricultural properties within the Town limits: one parcel in the northeast corner located north of Yountville Cross Road and to the east and south of Yount Mill Road and another parcel in the southeast area located north of Land Lane and south of Champagne Drive. Prime Farmland surrounds the Town from the southeast, east, and north. Approximately 2 acres of Prime Farmland mapped within the Town limits in the southeastern portion of Town are occupied by a public facility and are no longer Prime Farmland.

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.

A small amount of Farmland of Statewide Importance is located east of SR 29, adjacent to the Town limits.

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.

Areas of Unique Farmland are located adjacent to the Town to the north, east, and southeast. 6

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. In Napa County, these farmlands include areas of soils that meet all the characteristics of Prime Farmland or of additional Farmland of Statewide Importance with the exception of irrigation, including dryland grains, haylands, and dryland pasture. No Farmland of Local Importance is within the Town or adjacent to the Town.

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.

Grazing Land is located in the southeast area, both within and outside of the Town boundaries.

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.

The Town and SOI are primarily made up of Urban and Built-Up Land, except for the eastern portion of the Veterans Home site.

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 and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Other Land is located in portions of the northern and northwestern area.

GENERAL PLAN AREA AGRICULTURAL RESOURCES

Table 3.2-2 summarizes the farmland and other classifications by the FMMP for the General Plan area. Figure 3.2-1 identifies Important Farmlands and other lands in the General Plan area based on FMMP classifications. As shown in Table 3.2-2, there are 51.2 acres of Prime Farmland, 0.1 acres of Farmland of Statewide Importance, and 1.2 acres of Unique Farmland in the Town's Sphere of Influence (SOI). The remaining lands are classified as Urban and Built-Up Land (618.0 acres), Other Land (251.0 acres) and Grazing Land (40.0 acres).

TABLE 3.2-2: FMMP FARMLAND CLASSIFICATION AND LAND USE CATEGORIES

FARMLAND CLASSIFICATION CATEGORIES	*(ACRES)*
Important Farmland	
Prime Farmland	51.2
Farmland of Statewide Importance	0.1
Unique Farmland	1.2
Important Farmland Total	52.5
Other Categories	
Grazing Land	40.0
Urban and Built-Up Land	618.0
Other Land	251.0

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, 2018

Farmland Preservation

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. The Williamson Act is described in greater detail under the Regulatory Setting section of this chapter.

Figure 3.2-1 depicts the distribution of Williamson Act Contract lands in the Town and the General Plan area. As shown in the figure, no lands within the Town's SOI or Town Limits have Williamson Act Contracts.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Natural Resources Conservation Service (NRCS), an agency within the U.S. Department of Agriculture, is responsible for implementation of the Farmland Protection Policy Act (FPPA). The purpose of the FPPA is to minimize Federal programs' contribution to the conversion of farmland to non-agricultural uses by ensuring that Federal programs are administered in a manner that is compatible to state, local, and private programs designed to protect farmland. The NRCS provides technical assistance to Federal agencies, state and local governments, tribes, or nonprofit organizations that desire to develop farmland protection programs and policies. The NRCS summarizes FPPA implementation in an annual report to Congress.

Farm and Ranch Lands Protection Program

The NRCS administers the Farm and Ranch Lands Protection Program (FRPP), a voluntary program aimed at keeping productive farmland in agricultural uses. Under the FRPP, the NRCS provides matching funds to state, local, or tribal government entities and nonprofit organizations with existing farmland protection programs to purchase conservation easements. According to the 1996 Farm Bill, the goal of the program is to protect between 170,000 and 340,000 acres of farmland per year. Participating landowners agree not to convert the land to non-agricultural use

and retain all rights to use the property for agriculture. A conservation plan must be developed for all lands enrolled based upon the standards contained in the NRCS Field Office Technical Guide. A minimum of 30 years is required for conservation easements and priority is given to applications with perpetual easements. The NRCS provides up to 50 percent of the fair market value of the easement being conserved (NRCS, 2004). To qualify for a conservation easement, farm or ranch land must meet several criteria. The land must be:

- Prime, Unique, or other productive soil, as defined by NRCS based on factors such as water moisture regimes, available water capacity, developed irrigation water supply, soil temperature range, acid-alkali balance, water table, soil sodium content, potential for flooding, erodibility, permeability rate, rock fragment content, and soil rooting depth;
- Included in a pending offer to be managed by a nonprofit organization, state, tribal, or local farmland protection program;
- Privately owned;
- Placed under a conservation plan;
- Large enough to sustain agricultural production;
- Accessible to markets for the crop that the land produces; and
- Surrounded by parcels of land that can support long-term agricultural production.

STATE

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 Town 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 or Town 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 open space can be converted to urban uses.

Williamson Act subvention payments to local governments 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.

Farmland Security Zones

A Farmland Security Zone is an area created within an agricultural preserve by a board of supervisors (board) or Town council (council) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a Town or county will enter into contracts with landowners. The boundary is designated by resolution of the board or council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size. Farmland Security Zone contracts offer landowners greater property tax reduction. Land restricted by a Farmland Security Zone contract is valued for property assessment purposes at 65% of its Williamson Act valuation or 65% of its Proposition 13 valuation, whichever is lower.

California Government Code Section 560643

This section of the Government Codes defines "Prime agricultural land" as follows:

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
    - Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
    - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.
    - Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

LOCAL

Measures J and P

Measure J, the Agricultural Lands Preservation Initiative, enacted by a vote of the people on November 6, 1990, is intended to preserve the County's agricultural lands, which have a General Plan land use designation of Agricultural Resource (AR) or Agricultural, Watershed & Open Space (AWOS). Pursuant to the initiative and to resulting General Plan policies, any change to these land use map designations requires a vote of the people known as a Measure J vote. Measure J does not apply to land within the Town boundaries or to Town Council decisions, except as identified in the Town's General Plan. Measure P, approved by voters in 2008, extends the provisions of Measure J through the year 2058.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

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

- 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;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: General Plan implementation would result in the conversion of Important Farmlands, including Prime Farmland, to non-agricultural use (Significant and Unavoidable)

As shown previously in Table 3.2-1 and on Figure 3.2-1, there are approximately 52.5 acres of Important Farmlands located within the General Plan area, including 51.2 acres of Prime Farmland, 0.1 acres of Farmland of Statewide Importance, and 1.2 acres of Unique Farmland. The Important Farmlands are primarily located within two areas of the Town: one area north of Yountville Cross Road and west of Yount Street, and one area north of Land Street and east of Washington Street. Both of these areas are currently used for agricultural uses, with the southern area as having potential for non-agricultural development under the proposed General Plan.

A small amount of Important Farmlands, approximately 0.1 acre of Farmland of Statewide Importance, 1.2 acres of Unique Farmland, and approximately 2 acres of Prime Farmland, shown on Figure 3.2-1 are located along the Town's borders and appear to be small portions of larger parcels located outside of the Town boundary and are not affected by the proposed General Plan.

As shown on the proposed General Plan Land Use Map (Figure 2.0-5 in Chapter 2.0, Project Description), all of the land within the Town limits, with the exception of lands designated Agricultural which include the vineyards located in the northeast area of Town and the Villagio Vineyard located southwest of the intersection of Washington Street and Oak Circle, is planned for urban development in one form or another. The General Plan does not propose to expand the Town boundaries to include any Important Farmlands identified outside of the Town. The two areas within the Town limits that contain Important Farmlands are designated for Agricultural uses and Mixed Residential uses. As shown in Table 2.0-2 in Chapter 2.0, the northern 30-acre Agricultural parcel could support future development of up to 66,380 square feet of non-residential uses. While this area is expected to remain in agricultural use, the Agricultural land use designation would allow for commercial facilities for processing or retail sales of agricultural products that are grown on-site to be developed on a portion of the parcel.

Additionally, the southern 17-acre Mixed Residential parcel could be developed with a range of residential uses. Overall, it is assumed that the agricultural viability of the Important Farmland in the southern area of the Town and a portion of the Important Farmland in the northern area of Town could be converted to non-agricultural uses upon full buildout of the proposed General Plan.

The General Plan includes a wide range of policies and programs aimed at protecting and preserving agricultural lands, as identified below. For example, Policy LU-9.1 encourages the protection and preservation of agricultural uses on lands adjacent to the Town. Policy LU-9.2 discourages annexation of prime farmland (prime agricultural land) and land planted with existing vineyards. The lands within the Town limits and SOI that are identified for future urban land uses are generally located immediately adjacent to the city limits. As shown on the Land Use Map, the General Plan avoids potential "leap-frog" development by promoting a compact land use plan that prioritizes development within and adjacent to existing urbanized areas.

While the General Plan has taken a proactive approach towards focusing new growth and development towards infill locations and protecting open space areas and agricultural lands through not proposing agricultural lands outside of the Town limits and SOI for growth, implementation of the Yountville General Plan may lead to the urbanization of approximately 20 acres of Important Farmlands within the Town limits. The policies and programs listed below would mitigate this impact to the greatest extent feasible, however, the conversion of the Important Farmland would be permanent and are not anticipated to be replaced. Therefore, this is considered a **significant and unavoidable** impact. Alternatives to the proposed General Plan that would reduce the amount of Important Farmland that could be converted to non-agricultural use are discussed in Chapter 5.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-9.1 Agricultural Uses. Foster the protection and preservation of agricultural uses on lands adjacent to the Town.

Policy LU-9.2 Annexation of Prime Farmland. Discourage annexation of prime farmland (prime agricultural land) and land planted with existing vineyards. Strongly support the protection of agriculture in the unincorporated areas surrounding the Town.

Policy LU-9.3 Annexation of Domaine Chandon. Consider the annexation of the commercial component of the Domaine Chandon property served by the Town's wastewater system.

Policy LU-9.4 Agricultural Land. Retain the designation of agricultural land within the Town limits except where it can be found that the project will:

a. *generate substantial overriding public benefits,*
b. *be in compliance with all of the other goals and policies of the General Plan, especially those related to view corridors and open space,*
c. *benefit the public health, safety, and welfare of the community, and*
d. *satisfy the Town's obligations to provide housing and infill development opportunities.*

Policy OS-4.1 Agricultural Lands in Unincorporated Areas. Support the preservation of agricultural land uses in the unincorporated areas of Napa County as outlined in Measure "P."

> *Program OS-4.1a Agricultural Land Boundary. Maintain the existing relationship and boundary between the Town and Napa County for prime farmland (prime agricultural land) and land planted with existing vineyards with the exception of the commercial component of the Domaine Chandon property since it neither contains prime farmland nor is planted as vineyard.*
>
> *Program OS-4.1b Annexation of Agricultural Land. Do not annex established agricultural lands or revise the sphere of influence boundary as a precursor to annexation of agricultural land.*

Impact 3.2-2: General Plan implementation would not result in significant conflicts with existing agricultural zoning or Williamson Act contracts or involve other changes which could result in the conversion of Farmland to non-agricultural use (Less than Significant)

Figure 3.2-1 depicts the distribution of farmland and Williamson Act contract lands in the Town and the surrounding area. As shown in the figure, no lands within the Town's SOI or Town Limits have Williamson Act contracts. Lands zoned for agricultural use in the Town are located in the northern area of Town north of Yountville Cross Road and in the central area of Town southwest of the intersection of Washington Street and Oak Circle. Land zoned for agricultural use and/or that have active Williamson Act contracts are also located outside Town limits to the north, east, and southeast. The County's zoning designations for areas surrounding the Town of Yountville include Agricultural Preserve and Agricultural Watershed. As noted above, adoption of the proposed General Plan would not directly result in the construction of any development projects or directly lead to a change of use on any parcel within Napa County. Parcels within the city limits and the SOI that are currently used for agricultural purposes may continue to be used for agricultural purposes following adoption of the General Plan, even if the General Plan Land Use Map assigns an urban land use designation to the parcel.

Adoption of the proposed General Plan would not directly result in the construction of any development projects or directly lead to a change of use on any parcel within the General Plan area. Parcels within the city limits and the SOI that are currently used for agricultural purposes may continue to be used for agricultural purposes following adoption of the General Plan, even if

the General Plan Land Use Map assigns an urban land use designation to the parcel. As noted previously, there are two areas within the Town limits that could be developed and are allocated adjacent to land zoned for agricultural use by the County: one area north of Yountville Cross Road and west of Yount Street, and one area north of Land Street and east of Washington Street. Both of these areas are currently used for agricultural uses and could accommodate development as described under Impact 3.2-1.

Lands surrounding the Town that are under Williamson Act contracts are outside the jurisdictional control of the Town of Yountville and are generally adjacent existing roadways (SR 29) or existing development in the Town and would not be anticipated to be significantly affected by future development of lands within the Town. However, if a future development proposal for these two areas within the Town limits is submitted to the Town, potential conflicts between the proposed development and agricultural land, including existing agricultural uses, land zoned for agricultural uses and/or under Williamson Act contract, may arise. For example, existing residential uses or other nearby sensitive receptors may consider the inconveniences or discomfort arising from adjacent agricultural operations to be a nuisance.

The Yountville 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 General Plan area to the greatest extent feasible. The proposed General Plan does not promote off-site development of existing agricultural land outside of the Town's SOI. As shown on the Land Use Map, the General Plan avoids potential "leap-frog" development by promoting a compact land use plan that prioritizes development within and adjacent to existing urbanized areas. Further, as previously described, the General Plan includes policies and programs that support the continued farming of agricultural lands and are aimed at protecting and preserving agricultural lands. For example, Policy LU-9.1 encourages the protection and preservation of agricultural uses on lands adjacent to the Town. Program LU-9.1a requires development projects adjacent to agricultural lands to be designed to reduce impacts to agricultural lands and to provide notices to future property owners and tenants of potential nuisances associated with nearby agricultural uses. Policies LU-9.2 and OS 4.1 support the preservation of agricultural lands, through discouraging annexation of agricultural land including land planted with existing vineyards. The lands within the Town limits and SOI that are identified for future urban land uses are generally located immediately adjacent to the city limits. Therefore, the proposed project would have a **less than significant impact** related to this environmental topic.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-9.1 Agricultural Uses. Foster the protection and preservation of agricultural uses on lands adjacent to the Town.

> *Program LU-9.1a: Development Adjacent to Agricultural Uses. Require development projects that are located adjacent to lands zoned for agricultural use or under an active Williamson Act contract to: 1) be designed to cluster development to minimize agricultural impacts, including providing open space, roadways, or other buffers between the development and adjacent agricultural uses, and 2) require disclosure to any purchasers of*

the property or tenants of potential nuisances associated with nearby agricultural uses. Future property owners shall be required to sign a statement acknowledging that they are aware of adjacent agricultural operations, agricultural lands, and potential nuisances associated with such operations.

Policy LU-9.2 Annexation of Prime Farmland. Discourage annexation of prime farmland (prime agricultural land) and land planted with existing vineyards. Strongly support the protection of agriculture in the unincorporated areas surrounding the Town.

Policy OS-4.1 Agricultural Lands in Unincorporated Areas. Support the preservation of agricultural land uses in the unincorporated areas of Napa County as outlined in Measure "P."

Program OS-4.1a Agricultural Land Boundary. Maintain the existing relationship and boundary between the Town and Napa County for prime farmland (prime agricultural land) and land planted with existing vineyards with the exception of the commercial component of the Domaine Chandon property since it neither contains prime farmland nor is planted as vineyard.

Program OS-4.1b Annexation of Agricultural Land. Do not annex established agricultural lands or revise the sphere of influence boundary as a precursor to annexation of agricultural land.

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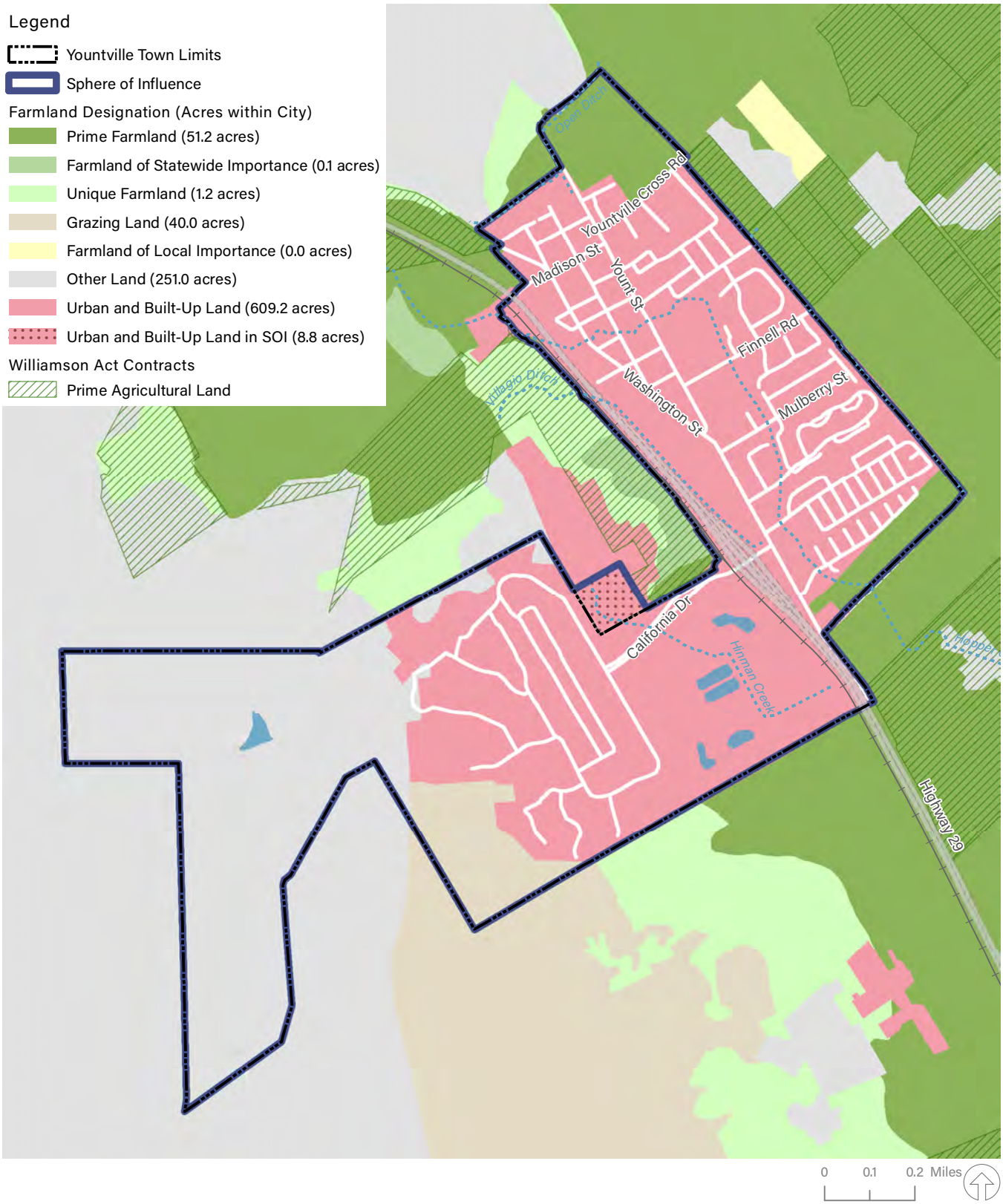
Figure 3.2-1. Farmland Classifications



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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 implementation of the General Plan. The analysis contained in this section is intended to cover impacts associated with the future development of the General Plan area, as described in Chapter 2.0, Project Description. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. This section is based in part on the following technical studies and documents: *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2005), *California Environmental Quality Act Air Quality Guidelines* (BAAQMD, 2017), and Plan Bay Area (MTC, 2017).

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

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

3.3.1 ENVIRONMENTAL SETTING

SAN FRANCISCO BAY AREA AIR BASIN

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

Climate, Topography, and Air Pollution Potential

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns.

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

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

HIGH PRESSURE CELL

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

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

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

TOPOGRAPHY

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

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

WIND PATTERNS

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

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

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

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

TEMPERATURE

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35ºF cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10º.

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

PRECIPITATION

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

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

AIR POLLUTION POTENTIAL

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological

factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

Wind Circulation

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

Inversions

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

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

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

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

Solar Radiation

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

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

Sheltered Terrain

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

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

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends upon the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use, and/or industrialization. These contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals.

Napa Valley Climatological Subregion

There are 11 climatological subregions within the SFBAAB. Yountville is located within the Napa Valley subregion. The Napa Valley is bordered by relatively high mountains. With an average ridge line height of about 2000 feet, with some peaks approaching 3000 to 4000 feet, these mountains

are effective barriers to the prevailing northwesterly winds. The Napa Valley is widest at its southern end and narrows in the north.

During the day, the prevailing winds flow upvalley from the south about half of the time. A strong upvalley wind frequently develops during warm summer afternoons, drawing air in from the San Pablo Bay. Daytime winds sometimes flow downvalley from the north. During the evening, especially in the winter, downvalley drainage often occurs. Wind speeds are generally low, with almost 50 percent of the winds less than 4 mph. Only 5 percent of the winds are between 16 and 18 mph, representing strong summertime upvalley winds and winter storms.

Summer average maximum temperatures are in the low 80's at the southern end of the valley and in the low 90's at the northern end. Winter average maximum temperatures are in the high-50's and low-60's, and minimum temperatures are in the high to mid-30's with the slightly cooler temperatures in the northern end.

The air pollution potential in the Napa Valley could be high if there were sufficient sources of air contaminants nearby. Summer and fall prevailing winds can transport ozone precursors northward from the Carquinez Strait Region to the Napa Valley, effectively trapping and concentrating the pollutants when stable conditions are present. The local upslope and downslope flows created by the surrounding mountains may also recirculate pollutants already present, contributing to buildup of air pollution. High ozone concentrations are a potential problem to sensitive crops such as wine grapes, as well as to human health. The high frequency of light winds and stable conditions during the late fall and winter contribute to the buildup of particulate matter from motor vehicles, agriculture, and wood burning in fireplaces and stoves.

CRITERIA POLLUTANTS

The United States Environmental Protection Agency (U.S. 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 ozone in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of ozone at ground level are a major health and environmental concern. Ozone is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak ozone levels occur typically during the warmer times of the year. Both VOCs and NOx are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of ozone causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of ozone not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to ozone for several hours at relatively low concentrations

has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

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 plays a major role, together with VOCs, in the atmospheric reactions that produce ozone. NOx forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

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. 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 is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than

larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

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

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

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.

AMBIENT AIR QUALITY STANDARDS

Both the U.S. 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 California state ambient air quality standards are summarized in Table 3.3-1 for important pollutants.

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

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

NOTES: PPM = PARTS PER MILLION, µG/M^3 = MICROGRAMS PER CUBIC METER
SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2017A.

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

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

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

Napa County has a state designation of Nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is designated either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either

Attainment or Unclassified/Attainment for the remaining national standards. Table 3.3-2 presents the state and national attainment statuses for Napa County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS

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

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2017B.

Monitoring Data

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

The closest air quality monitoring site to Yountville is located in at Jefferson Avenue in the City of Napa, approximately 6 miles to the southeast. Data obtained from the monitoring sites between 2015 and 2017 is shown in Table 3.3-3.

TABLE 3.3-3: AMBIENT AIR QUALITY MONITORING DATA (NAPA-JEFFERSON AVENUE)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O_3) (1-hour)	0.09 ppm for 1 hour	NA	2017 2016 2015	1 / 0 0 / 0 0 / 0
Ozone (O_3) (8-hour)	0.07 ppm for 8 hour	0.07 ppm for 8 hour	2017 2016 2015	2/2 0/0 0/0
Particulate Matter (PM_{10})	50 ug/m^3 for 24 hours	150 ug/m^3 for 24 hours	2017 2016 2015	ND / ND ND / ND 0.0 / 0.0
Fine Particulate Matter ($PM_{2.5}$)	No 24 hour State Standard	35 ug for 24 hours	2017 2016 2015	NA / 13.3 NA / 0.0 NA / 1.0

NOTES:

PPM = PARTS PER MILLION.

UG/M³ = MICRONS PER CUBIC METER.

NA= NOT APPLICABLE

ND= NO/INSUFFICIENT DATA AVAILABLE

SOURCE: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2015-2017.

ODORS

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

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

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

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

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or

recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

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

NATURALLY OCCURRING ASBESTOS

The term asbestos is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos (NOA) is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, periodotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process.

Chrysotile, which is also known as "white asbestos" and found in serpentine rocks, is probably the most common NOA. Other types of asbestos can also be found throughout California. Tremolite is most commonly associated with metamorphic formations containing dolomite and quartz. Tremolite tends to be whitish when magnesium-rich and trends towards dark green as iron increases. Actinolite, which can be found in metamorphic rocks rich in magnesium or iron, tends to be green to blackish-green.

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 Napa County, however, none are mapped within the Town of Yountville.

3.3.2 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.

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

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

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

California Clean Air Act

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§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 $PM_{2.5}$) 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 3.3-1.

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for the CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before the CARB can designate a substance as a TAC. To date, the CARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, the 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. The CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, the 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.

REGIONAL AND LOCAL

Bay Area Air Quality Management District

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

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

BAAQMD Air Quality Plans

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

With respect to applicable air quality plans, the BAAQMD prepared the 2017 Clean Air Plan (also known as the "Spare the Air: Cool the Climate" plan) to address nonattainment of the national 1-

hour ozone standard in the SFBAAB. The purpose of the 2017 Clean Air Plan is to protect public health and stabilize the climate. The 2017 Clean Air Plan includes a multi-pollutant strategy to reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as greenhouse gases. The Plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050.

Yountville General Plan

The Yountville General Plan is a long-range comprehensive planning document required by state law to set policy and guide future growth, development and conservation of resources. The proposed General Plan analyzed in this EIR is the 2018 update to the Yountville General Plan. Relevant goals, objectives, policies, and programs from the General Plan update are discussed in the Impacts and Mitigation Measures section of this EIR.

3.3.3 THRESHOLDS OF SIGNIFICANCE

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

- Conflict with or obstruct implementation of the applicable air quality plan;
- Cause a violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

Thresholds of Significance for Plan-Level Impacts

The BAAQMD CEQA Air Quality Guidelines contain the BAAQMD's recommendations to Lead Agencies for evaluating and assessing the significance of a plan's potential air quality impacts[1]. The BAAQMD's plan-level thresholds of significance are summarized in Table 3.3-4, below.

[1] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Guidelines. May 2017.

TABLE 3.3-4: BAAQMD THRESHOLDS OF SIGNIFICANCE FOR PLANS

POLLUTANT	*THRESHOLD OF SIGNIFICANCE*
Criteria Air Pollutants and Precursor Emissions	Construction: None
	Operational: Consistency with Current AQP and projected VMT or vehicle trip increase is less than or equal to projected population increase.
Local Community Risk and Hazards	Land use diagram identifies special overlay zones around existing and planned sources of TACs and $PM_{2.5}$, including special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts.
Odors	Identify locations of odor sources in plan; identify goals, policies, and objectives to minimize potentially adverse impacts.

SOURCE: BAAQMD, 2017.

3.3.4 IMPACTS AND MITIGATION MEASURES

This section provides an analysis of the proposed project impacts to air quality.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, cause a violation of any air quality standard, or result in a cumulatively considerable net increase of criteria pollutants (Less than Significant)

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. The BAAQMD's most current plan is the 2017 Clean Air Plan. Consistent with BAAQMD's CEQA Air Quality Guidelines, the proposed General Plan would result in a significant impact if it would be: 1) inconsistent with the 2017 Clean Air Plan, or 2) result in a projected increase in vehicle trips or vehicle miles travelled (VMT) that exceeds a projected population increase. The BAAQMD CEQA Guidelines recommend that lead agencies consider the following questions relative to this consistency determination:

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

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

- Stationary (Industrial) Sources
- Transportation

- Energy
- Buildings
- Agriculture
- Natural and Working Lands
- Waste Management
- Water
- Super-Greenhouse Gas (GHG) Pollutants

The primary air quality-related goals of the 2017 Clean Air Plan are to:

- Attain all state and national quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants.

The proposed General Plan sets forth the Town's vision for the types of development that would occur over through year 2040. Criteria air pollutant and other emissions would result from construction activities, and from the operation of residences, businesses, and other land uses within the Town. These emissions could interfere with the SFBAAB's attainment of state and national air quality standards; however, the General Plan includes a number of policies and programs, described herein, to reduce potential air pollutant emissions and address exposure to toxic air contaminants.

In addition to the two goals above, the 2017 Clean Air Plan includes a third primary goal related to Bay Area GHG emissions. For the purposes of this EIR, consistency with the 2017 Clean Air Plan's goal related to GHG emissions is considered and evaluated in Section 3.7 (Greenhouse Gases and Energy).

CONSISTENCY WITH CURRENT AIR QUALITY PLAN CONTROL MEASURES

Construction Emissions: The proposed General Plan would not directly result in construction of any development or infrastructure; however, future development supported by the General Plan would result in short-term construction-related criteria pollutant emissions that have the potential to have an adverse effect on air quality. Short-term criteria pollutant emissions would occur during demolition, site preparation, grading, building construction, paving, and architectural coating activities associated with specific new development projects. Emissions would occur from use of equipment, worker, vendor and hauling trips, and disturbance of onsite soils (fugitive dust). ROG and NOx emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. Fugitive dust emissions (PM_{10} and $PM_{2.5}$) are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Typical construction equipment associated with development and redevelopment projects includes dozers, graders, excavators, loaders, and trucks.

Although it is not possible to know the exact type, number, location, or duration of future construction projects, future development activities would generally entail demolition, site

preparation, grading, building construction, paving, and painting. The types and quantity of equipment, as well as duration of construction activities, would be dependent on project specific conditions. Larger projects would require more equipment over a longer timeframe than that required for redevelopment of a single, residential home or small residential or mixed use project.

The BAAQMD does not maintain recommended plan-level thresholds of significance for construction emissions; however, the BAAQMD does maintain and recommend project-level thresholds that potential future development projects would be subject to. In addition, the BAAQMD's CEQA Guidelines identify and recommend a series of "Basic" measures to control and reduce construction-related emissions. For all projects, the BAAQMD recommends implementation of eight Basic Construction Measures to reduce construction fugitive dust emissions levels; these basic measures are also used to meet the BAAQMD's best management practices (BMPs) threshold of significance for construction fugitive dust emissions (i.e., the implementation of all basic construction measures renders fugitive dust impacts a less than significant impact).

The Town's proposed General Plan Update focuses on protecting the Town's residents and employees from exposure to harmful air pollutants, including during construction activities. In addition, the proposed General Plan Open Space and Conservation Element includes an extensive list of policies and programs that are specifically aimed at improving air quality (as described in further detail below).

Operational Emissions: The proposed General Plan would accommodate new residential, commercial, and other land uses that will operate through the General Plan horizon year of 2040. Long-term criteria pollutant emissions would result from the operation of potential residential, retail, light industrial, commercial, and institutional uses supported by the proposed General Plan. Operational air quality emissions are evaluated in terms of area source emissions, energy demand emissions, and mobile emissions. Area source emissions are the combination of many small emission sources that include use of outdoor landscape maintenance equipment, use of consumer products such as cleaning products, and periodic repainting of a project. Energy demand emissions result from use of electricity and natural gas. Mobile emissions result from automobile and other vehicle sources associated with daily trips to and from the project vicinity.

The proposed General Plan would provide development capacity for up to an additional 231 dwelling units and 169,646 square feet of non-residential square footage. Development of future projects within the planning area would be subject to the Town's standard CEQA review process and would be required to assess project-specific emissions in relation to the BAAQMD significance thresholds. Although specific, project-level emission estimates for potential future development projects are not available at this time, CalEEMod can be used to provide an estimate of the potential area, energy, and mobile source emissions resulting from the increase in development permitted by the proposed General Plan for information purposes only (i.e., not for the purpose of determining significance of potential air quality impacts). The total net increase in the type (e.g., residential, commercial, industrial, etc.) and amount (e.g., residential units, commercial building square footage, etc.) of land uses envisioned by the 2040 General Plan was entered into the

model. The resulting unmitigated emissions estimates associated with this net change in land uses are presented in Table 3.3-5. The mitigated emissions estimates are presented in Table 3.3-6 (incorporating mitigation that the Town can take credit for based on the existing state and local legislation). CalEEMod output files are included as Appendix B of this report.

TABLE 3.3-5: GENERAL PLAN BUILD-OUT (YEAR 2040) – OPERATIONAL EMISSIONS (TONS/YEAR)

EMISSION SOURCE	ROG	NOX	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	2.17	0.03	1.71	<0.01	<0.01	<0.01
Energy	0.04	0.32	0.15	<0.01	0.03	0.03
Mobile	0.55	4.67	6.21	0.03	3.94	1.07
Total	**2.76**	**5.01**	**8.07**	**0.04**	**3.97**	**1.10**

SOURCE: CALEEMOD (V.2016.3.2).

NOTE: EXISTING EMISSIONS LEVELS WERE ESTIMATED USING AN OPERATIONAL YEAR OF 2040 TO MOST ACCURATELY OBTAIN THE NET EMISSIONS AS A RESULT OF THE GENERAL PLAN BUILDOUT.

TABLE 3.3-6: GENERAL PLAN BUILD-OUT (YEAR 2040) – MITIGATED OPERATIONAL EMISSIONS (TONS/YEAR)

EMISSION SOURCE	ROG	NOX	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	2.17	0.02	1.71	<0.01	<0.01	<0.01
Energy	0.04	0.32	0.15	<0.01	0.03	0.03
Mobile	0.52	4.48	5.53	0.03	3.37	0.91
Total	**2.73**	**4.81**	**7.39**	**0.03**	**3.40**	**0.95**

SOURCE: CALEEMOD (V.2016.3.2).

NOTE: EXISTING EMISSIONS LEVELS WERE ESTIMATED USING AN OPERATIONAL YEAR OF 2040 TO MOST ACCURATELY OBTAIN THE NET EMISSIONS AS A RESULT OF THE GENERAL PLAN BUILDOUT.

The Town's proposed General Plan addresses protecting the Town's residents and employees from exposure to harmful air pollutants. The proposed General Plan Open Space and Conservation Element includes an extensive list of policies and programs that are specifically aimed at improving air quality. These policies and programs are listed below, and are consistent with the intent of the control measures by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations. These polices also promote the conservation of energy and use of renewable energy resources, which reduce air pollution on local, regional, statewide, national, and international levels.

Additionally, the Circulation Element includes a range of policies and programs that would effectively reduce vehicle miles travelled throughout the General Plan area, through the use of complete streets and multi-modal transportation systems. These applicable policies and programs are described in greater detail in Section 3.14 (Transportation and Circulation).

The policies and programs included throughout the existing General Plan, most specifically within the Conservation and Open Space Element, and Circulation Element, cover the full breadth of air quality issues as recommended in the 2017 Clean Air Plan. A primary goal of the 2017 Clean Air Plan is to address public health. The 2017 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 proposed General Plan would support the primary goals of the 2017 Clean Air Plan, includes applicable control measures, and does not disrupt or hinder implementation of the 2017 Clean Air Plan.

Greenhouse Gas Emissions: The 2017 Clean Air Plan's final primary goal of protecting the climate is to reduce greenhouse gases. The proposed General Plan Conservation and Open Space Element includes a list of policies and programs that are specifically aimed at reducing greenhouse gas emissions/climate change. These policies and programs are provided within the Regulatory Setting and discussed in more detail in Section 3.7 (Greenhouse Gases and Energy). Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that provide protections for air quality.

Conclusion: Implementation of the proposed General Plan would have a **less than significant** impact relative to consistency with current air quality plan control measures, since it would be consistent with the 2017 Clean Air Plan.

VMT OR VEHICLE TRIP INCREASE COMPARED TO PROJECTED POPULATION INCREASE

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

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

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

The following describes vehicle trip and population plus employment increases associated with implementation of the General Plan.

The proposed General Plan would generate a variety of residential and non-residential uses. Vehicle trips generated by future development within the Town during buildout of the General Plan would be attributed to employment-related trips and VMT associated with new job growth, as well as new trips associated with the development of residential uses. As such, in order to analyze the proposed Plan's consistency with the BAAQMD thresholds listed above, this analysis looks at both population growth and employment growth when analyzing relative increases in vehicle trips.

The annual number of existing trips in Yountville in 2018 is approximately 46,776 (based on the 9th ITE Trip generation rates). The number of trips that would be generated by the proposed General Plan at full buildout of the General Plan area would be approximately 5,846. The commercial land

uses proposed would generate the majority of this increases in trips that would occur due to buildout of the proposed General Plan. The proposed General Plan would generate infill development, and also promotes alternative transportation modes (walking, biking, transit).

The Town of Yountville has an existing population of approximately 2,874 (California Department of Finance, 2018). Full buildout of the proposed General Plan could generate up to 439 new residents, based on an increase in 231 new dwelling units and an average of 1.9 persons per dwelling unit in Yountville) (California Department of Finance, 2018). Yountville has an existing jobs base of approximately 2,486 jobs (U.S. Census Bureau, 2016). Full buildout of the proposed General Plan could generate up to approximately 325 new jobs in Yountville[2].

Table 3.3-7 shows the combined population and jobs growth generated by the proposed General Plan, compared to existing levels within the Town. Table 3.3-8 shows Town-wide trips and plus-project trips following buildout of the proposed General Plan.

TABLE 3.3-7: COMBINED JOBS AND HOUSING GROWTH

EXISTING JOBS + POPULATION IN YOUNTVILLE	5,360
NEW JOBS + POPULATION GENERATED	764
PERCENT INCREASE IN JOBS + POPULATION	14.3%

SOURCE: CALIFORNIA DEPARTMENT OF FINANCE, 2018; U.S. CENSUS BUREAU, 2016.

TABLE 3.3-8: EXISTING AND PLUS-PROJECT TRIPS

EXISTING TRIPS	46,776
EXISTING PLUS PROJECT TRIPS	52,622
PERCENT INCREASE IN TRIPS	12.5%

SOURCE: DE NOVO PLANNING GROUP, 2018 BASED PRIMARILY ON DEPARTMENT OF FINANCE 2018 HOUSING UNIT ESTIMATES, TOWN OF YOUNTVILLE DATA REGARDING COMMERCIAL AND MUNICIPAL SQUARE FOOTAGES, VETERANS HOME LAND USES BASED ON THE FACILITY MASTER PLAN AND ESTIMATES OF USES NOT QUANTIFIED IN THE FACILITIES MASTER PLAN, AND ITE TRIP GENERATION RATES

As shown in the two tables above, implementation of the proposed project would result in an approximately 12.5% increase in Town-wide trips, compared to an approximately 14.3% increase in combined population and jobs. Therefore, the growth rate associated with the proposed General Plan would be lower than the increase in trips associated with the General Plan. Therefore, the proposed project would result in trips increases that would not exceed the adopted thresholds.

Implementation of the proposed General Plan would have a **less than significant** impact relative to this topic, since the proposed General Plan increase in trips would not exceed the proposed General Plan increase in jobs and population.

[2] Based on the employment density estimates developed for Napa County for the Non-Residential Jobs-Housing Nexus Study Update (April 2014).

CONCLUSION

If approval of the proposed General Plan would cause the disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be inconsistent with the 2017 Clean Air Plan. The proposed General Plan does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 Clean Air Plan. All future development and infrastructure projects within the proposed General Plan area would be subject to the below-referenced General Plan goals, policies, and programs, which have been included in the project in order to reduce emissions and air quality impacts. The proposed General Plan emphasizes a compact, mixed use, transit-oriented development pattern that emphasizes alternative transportation access and multi-modal connectivity throughout the General Plan area and into the surrounding areas.

The proposed project would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled, would assist the Town in achieving a more balanced jobs to housing ratio, and would increase opportunities for transit ridership in Yountville and the surrounding areas. In addition, the projected increase in vehicle trips under the proposed General Plan would not exceed the projected population and employment increase that would occur under the General Plan. Therefore, the proposed General Plan would not conflict with the BAAQMD's 2017 Clean Air Plan, and this impact is considered **less than significant**. A list of General Plan goals, policies, and programs that address the project's impact to this topic is provided below.

GENERAL PLAN POLICIES AND PROGRAMS THAT ADDRESS POTENTIAL IMPACTS

Policy OS-7.1 Regional Planning. Participate in regional planning efforts to improve air quality.

> *Program OS-7.1a Congestion Management Plan. Work with Napa Valley Transportation Authority, the Town's Congestion Management Agency, to establish a Congestion Management Plan.*
>
> *Program OS-7.1b Air Quality Management District. Support the Bay Area Air Quality Management District's plans and programs to improve air quality.*
>
> *Program OS-7.1c Vineyard Burning. Support the Bay Area Air Quality Management District in reducing smoke impacts from burning vineyard clippings and vines and finding alternatives to open burning, including the conversion of agricultural waste to compost, mulch, biochar, and biomass.*
>
> *Program OS-7.1d Air Quality Impact of New Development. Review development projects to ensure compliance with the current regional air quality plan and to ensure that appropriate measures are implemented to address both short-term (e.g., construction) and long-term (e.g., operational) air quality impacts.*
>
> *Program OS-7.1e Public Education. Educate the community about the impact of wood burning and vehicle exhaust on air quality and assist the Bay Area Air Quality Management District in promoting Spare the Air Alerts.*

Policy OS-7.2 Air Quality Impacts to Sensitive Receptors. Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

> *Program OS-7.2a Project Review. Review all development projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors, including impacts associated with exposure to toxic air contaminants for proposed development located within the Community Risk and Hazard (Toxic Air Contaminants) Overlay Zone associated with State Route 29 (see Figure OS-8). Staff shall ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.*

Policy OS-8.1 Conserve Energy and Use Renewable Energy. Increase energy efficiency and conservation and encourage the use of renewable energy.

> *Program OS-8.1a Design of Buildings. Encourage the design of new buildings and remodel of existing buildings with consideration of reducing the environmental impacts and costs of heating, cooling, and lighting through the use of efficient mechanical equipment, solar orientation, natural light and airflow, and shade trees.*
>
> *Program OS-8.1b Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.*
>
> *Program OS-8.1c Public Outreach. Promote residential and commercial energy efficiency and conservation programs to residents and businesses.*

Impact 3.3-2: General Plan implementation 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.

Health risks associated with TACs are most pronounced in the areas adjacent to freeway segments. 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. Yountville is not mapped by the BAAQMD as an Impacted Community under the CARE program (BAAQMD, 2014).

The BAAQMD CEQA Guidelines identify the following threshold of significance for hazards and risks related to TACs at the plan-level: Land use diagram identifies special overlay zones around existing and planned sources of TACs and PM2.5, including special overlay zones of at least 500 feet (or BAAQMD-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts. Consistent with this requirement, the General Plan identifies overlay zones to address potential TAC exposure; these overlay zones are located 500 feet from SR 29 within the Town and SOI limits (see Figure 3.2-1); no additional significant TAC sources have been identified in the vicinity but there also exists the potential for future uses to generate toxic air contaminants which may be harmful to nearby sensitive receptors. However, through implementing the General Plan policies and programs intended to minimize exposure of TACs to sensitive receptors, the Town would ensure that mitigation measures and best management practices are implemented to minimize the potential for TACs to impact sensitive receptors within the Town. These General Plan policies and programs help to protect sensitive receptors, and otherwise limit air pollution during construction and operational activities within the Town and its surrounding environs, consistent with the BAAQMD recommendations that are intended to reduce health risks associated with TACs. Specifically, General Plan Policies OS-7.1a and OS-7.1b require the Town to work with the applicable agencies and authorities to improve air quality. Policy OS-7.1c supports the BAAQMD in reducing smoke impacts within the Town. Policy OS-7.1d requires new development to comply with all current regional air quality plans and to ensure the short-term (e.g. construction) and long-term (e.g. operational) air quality impacts are addressed. Policy OS-7.1e requires education within the Town to ensure that wood-burning and vehicle exhaust are reduced. Additionally, Policy OS-7.2 requires that exposure of pollutants (including TACs) on sensitive receptors are minimized.

Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that provide protections for risks associated with TACs. Development within the General Plan Area, with the General Plan policies and programs that are intended to mitigate TACs impacts, would ensure that this impact is reduced to a **less than significant** level.

GENERAL PLAN POLICIES AND PROGRAMS THAT ADDRESS POTENTIAL IMPACTS

Policy OS-7.1 Regional Planning. Participate in regional planning efforts to improve air quality.

> *Program OS-7.1a Congestion Management Plan. Work with Napa Valley Transportation Authority, the Town's Congestion Management Agency, to establish a Congestion Management Plan.*

Program OS-7.1b Air Quality Management District. Support the Bay Area Air Quality Management District's plans and programs to improve air quality.

Program OS-7.1c Vineyard Burning. Support the Bay Area Air Quality Management District in reducing smoke impacts from burning vineyard clippings and vines and finding alternatives to open burning, including the conversion of agricultural waste to compost, mulch, biochar, and biomass.

Program OS-7.1d Air Quality Impact of New Development. Review development projects to ensure compliance with the current regional air quality plan and to ensure that appropriate measures are implemented to address both short-term (e.g., construction) and long-term (e.g., operational) air quality impacts.

Program OS-7.1e Public Education. Educate the community about the impact of wood burning and vehicle exhaust on air quality and assist the Bay Area Air Quality Management District in promoting Spare the Air Alerts.

Policy OS-7.2 Air Quality Impacts to Sensitive Receptors. Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Program OS-7.2a Project Review. Review all development projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors, including impacts associated with exposure to toxic air contaminants for proposed development located within the Community Risk and Hazard (Toxic Air Contaminants) Overlay Zone associated with State Route 29 (see Figure OS-8). Staff shall ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Impact 3.3-3: General Plan implementation would not create objectionable odors (Less than Significant)

Objectionable odors can be generated from certain types of commercial and/or industrial land uses. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. In general, other non-residential land uses tend to have limited to no odor generation. Additionally, residential land uses are not generally associated with odor generation, but they do serve as sensitive receptors. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to anger and concern over possible health effects among the public. Each year the BAAQMD receives thousands of citizen complaints about objectionable odors.

The BAAQMD CEQA Guidelines recommendation for assessing plan level odor impacts is to "identify the location of existing and planned odor sources in the plan area and policies to reduce potential odor impacts in the plan area." A potential odor source known to exist in and around Yountville includes the Yountville Wastewater Reclamation Facility (located along Solano Avenue). However, none of the potential growth sites identified in the proposed General Plan project would be located adjacent to this facility. The closest potential growth site to this facility, located northeast of Highway 29 and south of Champagne Drive, would be located at sufficient distance from the facility (i.e. on the opposite side of Highway 29) that such that odors would not be

present at this location. The other potential growth sites within the Town would be located even further from common potential sources of odors.

In addition, the planned residential and non-residential development within the Town associated with proposed General Plan project would not include land uses that are known to cause objectionable odors. Growth that would occur as part of the General Plan project would include residential, commercial, office, and hotel land uses. These land uses are not typically associated with objectionable odors. Agricultural land use could also be developed in association with the proposed General Plan project. However, the Open Space and Conservation Element in the General Plan Update includes a policy to minimize exposure of sensitive receptors to concentrations of odors (Policy OS-7.2 Air Quality Impacts to Sensitive Receptors). Additionally, Chapter 9.32 of the Town of Yountville Municipal Code regulates nuisances (including odors), further reducing the potential for odor impacts on existing and new sensitive receptors in the Town. Specifically, Chapter 90.32 of the Town Municipal Code identifies odor nuisances as "odors that are of such a persistent and elevated nature so as to unreasonably disturb, annoy, interfere with or endanger the comfort, peace, health, safety or welfare of neighboring residents of normal sensitivity". Chapter 9.32 of the Town Municipal Code also considers any animal that produces a noxious odor as constituting a nuisance. As a result, implementation of the General Plan project would not result in odor impacts on existing sensitive receptors or future sensitive receptors.

Separately, projected development under the proposed General Plan project could result in construction activities that would introduce new odor sources into the plan area (e.g., temporary diesel exhaust emissions during construction and delivery trucks associated with commercial land uses). However, these odor sources would be temporary and intermittent and would largely come from mobile sources. Additionally, minor odors from the use of heavy-duty diesel equipment and the laying of asphalt during construction activities would be intermittent and temporary. Due to the characteristics of diesel exhaust emission, odors generated from the use of heavy-duty diesel equipment would dissipate rapidly within 150 meters (492 feet) (Zhu et al. 2002a, cited in CARB 2005; Zhu et al. 2002b). While construction would occur intermittently throughout the buildout of the General Plan project, these types of odor-generating activities would not occur at any single location, or within close proximity to the same off-site receptors, for an extended period of time and would not result in permanent odor sources. Therefore, construction is not anticipated to result in substantial odors.

The development associated with the proposed General Plan project is not anticipated to site sensitive receptors within close proximity to common odor sources. Additionally, the Open Space and Conservation Element in the General Plan Update includes a policy that minimizes the exposure of odors on sensitive receptors. Further, the Town Municipal Code regulates nuisances (including odors) within the Town. As a result, projected development under the General Plan project would not result in odor impacts on new or existing sensitive receptors; therefore, this impact would be **less than significant**.

GENERAL PLAN POLICY THAT ADDRESSES POTENTIAL IMPACTS

Policy OS-7.2 Air Quality Impacts to Sensitive Receptors. Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from Project implementation. The following analysis is based on a literature review and records searches performed by De Novo Planning Group (2018).

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

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, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. The California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Wildlife (CDFW) 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 USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- 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 CFR §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 U.S. Army Corps of Engineers (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 CFR §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 CFR §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.

3.4.1 ENVIRONMENTAL SETTING

REGIONAL SETTING

The General Plan area is within the 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.

LOCAL SETTING

The Town of Yountville is located in Napa County, approximately 40 miles north of San Francisco and 50 miles southwest of Sacramento. The Town comprises approximately 1.5 square miles, straddling Highway 29 in the heart of the Napa Valley, located between the cities of Napa and St. Helena. The Town's business district and residential neighborhoods lie to the east of Highway 29, while the Veterans Home is to the west. The Town limits include the area within the Town's boundary, over which the Town exercises land use authority and provides public services.

The General Plan area is located approximately 100 to 600 feet above MSL. Figure 2.0-5 in Chapter 2.0, Project Description, shows the U.S. Geological Survey (USGS) topographic map.

The land uses outside of the Yountville Town Limits are located in unincorporated Napa County. The Napa County General Plan designates the majority of the area surrounding the Town Limits as Open Space: Agricultural Resources. The area to the north, west, and south of the Veterans Home is designated Open Space: Agriculture, Watershed, and Open Space by the County General Plan. The areas surrounding the Town Limits are primarily used for agricultural or open space uses, with the Napa River located east of the Town.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

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

Figure 3.4-1 illustrates the location of each cover type (wildlife habitat classification) within the entire General Plan area. Table 3.4-1 shows the acreage for each on-site cover type. A brief description of each cover type follows.

TABLE 3.4-1: COVER TYPES WITHIN THE YOUNTVILLE SOI

COVER TYPE	*ACRES WITHIN SOI*
Annual Grassland	4.61
Blue Oak Woodland	49.65
Chamise-Redshank Chaparral	27.12
Closed-Cone Pine-Cypress	51.94
Coastal Oak Woodland	81.82
Deciduous Orchard	88.64
Douglas Fir	20.59

COVER TYPE	*ACRES WITHIN SOI*
Lacustrine	6.389
Mixed Chaparral	5.34
Montane Hardwood	68.79
Montane Riparian	14.37
Urban	470.69
Vineyard	71.17
Total	**961.62**

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

Developed Cover Types

Deciduous orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns usually touch, and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Deciduous orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Though some deciduous orchards are non-irrigated, most are irrigated. Some flat soils are flood irrigated, but many deciduous orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most deciduous orchards are in valley or foothill areas, with a few, such as, apples and pears, up to 3,000 feet elevation. Within the General Plan area, there are 88.64 acres of deciduous orchard habitat.

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the General Plan area, there are 470.69 acres of urban habitat.

Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems. Most vineyards are in valley or foothill areas. Within the General Plan area, there are 71.17 acres of vineyard habitat.

Herbaceous Cover Types

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. Annual precipitation is highest in northern California. Within the General Plan area, there are 4.61 acres of annual grassland habitat.

Chamise-Redshank Chaparral may consist of nearly pure stands of chamise or redshank, a mixture of both, or with other shrubs. Fire occurs regularly in Chamise-Redshank Chaparral and influences habitat structure. Mature Chamise-Redshank Chaparral is single layered, generally lacking well-developed herbaceous ground cover and overstory trees. Shrub canopies frequently overlap, producing a nearly impenetrable canopy of interwoven branches. Chamise-dominated stands average 3.3 to 6.6 feet in height, but can reach 9.8 feet. Total shrub cover frequently exceeds 80 percent, but may be considerably lower on extremely xeric sites with poor soils. Redshank stands are slightly taller, averaging 6.6 to 13.1 feet but occasionally reaching 19.7 feet. Mature redshank frequently is more open than chamise and can have sparse herbaceous cover between shrubs. Within the General Plan area, there are 27.12 acres of chamise-redshank chaparral habitat.

Mixed Chaparral is a structurally homogeneous brushland type dominated by shrubs with thick, stiff, heavily cutinized evergreen leaves. Shrub height and crown cover vary considerably with age since last burn, precipitation regime (cismontane vs. transmontane), aspect, and soil type. At maturity, cismontane Mixed Chaparral typically is a dense, nearly impenetrable thicket with greater than 80 percent absolute shrub cover. Canopy height ranges from 3.3 to 13.1 feet, occasionally to 19.6 feet. On poor sites, serpentine soils or transmontane slopes, shrub cover may be only 30 to 60 percent and shrubs may be shorter, 1.6 to 9.8 feet. Considerable leaf litter and standing dead material may accumulate in stands that have not burned for several decades. Within the General Plan area, there are 5.34 acres of mixed chaparral.

Hardwood Woodland Cover Types

Blue Oak Woodland habitat has an overstory of scattered trees. The density of blue oaks on slopes with shallow soils is directly related to water stress. The canopy is dominated by broad-leaved trees 16 to 50 feet tall, commonly forming open savanna-like stands on dry ridges and gentle slopes. Blue oaks may reach 82 feet in height. Shrubs are often present but rarely extensive, often occurring on rock outcrops. Typical understory is composed of an extension of Annual Grassland vegetation. Within the General Plan area, there are 49.65 acres of blue oak woodland habitat.

Closed-Cone Pine-Cypress habitat includes a number of different series of evergreen, needle-leaved trees. The height and canopy closure of these series are variable and depend upon site characteristics, soil type, the age of the stand and the floristic composition. The closed-cone pine habitats are similar to each other and will be described separately from the cypress habitats, although some of the series within this habitat contain both pine and cypress. Cypress habitats may reach a height of 33 to 66 feet. The understory is a well-developed shrub layer of chaparral species (chamise and manzanita) on open, well-drained sites and a low, dense cover of shrubs and herbs on the poorly drained soils. On low nutrient or serpentinic soils the shrub layer cover is often less than 50 percent. Pine habitats typically reach heights of 66 feet. Most pine series have a shrub

layer of chaparral species with high relative cover (up to 100%) and a sparse herbaceous layer. Within the General Plan area, there are 51.94 acres of closed-cone pine-cypress habitat.

Coastal Oak Woodlands are extremely variable. The overstory consists of deciduous and evergreen hardwoods (mostly oaks, 15 to 70 feet tall) sometimes mixed with scattered conifers. In mesic sites, the trees are dense and form a closed canopy. In drier sites, the trees are widely spaced, forming an open woodland or savannah. The understory is equally variable. In some instances, it is composed of shrubs from adjacent chaparral or coastal scrub which forms a dense, almost impenetrable understory. More commonly, shrubs are scattered under and between trees. Where trees form a closed canopy, the understory varies from a lush cover of shade-tolerant shrubs, ferns, and herbs to sparse cover with a thick carpet of litter. When trees are scattered and form an open woodland, the understory is grassland, sometimes with scattered shrubs. The interrelationships of slope, soil, precipitation, moisture availability, and air temperature cause variations in structure of coastal oak woodlands. These factors vary along the latitudinal, longitudinal and elevational gradients over which coastal oak woodlands are found. Within the General Plan area, there are 81.82 acres of coastal oak woodland habitat.

Douglas Fir habitat forms a complex mosaic of forest expression due to the geologic, topographic, and successional variation typical within its range. Typical aggregations include a lower overstory of dense, sclerophyllous, broad-leaved evergreen trees (tanoak, Pacific madrone) up to 114 feet tall, with an irregular, often open, higher overstory of tall needle-leaved evergreen trees (Douglas-fir) up to 295 feet. A small number of pole and sapling trees occur throughout stands. On wet sites, shrub layers are well developed, often with 100 percent cover. Cover of the herbaceous layer under the shrubs can be up to 10 percent. At higher elevations, the shrubs disappear and the herb layer is often 100 percent. Typical mesic habitats have a poorly developed or non-existent shrub and herb layer. Dry habitats have greater cover of shrubs and especially grasses. Within the General Plan area, there are 20.59 acres of douglas fir habitat.

Montane Hardwood habitat is typically composed of a pronounced hardwood tree layer, with an infrequent and poorly developed shrub stratum, and a sparse herbaceous layer. On better sites, individual trees or clumps of trees may be only 10 to 13 feet apart. On poorer sites, spacing increases to 26 to 33 feet. Where trees are closely spaced, crowns may close but seldom overlap. Living crowns on mature canyon live oaks occupy about 60 percent of the bole on typical sites and up to 80 percent on poor sites. Tree heights tend to be uniform at most ages in mature stands where hardwoods occur, but subordinate to conifers. Mature oaks on better sites and in canyons range between 56 and 98 feet tall and up to 59 inches in diameter at breast height (dbh). On poorer sites, mature trees typically are 33 to 49 feet tall with boles up to 26 inches dbh, with dome-shaped crowns almost as wide as the trees are tall. On rocky summits, canyon live oak is a shrub of small diameter, usually less than 13 feet in height. Snags and downed woody material generally are sparse throughout the montane hardwood habitat. Within the General Plan area, there are 68.79 acres of montane hardwood.

Montane Riparian habitat is quite variable and often structurally diverse. Usually, the montane riparian zone occurs as a narrow, often dense grove of broad-leaved, winter deciduous trees up to 98 feet tall with a sparse understory. At high mountain elevations, montane riparian is usually less

than 49 feet high with more shrubs in the understory. At high elevations, montane riparian may not be well developed or may occur in the shrub stage only. In the General Plan area, there are 14.37 acres of montane riparian.

Other Habitats

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. They may vary from small ponds less than one hectare to large areas covering several square kilometers. Depth can vary from a few centimeters to hundreds of meters. Typical lacustrine habitats include permanently flooded lakes and reservoirs (e.g., Lake Berryessa), intermittent lakes (e.g., playa lakes) and ponds (including vernal pools) so shallow that rooted plants can grow over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not. Suspended organisms such as plankton are found in the open water of lacustrine habitats. Dominant are the phytoplankton, including diatoms, desmids and filamentous green algae. Because these tiny plants alone carry on photosynthesis in open water, they are the base upon which the rest of limnetic life depends. Suspended with the phytoplankton are animal or zooplankton organisms which graze upon the minute plants. Most characteristic are rotifers, copepods, and cladocerans. Within the General Plan area, there are 6.89 acres of lacustrine habitat.

SPECIAL-STATUS SPECIES

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

The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, the USFWS endangered and threatened species lists, and observations from local experts. The background search was regional in scope and focused on the documented occurrences within the 9-quadrangle radius of the General Plan area, which includes the following USGS quadrangles: St. Helena, Chiles Valley, Lake Berryessa, Rutherford, Yountville, Capell Valley, Sonoma, Napa, and Mt. George.

The search revealed 100 special-status species within the region: 55 plants, and 45 animals. Table 3.4-2 provides a list of special-status plant species that are documented in the region, their habitat, potential for General Plan area occurrence, and current protective status. Table 3.4-3 provides a list of special-status wildlife species that are documented in the region, their habitat, potential for General Plan area occurrence, and current protective status. Figure 3.4-2 illustrates the general location of these records maintained by the CNDDB. Figure 3.4-3 illustrates the general location of the records within one mile of the General Plan area.

TABLE 3.4-2: SPECIAL-STATUS PLANTS WITHIN 9-QUADRANGLE REGION FOR GENERAL PLAN AREA

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE/ CNPS)*	*HABITAT*
Agrostis hendersonii	Henderson's bent grass	--;--;3.2	Valley and foothill grassland (mesic); vernal pools. 70-305M.
Allium peninsulare var. franciscanum	Franciscan onion	--;--;1B.2	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine. Dry hillsides. 100-300M.
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	FE;--;1B.1	Marshes and swamps (freshwater); riparian scrub. 5-365M.
Amorpha californica var. napensis	Napa false indigo	--;--;1B.2	Broadleaved upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 150-2000M
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	--;--;1B.1	Chaparral. Highly restricted endemic to red rhyolites in Sonoma County. 75-310M.
Astragalus claranus	Clara Hunt's milk-vetch	FE;CT;1B.1	Serpentinite or volcanic, rocky, clay; chaparral; cismontane woodland; valley and foothill grassland. 75-275M.
Astragalus tener var. tener	Alkali milk-vetch	--;--;1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 1-170M.
Balsamorhiza macrolepis	Big-scale balsamroot	--; --;1B	Chaparral, cismontane woodland, and valley and foothill grassland (Open, grassy slopes, and valleys, sometimes on serpentine soils). 90-1555M.
Blennosperma bakeri	Sonoma sunshine	FE;CE;1B	Vernal pools, valley and foothill grassland. Vernal pools and swales. 10-100M.
Brodiaea leptandra	Narrow-anthered brodiaea	--;--;1B.2	Valley Grassland, Foothill Woodland. 110-915M.
Castilleja ambigua var. meadii	Mead's owls-clover	--;--;1B.1	Coastal; salt-marsh; meadows and seeps; vernal pools. 450-474M.
Ceanothus confusus	Rincon Ridge ceanothus	--;--;1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland. Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065M.
Ceanothus divergens	Calistoga ceanothus	--;--;1B.2	Chaparral, cismontane woodland. Rocky, serpentine or volcanic sites. 165-950M.
Ceanothus purpureus	Holly-leaved ceanothus	--;--;1B.2	Chaparral. Rocky, volcanic slopes. 120-640M.
Ceanothus sonomensis	Sonoma ceanothus	--;--;1B.2	Chaparral. Sandy, serpentine or volcanic soils. 210-800M.
Centromadia parryi ssp. parryi	Pappose tarplant	--;--;1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 2-420M.
Cryptantha dissita	Serpentine cryptantha	--;--;1B.2	Chaparral (serpentinite). 395-580M.

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE/ CNPS)*	*HABITAT*
Downingia pusilla	Dwarf downingia	--;--;2B.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.2	Chaparral. Serpentine and volcanic substrates, generally in shrubby vegetation. 75-1060M.
Eryngium constancei	Loch Lomond button-celery	FE;CE;1B.1	Chaparral (serpentinite); vernal pools. 460-855M.
Eryngium jepsonii	Jepson's coyote-thistle	--;--;1B.2	Vernal and foothill grassland; vernal pools. 3-300M.
Extriplex joaquinana	San Joaquin spearscale	--;--;1B.2	Alkaline. Chenopod scrub, meadows and seeps, playas, valley and foothill grassland. 1-835M.
Fritillaria liliacea	Fragrant fritillary	--;--;1B.2	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410M.
Hemizonia congesta ssp. congesta	Congested-headed hayfield tarplant	--;--;1B.2	Coastal scrub, valley and foothill grassland. Grassy valleys and hills, often in fallow fields. 25-200M.
Hesperolinon breweri	Brewer's western flax	--;--;1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soil in serpentine chaparral and serpentine grassland. 30-945M.
Hesperolinon sharsmithiae	Sharsmith's western flax	--;--;1B.2	Chaparral (serpentinite). 270-300M.
Horkelia tenuiloba	Thin-lobed horkelia	--;--;1B.2	Coastal scrub, chaparral. Sandy soils; mesic openings. 45-500M.
Juglans hindsii	Northern California black walnut	--;--;1B.1	Riparian Forest; riparian woodland. 0-440M.
Lasthenia burkei	Burke's goldfields	FE;CE;1B.1	Vernal pools, meadows and seeps. Most often in vernal pools and swales. 15-580M.
Lasthenia conjugens	Contra Costa goldfields	FE;--;1B.1	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.
Lathyrus jepsonii var. jepsonii	Delta tule pea	--;--;1B.2	Marshes and swamps (freshwater and brackish). 0-5M.
Layia septentrionalis	Colusa layia	--;--;1B.2	Chaparral; cismontane woodland; valley and foothill grassland (sandy and serpentinite). 100-1095M.
Legenere limosa	Legenere	--;--;1B.1	Vernal pools. Many historical occurrences are extirpated. In beds of vernal pools. 1-880M.
Leptosiphon jepsonii	Jepson's leptosiphon	--;--;1B.2	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanic or the periphery of serpentine substrates. 100-500M.

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE/ CNPS)*	*HABITAT*
Lilaeopsis masonii	Mason's lilaeopsis	--;CR;1B.1	Marshes and Swamps (brackish or freshwater); riparian scrub. 0-10M.
Limnanthes vinculans	Sebastopol meadowfoam	FE;CE;1B.1	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.
Lupinus sericatus	Cobb Mountain lupine	--;--;1B.2	Broadleafed upland forest; chaparral; cismontane woodland; lower montane coniferous forest. 275-1525M.
Navarretia leucocephala ssp. bakeri	Baker's navarretia	--;--;1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales, adobe or alkaline soils. 5-950M.
Navarretia leucocephala ssp. pauciflora	Few-flowered navarretia	FE;CT;1B.1	Vernal pools (volcanic ash flow). 400-855M.
Navarretia rosulata	Marin County navarretia	--;--;1B.2	Closed-cone coniferous forest; chaparral. 200-635M.
Penstemon newberryi var. sonomensis	Sonoma beardtongue	--;--;1B.3	Chaparral (rocky). 7000-1370M.
Plagiobothrys strictus	Calistoga popcornflower	FE;CT;1B.1	Alkaline areas near thermal springs (meadows and seeps; valley and foothill grassland; vernal pools). 90-160M.
Poa napensis	Napa blue grass	FE;CE;1B.1	Alkaline, near thermal springs (meadows and seeps; valley and foothill grassland). 100-200M.
Puccinellia simplex	California alkali grass	--;--;1B.2	Alkaline, vernally mesic; sinks, flats, and lake margins. 2-930M.
Rhynchospora californica	California beaked-rush	--;--;1B.1	Bogs and fens, marshes and swamps, lower montane coniferous forest, meadows and seeps. Freshwater seeps and open marshy areas. 45-1000M.
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	--;--;1B.1	Chaparral. 415-610M.
Sidalcea keckii	Keck's checkerbloom	FE;--;1B.1	Serpentinite, clay (cismontane woodland; valley and foothill grassland). 75-650M.
Sidalcea oregana ssp. hydrophila	Marsh checkerbloom	--;--;1B.2	Mesic (Meadows and seeps; riparian forest). 1100-2300M.
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	FE;CE;1B.1	Marshes and swamps. Edges of freshwater marshes. 115-150M.
Streptanthus hesperidis	green jewelflower	--;--;1B.2	Serpentinite, rocky (chaparral; cismontane woodland). 130-760M.
Symphyotrichum lentum	Suisun Marsh aster	--;--;1B.2	Marshes and swamps (brackish and freshwater). 0-3M.
Trichostema ruygtii	Napa bluecurls	--;--;1B.2	Chaparral; cismontane woodland; lower montane coniferous forest; valley and foothill grassland; vernal pools. 30-680M.
Trifolium amoenum	two-fork clover	FE;--;1B.1	Coastal bluff scrub; valley and foothill grassland (sometimes serpentinite). 5-415M.

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE/ CNPS)*	*HABITAT*
Trifolium hydrophilum	Saline clover	--;--;1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0-300M.
Viburnum ellipticum	Oval-leaved viburnum	--/--/2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400M.

SOURCE: CDFW CNDDB 2018.

NOTES: STATUS IS SHOWN FOR (FEDERAL, STATE, CNPS). (--) INDICATES NO LISTING STATUS.

ABBREVIATIONS:

FE FEDERAL ENDANGERED

CE CALIFORNIA ENDANGERED

1B CNPS - RARE, THREATENED, OR ENDANGERED

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

3 CNPS – PLANTS ABOUT WHICH MORE INFORMATION IS NEEDED

- *0.1-SERIOUSLY THREATENED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED / HIGH DEGREE AND IMMEDIACY OF THREAT)*
- *0.2-MODERATELY THREATENED IN CALIFORNIA (20-80% OCCURRENCES THREATENED / MODERATE DEGREE AND IMMEDIACY OF THREAT)*
- *0.3-NOT VERY THREATENED IN CALIFORNIA (LESS THAN 20% OF OCCURRENCES THREATENED / LOW DEGREE AND IMMEDIACY OF THREAT OR NO CURRENT THREATS KNOWN)*

TABLE 3.4-3: SPECIAL-STATUS ANIMALS WITHIN 9 QUADRANGLE REGION FOR GENERAL PLAN AREA

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE)*	*HABITAT*
AMPHIBIANS			
Ambystoma californiense	California tiger salamander	FT;CT	Annual grasslands; open woodlands.
Dicamptodon ensatus	California giant salamander	--;--	Cold streams; mountain lakes and ponds.
Emys marmorata	Western pond turtle	--;--	Terrestrial; freshwater.
Rana boylii	Foothill yellow-legged frog	--;--	This species inhabits partially shaded, rocky streams at low to moderate altitudes, in areas of chaparral, open woodland, and forest.
Rana draytonii	California red-legged frog	FT;--	This species usually occurs in or near quiet permanent water of streams, marshes, ponds, lakes, and other quiet bodies of water. In summer, frogs estivate in small mammal burrows, leaf litter, or other moist sites in or near (within a few hundred feet of) riparian areas.
REPTILES			
Taricha rivularis	Red-bellied newt	--;--	This species found in mountain streams and rivers in coastal woodlands and redwood forest.
BIRDS			
Accipiter striatus	Sharp-shinned hawk	--;--	The species inhabits a wide variety of habitats, depending on the region, including boreal coniferous forests, temperate deciduous woodland, tropical and subtropical cloud forest, gallery forest and semi-open savanna woodland, from sea level to 2,700 m.
Agelaius tricolor	Tricolored blackbird	--;CE	Lowlands.

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE)*	*HABITAT*
Ammodramus savannarum	Grasshopper sparrow	--;--	Open fields and prairie.
Aquila chrysaetos	Golden eagle	--;--	The species occupies a wide range of flat or mountainous, largely open habitats, often above the tree line, from sea level to 4000m.
Ardea alba	Great egret	--;--	The species inhabits all kinds of inland and coastal wetlands.
Ardea herodias	Great blue heron	--;--	Wetlands; shores of open water.
Athene cunicularia	Burrowing owl	--;--	Grasslands; open habitats.
Buteo regalis	Ferruginous hawk	--;--	Grasslands, shrub-steppes and deserts.
Buteo swainsoni	Swainson's hawk	--;CT	Open grasslands; desert-like habitat.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT;CE	Riparian (woodlands).
Cypseloides niger	Black swift	--;--	Sea coast cliffs; waterfalls; caves.
Elanus leucurus	White-tailed kite	--;--	Lowlands.
Eremophila alpestris actia	California horned lark	--;--	Open land devoid of large obstacles such as trees.
Falco peregrinus anatum	American peregrine falcon	--;--	Cliffs; near water.
Geothlypis trichas sinuosa	Saltmarsh common yellowthroat	--;--	Freshwater marsh habitat.
Haliaeetus leucocephalus	Bald eagle	--;CE	Lakes, marshes, and seacoasts
Melospiza melodia samuelis	San Pablo song sparrow	--;--	Salt marshes.
Pandion haliaetus	Osprey	--;--	It inhabits the areas around shallow waters, being sufficiently tolerant of human settlement to persist in suburban and sometimes urban environments.
Phalacrocorax auritus	Double-crested cormorant	--;--	This species habitat ranges widely, including sheltered marine waters such as estuaries, bays and mangrove swamps, rocky coasts and coastal islands, and inland on lakes, rivers, swamps, reservoirs and ponds.
Progne subis	Purple martin	--;--	Close to any water source.
Riparia	Bank swallow	--;CT	The species nests colonially in newly eroded banks of rivers, streams, lakes, reservoirs and coastal cliffs.
MAMMALS			
Antrozous pallidus	Pallid bat	--;--	Semi-arid locations; rocky, mountainous areas; near water.
Corynorhinus townsendii	Townsend's big-eared bat	--;--	Coniferous forests and woodlands; deciduous riparian woodland; semi-desert and montane shrublands.
Lasiurus blossevillii	Western red bat	--;--	Cities; forests.

LATIN NAME OF SPECIES	*COMMON NAME OF SPECIES*	*STATUS (FED/STATE)*	*HABITAT*
Myotis evotis	Long-eared myotis	--;--	Found in a wide range of habitats, but is most commonly found in mixed coniferous forests, from humid coastal areas to montane forests.
Myotis thysanodes	Fringed myotis	--;--	The fringed bat occurs in a variety of habitats from desert-scrub to fir-pine associations. Oak and pinyon woodlands appear to be the most commonly used vegetative associations. Roost sites may be in caves, mines, and buildings.
Myotis volans	Long-legged myotis	--;--	Forested regions. They establish roosts in trees, rock crevices, fissures in stream banks, and buildings.
Myotis yumanensis	Yuma myotis	--;--	This species is found in a variety of habitats, ranging from juniper and riparian woodlands to desert regions near open water.
Taxidea taxus	American badger	--;--	Prefers open areas and may also frequent brushlands with little ground cover.
FISHES			
Oncorhynchus mykiss irideus	Steelhead trout	FT; --	(Cold) fresh water.
Spirinchus thaleichthys	Longfin smelt	FC;CT	Habitat includes a wide range of temperature and salinity conditions in coastal waters near shore, bays, estuaries, and rivers.
INVERTEBRATE			
Bombus caliginosus	Obscure bumble bee	--;--	Open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests.
Bombus crotchii	Crotch bumble bee	--;--	Inhabits open grassland and scrub habitats.
Bombus occidentalis	Western bumble bee	--;--	Open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows
Caecidotea tomalensis	Tomales isopod	--;--	Slow-moving, vegetated water.
Calasellus californicus	An isopod	--;--	Freshwater.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT; --	Riparian; upland.
Hydrochara ricksecker	Ricksecker's water scavenger beetle	--;--	Riparian; upland; various.
Hydroporus leechi	Leech's skyline diving beetle	--;--	Riparian; upland; various.
Syncaris pacifica	California freshwater shrimp	FE;CE	Wetland.

SOURCE: CDFW CNDDB 2018.

NOTES: STATUS IS SHOWN FOR (FEDERAL, STATE). (--) INDICATES NO LISTING STATUS.

ABBREVIATIONS:

FT FEDERAL THREATENED

CE CALIFORNIA ENDANGERED

CT CALIFORNIA THREATENED

3.4.2 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 CDFW, 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 the General Plan.

FEDERAL

Federal Endangered Species Act

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

Clean Water Act

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing National Pollutant Discharge Elimination System (NPDES) permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-0001-DWQ) for small Municipal Separate Storm Sewer Systems (MS4s) covered under the CWA to efficiently regulate numerous stormwater discharges under a single permit. Permittees must comply with all requirements as specified under the general permit.

303(D) 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 General Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. The closest Section 303(d)-listed water body is the Napa River, located approximately 0.5 miles to the east of the General Plan area (at its closest point). The Napa River is listed as containing nutrients, pathogens, and sedimentation/siltation (California SWRCB, 2010).

STATE

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 Wildlife 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 Wildlife Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §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.

Public Resources Code § 21000 - 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. For example, species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the 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.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

LOCAL

Yountville Municipal Code

The existing Yountville Municipal Code includes the following chapters related to biological resources:

CHAPTER 12.16 TREES

This chapter has been adopted for the purpose of developing and providing for the planting, maintenance, and removal of trees which overhang the public street, and to establish rules and regulations relating to the planting, care, maintenance, removal, and replacement of such trees.

CHAPTER 17.64 C CREEKSIDE OVERLAY

The purpose of this chapter is: (A) to protect private and public lands from flood damage caused by deposits of debris and other materials collected by flood waters; (B) to protect the riparian cover and wildlife habitat extending along Hopper Creek by preventing erosion of the creek's banks and siltation of the creek's waters; (C) to preserve the existing natural and visual character of Hopper Creek and its environs; and (D) to promote the broader social, economic and environmental well-being of the Town.

CHAPTER 17.98 TREE PRESERVATION AND MANAGEMENT

The purpose of this chapter is to promote the health, safety, welfare, and quality of life of the residents through the protection of specified trees on private property and the establishment of standards for removal, maintenance, and planting of trees throughout town.

Napa County Resources Conservation District

The Napa County Resource Conservation District (RCD) was formed in 1945 and encompasses over 500 acres, including all of Napa County and a small portion of Solano County. The Napa County RCD includes the Napa River watershed from Mt. St. Helena to the Napa-Sonoma Marsh, much of the Putah Creek watershed, and the upper portion of the Suisun Creek watershed. It is a "Special District," a legal subdivision of the state, organized under Division 9 of the California Public Resources Code. Examples of other independent, special districts are Park and Open Space Districts, Mosquito Abatement Districts, and Flood Control and Water Conservation Districts.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the General Plan 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 Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally 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 3.4-1: General Plan implementation could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)

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

SPECIAL-STATUS PLANT SPECIES

The search revealed documented occurrences of 55 special-status plant species within the 9-quadrangle region for the General Plan area. Table 3.4-2 provides a list of special-status plant species that are documented within the 9-quadrangle region, their habitat, and current protective status.

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 programs intended to reduce or avoid impacts to special-status plant species. These policies and programs are listed below.

SPECIAL-STATUS ANIMAL SPECIES

The search revealed documented occurrences of 45 special-status animal species within the 9-quadrangle region for the General Plan area. This includes: five amphibians, twenty-one birds, two fish, nine invertebrates, eight mammals, and one reptile. Table 3.4-3 provides a list of the special-

status animal species that are documented within the 9-quadrangle region, their habitat, and current protective status.

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 programs intended to reduce or avoid impacts to special-status animal species. These policies and programs are listed below.

CONCLUSION

Construction and maintenance activities associated with future development and infrastructure projects under the proposed General Plan could result in the direct and indirect loss or indirect disturbance of special-status plant or wildlife (i.e. mammal, bird, amphibian, or reptile) 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 and infrastructure projects will be required to comply with the Town's General Plan and adopted Federal, State, and local regulations for the protection of special-status plants and animals, including habitat. The Town of Yountville General Plan includes numerous policies and programs intended to protect plants and animals, including habitat, from adverse effects associated with future development and infrastructure projects. Program OS-5.4b requires future projects to address project-related impacts to special-status species and sensitive habitats through a Biological Resources Assessment. While future development of the General Plan area has the potential to result in significant impacts to protected special-status plants and animals, including habitat, the implementation of the policies and programs listed below, as well as Federal and State regulations, would reduce impacts to these resources.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-5.1 Tree Planting. Encourage the planting and preservation of trees to provide shade, promote wildlife habitat, and benefit the air quality and beauty of Yountville.

> *Program OS-5.1a Tree Management. Continue to regulate the removal, cutting, and other activities detrimental to trees, and require the replanting of replacement trees as feasible.*
>
> *Program OS-5.1b Heritage Trees. Continue to identify and protect heritage trees that warrant additional tree protection measures to best manage and maintain a healthy urban forest.*
>
> *Program OS-5.1c Trees on Public Land. Protect native woodlands and significant trees on public lands to best manage and maintain a healthy urban forest.*

Policy OS-5.2 Preservation of Native Vegetation. Encourage preservation of native vegetation during the development review.

Policy OS-5.3 Native Riparian Vegetation. Protect and preserve native vegetation adjacent to Hopper Creek and Beard Ditch during construction.

Policy OS-5.4 Species Diversity and Habitat. Protect biological resources, including migratory birds, threatened and endangered species, sensitive and riparian habitat, wildlife movement corridors, nursery sites, and open space, that are necessary to maintain a diversity of plant and animal species.

> *Program OS-5.4a Agency Cooperation. Cooperate with State and federal agencies to ensure that development and infrastructure projects do not substantially adversely affect*

sensitive habitats or special status species appearing on the State or federal list for any rare, endangered, or threatened species.

Program OS-5.4b Species and Sensitive Habitat Analysis. Require development and infrastructure projects to address potential impacts to special-status species and sensitive habitats, including sensitive natural communities, wetlands, vernal pools, waters of the U.S, and wildlife migration corridors. Prior to approval, a Biological Resources Assessment shall be completed for the project site that evaluates the potential for biological resources (including any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service) and sensitive habitats to be found on the subject site or affected by the project. The Biological Resources Assessment shall include mitigation measures, if necessary, to reduce impacts to the associated species and/or habitats.

Impact 3.4-2: General Plan implementation would not result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant)

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

Agricultural ditches are located in the General Plan area along the existing agricultural uses. Additionally, the Villagio Ditch, Hopper Creek, and Hinman Creek are also located in the General Plan area. Scattered riparian habitat may exist along these aquatic areas. Primary Commercial land uses are proposed adjacent to the VIllagio Ditch, Mixed Residential land uses are proposed adjacent to Hopper Creek, and Public Facilities land uses are proposed adjacent to Hinman Creek. Future construction and operation within the vicinity of these aquatic resources would be required to comply with all applicable laws and regulations, so as not to disturb existing habitat.

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

Because the proposed General Plan is a planning document and thus, no physical changes will occur to the environment, adoption of the General Plan 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 Town's General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The Town of Yountville General Plan includes numerous policies and programs intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, compliance with existing Federal and State regulations would reduce impacts to these resources.

General Plan Policy OS-2.3 requires protection and maintenance of existing natural watercourses, and two of the supporting programs (Program OS-2.3a and OS-2.3b) specifically mention Hopper Creek and Hinman Creek. These two programs also call for maintenance of the native vegetation within the banks and along the frontages of these two creeks. Program OS-5.4b requires future projects to address project-related impacts to sensitive habitats, including wetlands, vernal pools, and other waters of the U.S., through a Biological Resources Assessment. Additionally, compliance with water quality policies and programs detailed below would be required.

Compliance with the Town's General Plan policies and programs, as well as existing Federal and State regulations, would ensure that this impact is **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-2.3 Natural Watercourses. Protect and maintain existing natural watercourses.

> *Program OS-2.3a Hopper Creek. Maintain the existing watercourse of Hopper Creek and native vegetation within its bank and along its frontage.*
>
> *Program OS-2.3b Hinman Creek. Maintain the existing watercourse of Hinman Creek and native vegetation within its bank and along its frontage.*
>
> *Program OS-2.3c Hopper Creek Concrete Channel. Consider evaluating the appropriateness of maintaining the concrete channel portion of Hopper Creek, taking into consideration findings from a hydrological study and impacts on adjacent properties.*

Policy OS-5.4 Species Diversity and Habitat. Protect biological resources, including migratory birds, threatened and endangered species, sensitive and riparian habitat, wildlife movement corridors, nursery sites, and open space, that are necessary to maintain a diversity of plant and animal species.

Program OS-5.4a Agency Cooperation. Cooperate with State and federal agencies to ensure that development and infrastructure projects do not substantially adversely affect sensitive habitats or special status species appearing on the State or federal list for any rare, endangered, or threatened species.

Program OS-5.4b Species and Sensitive Habitat Analysis. Require development and infrastructure projects to address potential impacts to special-status species and sensitive habitats, including sensitive natural communities, wetlands, vernal pools, waters of the U.S, and wildlife migration corridors. Prior to approval, a Biological Resources Assessment shall be completed for the project site that evaluates the potential for biological resources (including any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service) and sensitive habitats to be found on the subject site or affected by the project. The Biological Resources Assessment shall include mitigation measures, if necessary, to reduce impacts to the associated species and/or habitats.

Policy OS-6.4 Water Quality. Protect water resources from pollution and sedimentation.

Program OS-6.4a Best Management Practices. Require new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design, to naturally filter and biodegrade contaminants and to minimize surface runoff into drainage systems and creeks.

Program OS-6.4b NPDES Compliance. Ensure that new development, redevelopment, and infrastructure projects comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.

Program OS-6.4c Permeable Surfaces. Encourage use of pervious materials to aid in stormwater treatment and infiltration.

Program OS-6.4d Integrated Pest Management. Continue to utilize integrated pest management techniques to reduce the use of potentially toxic chemicals in Town operations.

Program OS-6.4e Fertilizer Use. Continue to encourage the use of organic soil amendments to replace chemical fertilizers as practicable on public and private property.

Program OS-6.4f Public Outreach. Encourage residents and businesses to use organic and non-toxic alternatives to chemical fertilizers and toxic herbicides, pesticides, and rodenticides and consider restricting the use of toxic chemicals as practicable.

Program OS-6.4g Public Education. Publicize the impacts on water quality caused by discarding toxins and waste into domestic stormwater and waste systems.

Impact 3.4-3: General Plan implementation may result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDB search revealed one sensitive natural community, Northern Vernal Pool, within the 9-quadrangle region for Yountville. This sensitive natural community is not located within the Yountville SOI.

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. The Town contains four aquatic habitats that qualify as sensitive habitat: existing agricultural ditches, Villagio Ditch, Hopper Creek, and Hinman Creek.

The majority of the area surrounding and adjacent to these sensitive habitats are already built out and developed with urban uses. There are two areas within the Town that are vacant and/or underutilized that are located adjacent to aquatic habitats. The first location is located in the northern portion of the Town limits, adjacent to the Town limits and north of Yountville Cross Road. This first location is designated Agricultural by the proposed Land Use map and is currently used as a vineyard. The second location is located in the eastern portion of the Town limits, adjacent to the Town limits and northwest of Land Lane. This second location is designated Mixed Residential by the proposed Land Use map. The majority of this second location is used as a vineyard and the remainder contains the St. Joan of Arc Catholic Church (located along Washington Street).

Subsequent development projects, including those potential future projects in the two aforementioned vacant and/or underutilized areas, will be required to comply with the Town's General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. The Town of Yountville General Plan includes numerous policies and programs intended to protect sensitive habitats, including riparian habitat, from adverse effects associated with future development and improvement projects.

General Plan Policy OS-2.3 requires protection and maintenance of existing natural watercourses, and two of the supporting programs (Program OS-2.3a and OS-2.3b) specifically mention Hopper Creek and Hinman Creek. These two programs also call for maintenance of the native vegetation within the banks and along the frontages of these two creeks. Additionally, Policies OS-5.2 and OS-5.3 encourage the protection and preservation of native vegetation. Further, Policy OS-5.4 and associated programs aim to protect biological resources, including migratory birds, threatened and endangered species, sensitive and riparian habitat, wildlife movement corridors, nursery sites, and open space, that are necessary to maintain a diversity of plant and animal species.

While future development has the potential to result in significant impacts to protected habitats, compliance with the General Plan policies and program detailed below, in conjunction with existing Federal and State regulations protecting riparian habitat and sensitive natural communities, would ensure that this impact is **less than significant**.

GENERAL PLAN POLICIES AND PROGRAM THAT MITIGATE POTENTIAL IMPACTS

Policy OS-2.3 Natural Watercourses. Protect and maintain existing natural watercourses.

> *Program OS-2.3a Hopper Creek. Maintain the existing watercourse of Hopper Creek and native vegetation within its bank and along its frontage.*
>
> *Program OS-2.3b Hinman Creek. Maintain the existing watercourse of Hinman Creek and native vegetation within its bank and along its frontage.*
>
> *Program OS-2.3c Hopper Creek Concrete Channel. Consider evaluating the appropriateness of maintaining the concrete channel portion of Hopper Creek, taking into consideration findings from a hydrological study and impacts on adjacent properties.*

Policy OS-5.2 Preservation of Native Vegetation. Encourage preservation of native vegetation during the development review.

Policy OS-5.3 Native Riparian Vegetation. Protect and preserve native vegetation adjacent to Hopper Creek and Beard Ditch during construction.

Policy OS-5.4 Species Diversity and Habitat. Protect biological resources, including migratory birds, threatened and endangered species, sensitive and riparian habitat, wildlife movement corridors, nursery sites, and open space, that are necessary to maintain a diversity of plant and animal species.

> *Program OS-5.4a Agency Cooperation. Cooperate with State and federal agencies to ensure that development and infrastructure projects do not substantially adversely affect sensitive habitats or special status species appearing on the State or federal list for any rare, endangered, or threatened species.*
>
> *Program OS-5.4b Species and Sensitive Habitat Analysis. Require development and infrastructure projects to address potential impacts to special-status species and sensitive habitats, including sensitive natural communities, wetlands, vernal pools, waters of the U.S, and wildlife migration corridors. Prior to approval, a Biological Resources Assessment shall be completed for the project site that evaluates the potential for biological resources (including any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service) and sensitive habitats to be found on the subject site or affected by the project. The Biological Resources Assessment shall include mitigation measures, if necessary, to reduce impacts to the associated species and/or habitats.*

Impact 3.4-4: General Plan implementation may result in interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites nursery sites (Less than Significant)

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

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

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the General Plan area. There is a reasonable chance that movement corridors could be impacted throughout the buildout of the individual projects in the General Plan area. While the agricultural areas are not migratory wildlife corridors, some species may move through these areas. Hopper Creek, however, could provide a more significant movement habitat for a limited variety of wildlife species. It is anticipated that development in this area will include appropriate buffers/setbacks and preserve the habitat along Hopper Creek, as required by the General Plan and Zoning Ordinance, and that implementation of an individual project adjacent to the Hopper Creek would require a detailed and site-specific review of the site to determine any impact on the movement habitat along Hopper Creek.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. The Town of Yountville General Plan includes two policies (Policies OS-2.1 and 2.2) to protect open space characteristics, including movement corridors, from adverse effects associated with future development and improvement projects. Program OS-5.4b requires future projects to address project-related impacts to sensitive habitats, including wildlife movement corridors, through a Biological Resources Assessment. While future development has the potential to result in significant impacts to protected movement corridors, the implementation of the policies and

programs listed below, as well as Federal and State regulations, would ensure impacts to these resources to a **less than significant** level.

GENERAL PLAN POLICIES THAT MITIGATE POTENTIAL IMPACTS

Policy OS-2.1 Open Space. Establish open space within unbuilt parcels where needed to reinforce or extend the existing network of open space throughout the town.

Policy OS-2.2 Existing Open Space. Preserve and protect existing open space areas, including parks, trails, greenways and Hopper Creek, shown in Figure OS-1 Parks and Open Space Areas.

Policy OS-5.4 Species Diversity and Habitat. Protect biological resources, including migratory birds, threatened and endangered species, sensitive and riparian habitat, wildlife movement corridors, nursery sites, and open space, that are necessary to maintain a diversity of plant and animal species.

> *Program OS-5.4a Agency Cooperation. Cooperate with State and federal agencies to ensure that development and infrastructure projects do not substantially adversely affect sensitive habitats or special status species appearing on the State or federal list for any rare, endangered, or threatened species.*
>
> *Program OS-5.4b Species and Sensitive Habitat Analysis. Require development and infrastructure projects to address potential impacts to special-status species and sensitive habitats, including sensitive natural communities, wetlands, vernal pools, waters of the U.S, and wildlife migration corridors. Prior to approval, a Biological Resources Assessment shall be completed for the project site that evaluates the potential for biological resources (including any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service) and sensitive habitats to be found on the subject site or affected by the project. The Biological Resources Assessment shall include mitigation measures, if necessary, to reduce impacts to the associated species and/or habitats.*

Impact 3.4-5: General Plan implementation would not result in conflicts with 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. The General Plan itself does not conflict with its policies. Subsequent development projects will be required to comply with the General Plan policies, as well as the Municipal Code. Implementation of the policy and programs listed below would ensure consistency with already established ordinances. This is a **less than significant** impact.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-5.1 Tree Planting. Encourage the planting and preservation of trees to provide shade, promote wildlife habitat, and benefit the air quality and beauty of Yountville.

Program OS-5.1a Tree Management. Continue to regulate the removal, cutting, and other activities detrimental to trees, and require the replanting of replacement trees as feasible.

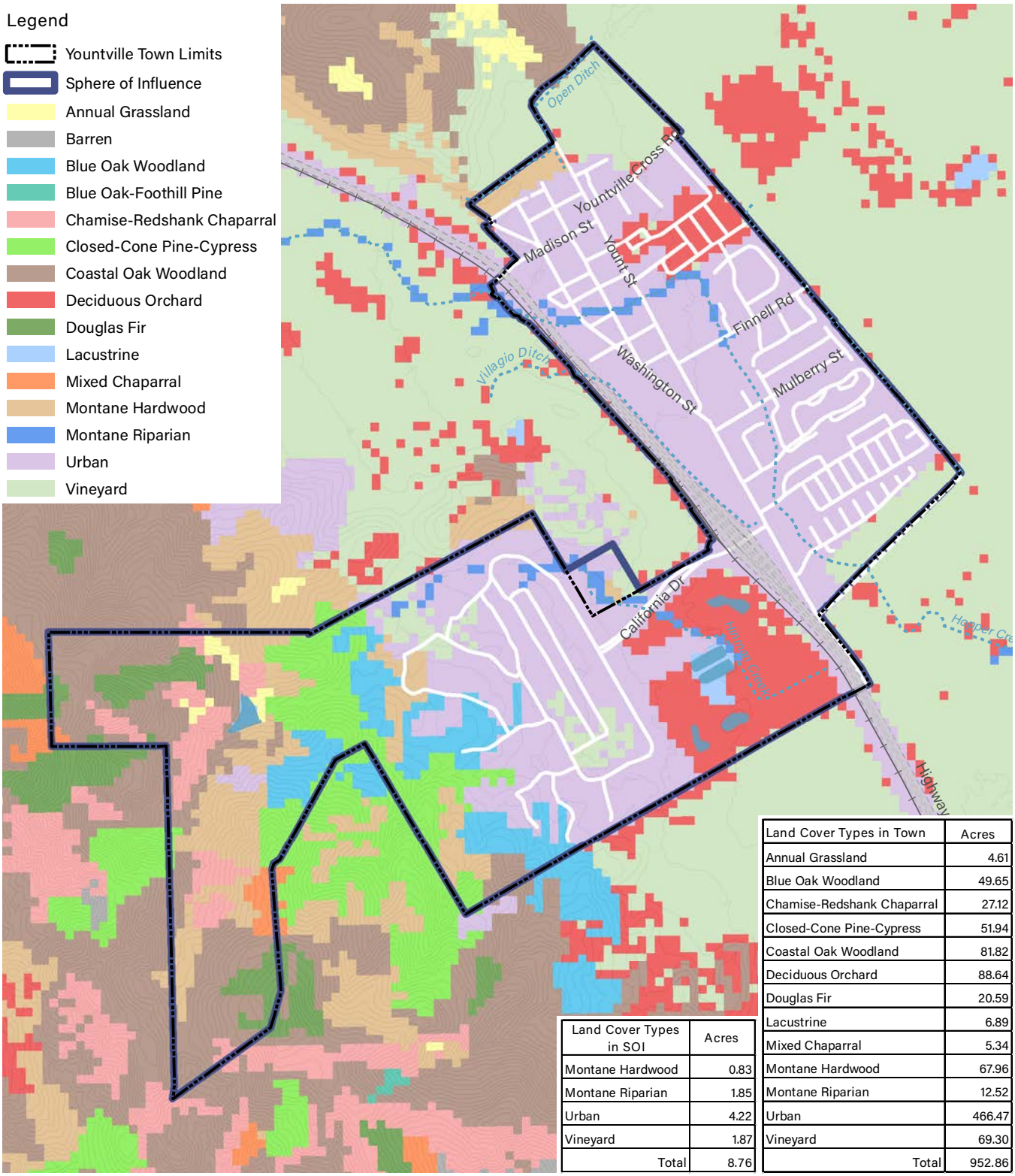
Program OS-5.1b Heritage Trees. Continue to identify and protect heritage trees that warrant additional tree protection measures to best manage and maintain a healthy urban forest.

Program OS-5.1c Trees on Public Land. Protect native woodlands and significant trees on public lands to best manage and maintain a healthy urban forest.

Impact 3.4-6: General Plan implementation would not result in conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

The General Plan area is not subject to an adopted habitat conservation plan or natural community conservation plan. Therefore, implementation of the proposed General Plan would have **no impact** relative to this topic.

Figure 3.4-1. Land Cover Types



Land Cover Types in SOI	Acres
Montane Hardwood	0.83
Montane Riparian	1.85
Urban	4.22
Vineyard	1.87
Total	8.76

Land Cover Types in Town	Acres
Annual Grassland	4.61
Blue Oak Woodland	49.65
Chamise-Redshank Chaparral	27.12
Closed-Cone Pine-Cypress	51.94
Coastal Oak Woodland	81.82
Deciduous Orchard	88.64
Douglas Fir	20.59
Lacustrine	6.89
Mixed Chaparral	5.34
Montane Hardwood	67.96
Montane Riparian	12.52
Urban	466.47
Vineyard	69.30
Total	952.86

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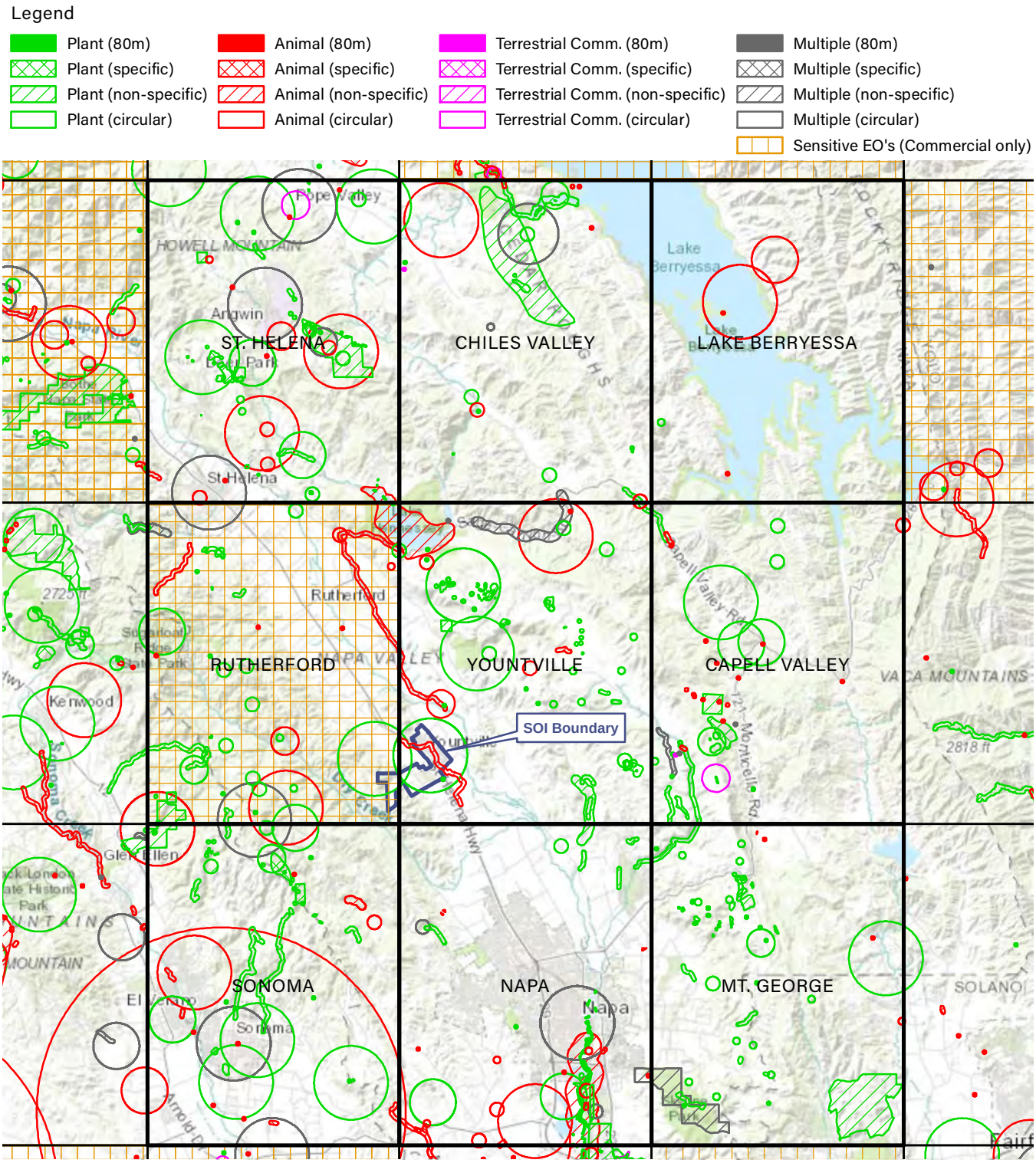
Figure 3.4-2. Special Status Species - 9 Quad Search



CNDDB version 08/2018. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

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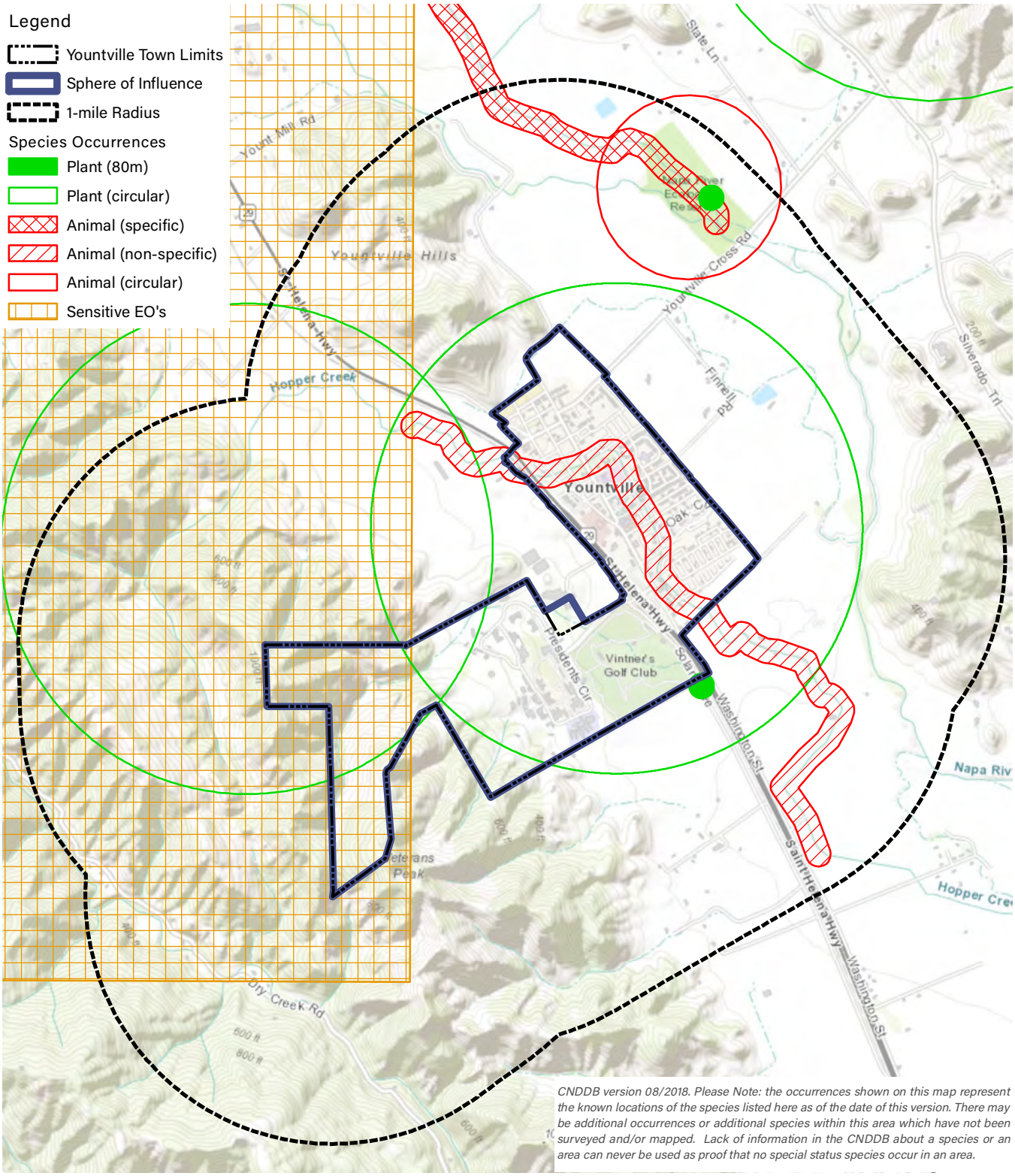
Figure 3.4-3. Special Status Species - 1-mile Radius



CNDDB version 08/2018. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

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This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures.

Comments were received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic from the following: Native American Heritage Commission (NAHC) (September 4, 2018). The concerns in this letter are addressed in this chapter.

3.5.1 ENVIRONMENTAL SETTING

GENERAL PLAN AREA

The Town of Yountville is located in Napa County, approximately 40 miles north of San Francisco and 50 miles southwest of Sacramento. The Town comprises approximately 1.5 square miles, straddling Highway 29 in the heart of the Napa Valley, located between the cities of Napa and St. Helena. Figure 2.0-2 in Chapter 2.0, Project Description, shows the Yountville Town Limits and the adopted SOI.

The General Plan area is located within Section 25 of Township 7 North, Range 5 West Mount Diablo Meridian. The General Plan area is located on the Yountville and the Rutherford, California, 7.5-minute series quadrangle maps.

PREHISTORY

The first regional synthesis of North Coast Ranges prehistory was formulated by Meighan (1955), which defined six complexes: Borax Lake, Mendocino, McClure, Wooden Valley, Clear Lake, and Shasta. Subsequently, Fredrickson (1973) recognized four patterns in the North Coast Ranges.

The earliest pattern is the Borax Lake Pattern, which he originally divided into two aspects: The Borax Lake aspect and the Thomes Creek Aspect. The early phase of the Borax Lake Pattern -- the Borax Lake Aspect -- is assigned by Fredrickson (1973) to the Early Archaic Period (6000 B.C. to 3000 B.C.). The millingstone (i.e. metate) and mano are common in this period, and Fredrickson believed that the people of these times were adapted primarily to grass seed collection and hunting, with a decided emphasis on the latter. The population units were small and highly mobile, and the entire social groups systematically moved to targeted, key resources. There was little occupation specialization in this adaptive strategy. Sites were often located above 5000 feet in elevation.

The Mendocino Aspect was characterized by Concave Base and Willits Side Notch projectile points, manos and metates, and also the mortar and pestle. Sites generally occur in low elevation. This aspect existed in the area south and west of Clear Lake, and began no earlier than 3000 B. C. on the north shores of the lake. The late Borax Lake Aspect, which continued to occupy the northern end of the lake, was characterized by Wide Stem and Concave Base points and manos and metates, with no mortar and pestle. Around 1 B.C., on the east side of the lake basin, the Mendocino Aspect is replaced or assimilated by the Houx Aspect of the Berkeley Pattern, which emanated from the shores of San Francisco Bay to the south.

The characteristic artifacts of the Houx Aspect of the Berkeley Pattern are the Excelsior point series, Houx Wide Stems, "burinated flakes," and the heavy use of the bowl mortar and pestle. The processing of acorns is obviously of considerable importance to the Houx economy. Hunting is also inferred to be of importance because of the large number of projectile points found in many sites. The Houx Aspect endured until the beginning of the Emergent Period -- circa A.D. 500.

Hildebrandt and Hayes (1983) suggest that the Emergent Period was characterized by changes consisting of relative, if not absolute, population increase due to influxes of new peoples and a reduced resource base. The adaptational strategy changed from "foraging" to "collecting." The Emergent Period is characterized by the appearance of small comer-notched, side-notched, and triangular projectile points; the hopper mortar and pestles; clam shell disc beads; and smoking pipes -- all traits of the Augustine Pattern.

ETHNOLOGY

The Yountville General Plan area lies within the territory of the Southern Wappo. The named village of *Caymusa* is recorded just north of the Town, as identified by Sawyer in 1978. Wappo is a dialect of the Yukian language, which also includes Yuki, Coast Yuki, and Huchnom. Wappo is also the name given to the Wappo-speaking people by the Spanish. The word Wappo is derived from the Spanish word guapo, which means brave. This name apparently originated from the Wappo resistance to the infusion of Europeans in the eighteenth and nineteenth centuries into their territory in the Napa Valley.

The Wappo dialect appears to have diverged considerably from the other dialects, suggesting that the Wappo-speaking people operated more freely from the other groups and also may have been separated temporally by 500 years. The Wappo language was influenced by languages of surrounding groups, including the Lake and Coast Miwok, Southern Pomo, and certain Wintun groups.

The Wappo dialects were spoken in a territory that consisted of two divisions. The small division existed in just a 5-square-mile radius, south of Clear Lake. The larger division extended from just north of Napa and Sonoma in the south to Cloverdale and Middletown in the north. Wappo territory extended farther in summer, as there is evidence that the Wappo made annual summer trips to Clear Lake and the Pacific Ocean. The permanent habitation site south of Clear Lake in the smaller division may have been a result of such annual summer trips.

Both ethnographic information from Elmendorf and archaeological evidence from Heizer's extensive research in Napa suggest that the Wappo may have been among the first settlers and groups to use the Napa Glass Mountain area around 2000 B.C. However, the Wappo appear to diverge from neighboring groups such as the Pomo and other Yukian-speaking peoples physically and linguistically. Later in Wappo history, the Wappo were clearly influenced by the surrounding cultures and languages. Evidence points to the possibility that differences among the surrounding groups were a result of Wappo migration into the area. The Wappo were generally

a minority in their region, but they appeared to have maintained generally good relationships with neighboring groups with some exceptions.

The sociopolitical unit of the Wappo was the village, which was generally located along a creek or another water source and included either one or two sweathouses, depending on the size of the village. Although Kroeber claims that the population of the Wappo never exceeded 1,000 people, later evidence suggests that the Wappo had a minimum of seven villages in the Geyserville area. The population of Wappo in this region alone may have exceeded 1,500 people.

The Wappo's unsuccessful battle against the Spanish is evident in the mission records of the period. Most Wappo from all territories were brought to the Mission at Sonoma between 1823 and 1834, and many of the remaining Wappo were used as labor. In 1854, the Wappo of the Russian River Valley, whose population likely included Wappo from territories within Napa County, were moved to a reservation in Mendocino. Within two years, nearly half of the population had died; the reservation was closed in 1867. In 1855, according to George Yount, approximately 500 Wappo remained in the Napa Valley.

After 1822, when Mexico declared itself independent of Spain, the expansion of land grants and encouragement of settlement intensified the problems of the Native populations. Enslavement of the Indians was a common practice as the rancheros needed a large labor force.

HISTORIC PERIOD BACKGROUND

George C. Yount arrived in California as part of the Wolfskill party in 1831. Soon after his arrival, he worked hunting otters on the coast in the Santa Barbara area. In 1833, he became trapping beaver in the San Francisco Bay area, and on the San Joaquin River. At the end of the year, he moved to the area of missions San Rafael and Sonoma, and he was engaged by the mission fathers to repair the mission buildings. Yount stayed for almost three years at the missions, and became baptized in 1835 at Mission San Rafael.

Yount then settled in the Napa Valley, on lands that became the Caymus rancho. The rancho of 11,814 acres was awarded to Yount in 1836, the first land grant in Napa County. In 1843, a second land grant was given to Yount, Rancho de la Jota, located to the north of the original grant and containing timbered lands as documented by Hoover, Rensch and Rensch in 1970.

Rancho Napa was originally granted to Don Salvador Vallejo and his wife, Maria de la Cruz Carrillo in 1838 by Governor Alvarado. The couple sold portions of the grant over time, particularly the sections away from the Napa River. James Harbin and Otto Frank both purchased portions of the rancho. Harbin's portion totaled 665 acres, with a plat prepared and filed with the U.S. Surveyor's Office in 1881. Yountville was extended southward onto Harbin's land.

In 1836, Yount built a Kentucky blockhouse on his property with the help of Native Americans formerly associated with one of the missions, perhaps the only one ever built in California. In 1837, the blockhouse was superseded by an adobe fort, pre-dating Sutter's Fort by two years. Yount also had established both a sawmill and a flouring mill on his property. Yount's building

appears to have been located about two miles northwest of Yountville. Yount died in 1865, and is buried in the cemetery at the northern end of Yountville.

In the early 1850s, George Yount had a small village site (six blocks and six streets, with a public square) laid out above his southern boundary and between the county road on the east and Charles Hopper's plot line on the west. In 1856, Yount had a two-story building constructed, the first building in Yountville.

The second building appears to have been the Masonic Lodge (Caymus Lodge #92), that Yount founded. Sometime later in 1855, David Wise built the Sebastopol Exchange. In March 1857 Elizabeth Clayton built the White House Hostelry. By the end of 1856, the town had a blacksmith shop, a hotel, a store and a cemetery.

The Yountville Cemetery was just outside of the 1855 town layout. Although reserved for the town, it was not specifically recorded and remained in Yount's name. The cemetery was sold at the 1870 auction of Yount's for $1 and was held by the family until 1892 when Yount's granddaughter conveyed title to the Yountville Cemetery Association for a token $10.

The town initially was named "Sebastopol", even though there was another community with that name in California. The name of the community officially became "Yountville" in 1867.

Yountville grew slowly and steadily until the Napa Valley Railroad reached the town in 1868, and the growth rate accelerated with the availability of rapid transportation for the agricultural production in the region. The first brick railroad station was apparently located along the tracks a half mile south of Madison and the county road intersection.

When George Yount died in 1865, he specified in his will that no distribution of his unsold lands could take place until five years after his death. At auction in 1870, San Francisco wine merchant Gottlieb Groezinger purchased all the unsold lots in Yountville. Groezinger built one of the largest and best-equipped brick wine cellars right across from the railroad station. He also laid out an additional ten blocks for the rest of the town south of Madison, and built brick stables, a brick barn and a distillery, as well as acquiring over 900 acres in the area. The growth of the wine industry and the prosperity brought an influx of new settlers to the community.

Due to the expansion of the Town's boundaries, the Veterans Home of California now lies within Yountville. The Veterans Home Association incorporated in 1882, and opened in 1884 to provide care for 42 veterans. By 1899, there were 800 veterans housed in the facility, and there were 45 buildings. The Veterans Home Association donated the facility to the State of California. Currently, there are approximately 1,000 aged and disabled veterans living at the facility.

The Town has remained a center of the wine industry, and is now important for tourism and related dining enterprises.

CULTURAL RESOURCES IN GENERAL PLAN AREA

California Historical Landmark

There is one designated historical landmark within Yountville: the Veteran's Home of California is designated California Historical Landmark 828 (Primary # P-28-001874).

Cultural Resources

Seventeen cultural resources have been identified within the Town of Yountville General Plan area, according to files maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). The seventeen recorded cultural resources span both the prehistoric and historic periods and range from a Native American village site to historic period commercial buildings and homes and two historic districts (see Table 3.5-1).

TABLE 3.5-1: RESOURCES LISTED WITH THE NORTHWEST INFORMATION CENTER FILE DIRECTORY

PROPERTY #	*ADDRESS*	*TYPE/PERIOD*	*NAME*
P-28-00274/CA-NAP-370	Not Listed	Prehistoric period village site	Not Listed
P-28-000334/CA-NAP-438	Not Listed	Prehistoric period village site	Not Listed
P-28-000442/CA-NAP-559	Not Listed	Prehistoric period village site	Not Listed
P-28-000511/CA-NAP-633/H	Not Listed	Prehistoric and historic period artifact scatter	Vineyard Station
P-28-000811	Not Listed	Foundations	Veterans Home Nursery/ Veterans Home Florist Department
P-28-000964	2210 Webber Street, Yountville	Single family property	Not Listed
P-28-000965	2200 Webber Road, Yountville	Single family property	Not Listed
P-28-000966	Not Listed	Railroad grade, track, trestles	Southern Pacific Railroad/Napa Valley Wine Train/Napa Valley Railroad
P-28-001291	Not Listed	Prehistoric period artifact scatter	Not Listed
P-28-001202	6464 Washington Street, Yountville	Single family property	Not Listed
P-28-001203	6424 Champagne Street, Yountville	Single family property	Not Listed
P-28-001409	Not Listed	Industrial/ Government building	Boiler Plant/Power Plant/ Contributing Feature Veterans Home of California Historic District
P-28-001547	Not Listed	Historic period district	Napa Valley Railroad District
P-28-001611	Not Listed	Cemetery	Contributing Feature Veterans Home of California Historic District
P-28-001807	6702 Washington Street, Yountville	Single family property	Not Listed
P-28-001873	Not Listed	Church site	Site of the Christian Church/ City Park/Christian (Disciples of Christ) Church
P-28-001874	Not Listed	Historic period district	Veterans Home of California Historic District

SOURCE: NORTHWEST INFORMATION CENTER RECORDS SEARCH, 2017

Historic Properties

One hundred and four additional buildings within the Town of Yountville General Plan area are identified on the Napa County Historic Property Data File Directory (see Table 3.5-2). The properties listed with an NRS Code "1" are National Register or California Register properties. Those listed with a "2" are formally "determined eligible." Properties listed with an NRS Code "3" are properties that "appear eligible." Properties listed with an NRS Code "6" are properties "not eligible as specified for the National Register," but those with an NRS code "6Y" could be eligible for the California Register or a local listing. Properties with an NRS Code "7" are not evaluated and do not need re-evaluation for the National Register or the California Register.

TABLE 3.5-2: BUILDINGS LISTED ON THE NAPA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

PROPERTY #	*NRS CODE*	*ADDRESS*	*YEAR BUILT*	*NAME*
000583	1CL	California Drive, Yountville	1929	Veterans Home Duplex 0-8-47
000562	1D/7L	Veterans Home, California Drive, Yountville	1918	Veterans Home of California Chapel
000543*	1S	6525 Washington Street, Yountville	1870	Groezinger Wine Cellars
000546*	1S	6640 Washington Street, Yountville	1900	The French Laundry
000554*	1S/2S	6610 Webber Street, Yountville	1870	John Lee Webber House / Grigsby-Webber House
000547*	1S/3S	6711 Washington Street, Yountville	1894	Charles Rovegno House / Burgundy House
000564	3B	Veterans Home, California Drive, Yountville	1929	Veterans Home Abraham Lincoln Hall
000584	3D	California Drive, Yountville	1929	Veterans Home Duplex 0-9-47
000585	3D	California Drive, Yountville	1929	Veterans Home Residence 0-10-48
000586	3D	California Drive, Yountville	1920	Veterans Home Residence 0-11-49
000581	3D	California Drive, Yountville	1939	Veterans Home Residence 6-0
000587	3D	California Drive, Yountville	1922	Veterans Home Residence 0-12-50
000580	3D	California Drive, Yountville	1939	Veterans Home Cottage No. 1
000579	3D	California Drive, Yountville	1935	Veterans Home Fire Station
000578	3D	California Drive, Yountville	1923	Veterans Home Gambrel Barn
000577	3D	California Drive, Yountville	1923	Veterans Home Barracks Mansion
000576	3D	California Drive, Yountville	1930	Veterans Home Guard House
000575	3D	California Drive, Yountville	1910	Veterans Home Main Baggage
000574	3D	California Drive, Yountville	1931	Veterans Home Boiler Plant
000573	3D	California Drive, Yountville	1898	Veterans Home Bowling Alley
000589	3D	California Drive, Yountville	1929	Veterans Home Duplex E-2-52
000588	3D	California Drive, Yountville	1928	Veterans Home Residence 0-14-51

TABLE 3.5-2: BUILDINGS LISTED ON THE NAPA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

PROPERTY #	*NRS CODE*	*ADDRESS*	*YEAR BUILT*	*NAME*
000590	3D	California Drive, Yountville	1929	Veterans Home Duplex E-3-52
000582	3D	California Drive, Yountville	1939	Veterans Home Cottage #3
000594	3D	California Drive, Yountville	1939	Veterans Home Residence E-6-54
000595	3D	California Drive, Yountville	1900	Veterans Home Tin Shop
000592	3D	California Drive, Yountville	1929	Veterans Home Duplex E-5-53
000593	3D	California Drive, Yountville	1939	Veterans Home Residence E-8-55
000591	3D	California Drive, Yountville	1929	Veterans Home Duplex E-4-53
000567	3D	Veterans Home, California Drive, Yountville	1939	Veterans Home, Teddy Roosevelt Section
000568	3D	Veterans Home, California Drive, Yountville	1938	Veterans Home ER 2 Residence
000569	3D	Veterans Home, California Drive, Yountville	1938	Veterans Home Medical Center
000565	3D	Veterans Home, California Drive, Yountville	1930	Veterans Home William McKinley Center
000563	3D	Veterans Home, California Drive, Yountville	1932	Veterans Home and Medical Hospital
000566	3D	Veterans Home, California Drive, Yountville	1929	Veterans Home Company C Woodrow Wilson
000572	3D	Veterans Home, California Drive, Yountville	1899	Veterans Home Bandstand
000570	3D	Veterans Home, California Drive, Yountville	1934	Veterans Home Post Exchange
000571	3D	Veterans Home, California Drive, Yountville	1898	Veterans Home Ice Plant
000502	3S	California Drive, Yountville	1884	California Veterans Home
000556	3S	Humboldt Road, Yountville	1896	Theodore Whitton House
000539	3S	6871 Jefferson Street, Yountville	1897	John D. Wichels House
000501	3S	6150 Silverado Trail, Yountville	1888	Stags Leap Manor
000553	3S	Washington Street, Yountville	1885	Fawver House
000542	3S	6505 Washington Street, Yountville	1888	Yountville Southern Pacific Depot
000544	3S	6525 Washington Street, Yountville	1870	Yountville Napa Valley Railroad Depot
000545	3S	6534 Washington Street, Yountville	1875	Gibbs Building, Bartletts Interior Design
000549	3S	6770 Washington Street, Yountville	1924	Tonascia Market
000555	3S	6529 Yount Street, Yountville	1873	Magnolia Hotel
000557	3S	6550 Yount Street, Yountville	1820	Yountville School
000558	3S	6617 Yount Street, Yountville	1876	Yountville Community Church
000561	3S	1980 Yountville Crossroad, Yountville	1935	Octagon Barn
073924	6X	6790 Washington Street, Yountville	Not Listed	Cozy Corner Café
139231	6Y	6424 Champagne Street, Yountville	1900	Not Listed
101325	6Y	1940 Mount Street, Yountville	1920	Not Listed

TABLE 3.5-2: BUILDINGS LISTED ON THE NAPA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

PROPERTY #	*NRS CODE*	*ADDRESS*	*YEAR BUILT*	*NAME*
139232	6Y	6464 Washington Street, Yountville	1890	Not Listed
000496	7B	Cook Road, Yountville	1840	Younts Grist Mill
090857	7L	Not Listed	Not Listed	Stage Stop Building
000550	7N	Jackson Street, Yountville	1848	Pioneer Cemetery / Indian Burial Ground
000540	7N	6903 Jefferson Street, Yountville	1906	Cassaday House
000552	7N	Madison Street, Yountville	1861	Christian (Disciples of Christ) Church
000560	7N	Madison Street, Yountville	1850	Masonic Hall
000498	7N	7554 St. Helena Way, Yountville	1875	Meyer-Lincoln Ranch, Lincoln Ranch
000548	7N	6720 Washington Street, Yountville	1900	Not Listed
000559	7N	6627 Yount Street, Yountville	1890	Benedetti House
000500	7N	Yountville Crossroad, Yountville	1858	Campgrounds, Old Campground Site
000551	7N/7L	Jackson Street, Yountville	1865	George C. Yount Grave and Monument
000499	7R	North State Lane, Yountville	1854	Younts Second Adobe
000520	7R	Veterans Home, Yountville	1947	Shops-Grounds and Masons
000511	7R	Veterans Home, Yountville	1950	Women Barracks, Section H Kennedy
000512	7R	Veterans Home, Yountville	1952	Women Employees Residential
000504	7R	Veterans Home, Yountville	1957	West Wing, Holderman Hospital Wing
000513	7R	Veterans Home, Yountville	1949	Administration
000506	7R	Veterans Home, Yountville	1949	Franklin Roosevelt Annex I
000514	7R	Veterans Home, Yountville	1944	Mess Hall, Main Dining Room
000508	7R	Veterans Home, Yountville	1941	George Washington Hall, Section E
000515	7R	Veterans Home, Yountville	1956	Theater, Recreation, Post Exchange
000510	7R	Veterans Home, Yountville	1950	James Madison, Section G
000516	7R	Veterans Home, Yountville	1951	Laundry
000505	7R	Veterans Home, Yountville	1962	Clement Miller Memorial Med Center
000517	7R	Veterans Home, Yountville	1954	Not Listed
000503	7R	Veterans Home, Yountville	1949	East Wing, Holderman Hospital Wing
000507	7R	Veterans Home, Yountville	1955	Dwight Eisenhower, Annex II
000509	7R	Veterans Home, Yountville	1950	Harry Truman, Section F
000518	7R	Veterans Home, Yountville	1951	US Post Office
000519	7R	Veterans Home, Yountville	1952	Veterans Rehabilitation Center
000521*	7R	Veterans Home, Yountville	1959	Veterans Home Memorial Chapel
000522	7R	Veterans Home, Yountville	1951	Hostess House

TABLE 3.5-2: BUILDINGS LISTED ON THE NAPA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

PROPERTY #	NRS CODE	ADDRESS	YEAR BUILT	NAME
000538	7R	Veterans Home, Yountville	1950	Residence 25 – 14
000530	7R	Veterans Home, Yountville	1948	Residence 17 – 75
000531	7R	Veterans Home, Yountville	1947	Residence 18 – 76
000537	7R	Veterans Home, Yountville	1950	Residence 24
000523	7R	Veterans Home, Yountville	1973	Security Headquarters
000536	7R	Veterans Home, Yountville	1948	Residence 23 – 81
000524	7R	Veterans Home, Yountville	1950	Open Air Theater
000525	7R	Veterans Home, Yountville	1961	Borman Field / Borman Field Grandstand
000526	7R	Veterans Home, Yountville	1965	Swimming Pool, Swimming Pool Building
000527	7R	Veterans Home, Yountville	1947	Picnic Area Buildings
000528	7R	Veterans Home, Yountville	1955	Residence 01 – 70
000535	7R	Veterans Home, Yountville	1948	Residence 22 – 80
000534	7R	Veterans Home, Yountville	1947	Residence 21 – 79
000532	7R	Veterans Home, Yountville	1947	Residence 0 – 19
000533	7R	Veterans Home, Yountville	1948	Residence 20 – 78
000529	7R	Veterans Home, Yountville	1948	Residence 16 – 74
000497	7R/7L	Cook Road, Yountville	1836	Younts Blockhouse and Adobe Site
000541	7S	6500 Washington Street, Yountville	1900	Castle Inn

SOURCE: NAPA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

National Register of Historic Places

There are no districts currently listed on the National Register of Historic Places (NRHP) for the Town of Yountville General Plan area (www.nationalregisterofhistoricplaces.com). The NRHP listings in Napa County, Yountville identifies six historic places (out of a total of 85 in Napa County).

TABLE 3.5-3: HISTORIC PLACES

NAME ON THE REGISTER	DATE LISTED	LOCATION IN YOUNTVILLE
French Laundry	4/19/1978	6640 Washington Street
Groezinger Wine Cellars	2/4/1982	6525 Washington Street (now the V Marketplace complex)
Charles Rovegno House	9/13/1991	6711 Washington Street (now Ma(i)sonry)
Veterans Home of California Chapel	2/13/1979	Presidents Circle (off of SR 29)
John Lee Webber House	1/19/1982	6610 Webber Street (now the Lavender Bed & Breakfast)
Yountville Grammar School	6/14/2016	6550 Yount Street (now the Yountville Town Hall)

SOURCE: NATIONAL REGISTER HISTORIC INFORMATION SYSTEM, 2017.

CONSULTATION

Letters requesting information regarding cultural, Native American, and historic resources in the Yountville area were sent to: Native American Heritage Commission; Mr. Charlie Wright, Chairperson, Cortina Indian Rancheria of Wintun Indians; Mr. Jose Simon III, Chairperson, Middletown Rancheria; Mr. Scott Gabaldon, Chairperson, Mishewal-Wappo Tribe of Alexander Valley; Mr. Leland Kinter, Chairperson, Yoche Dehe Wintun Nation; and, the Napa County Historical Society. The Native American Heritage Commission responded with a letter dated February 27, 2017, which identified contact persons for interested Native American tribes and recommended contacting the Mishewal-Wappo Tribe of Alexander Valley regarding sacred sites. To date, no tribes have responded to the information request.

PALEONTOLOGICAL RESOURCES

Among the natural resources deserving conservation and preservation, and existing within the area, are the unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist below the surface in areas in and near the Town, and span millions of years in age of origin. Fossils constitute a non-renewable resource: once lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontologic resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontologic sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., “Formation” or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not

usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories, and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

An online search of the University of California Museum of Paleontology Specimen Search identified 54 records for Napa County, but none associated with Yountville.

3.5.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the NRHP. The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American history.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history; or*

(B) that are associated with the lives of persons significant in our past; or

(C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) that have yielded, or may be likely to yield, information important in prehistory or history.

STATE

California Register of Historic Resources

The CRHR was established in 1992 and codified in the Public Resource Code Section 5024.1. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CEQA Guidelines Section 15064.5(a) and Public Resources Code Section 21083.2 and 21084.1.

Cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Per Public Resources Code Section 5024.1, a cultural resource may be eligible for listing on the CRHR if it meets any of the following NRHP criteria:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines Section 15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration in an adverse manner of a historical resource, including archaeological sites, is generally considered a significant impact.

CEQA also provides for the protection of Native American human remains (CEQA Guidelines Section 15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001, et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires

plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, it may nonetheless be classified a "unique archaeological resource" as outlined in Public Resources Code Section 21083.2(g), if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- it has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- it is directly associated with a scientifically recognized important prehistoric or historic event or person.

If the lead agency determines that a project may have a significant effect on a unique archaeological resource, the environmental impact report prepared for the project must address the issue of that resource, per Public Resources Code Section 21083.2(a).

Assembly Bill 978

In 2001, Assembly Bill (AB) 978 was passed to apply the state's repatriation policy consistently with the provisions of the federal Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation under state law.

Senate Bill 18

The California Government Code establishes responsibilities for local governments to contact, provide notice to, refer plans to, and consult with tribes. The following list briefly identifies the contact and notification responsibilities of local governments, in sequential order of their occurrence.

Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to places, features, and objects located on enumerated tribally-affiliated lands within the local government's jurisdiction that are affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).

Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and

have traditional lands located within the Town or county's jurisdiction. The referral must allow a 45 day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.

Local governments must send notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Assembly Bill 52

AB 52, adopted in September 2014, creates a formal role for California Native American tribes in the CEQA process by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   A) Included or determined to be eligible for inclusion in the CRHR
   B) Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c). In applying the criteria set forth in Public Resources Code Section 5024.1(c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in Public Resources Code Section 21084.1, a unique archaeological resource as defined in Public Resources Code Section 21083.2(g), or a "non-unique archaeological resource" as defined in Public Resources Code Section 21083.2(h) may also be a tribal cultural resource if it conforms to the above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of dedicated cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
    - listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
    - a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resource to a California Native American tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: General Plan implementation would not cause a substantial adverse change to a significant historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5, or a significant tribal cultural resource, as defined in Public Resources Code Section 21074 (Less than Significant)

A substantial adverse change in the significance of an historic resource is defined in 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 the Yountville General Plan area, as shown in Tables 3.5-1 through 3.5-3, and it is expected that additional undiscovered sites may be located in various areas of the Town as well.

While the General Plan does not directly propose any adverse changes to any historic or tribal cultural resources, future development allowed under the General Plan could affect known historical and tribal cultural resources or unknown historical and tribal cultural resources which

have not yet been identified. Seventeen cultural resources have been identified within the Town of Yountville General Plan area, according to files maintained by the NWIC. The seventeen recorded cultural resources span both the prehistoric and historic periods and range from a Native American village site to historic period commercial buildings and homes and two historic districts (see Table 3.5-1).

As noted previously, the Veteran's Home of California is designated California Historical Landmark 828 (Primary # P-28-001874). Additionally, 104 additional buildings within the Town's General Plan area are identified on the Napa County Historic Property Data File Directory (see Table 3.5-2). Some of these buildings are National Register or California Register properties (Code 1), while the majority are properties that "appear eligible" (Code 3), are "not eligible as specified for the National Register," (Code 6), could be eligible for the California Register or local listing (Code 6Y), or are not evaluated and do not need re-evaluation for the National Register or the California Register (Code 7). Further, as shown in Table 3.5-3, the NRHP listings in Napa County identifies six historic places in Yountville (out of a total of 85 in Napa County).

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, as well as near sources of water (including creeks). As future development projects are considered by the Town, each project will be evaluated for conformance with the Town's General Plan, Municipal Code, and other applicable State and local regulations. Subsequent development projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The Yountville General Plan includes policies that would reduce impacts to historic resources. These relevant policies are summarized below.

General Plan Policy OH-1.1 requires incorporation of historic preservation considerations into the Town's decision-making process. Programs OH-1.1a and OH-1.1b consider adopting a preservation ordinance and updating the Town's Historic Resources Inventory. Program OH-2.1b requires a cultural or archaeological survey prior to approval of any project where a known historical, cultural, or archaeological resource is located or in an area sensitive for cultural or archaeological resources. Program OH-2.1d requires new development, infrastructure, and other ground-disturbing projects to stop work and notify the Town in the event that construction or grading activities result in an inadvertent discovery of significant historic, cultural, or archaeological resources. Program OH-2.1e requires new development, infrastructure, and other ground-disturbing projects to stop work and notify the Town in the event that construction or grading activities result in an inadvertent discovery of human remains.

General Plan Policy LU-2.8 requires maintenance of street designs in the Old Town Historic district that are rural in nature. Policy LU-2.9 requires new developments to maintain significant natural, historic, and cultural characteristics of their respective sites. Policy LU-5.3 requires the preservation of the character, scale, and atmosphere of the Old Town Historic district by ensuring all new development, remodels, and additions are compatible with the vernacular of the district. Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies that provide protections for historical resources. Should any of the

historic properties in the General Plan area require retrofitting or remodeling, the State Historical Building Code would apply.

With implementation of the policies and programs below, this impact would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OH-1.1 Decision Making. Incorporate historic preservation considerations into the Town's decision-making process.

> *Program OH-1.1a Preservation Ordinance. Consider adopting a preservation ordinance to establish the standards and review process for modifications to historic resources, identify a consultation process for review prior to commencing construction, and define owner responsibilities for the care and maintenance of designated historic properties to prevent demolition by neglect.*
>
> *Program OH-1.1b Resources Inventory. Consider updating the Town's Historic Resources Inventory with a community-wide survey of historic resources and evaluate the integrity and significance of these resources.*

Policy OH-2.1 Archaeological and Cultural Resources. Recognize the importance of protecting significant archaeological and cultural resources and implement measures to preserve such resources.

> *Program OH-2.1a Identification of Resources. Work with the Northwest Information Center and Native American Heritage Commission to determine existence of significant archaeological and cultural resources, including Native American sacred sites and burial grounds.*
>
> *Program OH-2.1b Protection and Preservation of Resources. Require a cultural or archaeological survey prior to approval of any project where a known historical, cultural, or archaeological resource is located or in an area sensitive for cultural or archaeological resources. If significant resources are identified and recorded, require appropriate measures to reduce adverse impacts to the resource, such as avoidance, capping of the site, documentation or conservation.*
>
> *Program OH-2.1c Burial Grounds. Do not allow disturbance of existing burial grounds in the event they are recorded to exist.*
>
> *Program OH-2.1d Inadvertent Discovery of Cultural, Paleontological, and Archaeological Resources. Require new development, infrastructure, and other ground-disturbing projects to stop work and notify the Town in the event that construction or grading activities result in an inadvertent discovery of significant historic, cultural, paleontological or archaeological resources. Such resources shall be examined by a qualified historian or archeologist for potential protection and preservation measures, and appropriate measures shall be implemented to preserve, relocate, and/or record the find, as appropriate.*

Program OH-2.1e Inadvertent Discovery of Human Remains. Require new development, infrastructure, and other ground-disturbing projects to stop work and notify the Town in the event that construction or grading activities result in an inadvertent discovery of human remains.

Policy LU-2.8 Rural Street Design. Within the Old Town Historic district, maintain street designs that are rural in nature, provided such an approach will not result in local drainage, erosion or sedimentation problems. "Rural in nature" means narrow streets with aggregate shoulders, street trees, and street lights but no concrete gutter or sidewalk. Designs shall incorporate the aesthetic of the Old Town Historic district.

Policy LU-2.9 Preservation of Site Characteristics. Require new developments to maintain significant natural, historic, and cultural characteristics of their respective sites.

Policy LU-3.1 Future Growth Conditions. Allow future development where: it contributes to walkability, view corridors, and an active streetscape; the Town has capacity to provide necessary public services; natural, historic, and cultural assets are protected; the costs and revenues associated with new development are balanced; and impacts to traffic circulation are mitigated.

Policy LU-5.3 Old Town Historic District. Preserve the character, scale, and atmosphere of the Old Town Historic district by ensuring all new development, remodels, and additions are compatible with the vernacular of the district.

Impact 3.5-2: General Plan implementation would not directly or indirectly destroy a unique paleontological resource (Less than Significant)

An online search of the University of California Museum of Paleontology Specimen Search identified 54 records for Napa County, but none associated with Yountville.

Nevertheless, development allowed under the 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 projects occur, they would be subject to the requirements of General Plan Program OH-2.1d, which requires that development, infrastructure, and ground-disturbing projects stop work, notify the Town, examine the find and implement appropriate measures to preserve, relocate, or record the find, as appropriate. Implementation of General Plan Program OH-2.1d would ensure impacts to paleontological resources are **less than significant**.

GENERAL PLAN PROGRAM THAT MITIGATES POTENTIAL IMPACTS

Program OH-2.1d Inadvertent Discovery of Cultural, Paleontological, and Archaeological Resources. Require new development, infrastructure, and other ground-disturbing projects to stop work and notify the Town in the event that construction or grading activities result in an inadvertent discovery of significant historic, cultural, paleontological or archaeological resources. Such resources shall be examined by a qualified historian or

archeologist for potential protection and preservation measures, and appropriate measures shall be implemented to preserve, relocate, and/or record the find, as appropriate.

Impact 3.5-3: General Plan implementation would not disturb human remains, including those interred outside of dedicated cemeteries (Less than Significant)

Indications are that humans have occupied Napa County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, dedicated burials.

Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during project implementation. Development within the Town's General Plan area would be required to comply with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

Implementation of the Program OH-2.1c would ensure that all future construction activities avoid any known burial grounds and Program OH-2.1e requires that the Town be notified if an inadvertent discovery of human remains occurs during a development, infrastructure, or other ground-disturbing activity. Once notified, the Town would implement the requirements of State law to address the disposition and significance of any discovered human remains. Implementation of the Town General Plan policies and programs, would ensure this impact is **less than significant**.

GENERAL PLAN PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

<u>Program OH-2.1c Burial Grounds.</u> Do not allow disturbance of existing burial grounds in the event they are recorded to exist.

<u>Program OH-2.1e Inadvertent Discovery of Human Remains.</u> Require new development, infrastructure, and other ground-disturbing projects to stop work and notify the Town in the event that construction or grading activities result in an inadvertent discovery of human remains.

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This section provides a background discussion of the seismic and geologic hazards, and other geologic and soil hazards found in the General Plan area and the regional vicinity. This section is organized with an existing setting, regulatory setting, and impact analysis.

There were no comments received during the public review period for the Notice of Preparation (NOP) related to geology and soils.

There are no known mineral resource lands, including locally-important mineral recovery sites, within the General Plan area. The project would have no impact on mineral resources. This was determined to be a ***less than significant*** impact, and no additional analysis of this CEQA topic is warranted.

3.6.1 ENVIRONMENTAL SETTING

Yountville is located in Napa County, approximately 40 miles north of San Francisco and 50 miles southwest of Sacramento. The topography of the General Plan area is characterized by the relatively flat terrain typical of Napa Valley, with a few gently sloping hills in the western portion of the General Plan area near the base of the Mayacamas Mountains. The General Plan area is located approximately 100 to 600 feet above MSL.

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.

The Town 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

Napa County's highest topographic feature is Mount St. Helena, which is located in the northwest corner of the County and whose peak elevation reaches 4,343 feet. Principal ridgelines have maximum elevations that roughly vary between 1,800 and 2,500 feet to sea level. These elevations decrease in the southern part of the County. This physiography has influenced the local climate (creating several microclimates), the development of soils, and the existence and location of geologic features, including hazards as landsliding. The combination of physiography, soils, and climate has helped give rise to the production of premium wine grapes and other agricultural products for which the County is famous.

Soil types and their characteristics in the Napa Valley subregion are controlled in part by location, i.e., valley or hillside. The principal soil series in the Napa Valley is Bale-Cole-Yolo. Soils of this series have formed on the nearly level to gently sloping, deep alluvium of the Valley. The soils are well drained to somewhat poorly drained loams, silt loams, and clay loams on flood plains, alluvial fans and terraces. These soils are among the most agriculturally productive in the County.

The principal soil series on the ridge system to the west of the Valley are Maymen-Lodo-Felton, Forward-Boomer-Felton, Bressa-Dibble- Sobrante, and Forward-Aken. On the ridge system to the east, the principal soil series are Rock Outcrop-Kidd-Hambright, and Bressa-Dibble-Sobrante, and Forward-Aiken.

Soils present on the ridge systems to either side of the Valley have formed from a wide range of parent materials under varying conditions of slope steepness and stability, slope aspect, time, and annual rainfall. Therefore, the properties of these soils, including their hazards, are more variable than those formed on the more uniformly flat Valley floor (stable geomorphic surface), with its more homogeneous parent materials (alluvium).

HYDROGEOLOGY

Yountville is within the Napa River Basin, which is defined by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south. The Napa River runs through the center of the watershed on the valley floor, draining numerous tributaries along a 55-mile run from the headwaters of Mt. St. Helena to the San Pablo Bay. The Napa River winds through many types of landscapes: forested mountain slopes, vineyards, urban areas, open pasture, grasslands, industrial zones, and marshes.

FAULTS

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement (California Geological Survey (CGS), 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. (CGS, 2002).

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

There is one known active or potentially active fault located within the General Plan area: the West Napa Fault. Other inactive and unnamed faults also traverse the Town Limits. There are also numerous faults located in the region. Figure 3.6-1 illustrates the location of these faults. Below is a brief summary of the most notable faults in the region:

- **West Napa Fault:** The West Napa Fault contains a northern and a southern section. The northern section of the fault is not active, while the southern section of the fault is an active fault. The West Napa Fault has identified to have the potential capacity to generate a 6.8 to 7.1 magnitude earthquake. The Association of Bay Area Governments' "Earthquake Hazard Map for the Entire Bay Area Scenario: West Napa Fault" identifies that the southern portion of the County could potentially be subject to Violent (Modified Mercalli IX) and Very Strong (Modified Mercalli VIII) movement as a result of a 6.5 magnitude event from the West Napa Fault.
- **Soda Creek Fault:** The Soda Creek Fault, located in the northern part of the County, trends from east to west and is described as "recently active". This fault is exposed approximately from Trancas Road to two kilometers (1.2 miles) north of the intersection of Silverado Trail and Soda Canyon Road. Reports generated by independent geotechnical companies for new home construction in the watershed cite evidence that the Soda Creek fault should be considered active, as defined by the CGS Alquist-Priolo Earthquake Fault Zoning Act as showing displacement within the past 11,000 years.

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 3.6-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	*EFFECTS*
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles

SOURCE: ASSOCIATION OF BAY AREA GOVERNMENTS, 2011.

Moment Magnitude (Mw) is used by the United States Geological Service (USGS) to describe the magnitude of large earthquakes in the U.S. The value of moment is proportional to fault slip multiplied by the fault surface area. Thus, moment is a measurement that is related to the amount of energy released at the point of movement. The Mw scale is often preferred over other scales, such as the Richter, because it is valid over the entire range of magnitudes. Moment is normally converted to Mw, a scale that approximates the values of the Richter scale.

Seismic ground shaking hazards are calculated as a probability of exceeding certain ground motion over a period of time, usually expressed in terms of "acceleration." The acceleration of the Earth during an earthquake can be described in terms of its percentage of gravity (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 is expected to occur during a 50-year interval, which will make buildings safer than if they were only designed for the ground motions that are expected to occur in the next 50 years.

The CGS estimates a 10% probability of exceeding 40 to 50 percent of gravity at peak ground acceleration over the next 50 years in the Yountville General Plan area, as well as other communities within Napa County. As you move east, the estimates increase up to 50 to 60 percent of gravity at peak ground acceleration.

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 Town, the area could experience considerable ground shaking generated by faults outside the Town. For example, Yountville 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 3.6-2: MODIFIED MERCALLI INTENSITIES AND EFFECTS

MM	*EFFECTS*
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; Windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; Many items fall from shelves, pictures fall from walls
VII	Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks
VIII	Difficulty steering vehicles; Houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; Some bridges destroyed; Large cracks in ground
XII	Large scale destruction; Objects can be thrown into the air

SOURCE: ASSOCIATION OF BAY AREA GOVERNMENTS, 2011.

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 and includes data for earthquakes in the region from 1838 through 2004. The USGS Earthquake Catalog was searched to augment the Significant United States Earthquakes 1568 – 2004 data to provide information on earthquakes in the vicinity of Yountville from 2005 through 2017.

In 2000, the Town of Yountville was subject to a magnitude 5.2 earthquake on the West Napa Fault.

A magnitude 6.0 earthquake occurred in south Napa, northwest of American Canyon on the West Napa Fault (discussed below) in August 2014. The earthquake injured nearly 200 people, mostly in Napa County, while touching off fires that destroyed at least six homes, buckled local roads, and damaged dozens of buildings in Napa and across the region.[1] Governor Jerry Brown declared a state of emergency as a result of the earthquake and directed government assistance to Napa. The earthquake fault rupture extended northward from the epicenter, directing much of the seismic energy toward the city of Napa. According to the USGS, the ground shaking was very strong along the fault and in the Napa Valley. Yountville, Vallejo, and American Canyon were also damaged. The shaking was lighter in Sonoma, Glen Ellen, and St Helena, where there was little damage. The earthquake woke people throughout northern California, in cities as far away as Sacramento and Santa Cruz

The City of Napa was very strongly shaken: many historical masonry buildings and older residences were damaged. Damage to structures decreased with distance from the rupture. Older structures tended to experience more damage than more recently built structures.

As shown in Table 3.6-3, the Town of Yountville was subject to a magnitude 5.2 earthquake in 2000. The earthquake was on the West Napa Fault. More recently, a magnitude 4.1 earthquake

[1] The Press Democrat. Napa's people, buildings hit hard by 6.0 earthquake. August 24, 2014.

occurred in Yountville in May 2015. According to the USGS, the quake struck about nine miles north of Napa and six miles east northeast of Yountville, at a depth of 9.3 miles. Additionally, significant earthquakes are documented in the regional vicinity, as identified in the following table.

TABLE 3.6-3: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	*INTENSITY*	*LOCATION*	*YEAR*
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8, 5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7, 5.6	N/A	Santa Rosa	1969
5.3, 4.2	N/A	Daly Town	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: UNITED STATE GEOLOGICAL SURVEY, ABAG 2015.

Yountville 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.

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 CGS 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 Town; however, approximately 9.9 miles to the southeast lies the Green Valley Fault, which is delineated as an Alquist-Priolo Fault Zone. Additionally, approximately 11.5 miles to the south lies another portion of the Green Valley Fault.

Seismic Hazard Zones

The State Seismic Hazards Mapping Act (1990) addresses hazards along active faults. The Northern California counties affected by the Seismic Hazard Zonation Program include Alameda, San Francisco, San Mateo and Santa Clara. The Southern California counties affected by the Program include San Bernardino, Los Angeles, Orange, and Ventura. There are no seismic hazard zones currently mapped in Napa 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 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. Table 3.6-4, which is recreated from Youd and Perkins, demonstrates the general relationship between the nature and age of sediment and the anticipated liquefaction potential.

TABLE 3.6-4: 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 Napa County. Liquefaction potential in the General Plan area includes designations of "Very Low" to "Moderate" potential. The areas designated "Moderate" potential for liquefaction are located on the Vintners Golf Club near California Drive, as well as along the eastern edge of the General Plan area, generally located east of Highway 29 and following Hopper Creek. There is also an area located south of Highway 29 and north of the General Plan area which is designated as "Moderate." The remainder of the General Plan area is designated "Very Low" and "Low" potential for liquefaction.

OTHER GEOLOGIC HAZARDS

Soils

The soils in the Town and General Plan area are predominately clay and loam soil types. According to the Natural Resource Conservation Service, there are 13 different soil types located in the Yountville General Plan area. These include the Bale clay loam, Boomer-Forward Felta complex, Clear Lake clay, Cole silt loam, Coombs gravelly loam, Cotina very stony loam, Felton gravelly loam, Forward gravelly loam, Haire loam, Hambright-Rock outcrop complex, Kidd loam, Lodo-Mayhem-Felton association, and Sobrante loam. Figure 3.6-2 presents a map of the soils located in the General Plan area. Information from the NRCS official soil description for these soils is provided below.

- **Bale clay loam:** The Bale series consists of very deep, somewhat poorly drained soils that formed in stratified, gravelly and sandy alluvium from mixed sources. Bale soils are on nearly level to gently sloping alluvial fans and terraces and have slopes of 0 to 3 percent. The mean annual precipitation is about 32 to 40 inches and the mean annual temperature is about 59 to 60 degrees F.
- **Boomer-Forward Felta complex**: The Boomer series consists of deep and very deep, well drained soils that formed in material weathered from metavolcanics rock. Boomer soils are on uplands and have slopes of 2 to 75 percent. The mean annual precipitation is about 45 inches and the mean annual air temperature is about 55 degrees F.
- **Clear Lake clay**: 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 drainageways. 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.
- **Cole silt loam**: The Cole series consists of very deep, somewhat poorly drained soils that formed in alluvium from mixed sources. Cole soils are on river terraces, basins, flood plains, or on alluvial fans with slopes of 0 to 5 percent. The mean annual precipitation is about 40 inches and the mean annual air temperature is about 60 degrees F.
- **Coombs gravelly loam**: The Coombs soils are well drained, moderately slowly permeable soils on gravelly terraces. They formed in gravelly alluvium from mixed sources. Slopes are nearly level to gently sloping. Mean annual precipitation is about 30 inches. Mean annual soil temperature is about 59 to 62 degrees F.

- **Cortina very stony loam**: The Cortina series consists of very deep, somewhat excessively drained soils on alluvial fans and floodplains. These soils formed in gravelly alluvium from mixed rock sources. Slope ranges from 0 to 15 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 62 degrees F.
- **Felton gravelly loam**: The Felton series consist of deep, well drained soils that formed in material weathered from shale, sandstone or mica schist. Felton soils are on uplands and have slopes of 5 to 75 percent. The mean annual precipitation is about 40 inches and the mean annual air temperature is about 55 degrees F.

Erosion

The U.S. Natural Resource Conservation Service (NRCS) delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of erosion factors is provided by the NRCS Physical Properties Descriptions:

- Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Erosion factor Kw indicates the erodibility of the whole soil, whereas Kf indicates the erodibility of the fine soils. The estimates are modified by the presence of rock fragments.

Soil erosion data for the Town of Yountville were obtained from the NRCS. As identified in the table below, the erosion factor Kf varies from 0.17 to 0.49, which is considered moderately low to moderate potential for erosion.

TABLE 3.6-5: SOIL EROSION FACTORS

MAP SYMBOL AND SOIL NAME	*KF*	*REPRESENTATIVE VALUE*		
		% SAND	*% SILT*	*% CLAY*
104/105: Bale clay loam	0.20	54.2	22.6	23.2
110: Boomer-Forward-Felta complex	0.28	35.8	34.0	30.2
116: Clear Lake clay, drained	0.17	24.3	28.5	47.2
118: Cole silt loam	0.43	9.3	53.8	37.0
122: Coombs gravelly loam	0.37	40.8	32.8	26.4
125: Cortina very stony loam	0.37	43.8	40.3	15.9
136: Felton gravelly loam	0.28	36.7	34.8	28.5
139/140: Forward gravelly loam	0.37	42.7	43.3	14.0
146: Haire loam	0.32	38.6	25.5	35.8
151/152: Hambright-Rock outcrop complex	0.24	39.2	37.3	23.5
155: Kidd loam	0.49	42.7	43.3	14.0
157: Lodo-Maymen-Felton association	0.24	39.8	37.7	22.5
178/179: Sobrante loam	0.32	28.6	43.9	27.5

SOURCE: NATURAL RESOURCE CONSERVATION SERVICE, 2018.

Expansive Soils

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of linear extensibility (also known as shrink-swell potential or expansive potential) is provided by the NRCS Physical Properties Descriptions:

> *"Linear extensibility" refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.*
>
> *The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.*

The linear extensibility of the soils within the Town ranges from low to high/very high. Figure 3.6-3 illustrates the shrink-swell potential of soils in the General Plan area. The majority of the Town has low expansive soils, mostly located east of Highway 29. The majority of the high expansive soils are located along the eastern edge of the General Plan area, in a mostly developed area. A small portion of the Vintners Golf Course and Napa County Fire Department also have high expansive soils. Only a small portion of the high expansive soils are located in undeveloped areas of the General Plan area. The areas with high expansive soils would require special design considerations due to shrink-swell potentials.

Landslide

The CGS 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 Napa County, the hillsides have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the relatively level slopes throughout the Town, the landslide potential is very low. This is not a significant constraint in the General Plan area. The landslide potential increases in the foothills to the north and west of the General Plan area.

Lateral Spreading

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil moves down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The General Plan area is located approximately 100 to 600 feet above MSL. The potential for lateral spreading is generally low to moderate. The greatest potential for lateral spreading in the General Plan area is in sloped areas along the western portion of the Town.

Subsidence

Subsidence and settlement result from the same physical processes. Settlement is usually considered to occur within a relatively short time frame and within a small area, for instance on the project scale. Subsidence takes place over a longer time frame and a broader regional area. Subsidence/settlement can occur differentially; that is, one area or location subsides or settles more than another. The results of subsidence/settlement, especially when it occurs differentially, can be quite damaging.

Ground subsidence/settlement has two basic mechanisms: elastic settlement and consolidation. Elastic settlement occurs from structures and other loads that cause deformation of the subsurface soils. Elastic settlement from structures is usually minor and usually occurs during construction or within the first few weeks after construction.

Longer-term ground subsidence requiring months to decades also occurs as a result of the consolidation of natural surficial materials that are compressible. Differential settlement is most likely to occur in valleys where loose soils have deposited, and can occur due to seismic activity or structural compaction. A surficial geologic unit that is known to be quite prone to subsidence is the bay mud that underlies parts of the marsh area in the lower parts of the Napa Valley south of the City of Napa. Subsidence has not been identified as a hazard within the Town or adjacent areas.

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. While naturally occurring asbestos is mapped in Napa County, no occurrences of naturally occurring asbestos are mapped within Yountville.

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 CGS notes 25 source events that have resulted in 187 recorded tsunamis in California from 1812 to 2012. 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 tsunamis 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 Town 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 Yountville, 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.

Table 3.6-6 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 3.6-6: 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 the Town, the Clear Lake Field is not likely to generate significant impacts in the Town.

STRUCTURAL DAMAGE

Fault Rupture Damage. There are no known active faults that have been mapped within the General Plan area, and the potential for structures to be adversely affected by fault rupture is considered to be relatively low based on the absence of known faults. As noted preciously, there are no Alquist-Priolo Earthquake Fault Zones located within the Town; however, approximately 9.9 miles to the southeast lies the Green Valley Fault, which is delineated as an Alquist-Priolo Fault Zone. Additionally, approximately 11.5 miles to the south lies another portion of the Green Valley Fault.

Ground Shaking Damage. As is the case for most areas within California, the potential for seismic ground shaking in the General Plan area is expected. As a result, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. California's seismic design provisions require enhanced structural integrity based on several risk parameters with the ultimate objective of protecting the life and safety of building occupants and the public. For large earthquakes, the seismic design standards primarily ensure that the building will not collapse, but some structural and non-structural damage may be expected. Older buildings constructed of unreinforced masonry, including materials such as brick, concrete, and stone, pre-1940 wood frame houses, and pre-1973 tilt-up concrete buildings are particularly susceptible to structural damage from ground shaking. In most cases, these older buildings require retrofit, or they risk significant structural damage during an earthquake.

Liquefaction Damage. Liquefaction potential in the General Plan area includes designations of "Very Low" to "Moderate" potential. Liquefaction poses a hazard to structures and infrastructure. There are a variety of geotechnical strategies that can be implemented to mitigate the potential for structural damage. These include appropriate foundation design, engineering soils, groundwater management, and the use of special flexible materials for construction.

Landslide and Lateral Spreading Damage. Given the relatively level slopes throughout the majority of the General Plan area, the landslide and lateral spreading potential is low. The lateral spreading potential increases some in the sloped terrain along the banks of the Town creeks, however development would not occur within these banks slopes. There are a variety of geotechnical strategies that can be implemented to mitigate the potential for landslide and lateral spreading in these areas. These include engineering soils, groundwater management, surface water control, slope reconfiguration, and structural reinforcement if necessary.

3.6.2 REGULATORY SETTING

FEDERAL

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC 7701, et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for "federal, federally assisted or federally regulated new building construction" and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code (IBC)

The purpose of the International Building Code (IBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CAL Green Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

California Health and Safety Code

Section 19100, et seq., of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the Code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design.

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 Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for periods of five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. Stormwater discharges from industrial and construction activities in the San Francisco Bay Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

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 CGS 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

Yountville Municipal Code

Chapter 13.60, Septic Tanks, of the Yountville Municipal Code regulates when septic tank installation is permitted and prohibited. According to Section 13.60.010 of the Code, if a building abuts a right-of-way in which there is a public sewer and the public sewer is within 200 feet of the nearest point of the building and the topography is not such as to make it impossible to connect to the public sewer, the owner must connect the building with the public sewer at his or her expense after notice from the Town to do so. If these conditions do not exist, then the owner of the building may install a septic tank in compliance with the County of Napa's rules, regulations and ordinances governing septic tank installation and connection. The Town or County may revoke a septic tank permit upon determination that the septic tank is not adequate for the purposes for which intended, or is not in operating condition, or constitutes a hazard to the health of any person, or constitutes a public or private nuisance.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan will have a significant impact on geology and soils 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, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: General Plan implementation would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

There are no Alquist-Priolo Earthquake Fault Zones located within the Town; however, approximately 9.9 miles to the southeast lies the Green Valley Fault, which is delineated as an Alquist-Priolo Fault Zone. Additionally, approximately 11.5 miles to the south lies another portion of the Green Valley 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 General Plan area may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

There are no seismic hazard zones currently mapped in the General Plan area; however, the CGS estimates a 10 percent probability of exceeding 40 to 50 percent of gravity at peak ground acceleration over the next 50 years in the Yountville General Plan area, as well as other communities within Napa County. As you move east, the estimates increase up to 50 to 60 percent of gravity at peak ground acceleration.

The West Napa Fault Zone is located within the General Plan area and there are other faults in the Town's vicinity as shown in Figure 3.6-1. It is expected that the Town could experience considerable ground shaking generated by faults in the vicinity of the Town. For example, Yountville could experience intensities of MM VII to VIII generated by seismic events occurring in the region (ABAG, 2011). The effect of this intensity level includes: VII) Difficulty standing; Vehicle shaking felt by drivers; some furniture breaks; and VIII) Difficulty steering vehicles; Houses may shift on foundations.

All future projects within the General Plan area would be required to comply with the provisions of the CBSC, which requires development projects to perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

General Plan Policy SH-1.1 aims to reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction and slope failure. Program SH-1.1a requires new subdivision and development proposals and infrastructure projects and additions and remodels, as applicable, to conform to seismic requirements of the California Building Code and, when applicable, the California

Environmental Quality Act. Additionally, Program SH-1.1b encourages property owners to retrofit existing unreinforced masonry buildings.

All development and construction proposals must be reviewed by the Town 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. All future projects within the General Plan area would be required to prepare geotechnical soils investigations to address seismic safety issues and provide adequate mitigation for potential hazards identified. With the implementation of the policies and programs required by the Yountville General Plan, as well as applicable State and Town codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.1 Seismic and Geologic Hazards. Reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction and slope failure.

> *Program SH-1.1a Seismic and Geologic Safety. Require new subdivision and development proposals and infrastructure projects and additions and remodels, as applicable, to address potential seismic and geologic hazards and to conform to seismic requirements of the California Building Code and, when applicable, the California Environmental Quality Act.*
>
> *Program SH-1.1b Unreinforced Masonry Buildings. Encourage property owners to retrofit existing unreinforced masonry buildings.*

Impact 3.6-2: General Plan implementation would not 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, 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 General Plan area and vicinity were obtained from the NRCS. The erosion factor Kf varies 0.17 to 0.49, which is considered moderately low to moderate potential for erosion.

As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to compliance with Town 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 project 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 one policy and several programs related to erosion and sediment control and drainage and erosion requirements. With the implementation of the policies and programs in the General Plan, including those identified below, as well as applicable State and Town requirements, potential impacts associated with erosion and loss of topsoil would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-6.4 Water Quality. Protect water resources from pollution and sedimentation.

> *Program OS-6.4a Best Management Practices. Require new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design, to naturally filter and biodegrade contaminants and to minimize surface runoff into drainage systems and creeks.*
>
> *Program OS-6.4b NPDES Compliance. Ensure that new development, redevelopment, and infrastructure projects comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.*
>
> *Program OS-6.4c Permeable Surfaces. Encourage use of pervious materials to aid in stormwater treatment and infiltration.*
>
> *Program OS-6.4d Integrated Pest Management. Continue to utilize integrated pest management techniques to reduce the use of potentially toxic chemicals in Town operations.*
>
> *Program OS-6.4e Fertilizer Use. Continue to encourage the use of organic soil amendments to replace chemical fertilizers as practicable on public and private property.*
>
> *Program OS-6.4f Public Outreach. Encourage residents and businesses to use organic and non-toxic alternatives to chemical fertilizers and toxic herbicides, pesticides, and rodenticides and consider restricting the use of toxic chemicals as practicable.*
>
> *Program OS-6.4g Public Education. Publicize the impacts on water quality caused by discarding toxins and waste into domestic stormwater and waste systems.*

Impact 3.6-3: General Plan implementation would not result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site 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. Soils and geologic conditions in the General Plan area may have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

Landslide: 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 Napa County, the hillsides have a medium to high susceptibility for landslides, while the valleys have a low susceptibility. Given the relatively level slopes throughout the Town, the landslide potential is very low. This is not a significant constraint in the General Plan area. The landslide potential increases in the foothills to the north and west of the General Plan area.

The majority of the General Plan area is generally flat and has little risk of landsliding. Standard grading and soil engineering practices can be used to reduce the risk and damage caused by landslides.

Lateral Spreading: Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil moves down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The General Plan area is located approximately 100 to 600 feet above MSL. The potential for lateral spreading is generally low to moderate. The greatest potential for lateral spreading in the General Plan area is in sloped areas along the western portion of the Town.

The majority of the General Plan area is generally flat and therefore has little risk of lateral spreading. Unsupported slopes along agricultural ditches and creeks are considered to be at the greatest risk of lateral spreading, due to the unsupported nature of the area, and the potential for liquefiable soils. However, development would not occur along the sloped banks of ditches or creeks. Standard grading and soil engineering practices can be used to reduce the risk and damage caused by lateral spreading.

Subsidence: Ground subsidence/settlement has two basic mechanisms: elastic settlement and consolidation. Elastic settlement occurs from structures and other loads that cause deformation of the subsurface soils. Elastic settlement from structures is usually minor and usually occurs during construction or within the first few weeks after construction.

Longer-term ground subsidence requiring months to decades also occurs as a result of the consolidation of natural surficial materials that are compressible. Differential settlement is most likely to occur in valleys where loose soils have deposited, and can occur due to seismic activity or structural compaction. A surficial geologic unit that is known to be quite prone to subsidence is the bay mud that underlies parts of the marsh area in the lower parts of the Napa Valley south of the City of Napa. Subsidence has not been identified as a hazard within the Town or adjacent areas.

Liquefaction: Liquefaction potential in the Study Area includes designations of "Very Low" to "Moderate" potential. The areas designated "Moderate" potential for liquefaction are located on the Vintners Golf Club near California Drive, as well as along the eastern edge of the Study Area, generally located east of Highway 29 and following Hopper Creek. There is also an area located south of Highway 29 and north of the Study Area which is designated as “Moderate.” The remainder of the Study Area is designated "Very Low" and “Low” potential for liquefaction.

There are a variety of geotechnical strategies that can be implemented to mitigate the potential for structural damage. These include appropriate foundation design, engineering soils, groundwater management, and the use of special flexible materials for construction.

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 have not been an issue of concern in Napa County. Standard grading and soil engineering practices can be used to reduce the risk and damage caused by collapsible soils.

Conclusion: As future development and infrastructure projects are considered within the General Plan area, each project will be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects within the General Plan area 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 geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of State and Town codes. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and programs to ensure that development projects address potential ground failure and instability issues through compliance with applicable building standards appropriate site analysis and engineering measures to mitigate any identified hazards to an acceptable level. With the implementation of the policies and actions in the General Plan, as well as applicable State and Town codes, potential impacts associated with ground instability or failure would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.1 Seismic and Geologic Hazards. Reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction and slope failure.

> *Program SH-1.1a Seismic and Geologic Safety. Require new subdivision and development proposals and infrastructure projects and additions and remodels, as applicable, to address potential seismic and geologic hazards and to conform to seismic requirements of the California Building Code and, when applicable, the California Environmental Quality Act.*
>
> *Program SH-1.1b Unreinforced Masonry Buildings. Encourage property owners to retrofit existing unreinforced masonry buildings.*

Impact 3.6-4: General Plan implementation would not 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 General Plan area ranges from low to high/very high. Figure 3.6-3 illustrates the shrink-swell potential of soils in the General Plan area. Areas with moderate to high to very high expansive soils included in the General Plan area would require special design considerations. The undeveloped and/or underutilized areas of the Town include: the area west of the Veterans Home, the agricultural area in the norther portion of town north of Yountville Cross Road and east of Yount Street, and one area north of Land Street and east of Washington Street.

As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other applicable regulations. The Safety Element of the General Plan establishes policies and actions that are designed to protect from geologic hazards. Consistency with the General Plan policies and actions will require conformance with the CBSC.

The undeveloped and underutilized areas mentioned above are located on soils with low to high/very high expansion potential. Prior to development of these areas, a site-specific geotechnical investigation would be required in order to identify potential soil hazards and

unstable soils. 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.

All future projects within the General Plan area would be required to comply with the provisions of the CBSC, which requires development projects to perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

General Plan Policy SH-1.1 aims to reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction, and slope failure. Program SH-1.1a requires new subdivision and development proposals and infrastructure projects and additions and remodels, as applicable, to conform to address seismic and geologic hazards and conform to the requirements of the California Building Code and, when applicable, the California Environmental Quality Act.

All development and construction proposals must be reviewed by the Town to ensure conformance with applicable building standards. Development on potentially unstable soils, including those sensitive to seismic activity, would only be allowed after adequate site analysis, including appropriate siting, design of structure, and foundation integrity. All future projects within the General Plan area would be required to conform to the General Plan and CBC, including preparation of geotechnical soils investigations to address safety issues, when applicable, and provide adequate mitigation for potential hazards identified. With the implementation of the policies and programs required by the Yountville General Plan, as well as applicable State and Town codes and regulations, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, and liquefaction would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.1 Seismic and Geologic Hazards. Reduce the risk of loss of life, personal injury and property damage resulting from seismic and geologic hazards including ground shaking, land sliding, liquefaction and slope failure.

> *Program SH-1.1a Seismic and Geologic Safety. Require new subdivision and development proposals and infrastructure projects and additions and remodels, as applicable, to address potential seismic and geologic hazards and to conform to seismic requirements of the California Building Code and, when applicable, the California Environmental Quality Act.*

Impact 3.6-5: General Plan implementation would not result significant impacts associated with development on 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)

Implementation of the proposed General Plan would not result in the use of septic tanks or alternative waste water disposal systems. According to Section 13.60.010 of the Yountville Municipal Code, if a building abuts a right-of-way in which there is a public sewer and the public sewer is within 200 feet of the nearest point of the building and the topography is not such as to make it impossible to connect to the public sewer, the owner must connect the building with the public sewer at his or her expense after notice from the Town to do so. If these conditions do not exist, then the owner of the building may install a septic tank in compliance with the County of Napa's rules, regulations and ordinances governing septic tank installation and connection. The General Plan does not propose any alternative wastewater systems. Future urban development within the General Plan area would be required to connect the building(s) with the public sewer and development of agricultural parcels with agricultural uses would be required to comply with the County's codes regarding septic tank installation and connection. Therefore, this impact is considered **less than significant**.

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Figure 3.6-1. Known Faults in Project Area

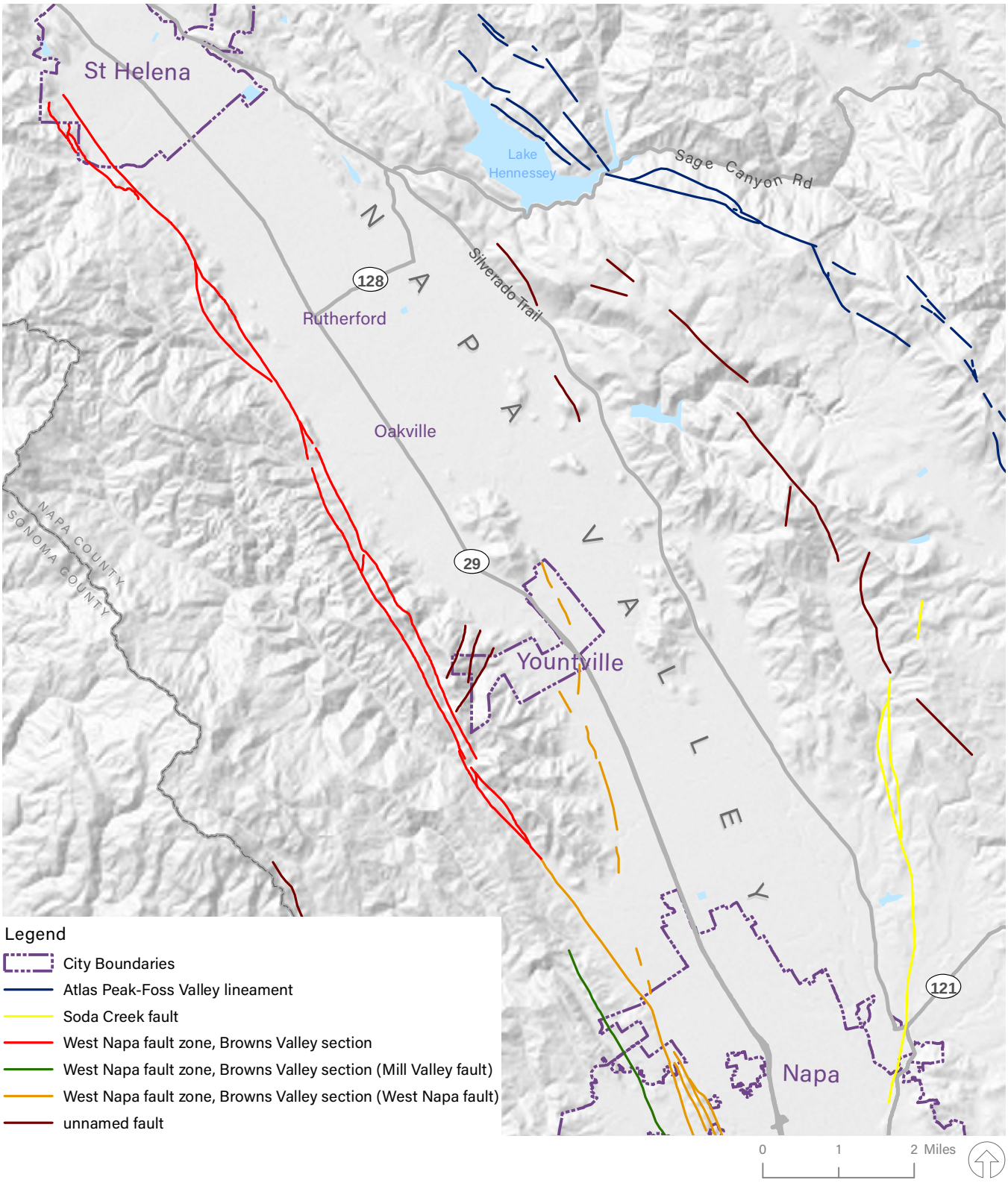

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Figure 3.6-2. General Plan Area Soils

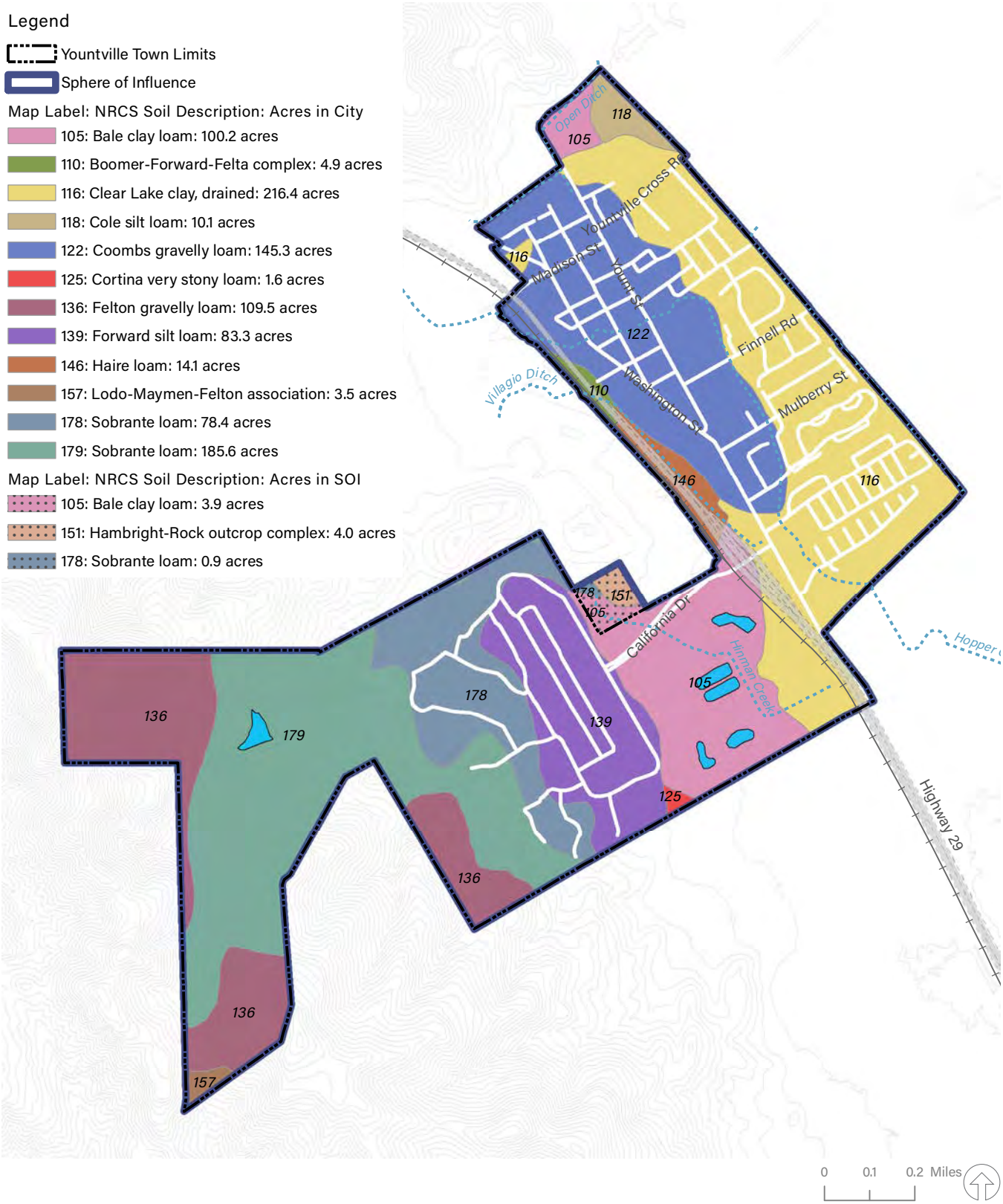

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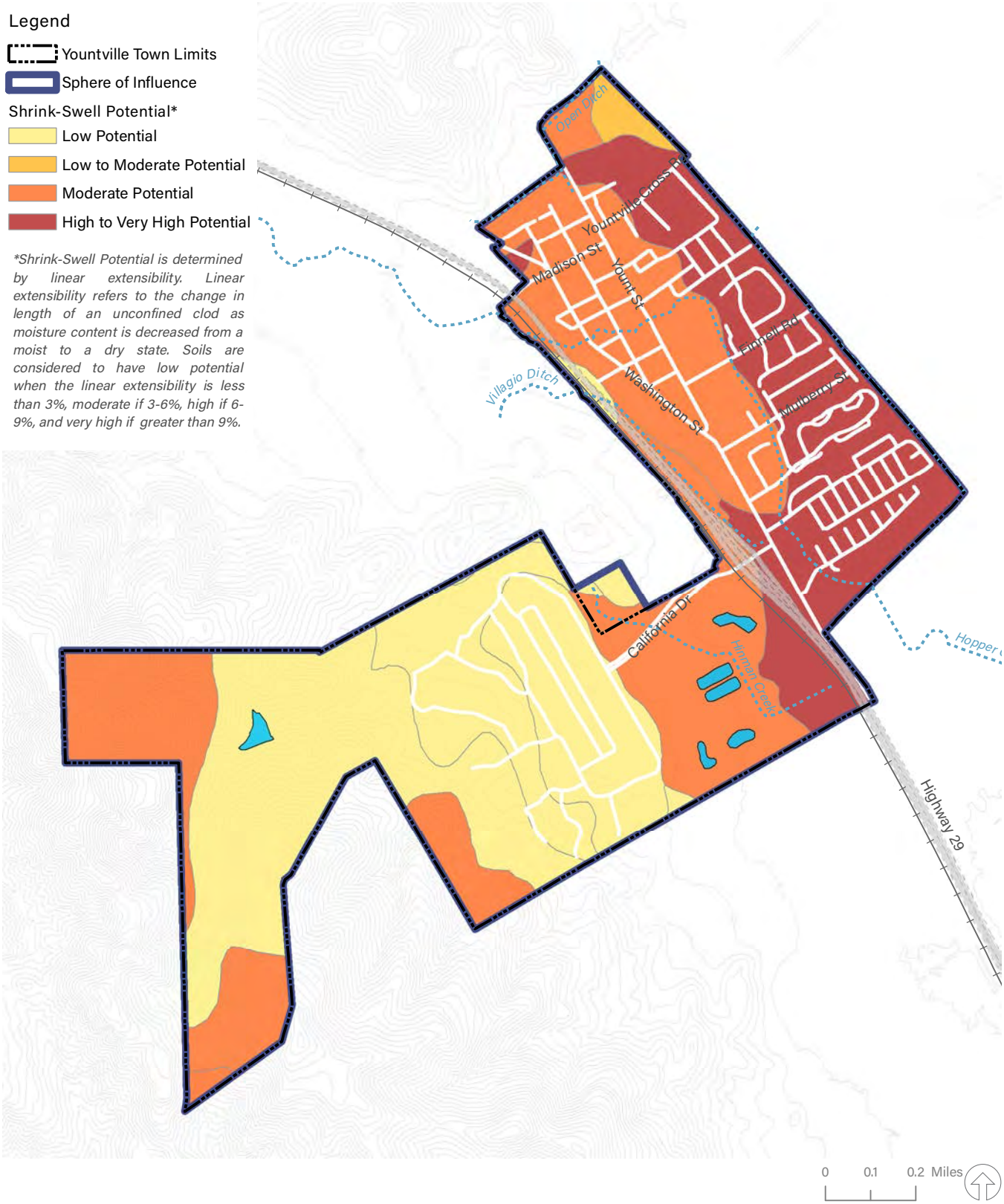
Figure 3.6-3. Expansive Soils



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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy impacts that could result from implementation of the proposed General Plan. 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, climate change, and energy conservation impacts in this section focuses on the proposed General Plan'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 General Plan. Disclosure and discussion of buildout of the General Plan area's estimated energy usage and greenhouse gas emissions are provided.

Information in this section is derived primarily from information available from the California Air Resources Board (CARB), the Bay Area Air Quality Management District (BAAQMD), and CalEEMod (v.2016.3.2).

There were no comments received during the public review period for the NOP related to greenhouse gases and energy.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric 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 2011, concentrations of these three greenhouse gases have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

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 CO_2, CH_4, O_3, water vapor, 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, and

agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Energy Commission, 2018a).

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 approximately 440 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2016 (California Energy Commission, 2018a). By 2020, California is projected to produce 509 $MMTCO_2e$ per year (California Air Resources Board, 2015a).

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 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 2016, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Energy Commission, 2018a).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated 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 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). 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 (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. 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 (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

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. 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. 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, and milk.

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

Energy is California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2013, California's per capita energy usage was ranked 48th in the nation (U.S. EIA, 2016). Additionally, California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

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. Other 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. In 2016, more than one-fourth of the electricity supply comes from facilities outside of the state. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2017a). In 2016, approximately 50 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 25 percent of the state's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 14 percent of the state's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 11 percent. The amount of electricity generated from coal was negligible (approximately 0.2 percent)

(U.S. EIA, 2017a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's RPS.

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 (U.S. EIA, 2017b). Statewide consumption was 290,567 GWh in 2016, an annual growth rate of 0.8 percent between 1997 and 2016.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (International Energy Agency, 2018). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the state's transportation energy needs (California Energy Commission, 2012).

Natural Gas/Propane

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). Total natural gas demand in California in 2012 was 2,313, billion cubic feet of natural gas (California Energy Commission, 2012).

REGIONAL AND LOCAL GHG EMISSIONS

Regional Emissions

BAAQMD conducts periodic inventories of GHG emissions within the San Francisco Bay Area Air Basin. Data for the most recent inventory (Year 2011) indicates the Bay Area emitted a total of 86.6 $MMTCO_2e$, or approximately 20 percent of the total statewide GHG emissions in Year 2011.[1,2] Similar to the state inventory, the combustion of fossil fuels in mobile sources such as cars, trucks, locomotives, ships, and boats contribute the most (34.3 $MMTCO_2e$) toward regional GHG levels (approximately 40 percent of regional GHG emissions).

[1] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.

[2] The BAAQMD GHG inventory is based on the U.N. IPCC's 2nd Assessment Report, which uses different GWP values to compute carbon dioxide equivalents. The GWP values in the 2nd Assessment Report are generally lower than the values in the UN IPCC 4th Assessment Report, which the CARB statewide inventory uses. For example, the GWP of methane was reported as 21 in the 2nd Assessment Report and is reported as 25 in the 4th Assessment Report.

Local Emissions

The Town of Yountville adopted its initial Climate Action Plan (CAP) in September 2016, which established the 2010 calendar year as the baseline year for GHG emission inventory and emissions reduction planning purposes. The 2016 CAP was developed using tools and methodologies provided by the International Council for Local Environmental Initiatives (ICLEI) – Local Governments for Sustainability, and set forth measures to reduce GHG emissions in the city through the year of 2020. Table 3.7-1, below, summarizes the 2010 baseline community GHG emissions inventory quantified in the CAP.

TABLE 3.7-1: TOWN OF YOUNTVILLE COMMUNITY GHG EMISSIONS BY SECTOR, 2010

SECTOR	*CO_2E (METRIC TONS/YEAR)*
Residential	3,922
Commercial	5,222
Transportation	1,961
Off-Road	848
Agriculture	24
Wastewater	609
Waste	430
Water	51
Total	**13,065**

SOURCE: CITY OF YOUNTVILLE CLIMATE ACTION PLAN, 2016.

Separately, in 2012, Yountville prepared a Local Government Operations Greenhouse Gas Inventory report for the baseline year of 2010. Government operations are considered a subset of community emissions (government operations represented approximately 8 percent of community emissions in 2010). See Table 3.7-2.

TABLE 3.7-2: TOWN OF YOUNTVILLE GOVERNMENT OPERATIONS GHG EMISSIONS BY SECTOR, 2010

SECTOR	*CO_2E (METRIC TONS/YEAR)*
Wastewater Treatment	793
Buildings and Facilities	62
Employee Commute	53
Vehicle Fleet	39
Waste	35
Contracted Vehicle Fleet	32
Transit Fleet	24
Contracted Services Facilities	20
Water Transport	18
Public Lighting	10
Total	**1,086**

SOURCE: CITY OF YOUNTVILLE CLIMATE ACTION PLAN, 2016.

The inventory shows that local government operations emitted an estimated total of 1,086 metric tons of CO_2e in 2010 from ten sectors, as shown in Table 3.7-2, below. By far, the largest contributor of emissions was the Town's Wastewater Treatment Plant, at 793 metric tons (MT) CO_2e. Most of these emissions (76 percent) were created from the venting of methane gas from the treatment plant's anaerobic digester into the atmosphere; the rest of the emissions were generated from the

use of electricity, natural gas, diesel fuel and refrigerants at the plant. The Building and Facilities sector, which includes emissions generated from the use of electricity at Town Hall and at the Community Center, was the second largest greenhouse gas contributor at 62 MT CO_2e.

3.7.2 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 National Ambient Air Quality Standards (NAAQS) 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 United States would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. 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 Town 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.

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101, et seq.) promoted the development of intermodal transportation systems to maximize mobility, as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

Moving Ahead for Progress in the 21st Century (Map-21)

MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law on July 6, 2012. Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery.

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 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.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the U.S. EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement was designed to provide the U.S. EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

Assembly Bill 1493

In response to Assembly Bill (AB) 1493, the 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 (13 CCR 1900) and 1961 (13 CCR 1961), and adoption of Section 1961.1 (13 CCR 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. 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.

The 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 U.S. EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Assembly Bill 1007

AB 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 – California 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.

California Executive Orders S-3-05, S-20-06, and B-30-15, Assembly Bill 32, and Senate Bill 32

On June 1, 2005, then Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that the CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

In April 2015, Governor Jerry Brown signed Executive Order B-30-15, which requires that there be a reduction in GHG emissions to 40% below 1990 levels by 2030. This intermediate target was codified into law by Senate Bill 32 (SB 32), which was signed into law on September 8, 2016.

Climate Change Scoping Plan

On December 11, 2008, the CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of the CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 169 million metric tons (MMT), or approximately 30 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 the CARB 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).

The CARB updated the Scoping Plan in 2013 (*First Update to the Scoping Plan*) and again in 2017 (the *Final Scoping Plan*). The 2013 Update built upon the initial Scoping Plan with new strategies and recommendations, and also set the groundwork to reach the long-term goals set forth by the state. The 2017 Update expands the scope of the plan further by focusing on the strategy for achieving the state's 2030 GHG target of 40 percent emissions reductions below 1990 levels (to achieve the target codified into law by SB 32).

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.

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 to provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO_2 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.

Governor's Low Carbon Fuel Standard (California Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 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 the CARB pursuant to AB 32.

Senate Bill 97

SB 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 (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 Regional Transportation Plan (RTP).

The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing GHG emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farmlands.

Additionally, SB 375 modified the state's Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and the Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans.

Finally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

California Renewable Portfolio Standard

Established in 2002 under Senate Bill 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under Senate Bill 107 by requiring that 20 percent of electricity retail sales be served by renewable energy resources by 2010. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020, and on November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08 requiring that "...[a]ll retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." Senate Bill X1-2 was signed by Governor Edmund G. Brown, Jr., in April 2011 setting the RPS target at 33% by 2020. This new RPS applied to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities had to adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020. More recently, SB 100 (passed in September 2018) established an RPS of 60% by 2030 and 100% (zero-carbon) by 2045.

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible

incorporation of new energy efficiency technologies and methods. On January 1, 2010, the California Building Standards Commission adopted CALGreen and became the first state in the United States to adopt a statewide green building standards code. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials. The California Building Energy Efficiency Standards are updated periodically. The standards were most recently updated in 2016, and are effective as of January 1, 2017.

CEQA Guidelines Appendix F

In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The goal of conserving energy implies the wise and efficient use of energy.

LOCAL

Bay Area Air Quality Management District CEQA Guidelines

On June 2, 2010, BAAQMD's Board of Directors unanimously adopted thresholds of significance to assist in the review of projects under the California Environmental Quality Act. These Thresholds are designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in BAAQMD's updated CEQA Guidelines (updated May 2012). The Thresholds are advisory and may be followed by local agencies at their own discretion.

Town of Yountville Climate Action Plan

The Town's CAP was adopted in September 2016. The purpose of the CAP is to compile existing and potential strategies that the Town's government and community can use to address climate change. The CAP includes a baseline year 2010 community emissions inventory, a government operations emissions inventory, emissions forecasts and reduction targets, quantification of emissions reductions from State actions, a summary of GHG reduction strategies, and a quantification of GHG reductions strategies (where applicable). The CAP provides a brief background on what climate change is and its potential impacts, but focuses on the efforts Yountville can take to reduce its greenhouse gas emissions and mitigate, to the extent feasible at the local level, the potential impacts of climate change.

3.7.3 IMPACTS AND MITIGATION MEASURES

GHG THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed General Plan would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

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 latest version of the CARB Scoping Plan, and compliance with the current BAAQMD Plan-level GHG emissions thresholds. The proposed project's consistency with the following statewide GHG legislation was also analyzed: AB 32, SB 375, and SB 32, which target the reduction of statewide emissions.

ENERGY CONSERVATION THRESHOLDS OF SIGNIFICANCE

Additionally, per Appendix F of the State CEQA Guidelines, the proposed General Plan would result in a significant impact on energy use if it would:

- Result in significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or energy intensiveness of materials by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal;
- Result in significant adverse impacts on local and regional energy supplies and on requirements for additional capacity;
- Result in significant adverse impacts on peak and base period demands for electricity and other forms of energy;
- Fail to comply with existing energy standards;
- Result in significant adverse impacts on energy resources;
- Result in significant adverse impacts related to transportation energy use requirements of the project and use of transportation alternatives; or
- Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to energy conservation.

In order to determine whether or not the development of the General Plan area would result in a significant impact on energy use, this EIR includes an analysis of energy use related to the development of the General Plan area.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: General Plan implementation would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

In 2017, the CARB released the latest version of the Scoping Plan (*California's 2017 Climate Change Scoping Plan)*, which ensures consistency with the statewide GHG reduction targets provided by AB 32, and SB 32, which call for reducing statewide GHG emissions to 1990 levels by 2020, and 40% below 1990 levels by 2030, respectively. Separately, SB 375 contains a 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 Regional Transportation Plan (RTP). The latest version of the Scoping Plan incorporates the GHG targets established by AB 32 and SB 32, and is also consistent with the requirements under SB 375.

Development within the General Plan area would also be required to comply with other relevant statewide policies, and applicable thresholds(s) provided by the BAAQMD. The following provides an analysis of the proposed project's consistency with (1) the current version of the statewide Scoping Plan, and (2) applicable best management practices as promulgated by the BAAQMD (including the GHG thresholds of significance provided for plan-level impacts).

CONSISTENCY WITH THE CARB'S CALIFORNIA'S 2017 CLIMATE CHANGE SCOPING PLAN

In accordance with AB 32, the CARB developed the first Scoping Plan in 2008 to outline the State's strategy to achieve 1990 level emissions by year 2020. In May 2014, the CARB released and adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. A new version of the Scoping Plan was then published by the CARB in November 2017 (entitled *California's 2017 Climate Change Scoping Plan*). Since adoption of the 2008 Scoping Plan and the subsequent updates in 2014 and 2017, state agencies have adopted programs identified in the plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Building Standards (e.g., CALGreen and the 2016 Building and Energy Efficiency Standards), the Renewables Portfolio Standard (RPS), and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars).

The new buildings constructed and operated within the General Plan area would be significantly more energy efficient than the current buildings in the surrounding area, many of which were constructed under previous versions of the Title 24 energy code. Plumbing fixtures and landscaping installed as part of the proposed project would result in a decrease in per capita water use compared to existing land uses throughout the Town and the region. The proposed project would also need to operate in accordance with the goals of AB 341 that requires a 75 percent diversion rate of waste from landfills. Once built, the General Plan area would become part of existing development within the state that can be subjected to a variety of future state or federal GHG reduction measures intended to target existing development to the extent they are legally applicable. Additionally, the Plan area's operational emissions would be reduced as additional regulations are implemented by the CARB and other state agencies to comply with the statewide GHG reduction targets. For example, the project's transportation emissions would be expected to decline as vehicle efficiency standards are implemented beyond the Advanced Clean Cars program and the Low Carbon Fuel Standard is strengthened. Therefore, proposed project emissions would continue to decline beyond the buildout year due to regulations that would indirectly affect project emissions.

California met its 2020 GHG reduction target early (in 2016)[3], and is well positioned to maintain and continue reductions beyond 2020 (CARB, 2014). The update also The *First Update to the Climate Change Scoping Plan* elaborated on potential GHG reduction goals beyond 2020:

> *This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts [MW] of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions (CARB, 2014b).*

Similarly, the CARB's *California's 2017 Climate Change Scoping Plan* (the latest version of the Scoping Plan) provides policies that are considered needed to meet the state's mid-term and long-term GHG emissions reduction targets. For example, *California's 2017 Climate Change Scoping Plan* describes that, although "zero net carbon buildings" are not feasible at this time, they will be necessary to achieve the 2050 target. The CARB's *California's 2017 Climate Change Scoping Plan* also provides the "Scoping Plan Scenario", which describes policies intended to meet the Governor's climate pillars, and the state's mid-term and long-term GHG emissions reduction targets.

Therefore, recognizing the CARB as an authoritative substantial evidence source in evaluating post-2020 GHG impacts, this analysis also evaluates whether buildout of the General Plan would interfere with the main programs the CARB has identified to support is conclusions that the state is on a trajectory to meet the 2030 and 2050 GHG targets – (1) initiative to install 12,000 MW of renewable distributed energy by 2020; (2) the California Building Standards Commission's goal to construct net-zero energy homes after 2020; (3) existing building retrofits under AB 758; (4) the reduction in GHG emissions in the electricity sector through the implementation of the 60 percent RPS under SB 100; (5) the ongoing implementation of the Low Carbon Fuel Standard (LCFS); (6) the reduction in GHGs and other pollutants from the transportation sector through the Mobile Source Strategy; (7) the approval and implementation of the Short-Lived Climate Pollutant strategy under SB 1384; (8) implementation of the California Sustainable Freight Action Plan; and (9) implementation of the Post-2020 Cap-and-Trade Program.

- **(1) Initiative to Install 12,000 MW of renewable distributed energy by 2020.** Buildout of the proposed General Plan is not expected to interfere with the state's goal to install 12,000 MW of renewable distributed generation systems by 2020. As of December 31, 2017, more than 11,700 MW of distributed generation capacity was operating or installed in California, with an additional 340 MW pending (California Energy Commission, 2018b). The data include a minimum of 5,900 MW of behind-the-meter solar, which far exceeds the state's

[3] California Air Resources Board (CARB). 2018. https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time

California Solar Initiative (CSI) goal of 3,000 MW on residential and commercial sites by the end of 2016.

- **(2) California Building Standards Commission's goal to construct net-zero energy homes after 2020**. Likewise, the proposed General Plan is not anticipated to interfere with the ability of the California Building Standards Commission's goal of constructing net-zero energy homes after 2020. The proposed General Plan is expected to be achieve full buildout by approximately 2040 and would be constructed to comply with existing building energy standards at the time building permits are obtained. Therefore, buildout of the proposed General Plan would not interfere with the state's ability to mandate net-zero energy homes for new construction after 2020.

- **(3) Existing building retrofits under AB 758.** Buildout of the proposed General Plan would not interfere with the state's implementation of building retrofits to further energy efficiency for existing buildings under AB 758. AB 758, the Comprehensive Energy Efficiency in Existing Buildings Law, tasked CEC with developing and implementing a comprehensive program to increase energy efficiency in existing residential and nonresidential buildings that "fall significantly below the current standards in Title 24." (Pub. Resources Code, section 25943(a)(1).) Approximately 50 percent of existing residential and nonresidential buildings in California were constructed before California Building Energy Efficiency Standards went into effect in 1978. Other buildings constructed after 1978 also fall below current Title 24 standards and represent significant opportunities for energy efficiency improvements. Pursuant to AB 758, the CEC has developed an Existing Buildings Energy Efficiency Action Plan that identifies strategies to implement energy efficient renovations for such existing commercial, residential, and publicly owned buildings. Strategies include making information about a building's energy efficiency more readily available, educating the public about the cost-benefit of energy efficiency upgrades, making attractive financing more readily available, educating the public and contractors about available energy upgrades and code compliance requirements, and educating a work force capable of implementing energy upgrades. New buildings and remodels within the General Plan area would be constructed compliant with applicable California Building Standards Code requirements, including CALGreen standards, which would not interfere with CEC or other initiatives implemented to increase energy efficiency and reduce GHG emissions associated with buildings that do not adhere to Title 24 standards.

- **(4) 60 Percent RPS by 2030 and Zero-Carbon Electricity under SB 100**. Under SB 100, the state committed to reducing GHG remissions in the electricity sector through the implementation of the 60 percent eligible renewables by 2030 and 100 percent by 2045. The California Public Utilities Commission (CPUC) implements and administers RPS compliance, by regulating California's retail sellers of electricity, which include PG&E. Buildout of the proposed General Plan would not interfere with the RPS, since it would not affect any retail seller of electricity. In addition, the state is on its way to meeting the 60 percent RPS requirement by 2030, according to data available from the CPUC.

- **(5) Low Carbon Fuel Standard**. The Low Carbon Fuel Standard is designed to encourage the use of cleaner low-carbon fuels in California, encourage the production of those fuels, and therefore, reduce greenhouse gas emissions. Buildout of the proposed General Plan would not interfere with this state-level program.

- **(6) Mobile Source Strategy**. The CARB developed an updated Mobile Source Strategy in May, 2016. The actions contained in the Mobile Source Strategy are designed to deliver broad environmental and health benefits, as well as support much needed efforts to modernize and upgrade transportation infrastructure, enhance system-wide efficiency and mobility options, and promote clean economic growth in the mobile sector. Buildout of the proposed General Plan would not interfere with this state-level program.

- **(7) Short-Lived Climate Pollutant strategy under SB 1383**. SB 1383 is a state program that provides a strategy to reduce short-lived climate pollutants. The goals of the program are to reduce methane and hydrofluorocarbon (HFC) emissions below 2013 levels by 2030, and a 50 percent reduction in anthropogenic black carbon emissions below 2013 levels by 2030. Buildout of the proposed General Plan would not interfere with this state-level program.

- **(8) California Sustainable Freight Action Plan**. This program is designed to improve freight system efficiency within the state by 25 percent by 2030. Buildout of the proposed General Plan does not include any features that would interfere with this state-level program.

- **(9) Post-2020 Cap-and-Trade Program**. The CARB's Scoping Plan also recommended the development of a California Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system. On January 1, 2013, the CARB launched the second-largest GHG Cap-and-Trade Program in the world. The Cap-and-Trade Program establishes a hard and declining cap on approximately 85 percent of total statewide GHG emissions. Under the Cap-and-Trade Program, the CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. As the emissions cap is gradually reduced over time, and as additional sources are brought under the cap to include the vast majority of emissions in the state, the program will ensure that California remains on track to continually reduce emissions and meet the 2020 limit. Looking out into the future, the Cap-and-Trade Program will likely play a critical role in keeping California on the right emissions reduction trajectory to meet ongoing reduction targets at the lowest possible cost. The Cap-and-Trade Program is a vital component in achieving both California's near-and long-term GHG emissions targets (CARB, 2014). The Cap-and-Trade Regulation is not directly applicable to the proposed General Plan.

California's 2017 Climate Change Scoping Plan provides recommendations for local plan-level greenhouse gas emission reduction goals, including developing community-wide GHG emissions reduction goals necessary to reach 2030 and 2050 climate goals, recognizing that longer-term reduction targets cannot be achieved without land use decisions that allow more efficient use and management of land and infrastructure, and including local actions to reduce vehicle miles travelled (VMT). The General Plan is consistent with these recommendations as it includes Policy OS-8.4 which

requires the Town to establish reduction targets for GHG emissions and to actively implement local strategies to reduce the effects of climate change and implementing Program OS-8.4b, which requires the Town to periodically update the Town's CAP to incorporate updated emission levels and new emission reduction targets. The General Plan Land Use Map and related policies and programs focus on compact, infill development within the Town and provide for the efficient management and development of land and provision of infrastructure. The Mobility Element includes a range of policies and programs, described in Chapter 3.14, Transportation and Circulation, that encourage non-vehicle modes of travel and are intended to reduce VMT.

CONSISTENCY WITH BAAQMD GUIDANCE

The BAAQMD recommends Basic Construction Mitigation Measures for all projects, whether or not construction-related emissions exceed the thresholds of significance. These mitigation measures include:

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

The BAAQMD also encourages lead agencies to incorporate best management practices to reduce GHG emissions during construction, as applicable. Best management practices may include, but are not limited to: using alternative fuels (e.g. biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials. Compliance with the

BAAQMD construction-related mitigation requirements are considered to reduce GHG impacts at both the local and basin-wide levels. Development within the General Plan area would implement the BAAQMD Basic Mitigation Measures, as applicable, as required by the BAAQMD.

Separately, the BAAQMD has established Plan-level GHG thresholds of significance. There is no BAAQMD Plan-level GHG emissions threshold of significance for construction emissions. In addition, construction emissions that would occur during implementation of the proposed General Plan would be temporary in nature, and would therefore not generate a significant impact on the environment. However, the BAAQMD has established a Plan-level GHG emissions threshold for operational emissions of 6.6 MT CO_2e/service population/year.[4]

As shown, development of the General Plan area is estimated to generate approximately 4,278 MT CO_2e (see Table 3.7-4 under Impact 3.7-2). The proposed project would generate approximately 439 new residents and 325 new employees (or a service population of 764), as described in greater detail in Section 3.3 (Air Quality). Based on an estimated service population of 764, the proposed project would generate approximately 5.6 MT CO_2e/service population/year, which below the BAAQMD Plan-level threshold for operational emissions of 6.6 MT CO_2e/service population/year.

CONCLUSION

The extensive list of policies included in the Town's General Plan and within the latest version of the CARB's Scoping Plan, which the proposed General Plan would not conflict with, demonstrate that the General Plan is committed to reducing GHGs and climate change impacts through to the greatest degree feasible. The proposed General Plan would also be consistent with all applicable regulatory requirements aimed at reducing project-related GHG emissions, as also discussed above, which include the BAAQMD's Plan-level operational GHG thresholds, as provided within the BAAQMD's CEQA Air Quality Guidelines. As a result, the General Plan would not conflict with or impede implementation of GHG reduction goals identified in AB 32, SB 375, SB 32, or other federal, statewide, and local strategies to help reduce GHG emissions. Impacts associated with GHG plans, policies, and regulations would be **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MAY REDUCE POTENTIAL IMPACTS

Policy OS-8.1 Conserve Energy and Use Renewable Energy. Increase energy efficiency and conservation and encourage the use of renewable energy.

> *Program OS-8.1a Design of Buildings. Encourage the design of new buildings and remodel of existing buildings with consideration of reducing the environmental impacts and costs of heating, cooling, and lighting through the use of efficient mechanical equipment, solar orientation, natural light and airflow, and shade trees.*
>
> *Program OS-8.1b Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.*

[4] Service population includes residents and employees.

Program OS-8.1c Public Outreach. Promote residential and commercial energy efficiency and conservation programs to residents and businesses.

Policy OS-8.4 Emission Reduction Goals and Strategies. Establish reduction targets for greenhouse gas emissions and actively implement local strategies to reduce the effects of climate change.

Program OS-8.4a Emission Reduction Targets. Implement strategies to achieve reductions in greenhouse gas emissions consistent with a 20% reduction below 2010 emission levels by 2020 and an additional 40% reduction by 2030.

Program OS-8.4b Climate Action Plan. Implement the Town's Climate Action Plan and periodically update the plan to incorporate updated emission levels and new emission reduction targets.

Program OS-8.4c Monitoring Emissions. Periodically update the greenhouse gas emissions inventory for both community and municipal emissions and quantify success in meeting reduction measures to monitor achievement of emission reduction targets.

Program OS-8.4d Public Education. Educate the community on the impacts of climate change and measures individuals and businesses can take to reduce greenhouse gas emissions and adapt to climate change.

Policy SH-1.11 Climate Change Adaptation and Resiliency. Prepare for and respond to the expected impacts of climate change.

Impact 3.7-2: General Plan implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Less than Significant)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and town, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. The proposed General Plan would establish land use designations to allow development in an area of the Town that currently contains vacant land, agricultural fields, and other uses. Future development of the General Plan area would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to such future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as CH_4 and N_2O, from mobile sources and utility usage.

In order to determine if the future development contemplated by the proposed General Plan would generate GHGs that may have a significant effect on the environment, Yountville has relied on the General Plan'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 and SB 32, which call for reducing statewide GHG emissions to 1990 levels by 2020, and to 40% below 1990 levels by 2030.

The California Emission Estimator Model (CalEEMod)™ (v.2016.3.2) was used to estimate operational GHG emissions associated with full buildout of the proposed General Plan. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e$), based on the global warming potential of the individual pollutants.

GHG emissions generated by buildout of the proposed General Plan would consist primarily of CO_2 emissions, with very limited quantities of CH_4 and N_2O also generated. CO_2e provides a universal standard of measurement against which the impacts of releasing (or avoiding the release of) different 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 3.7-4 shows the CO_2e emissions, which include mobile source, area source, and energy emissions that would result from operations under buildout of the General Plan. The full calculations, inputs, and assumptions are provided in Appendix B. The emissions calculations presented below assume implementation of the policies and actions that are immediately available to the Town of Yountville in the near-term. As such, these estimates are considered a "worst-case" scenario, and do not account for additional GHG emissions reductions that may be achieved following full implementation of the Town's CAP and all reduction strategies included in the General Plan.

POTENTIAL TO GENERATE SIGNIFICANT GHG EMISSIONS

Long-Term Operational GHG Emissions: The unmitigated long-term operational GHG emissions are shown in Table 3.7-3, and the mitigated GHG emissions are shown in Table 3.7-4.

TABLE 3.7-3: UNMITIGATED OPERATIONAL GHG EMISSIONS UNDER BUILDOUT OF THE YOUNTVILLE GENERAL PLAN

EMISSIONS CATEGORY	*UNMITIGATED CO_2E (METRIC TONS/YEAR)*
Area Source GHG Emissions	9.17
Energy Source GHG Emissions	1,224.08
Mobile Source GHG Emissions	3.250.65
Waste Source GHG Emissions	135.89
Water Usage GHG Emissions	92.94
Total Annual Operational GHG Emissions	**4,712.72**

SOURCE: CALEEMOD (V.2016.3.2)

TABLE 3.7-4: MITIGATED OPERATIONAL GHG EMISSIONS UNDER BUILDOUT OF THE YOUNTVILLE GENERAL PLAN

EMISSIONS CATEGORY	*UNMITIGATED CO_2E (METRIC TONS/YEAR)*
Area Source GHG Emissions	2.87
Energy Source GHG Emissions	1,224.08
Mobile Source GHG Emissions	2,838.05
Waste Source GHG Emissions	135.89
Water Usage GHG Emissions	77.48
Total Annual Operational GHG Emissions	**4,278.38**

SOURCE: CALEEMOD (V.2016.3.2)

As shown above, the proposed General Plan would generate annual operational emissions of approximately 4,712 MT CO_2e in the unmitigated scenario and 4,278 MT CO_2e under the mitigated scenario (it should be noted that the mitigated scenario takes into account relevant state and local regulation that would reduce GHG emissions above and beyond the modelled 'unmitigated' scenario, but does not include mitigation as recognized by CEQA). Overall, the proposed General Plan has taken a progressive and proactive approach to the reduction of GHG emissions. As described under the previous impact, the proposed project would not generate GHG emissions that would exceed the BAAQMD's Plan-level thresholds. This is a **less than significant** impact.

Impact 3.7-3: General Plan implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources (Less than Significant)

Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed General Plan would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed General Plan area includes residential and non-residential land uses. The amount of energy used within the General Plan area would directly correlate to the number and size of the residential units, the energy consumption of associated unit appliances, outdoor lighting, and energy use associated with the proposed non-residential buildings and activities. Other major sources of proposed General Plan energy consumption include fuel used by vehicle trips generated during construction and operation activities, and fuel used by off-road construction vehicles during construction. The following discussion provides calculated levels of energy use expected for the proposed General Plan, based on commonly used modelling software (i.e. CalEEMod v.2016.3.2 and the California Air Resource Board's EMFAC2014). It should be noted that many of the assumptions provided by CalEEMod are conservative relative to the proposed General Plan. For example, the energy intensity values used by CalEEMod to determine proposed General Plan building energy usage are based on historical values, which are expected to go down in the future as buildings in California become increasingly energy-efficient. Additionally, the off-road construction equipment as provided by default within CalEEMod (based on the size and type of land uses within the proposed General Plan) were maintained within the modelling. However, these defaults typically provide an overestimate of project off-road construction emissions, for the sake of a conservative analysis. Therefore, this discussion provides a conservative estimate of proposed General Plan energy usage.

ELECTRICITY AND NATURAL GAS

"Energy" is one of the categories that were modeled for GHG emissions. The "Energy" category includes energy consumption from both natural gas and electricity (as provided by PG&E and MCE). The General Plan's total GHG emissions generated from the "Energy" category would be approximately 1,224.08 $MTCO_2e$. The General Plan's total GHG emissions generated from natural gas would be approximately 366.13 $MTCO_2e$, while the remainder of the "Energy" category emissions (approximately 857.94 $MTCO_2e$) would be generated by electricity usage.

According to the *Appendix A: Calculation Details for CalEEMod*, CalEEMod uses the California Commercial End Use Survey (CEUS) database to develop energy intensity value for non-residential buildings. The energy use from residential land uses is calculated based on the Residential Appliance Saturation Survey (RASS). Similar to CEUS, this is a comprehensive energy use assessment that includes the end use for various climate zones in California.

ON-ROAD VEHICLES (OPERATION)

Upon buildout, the proposed General Plan would generate vehicle trips during its operational phase. The proposed General Plan would generate approximately 5,846 new daily vehicle trips. In order to calculate operational on-road vehicle energy usage and emissions, default trip lengths generated by CalEEMod were used, which are based on the General Plan location and urbanization level parameters De Novo (the EIR consultant) selected within CalEEMod (i.e. "Napa County" and "Urban", respectively). These values are provided by the individual districts or use a default average for the state, depending on the location of the General Plan area (CAPCOA, 2017). Based on default factors provided by CalEEMod, the average distance per trip was conservatively calculated to be approximately 7.1 miles. Therefore, upon full buildout, the General Plan area would generate at total of approximately 51,818 average daily vehicle miles travelled (Average Daily VMT). Using fleet mix data provide by CalEEMod (v.2016.3.2), and current gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2014, De Novo derived current weighted MPG factors for operational on-road vehicles of approximately 25.5 MPG for gasoline and 8.1 MPG for diesel vehicles. With this information, De Novo calculated as a conservative estimate that buildout of the General Plan would generate vehicle trips that would use a total of approximately 1,875 gallons of gasoline and 493 gallons of diesel fuel per day, on average, or 684,470 gallons of gasoline and 179,946 annual gallons of diesel fuel per year, at full buildout.

CONSTRUCTION VEHICLES

Construction vehicle (off-road and on-road) emissions were not calculated for the purposes of this analysis, given the temporary and limited nature of construction activities during the lifetime of the proposed project.

OTHER

The proposed General Plan could also use other sources of energy not identified here. Examples of other energy sources include alternative and/or renewable energy (such as solar PV) and/or on-site

stationary sources (such as on-site diesel generators) for electricity generation, although none are currently proposed.

CONCLUSION

Buildout of the proposed General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel), and from off-road construction activities associated with buildout of the proposed General Plan (e.g. diesel fuel). Each of these activities would require the use of energy resources. The project applicant(s)/developer(s) responsible for buildout of all or part of the proposed General Plan would be responsible for conserving energy, to the extent feasible. This includes an emphasis on reducing per capita energy consumption, including through statewide and local measures. The General Plan includes policies and programs to reduce energy consumption and encourage the use of renewable energy, including Policy OS-8.1 and associated Programs OS-8.1a through OS-8.1c, as well as measures to encourage bicycle, pedestrian, and transit circulation to reduce vehicle trips, as described in Chapter 3.14, and measures to reduce GHG emissions, including Policy OS-8.1 and implementing programs, that would also reduce energy use.

Development within the proposed General Plan area would be in compliance with all applicable federal, state, and local regulations regulating energy usage. PG&E and MCE both provide electricity to the Town of Yountville. PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E is expected achieved a 33 percent mix of renewable energy resources in 2017 and is expected to meet the and 60 percent Renewable Portfolio Standard by 2030. Additionally, MCE maintained 61% renewable energy in 2017. Other statewide measures, including those intended to improve the energy efficiency of the statewide light and heavy-duty vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

As a result, the proposed General Plan would not result in any significant adverse impacts related to energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of building of the proposed General Plan, including construction, operations, maintenance, and/or removal. The electricity and natural gas provider to the General Plan area maintains sufficient capacity to serve the General Plan area. The proposed General Plan would comply with all existing energy standards, including those established by the Town of Yountville, and would not result in significant adverse impacts on energy resources. Furthermore, existing connections exist between the General Plan area and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. The proposed General Plan would be linked closely with existing networks that, in large part, are sufficient for most residents of the General Plan area. For these reasons, the proposed General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by Appendix F of the *CEQA Guidelines*. This is a **less than significant** impact.

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the General Plan area and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the General Plan area is built and operated in the future. This section is based in part on the following resources:

- California Department of Toxic Substances Control, 2018. Envirostor database search (DTSC, 2018). Available online at: https://www.envirostor.dtsc.ca.gov/public/.
- State Water Resources Control Board (GeoTracker) Information System and Geographic Environmental Information Management System (GEIMS), 2018 (SWRCB, 2018). Available at: https://geotracker.waterboards.ca.gov/.
- United States Environmental Protection Agency. 2018. Toxics Release Inventory (TRI) Program (USEPA, 2018). Available at: https://www.epa.gov/toxics-release-inventory-tri-program.

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

3.8.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location and Existing Uses

Yountville is located in Napa County, approximately 40 miles north of San Francisco and 50 miles southwest of Sacramento. The Town comprises approximately 1.5 square miles, straddling Highway 29 in the heart of the Napa Valley, located between the cities of Napa and St. Helena. See Figure 2.0-1, Regional Location Map. The Town's business district and residential neighborhoods lie to the east of Highway 29, while the Veterans Home is to the west.

The Town limits include the area within the Town's boundary, over which the Town exercises land use authority and provides public services. Figures 2.0-1 and 2.0-2 in Section 2.0 show the regional location and the project vicinity.

The Town currently contains the following land uses: public facilities, residential (single family, mixed residential, and mobile home park), commercial, parks and playfields, and agricultural.

Surrounding Uses

The land uses outside of the Yountville Town Limits are located in unincorporated Napa County. The Napa County General Plan designates the majority of the area surrounding the Town Limits as Open Space: Agricultural Resources. The area to the north, west, and south of the Veterans Home is designated Open Space: Agriculture, Watershed, and Open Space by the County General Plan. The areas surrounding the Town Limits are primarily used for agricultural or open space uses, with the Napa River located east of the Town.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.

- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop [MCPP], Dinoseb, chlordane, dichloro-diphenyltrichloroethane [DDT], and dichloro-diphenyl-dichloroethylene [DDE]), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

Historical Use Information

Historical information was reviewed to evaluate the General Plan area and adjoining properties for evidence of Recognized Environmental Conditions. Standard historical sources reviewed during the preparation of this report included the following, as available:

DATABASES

De Novo Planning Group performed a search of local, state, and federal agency databases for the proposed General Plan area and known contaminated sites in the vicinity. 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 and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. The General Plan area is not listed in this database.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. One developed site within the General Plan area is currently listed in this database. The site, Pacific Bell, is located at 6749 Yount Street. RCRIS lists this site as a small quantity generator.

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 the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The General Plan area is not listed in this database.

PADS System: PCB Activity Database System (PADS) is an EPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphenyls (PCBs) who are required to notify EPA of such activities. The General Plan area is not listed in this database.

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 sources of this database are the CA Department of Toxic Substances Control (DTSC) Envirostor Hazardous Waste and Substances sites, the list of leaking underground storage tank sites by County and Year from the GeoTracker database, the list of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit, the list of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board, and the list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC. The General Plan area is not listed in these databases. There are no hazardous materials release sites located in the vicinity of the General Plan area.

GeoTracker Database: GeoTracker has replaced past databases, such as the Leaking Underground Storage Tank Information System (LUSTIS) and the Underground Storage Tank (UST) database. The permittee USTs and LUST cleanup sites within the General Plan area are shown in Table 3.8-1.

TABLE 3.8-1: GEOTRACKER SITES WITHIN YOUNTVILLE STUDY AREA

SITE NAME	*TYPE*	*STATUS*	*ADDRESS*
Exxon	LUST Cleanup Site	Completed – Case Closed	6795 Washington St., Yountville
Exxon	LUST Cleanup Site	Completed – Case Closed	6516 Washington St., Yountville
Cosentino Winery	Cleanup Program Site	Completed – Case Closed	7415 St. Helena Hwy., Yountville
Former Yountville Market/Valley Exxon	LUST Cleanup Site	Open – Verification Monitoring	6770 and 6795 Washington St., Yountville
Kelly's Filling Station and Wine Shop	Permitted UST	Open	6795 Washington St., Yountville
Palm Vineyard	LUST Cleanup Site	Completed – Case Closed	6200 Washington St., Yountville
Private Residence	LUST Cleanup Site	Completed – Case Closed	Private Residence
Rinehart Oil Tanker Spill	Cleanup Program Site	Completed – Case Closed	Hwy. 29., Yountville
Veterans Home of California	RCRA	Closed	260 California Dr., Yountville
Yountville Veterans Home of America	LUST Cleanup Site	Open – Verification Monitoring	190 California Dr., Yountville

NOTES: LUST = LEAKING UNDERGROUND STORAGE TANK; UST = UNDERGROUND STORAGE TANK; RESOURCE CONSERVATION AND RECOVERY ACT (RCRA).
SOURCE: SWRCB, GEOTRACKER, 2018.

As shown, one permitted UST and six LUST cleanup sites are located in the General Plan area.

As shown in Table 3.8-1, the GeoTracker database shows ten sites within the Yountville study area (three open, seven closed). One open case, located at Kelly's Filling Station and Wine Shop, is a permitted UST. The permit for this gas station facility was issued by the Napa County Department of Environmental Management (Facility ID 339). The second open case, the former Yountville Market, has an open status for verification monitoring associated with remediation of identified petroleum hydrocarbons and fuel oxygenate compounds as the contaminants of concern (COCs) associated with a LUST. The LUST was closed and removed and approximately 143 tons of soil excavated. Groundwater monitoring wells were installed in the vicinity of the site and groundwater and soil monitoring has been performed intermittently. The Regional Water Quality Control Board is the lead agency for remediation activities at the former Yountville Market/Valley Exxon site. The third open case, located at the Veterans Home of California, has an open status for verification monitoring associated with remediation activities for a LUST. The LUST has been closed and removed. Three of the four monitoring wells have been destroyed and groundwater monitoring activities continue via the remaining well.

Toxic Release Inventory: The Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) does not list data on disposal or other releases of toxic chemicals in the General Plan area (USEPA, 2018). The nearest TRI site is located in American Canyon, approximately 14.1 miles to the southeast of the General Plan area.

Envirostor: The CA DTSC maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information maintained within the Envirostor database includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There is one site within the Town that is listed on the Envirostor database. The Veterans Home of California is listed as a RCRA Hazardous Waste site. This is not active and has a status of "Closed".

Solid Waste Information System: 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 Town has one solid waste facility listed in the database, the Veterans Home Disposal Site (28-AA-0007); however, this site is unpermitted and the operational status is closed. The property is owned by the Veterans Home of California and is no longer inspected. The inspections of this closed facility show no violations or areas of concern. The site details are listed in Table 3.8-2. Additionally, the Wastewater Treatment Plant serves as a Napa County collection facility for hazardous materials.

TABLE 3.8-2: CIWMB CLOSED FACILITIES/SITES

NUMBER	*NAME*	*ACTIVITY*	*REGULATORY*	*STATUS*
28-AA-0007	Veteran's Home Disposal Site	Solid Waste Disposal Site	Unpermitted	Closed

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, 2018.

None of the records reviewed for the project area indicates that a Recognized Environmental Condition is associated with the General Plan area.

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 vineyards, orchards, and woodland vegetation found in areas of Napa 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.

Fire Hazard Severity Zones

The state has charged the California Department of Forestry and Fire Protection (CAL FIRE) with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CAL FIRE must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshal as a basis for the adoption of applicable building code standards.

LOCAL RESPONSIBILITY AREAS

Local Responsibility Areas (LRA) are areas under the jurisdiction of local entities and are concentrated in the incorporated areas of Napa County. Based on the Fire Hazard Model, CAL FIRE identifies "Very High" FHSZs within LRAs. The Town is an LRA that is served by the Napa County Fire Department (NCFD), which contracts with CAL FIRE for fire protection services. The contract provides Yountville with year-round fire protection services through the County's Fire Department. CAL FIRE is responsible for staffing the Yountville Fire Station and providing structure fire protection, wildland fire protection, emergency medical response, technical rescue/extrication, hazardous materials, water supply, dispatch, training, fire safety education, fire (arson) investigations, fire prevention, vegetation management, and fire marshal (code enforcement) within Yountville.

The majority of the Town is not categorized as a FHSZ by CAL FIRE (California Department of Forestry and Fire Protection, 2011). However, a small area in the southwestern corner of the Town limits is categorized as a "Very High" FHSZ by CAL FIRE. This zone is located in a remote, undeveloped area within the Veterans Home property.

Historically, fires in the Yountville area have occurred mainly to the east and west of the Town in the hillside areas. Several fires have occurred in the vicinity of the Town (i.e., within three miles) in

the last 60 years. In 2007, a human-caused fire occurred approximately 2.4 miles west of the Town boundary. In 2006, a fire caused by a powerline occurred along the western Town boundary. The cause of the 2006 fire is undetermined. In 1962, a fire occurred approximately 1.5 miles west of the Town boundary. In 2017, a complex of fires in the northern portion of California, including the Atlas Fire in Napa County, the Nuns Fire in Sonoma and Napa Counties, and the Tubbs Fire in Sonoma and Napa Counties, affected areas of Napa County to the north, east, and west of the Town but did not affect the Town or its immediate environs.

STATE RESPONSIBILITY AREAS

Fire prevention areas under state jurisdiction are referred to as State Responsibility Areas (SRAs). The Fire Hazard Model assigns a score of moderate, high, or very high fire hazard to all SRAs. SRAs within the vicinity of the Town are primarily found to the north and west of the Town limits. Areas adjacent to the north of the Town are categorized as a "Moderate" Fire Hazard Severity Zone (FHSZ). Areas adjacent to the west of the Town are categorized as a "Moderate", "High", or "Very High" FHSZ. The "Very High" FHSZ extends to the Sonoma County line, which is approximately 4.65 miles to the west of the Town. Approximately one mile to the east of the Town limits is a combination of "Moderate" and "Very High" FHSZs. This area is generally rolling slopes. The closest "Very High" FHSZ is located adjacent to the southwestern corner of the Town limits. (California Department of Forestry and Fire Protection, 2011).

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% of general aviation accidents occur during takeoff and initial climb and 44.2% 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.

Local Airport Facilities

There are no private or public airport facilities in the General Plan area. Angwin Airport-Parrett Field (Parrett Field) is the closest airport to Yountville.

Parrett Field is located within the Town of Angwin. This airport is the closest airport to Yountville, located approximately 11.9 miles north of the Yountville Town limits. Parrett Field is privately owned and operated and is open to the public. The airport offers ground schools and flight instruction. For the 12-month period ending December 31, 2015, the airport had 10,000 total aviation aircraft operations, an average of 27 per day.

The Town does not lie within the Runway Protection Zone, Inner/Outer Safety Zones, Inner Turning Zone, Sideline Safety Zone, or Traffic Pattern Zone of Parrett Field.

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board Aviation Accident Database identifies 0 accidents within the Town between January of 1950 to May 2014. (National Transportation Safety Board, 2016).

3.8.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Resource Conservation and Recovery Act

The 1976 Federal 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 followed the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, 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 DOT and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

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.

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.

Rivers and Harbors Appropriation Act of 1899

One of the country's first environmental laws, the Rivers and Harbors Appropriation Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

Water Pollution Control Act of 1972

The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States.

Clean Water Act of 1977

The CWA, which amended the WPCA of 1972, sets forth the Section 04 program to regulate the discharge of dredged and fill material into Waters of the US and the Section 402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the US. Section 401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of federal permits and approvals (including CWA Section 404, CWA Section 402, FERC Hydropower and Section 10 Rivers and Harbors).

Flood Control Act

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Flood Control Act were to

be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

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.

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 base flood elevation (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.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (CAL-EPA), DTSC, California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the

California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Code of Regulations Title 8

In accordance with CCR, Title 8, Section 1270 and Section 6773 (*Fire Prevention* and *Fire Protection and Fire Equipment*), the Occupational Safety and Health Administration (Cal OSHA) establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

California Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention and response regulations.

California Code of Regulations Title 19 (Public Safety)

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention and construction and construction materials standards.

California Code of Regulations Title 24 (Building Standards Code)

The California Fire Code is set forth in Part 9 of the Building Standards Code. The CA Fire Code, which is pre-assembled with the International Fire Code by the ICC, contains fire-safety building standards referenced in other parts of Title 24.

California Health and Safety Code and Uniform Building Code Section 13000 et seq.

State fire regulations are set forth in Section 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 Uniform Building Code 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.

California Health and Safety Code Division 11 (Explosives)

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).

California Health and Safety Code Division 12.5 (Buildings Used by the Public)

This Division establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings and postsecondary buildings.

California Vehicle Code Section 31600 (Transportation of Explosives)

Establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Health and Safety Code

CAL-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The CCR Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, CAL-EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

Government Code 51175-89

Per Government Code 51175-89, local fire prevention authorities and CAL FIRE are required to identify VHFHSZ in the LRA. Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

Assembly Bill 1241

AB 1241, adopted in 2012, requires counties with State Responsibility Areas and cities with lands designated as Very High Fire Severity Zones in the Local Responsibility Areas to comply with Government Code Section 65302(g)(3) through specifically addressing fire hazard planning for their community in the General Plan.

Assembly Bill 162

This bill amended Government Code Sections 65302, 65303.4, 65352, 65584.04, and 65584.06 of, and to add Sections 65300.2 and 65302.7 to require the land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by floodplain mapping prepared by FEMA or the Department of Water Resources (DWR). The bill also requires the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

This bill requires the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.

California Water Code Section 8307

This section of the Water Code provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the state's exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped area, as defined, that is protected by a state flood control project, unless the city or county meets specified requirements.

California Fire Code

The California Fire Code (CFC) establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the CFC 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.

LOCAL

Yountville Municipal Code

Chapter 8.16, Fire Regulations, of the Yountville Municipal Code addresses outdoor burning in the Town. Section 8.16.030 of the Code prohibits setting a fire or causing a fire to be set out-of-doors (except for barbecues and food smokers as permitted in Section 8.16.040) at any time between May 1st and the close of fire season, as established by the State Department of Forestry and Fire Protection, of any year without first obtaining a fire permit from the Fire Control Authority.

Chapter 8.20, Fireworks, of the Code bans all fireworks except for public displays pursuant to a permit applied for and granted in accordance with the provision of Health and Safety Code Section 12640.

Title 13, Division 5, Stormwater Discharge System, provides the rules and regulations for stormwater. Specifically, Chapter 13.124 prohibits illicit connections, improper property maintenance, illicit discharges, and other acts related to the Town's storm drain system. The best

management practices for ground disturbing activities, new development and redevelopment, and other related urban runoff measures are summarized in Chapter 13.128 of the Code. The storm drain inspection process and enforcement procedures are also contained within Division 5 of the Yountville Municipal Code.

Chapter 15.32, California Fire Code, of the Code incorporates the California Fire Code by reference and includes a local exception for fire sprinklers. Except for Group R-3 occupancies and other exceptions noted in Section 15.32.030 of the Code, all valves controlling the water supply for automatic fire sprinkler systems, pumps, tanks, water levels, and water flow switches shall be electrically supervised.

Title 15, Division 2, Floodplain Management Regulations, provides the rules and regulations for development within the floodplain. Specifically, Chapter 15.47 summarizes the required methods for reducing flood losses, lands to which this division applies, and compliance procedures, among other provisions. This division applies to all areas of special flood hazards within the jurisdiction of the Town of Yountville.

Airport Land Use Compatibility Plan (ALUCP) – Napa County

The Napa County Airport Land Use Commission (ALUC) ALUCP was adopted in April 1991 and revised in December 1999. The Plan sets forth the policies and criteria that Napa County ALUC will use in evaluating land use plans and proposed developments in the vicinity of the public-use airports located within Napa County. Three public-use airports are covered by the Plan: Calistoga Gliderport, Angwin-Parrett Field, and Napa County Airport. The Angwin-Parrett Field is the closest public-use airport to Yountville. The primary function of the ALUCP is to provide guidance to the ALUC in reviewing the land use plans and zoning regulations of the affected local jurisdictions to ensure that future development in the airports' environs is compatible with airport activities.

Napa County Operational Area Hazard Mitigation Plan

In 2013, the County of Napa adopted the Napa County Operational Area Hazard Mitigation Plan (HMP), prepared in cooperation with the Cities of American Canyon, Calistoga, Napa, St. Helena, and the Town of Yountville. The HMP addresses a wide variety of disasters that could affect Napa County and provides plans for reducing or mitigating these threats. So-called "major threats" addressed in the NAOHMP include:

- Flooding
- Earthquake
- Wildland Interface Fires (fires at the edge of wildland areas, chiefly affecting residential areas)
- Terrorism and Technological Hazards, including the glassy-winged sharpshooter, a vineyard pest that carries diseases deadly to grapevines.

The HMP analyzes the risk of each of these hazards and includes a detailed analysis of how critical facilities (public buildings, hospitals, day care centers, etc.) would be affected by fire, earthquake, and other disasters.

Sonoma-Lake-Napa Fire Plan (2005)

The Sonoma-Lake-Napa Unit (LNU) of the CAL FIRE 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.

Certified Unified Program Agency (CUPA)

CAL_EPA designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. In Napa County, the Napa County Division of Environmental Health is responsible for the County's CUPA programs. Each designated CUPA is responsible for the implementation of six statewide programs within its jurisdiction. These programs include:

- Underground storage of hazardous substances (USTs);
- Hazardous Materials Business Plan (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.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan 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 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.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Potential hazards associated with active agricultural operations in close proximity to urban uses is addressed in Chaper 3.2, Agricultural Resources.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: General Plan implementation would not 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, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial and agricultural activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, either associated with previous activities on a site or naturally occurring hazards such as asbestos.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the State Division of Occupational Safety and Health, and the Department of Toxic Substances Control consistent with the requirements of Federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police Department and Fire District) would respond. All future projects allowed

under the 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 Town, 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 Federal and State regulations and the Municipal Code, the Town's General Plan includes policies and programs to address potential impacts associated with hazardous materials and community safety, among other issues. Subsequent development projects proposed within the General Plan area would be subject to all applicable General Plan policies and programs as well as Federal and State regulations. Most specifically, General Plan Policy SH-1.4 aims to provide a high level of service to the community by working to ensure order and improve the safety of the community. Additionally, Program SH-1.4b requires coordination with Napa County to meet accepted levels of risk and response times. Program SH-1.7a requires the proper use, storage, and disposal of toxic chemicals to prevent soil contamination, while Program SH-1.7b requires soil analysis for all new residential developments and other sensitive receptors when there is a history of agricultural and industrial use. Further, Program SH-1.8a requires measures to protect the public health from the hazards associated with the transportation, storage, and disposal of hazardous wastes and materials.

Implementation of General Plan Policies SH-1.4SH-1.7, and SH-1.8, and Programs SH-1.4a, SH-1.4b, SH-1.7a, SH-1.7b and SH-1.8a, as detailed below, would ensure that this potential impact is **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.4 Police and Community Safety. Provide a high level of service to the community by working to ensure order and improve the safety of the community.

> *Program SH-1.4a Napa County Agreement. Maintain agreement with Napa County for police protection and to maintain adequate level of service.*
>
> *Program SH-1.4b Risk and Response Time. Coordinate with Napa County to meet accepted levels of risk and response time.*

Policy SH-1.7 Soil Quality. Protect and preserve soil as a natural resource.

> *Program SH-1.7a Toxic Chemicals. Ensure the proper use, storage, and disposal of toxic chemicals to prevent soil contamination.*
>
> *Program SH-1.7b Soils Analysis. Require soils analysis for all new residential developments and other sensitive receptors when there is a history of agricultural or industrial use.*

Policy SH-1.8 Hazardous Materials. Minimize risks and health impacts from environmental and human-induced disasters.

> *Program SH-1.8a Measures to Reduce Hazards. Require measures to protect the public health from the hazards associated with the transportation, storage, and disposal of hazardous wastes and materials.*

Impact 3.8-2: General Plan implementation would not 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)

The General Plan area does not contain any sites on the Cortese list. Based on the findings of this assessment, no Recognized Environmental Conditions (RECs), no historical RECs, and no controlled RECs were identified for the General Plan area. Therefore, this is considered a **less than significant** impact.

Impact 3.8-3: General Plan implementation would not 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 proposed General Plan has limited potential for the routine transport, use, or disposal of hazardous materials as discussed above (Impact 3.8-1). One school, Yountville Elementary School, is located within the General Plan area. The Yountville Elementary School is surrounded by existing residential and retail development, and the Yountville Elementary School site is designated Public Facilities by the General Plan Land Use Map. The proposed General Plan Land Use map identifies areas surrounding the School as Parks and Playfields, Master Planned Residential, Old Town Historic, Planned Development, and Residential Scaled Commercial.

The proposed General Plan Land Use Plan includes land use designations that address allowed uses on a property, but does not propose actual development. As such, it is currently not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The land use designation with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste is the Agricultural land use designation.

All hazardous materials would be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the Bay Area Air Quality Management District, Regional Water Quality Control Board, and DTSC, and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. Subsequent development projects proposed within the General Plan would be subject to all relevant General Plan policies and programs that reduce impacts associated with hazardous materials. Most specifically, implementation of General Plan Policies SH-1.4 and SH-1.5, and Programs SH-1.4a, SH-1.4b, SH-1.5a, as detailed above, would ensure that implementation would not emit hazardous emissions or handle hazardous materials, substances, or waste. Policy SH-1.4 aims to provide a high level of service to the community by working to ensure order and improve the safety of the community. Additionally, Programs SH-1.4a and SH-1.4b require coordination and agreements with Napa County to meet accepted levels of risk and response times, particularly as they relate to police protection and maintenance of

adequate level of service. Program SH-1.7a requires the proper use, storage, and disposal of toxic chemicals to prevent soil contamination, while Program SH-1.7b requires soil analysis for all new residential developments and other sensitive receptors when there is a history of agricultural and industrial use. Further, Program SH-1.8a requires measures to protect the public health from the hazards associated with the transportation, storage, and disposal of hazardous wastes and materials.

Compliance with these General Plan policies and programs would ensure that this potential impact is **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.4 Police and Community Safety. Provide a high level of service to the community by working to ensure order and improve the safety of the community.

> *Program SH-1.4a Napa County Agreement. Maintain agreement with Napa County for police protection and to maintain adequate level of service.*
>
> *Program SH-1.4b Risk and Response Time. Coordinate with Napa County to meet accepted levels of risk and response time.*

Policy SH-1.7 Soil Quality. Protect and preserve soil as a natural resource.

> *Program SH-1.7a Toxic Chemicals. Ensure the proper use, storage, and disposal of toxic chemicals to prevent soil contamination.*
>
> *Program SH-1.7b Soils Analysis. Require soils analysis for all new residential developments and other sensitive receptors when there is a history of agricultural or industrial use.*

Policy SH-1.8 Hazardous Materials. Minimize risks and health impacts from environmental and human-induced disasters.

> *Program SH-1.8a Measures to Reduce Hazards. Require measures to protect the public health from the hazards associated with the transportation, storage, and disposal of hazardous wastes and materials.*

Impact 3.8-4: General Plan implementation would not result in safety hazards associated with public airports or private airstrips (No Impact)

Parrett Field is the closest airport to Yountville. The Town of Yountville 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.

The General Plan area is not located within two miles of a public airport or private airstrip. The nearest airport, Parrett Field, is located approximately 11.9 miles north of the General Plan area. The Town of Yountville does not lie within the Runway Protection Zone, Inner/Outer Safety Zones, Inner Turning Zone, Sideline Safety Zone, or Traffic Pattern Zone for the Angwin-Parrett Field airport. Therefore, the proposed General Plan would not result in any airport-related safety hazards for people residing or working in the General Plan area. As such, there is **no impact**.

Impact 3.8-5: General Plan implementation would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

(*Note: The following discussion is associated with potential impacts of the proposed project on emergency response plans and/or evacuation plans. Proposed emergency vehicle access to and from the area is addressed in Chapter 3.14, Transportation and Circulation.*)

The proposed General Plan would allow a variety of new development, including residential, commercial, agricultural, and public facilities projects, which would result in increased jobs and population in Yountville. Road 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.

Subsequent development projects in the General Plan area would be subject to the Napa County Operational Area HMP which addresses a variety of disasters that could affect Napa County and provides plans for reducing or mitigating these threats. For example, the HMP has goals, objectives, and actions aimed to identify mitigation actions for various jurisdictions to abide by. Some of the goals, objectives, and actions are regional in focus and would be implemented by the relative County agencies, while some would be implemented on a case-by-case basis.

Additionally, the General Plan includes policies and programs aimed to assist in emergency response and evacuation. For example, Program SH-1.9b requires coordination with the Napa County Office of Emergency Services to periodically evaluate and update the Napa County Operational Area Hazard Mitigation Plan, including addressing climate change impacts. Program SH-1.9f aims to provide timely information to the public on public safety emergencies, health advisories, and evacuation warnings, orders, procedures and routes, and encourage community members to prepare emergency supplies and plans and sign up for the Town's public safety alert system. Further, Program SH-1.9g requires the Town to develop a disaster recovery plan that provides for efficient and effective coordination, recovery assessment, resource utilization, and policy guidance during the disaster recovery process. Implementation of the General Plan would have a **less than significant** impact with regard to this issue.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.9 Emergency Management. Minimize exposure to all hazards through emergency management, planning and training.

> *Program SH-1.9a Hazard Mitigation Plan. Implement the Napa County Operational Hazard Mitigation Plan 2013 Update approved by the Federal Emergency Management Agency in 2014.*
>
> *Program SH-1.9b Hazard Mitigation Plan. Work with Napa County Office of Emergency Services to periodically evaluate and update the Napa County Operational Area Hazard Mitigation Plan, including addressing climate change impacts.*

Program SH-1.9c Emergency Response Plans. Maintain and update the Town's emergency response plans on a regular basis, designating emergency shelters and evacuation routes.

Program SH-1.9d Emergency Shelter. Evaluate adding support systems at the Community Center to enhance its use as an emergency shelter during extended power outages.

Program SH-1.9e Interagency Cooperation. Continue to cooperate with the appropriate federal, State, and local agencies to practice and implement effective emergency plans and provide public safety training programs, where feasible.

Program SH-1.9f Emergency Preparedness and Response. Provide timely information to the public on public safety emergencies, health advisories, and evacuation warnings, orders, procedures and routes, and encourage community members to prepare emergency supplies and plans and sign up for the Town's public safety alert system.

Program SH-1.9g Disaster Recovery. Develop a disaster recovery plan that provides for efficient and effective coordination, recovery assessment, resource utilization, and policy guidance during the disaster recovery process.

Policy SH-1.10 Essential Facilities. Ensure essential public facilities/critical facilities, including utilities and water and wastewater facilities, are accessible and operational during flooding, seismic events, fires, extreme heat events, and other emergencies and, if such facilities are new development, that they are located outside of high risk areas, to the extent feasible.

Impact 3.8-6: General Plan implementation would not 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.

As noted previously, the Town is an LRA that is served by the NCFD, which contracts with CAL FIRE for fire protection services. The majority of the Town is not categorized as a FHSZ by CAL FIRE (California Department of Forestry and Fire Protection, 2011). However, a small area in the southwestern corner of the Town limits is categorized as a "Very High" FHSZ by CAL FIRE. This zone is located in a remote, undeveloped area within the Veterans Home property.

Development allowed under the proposed General Plan would not place people and/or structures in areas at significant risk of wildland fires. 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. For example, the California Fire Code, which is required by Chapter 15.32 of the Yountville Municipal Code, requires

fire sprinklers for various uses and occupancy structures. Additionally, Chapter 8.16 of the Municipal Code contains requirements and regulations for outdoor burning in the Town. As future development and infrastructure projects are considered by the Town, each project would be evaluated for consistency with all applicable building and safety code sections that reduce fire risks.

Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that provide protections from wildland fires. For example, Program SH-1.3f requires fire risks from new development to be minimized by reviewing all development proposals for fire risk and requiring mitigation to reduce the probability of fire; requiring adequate access for emergency vehicles; and requiring sprinkler systems for new commercial and residential development and substantial remodels and additions. Compliance with the applicable Town's General Plan policies and programs, listed below, 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 regard to this issue.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.3 Fire Hazards. Reduce the risk of loss of life, personal injury, and property damage resulting from wildland and urban fire hazards through code enforcement and coordination with the Napa County Fire Department.

> *Program SH-1.3a Napa County Fire Department Agreement. Maintain agreement with Napa County Fire Department for fire protection and to maintain adequate level of service.*
>
> *Program SH-1.3b Risk and Response Time. Coordinate with Napa County Fire Department to meet accepted levels of risk and response time.*
>
> *Program SH-1.3c Inspections and Site Plan Review. Maintain programs with Napa County Fire Department for inspections and site plan review.*
>
> *Program SH-1.3d Weed Abatement and Defensible Space. Develop weed abatement and defensible space programs which reduce risk of fire while maintaining native vegetation and wildlife habitat.*
>
> *Program SH-1.3e Heather Street and Heritage Court Emergency Access. Maintain the existing one-lane emergency access connection at Heather Street and Heritage Court.*
>
> *Program SH-1.3f Fire Risk in New Development.*
>
> 1. *Review all development proposals for fire risk and require mitigation measures to reduce the probability of fire. Encourage attractive native and drought-tolerant, low-maintenance landscaping responsive to fire hazards. Require all new development to meet the adopted State and local fire codes.*
> 2. *Require adequate access for emergency vehicles, adequate street width and vertical clearance, driveway access and parking restrictions for new development.*

3. *Require sprinkler systems for new commercial and residential development and substantial remodels and additions.*

<u>Program SH-1.3g Water Supply for Fire Fighting.</u> Maintain an adequate water supply, fire hydrant system, and water pressure to effectively suppress fires.

<u>Program SH-1.3h Education and Code Enforcement.</u> Increase fire prevention effectiveness through education and code enforcement, including requirements for defensible space around structures and removal of flammable vegetation near roadways.

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This section describes the regulatory setting, regional hydrology and water quality impacts that are likely to result from implementation of the proposed General Plan, and includes measures to reduce potential impacts related to stormwater drainage, flooding, and water quality. This section is based in part on the following documents, reports and studies:

- Town of Yountville General Plan (2001); and
- Town of Yountville Water Use Efficiency Plan (2014).

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

3.9.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

Yountville is within the Napa River Basin, which is defined by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south. The Napa River runs through the center of the watershed on the valley floor, draining numerous tributaries along a 55-mile run from the headwaters of Mt. St. Helena to the San Pablo Bay. The Napa River winds through many types of landscapes: forested mountain slopes, vineyards, urban areas, open pasture, grasslands, industrial zones, and marshes.

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 3.9-1 shows the primary watershed classification levels used by the State of California that are applicable to Yountville. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

HYDROLOGIC REGION

The General Plan area is located within the 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).

TABLE 3.9-1: 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.

SOURCE: CALWATER, CALIFORNIA INTERAGENCY WATERSHED MAPPING COMMITTEE 2008

HYDROLOGIC UNIT

The General Plan area is located within the San Pablo Hydrologic Unit, which covers approximately 785,049 acres.

HYDROLOGIC AREA

For purposes of planning at the local jurisdiction level, hydrologic areas are generally considered to be the appropriate watershed planning level. The Yountville General Plan area is located within the Napa River Hydrologic Area. Figure 3.9-1 illustrates the boundaries of the Napa River Hydrologic Area.

FLOOD CONTROL FACILITIES

Napa River Flood Protection Project

The Napa River-Napa Creek Flood Protection Project is a Civil Works project of the US Army Corps of Engineers in the City of Napa, California. The Napa River-Napa Creek Flood Protection Project area includes some 6 miles (10 km) of the Napa River from the Butler Bridge on State Route 29 on the south to Trancas Street on the north. This section is the upper reach of the estuary portion of the Napa River and as such is tidally influenced. The Project also includes improvements to 1 mile (1.6 km) of Napa Creek, the primary tributary to the Napa River. It should be noted that this Flood Protection Project does not occur within or near to the Yountville General Plan area.

Hopper Creek Flood Mitigation Project

The Town of Yountville periodically experiences flooding from the Napa River and nuisance flooding from Hopper Creek, during the rainy season. Since 1940, significant floods have occurred at least 13 times in the Yountville (Town of Yountville, 2014). In response to flooding concerns, the Town constructed two major flood control projects including the Beard Ditch Diversion structure along Hopper Creek to reduce nuisance flooding along roadways in Town and the Bella Vista/Rancho de Napa Mobile Home Park Floodwall project to reduce impact from Napa River flooding.

In 1998, two-thirds of Napa County voters passed a half cent sales tax for flood protection. A portion of the sales taxes collected in Yountville is in the process of being spent to construct pipeline and erosion control projects that will reduce flooding and repair eroding creek banks in the Hopper Creek watershed throughout the Town of Yountville.

As Hopper Creek flows through Town, the gradient and the width of the channel rapidly diminish and the stream deposits cobbles, gravel, and coarse sand in the channel. Sediment deposition in Hopper Creek reduces the flow capacity of the channel through the Town, exacerbating flooding and creating the need for continuous maintenance activities. The ability of the culverts at Finnell Road, Mulberry Street, and Oak Circle to convey flood water is decreased and flood waters overflow banks, creating a backwater effect that greatly reduces the sediment transport capacity upstream and downstream of the culverts.

Flooding occurs along roadways in the Town. The creek crossings at Finnell Road, Mulberry Street, and Oak Circle were designed to allow flow from Hopper Creek to overtop and flow down each road to Beard Ditch. The existing Hopper Creek 3-weir diversions to Beard Ditch are insufficient to divert the flows that exceed the capacities at these three crossings (Town of Yountville, 2014). In 2016, the Town completed the Hopper Creek Flood Control Project (at Finnell Road) to reduce seasonal flooding from Hopper Creek. The Town of Yountville is currently in the process of constructing several separate flood and sediment control projects to reduce seasonal flooding from Hopper Creek in Yountville, and to control the transport of sediment in Hopper Creek and Villagio Channel.

FEMA Flood Zones

FEMA mapping provides important guidance for the Town 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 Town's FEMA FIRM Map is shown on Figure 3.9-2. The California Department of Water Resources has recently completed work to map the 200-year floodplain for many areas of California. The Town is not within the 200-year floodplain.

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 Town is subject to flooding problems along the natural creeks and drainages that traverse the area, particularly as a result of excessive overflow of the Napa River or Hopper Creek. The Napa County Operational Area Hazard Mitigation Plan indicates that almost all of the land adjacent to the Napa River is subject to flooding, with numerous damaging floods recorded since 1862 on the Napa River. Seven major floods occurred between 1862 and 1900 and 15 more recent recent serious floods occurred in 1942, 1943, 1955, 1962, 1963, 1965, 1967, 1973, 1978, 1982, 1983, 1986, 1995, 1997, 1998 and 2005. The February 1986 flood was estimated to have been a 35-year event. The flood resulted in three people dead, 27 injured, 5,000 evacuations, 250 homes destroyed, and another 2,500 residences damaged countywide, totaling $100 million in damages.

In 2016 and 2017, the Town experienced localized flooding associated with heavy rain events. Impacted areas included:

- Oak Circle adjacent to Vineyard Park;
- Oak Circle at Heather Street;
- Yount Mill Road at the cemetery;
- Solano Avenue near Hinman Creek;
- Finnell Road neighborhood;
- Washington Street at California Street;
- Yountville Bike Path; and
- Paths at Heather Street, behind mobile home parks, and behind the Yountville Elementary School.

The Town's five-year (2016-2020) Capital Improvement Program (CIP) includes four projects related to drainage and flood control:

- Project DF-0005 – Washington Street Drainage (Pedroni Street to Jefferson Street): Drainage inlets will be installed at the corner of Washington St from Pedroni St to Jefferson St. to resolve the issue and to improve the poor drainage condition in the area.
- Project DF-0015 – Underground Drainage on Monroe and Yount Mill: Currently the drainage system in Old Town is either open ditches or non-existent. To begin remedying this issue the Town will underground the open ditch. This project will include Monroe Street from Lincoln Avenue to Yount Street.
- Project DF-0017 – Drainage Inlets Full Trash Capture: Per new storm water permit requirements, the Town is required to install full trash capture at all drainage inlets within the next 10 years. To complete this, the Town's Public Works Department will install six trash capture devices a year in key drainage areas. This program will be accomplished using data and advice from consultants and services provided by the Napa County Storm

Water Pollution Prevention Program. The consultant will also assist in developing an installation schedule to be followed in future years. This will help the Town place the devices in the most appropriate locations.

- Project DF-2017 – Town Wide Drainage and Erosion Program: The Town Wide Drainage Program is an annual program that addresses localized flooding and drainage issues in Town. This program provides funding for drainage repair and improvement projects throughout Town. It addresses minor flooding, nuisance flooding/ponding in streets, and similar drainage issues. These projects include the installation of new, or the replacement of existing drainage pipes, inlets, catch basins, and other associated storm drainage facilities. Drainage and Flood Control projects are reviewed for coordination with other upcoming Town and potential private development projects and public utility work to maximize resources. When a project does work in a creek then it may require an approved agreement for routine maintenance with the California Department of Fish and Game. Funding for Drainage and Flood Control projects is comprised from several sources including impact fees and Capital Projects Fund.

The following past projects have been completed by the Town in order to reduce flooding:

- The Three Weir Diversion Project (located at the bend in Hopper Creek adjacent to the Forrester Lane open space area) included two 36-inch pipes that drain to Beard ditch (a surface level ditch) and the Forrester Lane weir system. This project was completed in approximately 1998.
- The Flood Wall Project included construction of a flood wall that surrounds both of the mobile home parks in the Town. This project was completed in approximately 2001.
- The Hopper Creek Flood Control Project included three 36-inch pipes that drain to Beard ditch, three sedimentation basins, as well as curb, gutter and sidewalk improvements on Finnell Road. This project was completed in 2016.

The 100-year (1% annual chance flood hazard) floodplain is located mainly in the eastern General Plan area, as well as a small area near Himman Creek, west of Highway 29. Additionally, land to the west of Town Limits, and the Rancho De Napa Mobile Estates Park, is within the 500-year (0.2% annual chance flood hazard) floodplain. Table 3.9-2 presents a breakdown of the acreage and percentage of the General Plan area that are designated as a FEMA flood zone.

TABLE 3.9-2: FEMA FLOOD ZONE SURFACE AREAS IN THE GENERAL PLAN AREA

ZONE	*GENERAL PLAN AREA (ACRES)*	*GENERAL PLAN AREA (PERCENT)*
Zone X - Shaded (0.2% Annual Chance Flood Hazard: 500-Year)	89.28	5.0%
Zone AE (1% Annual Chance Flood Hazard: 100-Year)	244.59	13.8%
Zone X - Unshaded (Area of Minimal Flood Hazard)	1,408.08	79.5%
Regulatory Floodway	29.18	1.6%
TOTAL	**1,771.12**	**100.0%**

SOURCE: USGS NATIONAL HYDROGRAPHY DATASET, FEMA, CALIFORNIA DWR, YOUNTVILLE GIS. 2017.

Approximately 5.0 percent of the land within the General Plan area is located within an area with a FEMA flood zone X (shaded), which is an area that is subject to 500-year flooding (a 0.2 percent chance of being flooded in any given year). These areas are considered low to moderate flood hazards.

Approximately 13.8 percent of the land within the General Plan area is located within an area with a FEMA flood zone AE, which is an area that is subject to 100-year flooding (a 1.0 percent chance of being flooded in any given year). These areas are considered high flood hazards.

Approximately 79.5 percent of the land within the General Plan area 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. These areas are considered to be areas of minimal flood hazards.

Dam Failure

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. As shown in Figure 3.9-3, the Town is within a dam inundation area for the Rector Creek Dam.

The Rector Creek Dam was built in 1946. The reservoir has capacity for 4,587 acre-feet of water. Rector Dam is 164 feet high and has an 890-foot crest. The dam has been certified that it may safely impound water by the Department of water Resources. (According to the Department of Water Resources which regularly inspects the facility, the Department does not have an emergency plan for the Rector Creek Dam and the downstream hazard is considered extremely high; it is noted that this hazard is not related to the condition of the dam or is structures. The Rector Dam's condition is considered satisfactory and no restrictions have been placed on its operations to address safety. Out of the many dams in Napa County, the Hennessey Dam and Rector Dam would cause the most damage if they were breached while at full capacity.

In the event of flooding, Napa County works cooperatively with all appropriate local, state and federal agencies. This is documented by the County's adopted Napa Operational Area HMP maintained by the Napa County Office of Emergency Services. Additionally, there are no dams operated by the federal government within the Town.

Stormwater Quality

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.

A critical period for surface water quality is following a rainstorm that produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in

the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels and contaminants have accumulated on impervious surfaces over the drier summer months. Besides greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980s. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules that categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices can lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies, these same factors often cause a buildup of sediment, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affects both aquatic resources and flood control efforts.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal Clean Water Act 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 General Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. The closest Section 303(d)-listed water body is the Napa River, located approximately 0.5 miles to the east of the General Plan area (at its closest point). The Napa River is listed as containing nutrients, pathogens, and sedimentation/siltation (California SWRCB, 2010).

GROUNDWATER RESOURCES

The City's water comes from a combination of the Rector Reservoir, Lake Hennessey/Conn Creek Dam, and an emergency well. The Rector Reservoir complex includes a water treatment plant and a dam. Lake Hennessey is a reservoir in the Vaca Mountains, east of St. Helena and the Napa Valley, within Napa County. The reservoir is formed by Conn Creek Dam, built in 1948 across Conn Creek.

The Town overlies the Napa-Sonoma Valley Groundwater Basin, Napa Valley Subbasin, which provides municipal and agricultural water supply in the area. Yountville's municipal well was constructed to provide a back-up supply during drought conditions or an emergency, and this well is not relied upon as a primary water source. Monitoring sites have been established in the vicinity of the municipal well to monitor water quality and the groundwater level. If groundwater levels drop substantially, then adjustments are made to well production.

West Yost & Associates prepared a Groundwater Management Plan (GMP) for the Town in 2004. The GMP projected a total water demand for the Town at maximum Town buildout of 679 ac-ft in normal years, 611 ac-ft in below normal years, and 543 ac-ft in dry years. The GMP also assigned a direct water allocation for known projects and projected an availability of 31 ac-ft for future projects. The Napa County Flood Control and Water District developed the 2050 Napa Valley Water Resources Study (2005) to review the water supply and demand balances for municipal and agricultural uses in Napa County. This study projected the safe yield of the Napa Valley groundwater subbasin to be approximately 28,000 ac-ft; this estimate was reduced in the Basin Analysis Report prepared by Luhdorff & Scalamanini, discussed below. Groundwater quality is generally good; however, selected areas along the Napa Valley floor have elevated levels of nitrates and boron. In summary, the groundwater supply system is anticipated to yield 300 acre-feet annually for the Town.

The Napa-Sonoma Valley Basin (Basin #2-2.01) is ranked as a medium basin priority. The Sustainable Groundwater Management Act requires that medium and high priority basins form a Groundwater Sustainability Agency by June 2017, develop a Groundwater Sustainability Plan by June 2022, and achieve sustainability by 2042. A Basin Analysis Report for the Napa Valley Subbasin was prepared by Luhdorff & Scalmanini Consulting Engineers, and presented to the Napa County Board of Supervisors at a Special Meeting on December 13, 2016. At that meeting, the Board approved the report and its submittal to the Department of Water Resources (DWR). DWR is currently reviewing the Basin Analysis Report. The Basin Analysis Report for the Napa Valley Subbasin prepared by Luhdorff & Scalmanini identifies that the sustainable yield of the subbasin is within approximately 17,000 AFY to 20,000 AFY. By comparison, groundwater pumping has averaged about 18,000 AFY during the 2012 to 2015 drought and was within the sustainable yield.

3.9.2 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 Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB). The following is an overview of the federal, state and local regulations that may be applicable to projects within the Town of Yountville.

FEDERAL AND STATE

Clean Water Act (CWA)

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. The SWRCB is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through RWQCBs. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-0001-DWQ) for small Municipal Separate Storm Sewer Systems (MS4s) covered under the CWA to efficiently regulate numerous stormwater discharges under a single permit. Permittees must comply with all requirements as specified under the general permit.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal CWA requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a 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 General Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. The closest Section 303(d)-listed water body is the Napa River, located approximately 0.5 miles to the east of the General Plan area (at its closest point). The Napa River is listed as containing nutrients, pathogens, and sedimentation/siltation (SWRCB, 2010).

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 California Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal 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.

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 Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for periods of five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. Stormwater discharges from industrial and construction activities in the San Francisco Bay Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Water Quality Control Plan for the San Francisco Bay Region

The Water Quality Control Plan for the Sacramento and San Francisco Bay 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.

LOCAL

Napa River Flood Management Plan

The Napa County Flood Control and Water Conservation District is the local sponsor for the Napa River Flood Management Plan and administers water supply contracts, watershed management and stormwater management programs throughout Napa County. The District's mission is the conservation and management of flood and storm waters to protect life and property; the maintenance of the County watershed using the highest level of environmentally sound practices; and to provide coordinated planning for water supply needs for the community.

The Napa River Flood Management Plan is a multi-objective and restorative approach to flood protection. The Plan aims to restore more than 650 acres of high-value tidal wetlands in the San Francisco Bay Estuary while protecting 2,700 homes, 350 businesses, and over 50 public properties from 100-year flood levels. The Plan has won numerous awards over the course of the Plan's lifetime.

Napa County Stormwater Pollution Prevention Program

The Town of Yountville also participates in the Napa County Stormwater Pollution Prevention Program (NCSPPP), which is a joint effort with the other municipalities in Napa County to prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses of local waterways, and comply with State and Federal Regulations. The NCSPPP is funded by the member agencies and is administered by the Napa County Flood Control and Water Conservation District's Stormwater Program Manager.

Start at the Source: Design Guidance Manual for Stormwater Quality Protection

This document is intended for use in the planning and design phases of residential, commercial, institutional, and industrial development and redevelopment. It recognizes that one of the best opportunities to reduce the generation of urban runoff or "nonpoint source pollution" from development is through planning and design. This document provides Best Management Practices including principles and techniques for basic siting and design considerations, construction phase strategies, and post construction property management practices.

Yountville Municipal Code

The Town of Yountville Municipal Code provides the following chapters related to hydrology and water quality:

CHAPTER 13.20 WATER CONSERVATION

This chapter is designed to increase water conservation. Water use guidelines are provided to encourage water conservation. Additionally, new development and residential remodeling are subject to specific requirements intended to conserve water. Civil penalties for water waste are also provided.

CHAPTER 13.24 WATER SHORTAGE EMERGENCIES

This chapter provides for the establishment of water emergency limitation phases, to limit water usage by customers, when necessary. If the water available from all sources is projected to be less than 120% of the projected demand or conditions require the establishment of an imminent Phase II water emergency, a series of voluntary conservation measures is designed to be encouraged and publicized by the Town. Additionally, during a water emergency, certain administrative practices are provided. Additional regulations are provided for Phase II, Phase III, and Phase IV water emergencies. Failure to comply with any of the mandatory water conservation measures provided in this chapter are subject to an improper water users fee and/or additional charges.

CHAPTER 17.64 C, CREEKSIDE OVERLAY

The purpose of this chapter is to: (A) to protect private and public lands from flood damage caused by deposits of debris and other materials collected by flood waters; (B) to protect the riparian cover and wildlife habitat extending along Hopper Creek by preventing erosion of the creek's banks and siltation of the creek's waters; (C) to preserve the existing natural and visual character of Hopper Creek and its environs; and (D) to promote the broader social, economic and environmental well-being of the Town.

CHAPTER 17.94 WATER EFFICIENT LANDSCAPING

The purpose of this chapter is to enable the citizens of the Town to enjoy a well-landscaped community, while at the same time conserving natural resources. This chapter requires that each

landscape project shall provide documentation that demonstrates compliance with either the requirements of this chapter, or the requirements of the State of California Model Water Efficient Landscape Ordinance, California Code of regulations Title 23, Division 2, Chapter 2.7.

CHAPTER 15.38 CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of this chapter is to establish regulations for building construction. The Town of Yountville has adopted the California Green Building Standards Code, 2016 Edition, including tables and appendices, as set forth in Part 11 of the Title 24 of the California Code of Regulations.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan 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 pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- 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 which would result in substantial erosion or siltation 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, or substantially increase the rate or amount of surface runoff in a manner which 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;
- 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 which would impede or redirect flood flows;
- Expose people or structures to a 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 MEASURES

Impact 3.9-1: General Plan implementation would not 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 impacts 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 RWQCB to obtain a General Permit. The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the Clean Water Act).

Based upon the wide scope of the General Plan, development of detailed, site-specific information on this impact is not feasible. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The RWQCB will require a project specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project-specific best management measures that are designed to control drainage and erosion.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development under the proposed General Plan would introduce constituents into the storm water that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. These pollutants tend to build up during the dry months of the year. Precipitation during the early portion of the wet season (generally from November to April) washes away most of these pollutants, resulting in high pollutant concentrations in the initial wet weather runoff. This initial

runoff is referred to as the "first flush" of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The amount and type of runoff generated by the various future projects would be greater than under existing conditions, due to increases in impervious surfaces. There would be a corresponding increase in urban runoff pollutants and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents would result in water quality impacts to onsite and offsite drainage flows to area waterways.

CONCLUSION

The Town of Yountville has developed the General Plan to include policies and programs that, when implemented, will reduce water pollution from construction and new development, and protect and enhance natural storm drainage and water quality features. The policies and programs identified below include numerous requirements that would reduce the potential for General Plan implementation to result in increased water quality impacts. For example, the programs listed below require runoff and erosion control techniques to be utilized in future development. In addition, 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 implementation of the General Plan policies and programs listed below, combined with compliance with Federal and State regulations, would ensure that implementation of the General Plan would have a **less than significant** impact from these issues.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.6 Erosion and Runoff Control. Implement measures to reduce soil erosion and surface runoff during and after construction.

> *Program SH-1.6a Soil Stabilization Measures. Encourage soil stabilization measures that prevent soil erosion.*
>
> *Program SH-1.6b Soils Reports. Require soils reports for subdivisions and new development proposals. Building materials and construction procedures must adhere to specifications of soils engineer.*
>
> *Program SH-1.2k Coordination with Napa County. Work with Napa County officials in urging the State and federal governments to make flood control improvements to the Napa River which will reduce or eliminate the danger of flooding caused by overflow of the Napa River.*
>
> *Program SH-1.2l Napa County Stormwater Pollution Prevention Program. Work with the Napa County Flood Control District to implement the Stormwater Pollution Prevention Program to minimize negative impacts of storm runoff.*
>
> *Program SH-1.2m Napa County Flood Control District. Participate in the Napa County Flood Control and Water Conservation District to manage flood and storm waters to protect life and property, and to maintain the Napa River, its tributaries, and watershed.*

Impact 3.9-2: General Plan implementation would not result in the depletion of groundwater supplies or interfere substantially with groundwater recharge (Less than Significant)

(*Note: The following discussion is associated with potential impacts of the proposed General Plan on groundwater as it relates to stormwater infiltration and groundwater recharge. Depletion of groundwater supplies as it relates to water usage is addressed in Section 3.15, Utilities.*)

Subsequent development projects proposed within the General Plan area, such as residential, commercial, agricultural, and public facility projects, would result in new impervious surfaces and could reduce stormwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potentials; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff. The amount of new pavement and the extent to which it affects infiltration depends on the site-specific soil type. Projects located in urban areas would have less of an impact than projects converting open lands and spaces. The Town must evaluate individual projects as they are proposed to ensure that they would not result in a significant interference with recharge.

The proposed General Plan includes Policy OS-6.4 and Programs OS-6.4a, OS-6.4b, and OS-6.4c which aim to encourage best management practices and reduce the amount of permeable open space that is converted to impermeable surfaces. Specifically, Program OS-6.4a requires new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design. Additionally, Program OS-6.4c encourages the use of pervious materials to aid in stormwater treatment and infiltration. Subsequent development, infrastructure, and planning projects would be subject to the aforementioned General Plan policies and programs. By encouraging the use of best management practices and reducing the amount of impermeable surfaces in the Town, opportunities for groundwater recharge can be maintained.

The General Plan land use map provides for limited potential for future growth in the Town; thus, the amount of groundwater recharge potential would remain relatively similar to what exists today. Implementation of the following General Plan policies and programs would ensure that the General Plan would have a **less than significant** impact relative to this topic.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-6.4 Water Quality. Protect water resources from pollution and sedimentation.

> *Program OS-6.4a Best Management Practices. Require new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design, to*

naturally filter and biodegrade contaminants and to minimize surface runoff into drainage systems and creeks.

Program OS-6.4b NPDES Compliance. Ensure that new development, redevelopment, and infrastructure projects comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.

Program OS-6.4c Permeable Surfaces. Encourage use of pervious materials to aid in stormwater treatment and infiltration.

Impact 3.9-3: General Plan implementation would not 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 within the General Plan area 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, which could yield increased amounts of stormwater runoff. The construction activities associated with future projects, such as commercial, residential, and light 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 General Plan area 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 wide scope of the General Plan, development of detailed, site-specific information on this impact is not feasible. As previously discussed, a future project applicant would be required to obtain permits from the Army Corps of Engineers and the Department of Fish and Wildlife 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 Town of Yountville has developed the General Plan to include policies and programs that, when implemented, will reduce exposure to flooding hazards, address potential flooding hazards associated with development, reduce storm water pollution from development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. The policies and programs identified below 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 programs would ensure that implementation of the General Plan would have a **less than significant** impact related to these issues.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.9 Emergency Management. Minimize exposure to all hazards through emergency management, planning and training.

> *Program SH-1.9a Hazard Mitigation Plan. Implement the Napa County Operational Area Hazard Mitigation Plan 2013 Update approved by the Federal Emergency Management Agency in 2014.*
>
> *Program SH-1.9b Hazard Mitigation Plan Update. Work with Napa County Office of Emergency Services to periodically evaluate and update the Napa County Operational Area Hazard Mitigation Plan, including addressing climate change impacts.*
>
> *Program SH-1.9c Emergency Response Plans. Maintain and update the Town's emergency response plans on a regular basis, designating emergency shelters and evacuation routes.*
>
> *Program SH-1.9d Emergency Shelter. Evaluate adding support systems at the Community Center to enhance its use as an emergency shelter during extended power outages.*
>
> *Program SH-1.9e Interagency Cooperation. Continue to cooperate with the appropriate federal, State, and local agencies to practice and implement effective emergency plans and provide public safety training programs, where feasible.*

Policy SH-1.10 Essential Facilities. Ensure essential public facilities/critical facilities, including utilities and water and wastewater facilities, are accessible and operational during flooding, seismic events, fires, extreme heat events, and other emergencies and, if such facilities are new development, that they are located outside of high risk areas, to the extent feasible.

Policy SH-1.11 Climate Change Adaptation and Resiliency. Prepare for and respond to the expected impacts of climate change.

Program SH-1.11a All-Hazard Mitigation Plan. Incorporate the projected impacts of climate change, including sea level rise, extreme heat and storm events, and increased risk of wildfire, in the Town's Local Hazard Mitigation Plan.

Program SH-1.11b Emergency Planning. Incorporate the likelihood of climate change impacts into Town emergency planning and training.

Program SH-1.11c Inter-Agency Coordination. Coordinate with Napa County Flood Control and Water Conservation District, Napa County Fire Department, Napa County Office of Emergency Services, Napa County Resource Conservation District, and other relevant organizations to address climate change impacts and develop adaptation strategies. Address fire prevention and protection, flooding and severe storms, extreme heat events, public health, and the health and adaptability of natural systems, including water resources and biological resources.

Policy SH-1.6 Erosion and Runoff Control. Implement measures to reduce soil erosion and surface runoff during and after construction.

Program SH-1.6a Soil Stabilization Measures. Encourage soil stabilization measures that prevent soil erosion.

Program SH-1.6b Soils Reports. Require soils reports for subdivisions and new development proposals. Building materials and construction procedures must adhere to specifications of soils engineer.

Policy SH-1.2 Flood Hazards. Reduce the risk of loss of life, personal injury and property damage resulting from flooding by maintaining storm drainage systems, natural flood control channels and waterways, and regulating runoff from new construction and development projects. Encourage flood control measures that retain the natural features and conditions of watercourses to the maximum feasible extent.

Program SH-1.2a Mesa-Tallent Lane Storm Drainage Benefit District. Require all development within the Mesa-Tallent Lane Storm Drainage Benefit District to participate and fund improvements which address the drainage problems of the area.

Program SH-1.2b Hopper Creek. Maintain Hopper Creek as a natural creek. Preserve and enhance the riparian habitat and flood control attributes of the creek by requiring development setbacks and regulating the planting and removal of creekside vegetation.

Program SH-1.2c Flood Insurance Rate Maps. Use the most recent Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps to identify 100-Year Flood Events and calculate flow rates within identified stream channels. Monitor FEMA's efforts to map the 200-year flood plain and address new requirements as appropriate.

Program SH-1.2d Development within the 100-Year Flood Zone. Require development within the 100-year flood zone to comply with the floodplain management regulations of the Yountville Municipal Code.

Program SH-1.2e Maintain Flood Wall. Maintain the flood wall surrounding the mobile home parks to reduce damage from flooding.

Program SH-1.2f Extension of Flood Wall. Evaluate whether to extend the flood wall to the church-owned property at the far southeast corner of town.

Program SH-1.2g Storm Drainage System. Maintain unobstructed water flow in the storm drainage system to the maximum extent feasible. Continue to carry out inspections and maintenance of drainage systems.

Program SH-1.2h Flood Protection Easements. Ensure the retention of flood protection easements held by public agencies on private property to prevent development in these areas.

Program SH-1.2i Beard Ditch. Work with Napa County to support its efforts to perform annual maintenance of Beard Ditch for drainage purposes.

Program SH-1.2j Rector Creek Dam. Work with Napa County, the State, and federal agencies to encourage measures to ensure the safety of Rector Creek Dam and to prepare for and respond to potential flooding events.

Program SH-1.2k Coordination with Napa County. Work with Napa County officials in urging the State and federal governments to make flood control improvements to the Napa River which will reduce or eliminate the danger of flooding caused by overflow of the Napa River.

Program SH-1.2l Napa County Stormwater Pollution Prevention Program. Work with the Napa County Flood Control District to implement the Stormwater Pollution Prevention Program to minimize negative impacts of storm runoff.

Program SH-1.2m Napa County Flood Control District. Participate in the Napa County Flood Control and Water Conservation District to manage flood and storm waters to protect life and property, and to maintain the Napa River, its tributaries, and watershed.

Impact 3.9-4: General Plan implementation would not otherwise substantially degrade water quality (Less than Significant)

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 General Plan area does not include any water bodies listed on the Section 303(d) list of impaired water bodies. The closest Section 303(d)-listed water body is the Napa River, located approximately 0.5 miles to the east of the General Plan area (at its closest point). The Napa River is listed as containing nutrients, pathogens, and sedimentation/siltation (California SWRCB, 2010).

Each future development project within the General Plan area is required to prepare a detailed project specific drainage plan and a SWPPP that will control storm water runoff and erosion, both during and after construction. If the project involves the discharge of dewatering into surface waters, the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the RWQCB.

The Town of Yountville has developed the General Plan to include policies and programs that, when implemented, will reduce storm water pollution from new development and protect and enhance natural storm drainage and water quality features. The policies and programs identified previously include numerous requirements that would reduce the potential for General Plan implementation to result in increased water quality impacts. The implementation of these policies and programs would ensure that implementation of the General Plan would have a **less than significant** impact related to these issues.

Impact 3.9-5: General Plan implementation would 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 risks of flooding hazards in the Town of Yountville and immediate surroundings are primarily related to large, infrequent storm events. These risks of flooding are greatest during the rainy season between November and March. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure to waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. Floodplain zones (Special Flood Hazard Areas [SFHA]) are determined by the Federal Emergency Management Agency (FEMA) and used to create FIRMs. These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations, intended to be adopted by the local jurisdictions, for any construction, whether residential, commercial, or industrial within 100-year floodplains.

Lands within the FEMA-designated 100-year floodplain (SFHA) are subject to mandatory flood insurance as required by FEMA. The insurance rating is based on the difference between the base flood elevation (BFE), the average depth of the flooding above the ground surface for a specific area, and the elevation of the lowest floor. Because the Town of Yountville participates in the National Flood Insurance Program, it must require development permits to ensure that construction materials and methods will mitigate future flood damage, and to prevent encroachment of development within floodways. New construction and substantial improvements of residential structures are also required to "have the lowest habitable floor (including the basement if it is, or easily could be 'habitable') elevated to or above the base flood level."

Figure 3.9-2 illustrates the areas within the Federal Emergency Management Agency (FEMA) designated 100-year floodplain. Approximately 5.0 percent of the land within the General Plan

area is located within an area with a FEMA flood zone X (shaded), which is an area that is subject to 500-year flooding (a 0.2 percent chance of being flooded in any given year). These areas are considered low to moderate flood hazards.

Approximately 13.8 percent of the land within the General Plan area is located within an area with a FEMA flood zone AE, which is an area that is subject to 100-year flooding (a 1.0 percent chance of being flooded in any given year). These areas are considered high flood hazards.

Approximately 79.5 percent of the land within the General Plan area 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. These areas are considered to be areas of minimal flood hazards.

The Yountville General Plan Safety and Hazards Element includes numerous policies and programs specifically designed to address flood hazards. Policy SH-1.2 requires minimization of flood hazard risk by maintaining storm drainage systems, natural flood control channels and waterways, and regulating runoff from new construction and development projects. As required by Program SH-12d, all development within the 100-year flood zone is required to comply with the floodplain management regulations of the Yountville Municipal Code. Additionally, flood protection easements on private property are required to be maintained. Further, as required by Program SH-1.2m, the Town will participate in the Napa County Flood Control and Water Conservation District to manage flood and storm waters.

Subsequent development, infrastructure, and planning projects would be subject to the aforementioned General Plan policies and programs. The policies contained in the Safety and Hazards Element of the General Plan represent a comprehensive and holistic approach by the Town of Yountville to reduce the risks of flooding to Town 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 Town of Yountville, including the U.S. Army Corps of Engineers (USACE), DWR, and Department of Fish and Wildlife (CDFW) at the Federal and State level.

Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that provide protections for flooding. The implementation of these policies would ensure that implementation of the proposed General Plan would have a **less than significant** impact related to these issues.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy SH-1.9 Emergency Management. Minimize exposure to all hazards through emergency management, planning and training.

> *Program SH-1.9a Hazard Mitigation Plan. Implement the Napa County Operational Area Hazard Mitigation Plan 2013 Update approved by the Federal Emergency Management Agency in 2014.*

Program SH-1.9b Hazard Mitigation Plan Update. Work with Napa County Office of Emergency Services to periodically evaluate and update the Napa County Operational Area Hazard Mitigation Plan, including addressing climate change impacts.

Program SH-1.9c Emergency Response Plans. Maintain and update the Town's emergency response plans on a regular basis, designating emergency shelters and evacuation routes.

Program SH-1.9d Emergency Shelter. Evaluate adding support systems at the Community Center to enhance its use as an emergency shelter during extended power outages.

Program SH-1.9e Interagency Cooperation. Continue to cooperate with the appropriate federal, State, and local agencies to practice and implement effective emergency plans and provide public safety training programs, where feasible.

Policy SH-1.11 Climate Change Adaptation and Resiliency. Prepare for and respond to the expected impacts of climate change.

Program SH-1.11a All-Hazard Mitigation Plan. Incorporate the projected impacts of climate change, including sea level rise, extreme heat and storm events, and increased risk of wildfire, in the Town's Local Hazard Mitigation Plan.

Program SH-1.11b Emergency Planning. Incorporate the likelihood of climate change impacts into Town emergency planning and training.

Program SH-1.11c Inter-Agency Coordination. Coordinate with Napa County Flood Control and Water Conservation District, Napa County Fire Department, Napa County Office of Emergency Services, Napa County Resource Conservation District, and other relevant organizations to address climate change impacts and develop adaptation strategies. Address fire prevention and protection, flooding and severe storms, extreme heat events, public health, and the health and adaptability of natural systems, including water resources and biological resources.

Policy SH-1.2 Flood Hazards. Reduce the risk of loss of life, personal injury and property damage resulting from flooding by maintaining storm drainage systems, natural flood control channels and waterways, and regulating runoff from new construction and development projects. Encourage flood control measures that retain the natural features and conditions of watercourses to the maximum feasible extent.

Program SH-1.2a Mesa-Tallent Lane Storm Drainage Benefit District. Require all development within the Mesa-Tallent Lane Storm Drainage Benefit District to participate and fund improvements which address the drainage problems of the area.

Program SH-1.2b Hopper Creek. Maintain Hopper Creek as a natural creek. Preserve and enhance the riparian habitat and flood control attributes of the creek by requiring development setbacks and regulating the planting and removal of creekside vegetation.

Program SH-1.2c Flood Insurance Rate Maps. Use the most recent Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps to identify 100-Year Flood Events and calculate flow rates within identified stream channels. Monitor FEMA's efforts to map the 200-year flood plain and address new requirements as appropriate.

Program SH-1.2d Development within the 100-Year Flood Zone. Require development within the 100-year flood zone to comply with the floodplain management regulations of the Yountville Municipal Code.

Program SH-1.2e Maintain Flood Wall. Maintain the flood wall surrounding the mobile home parks to reduce damage from flooding.

Program SH-1.2f Extension of Flood Wall. Evaluate whether to extend the flood wall to the church-owned property at the far southeast corner of town.

Program SH-1.2g Storm Drainage System. Maintain unobstructed water flow in the storm drainage system to the maximum extent feasible. Continue to carry out inspections and maintenance of drainage systems.

Program SH-1.2h Flood Protection Easements. Ensure the retention of flood protection easements held by public agencies on private property to prevent development in these areas.

Program SH-1.2i Beard Ditch. Work with Napa County to support its efforts to perform annual maintenance of Beard Ditch for drainage purposes.

Program SH-1.2j Rector Creek Dam. Work with Napa County, the State, and federal agencies to encourage measures to ensure the safety of Rector Creek Dam and to prepare for and respond to potential flooding events.

Program SH-1.2k Coordination with Napa County. Work with Napa County officials in urging the State and federal governments to make flood control improvements to the Napa River which will reduce or eliminate the danger of flooding caused by overflow of the Napa River.

Program SH-1.2l Napa County Stormwater Pollution Prevention Program. Work with the Napa County Flood Control District to implement the Stormwater Pollution Prevention Program to minimize negative impacts of storm runoff.

Program SH-1.2m Napa County Flood Control District. Participate in the Napa County Flood Control and Water Conservation District to manage flood and storm waters to protect life and property, and to maintain the Napa River, its tributaries, and watershed.

Impact 3.9-6: General Plan implementation 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)

Tsunami: 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 General Plan area is sufficiently distant from the San Francisco Bay to preclude effects from a tsunami. This is a **less than significant** impact.

Seiches: 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 influenced by external causes. The General Plan area is not located proximate to a confined water body that would pose a significant risk from a seiche. This is a **less than significant** impact.

Mudflow: 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 majority of the Town, the mudflow potential is low. This is not a significant constraint in the Planning Area. The mudflow potential increases in the foothills and mountains to the west of the Planning Area. This is a **less than significant** impact.

Dams: Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. As shown in Figure 3.9-3, the Town is within a dam inundation area for the Rector Creek Dam.

The Rector Creek Dam was built in 1946. The reservoir stores about 4,400 acre feet of water and the crest height is 164 feet. According to the Department of Water Resources which regularly inspects the facility, the Department does not have an emergency plan for the Rector Creek Dam. Out of the many dams in Napa County, the Hennessey Dam and Rector Dam would cause the most damage if they were breached while at full capacity. However, the Rector Dam has been certified by the Department of Water Resources for water storage and does not operate under any restrictions, meaning that the Rector Dam is considered operationally safe. While the downstream hazards are high if the dam were to flood, the dam is not considered to be at significant risk for failure due to its certification and lack of restrictions.

In the event of flooding, Napa County works cooperatively with all appropriate local, state and federal agencies. This is documented by the County's adopted Napa Operational Area HMP maintained by the Napa County Office of Emergency Services. Additionally, there are no dams operated by the federal government within the Town.

Conclusion: Overall, implementation of the General Plan would result in a **less than significant** impact relative to tsunami, seiche, mudflow, and dam inundation.

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Figure 3.9-1. Hydrologic Areas

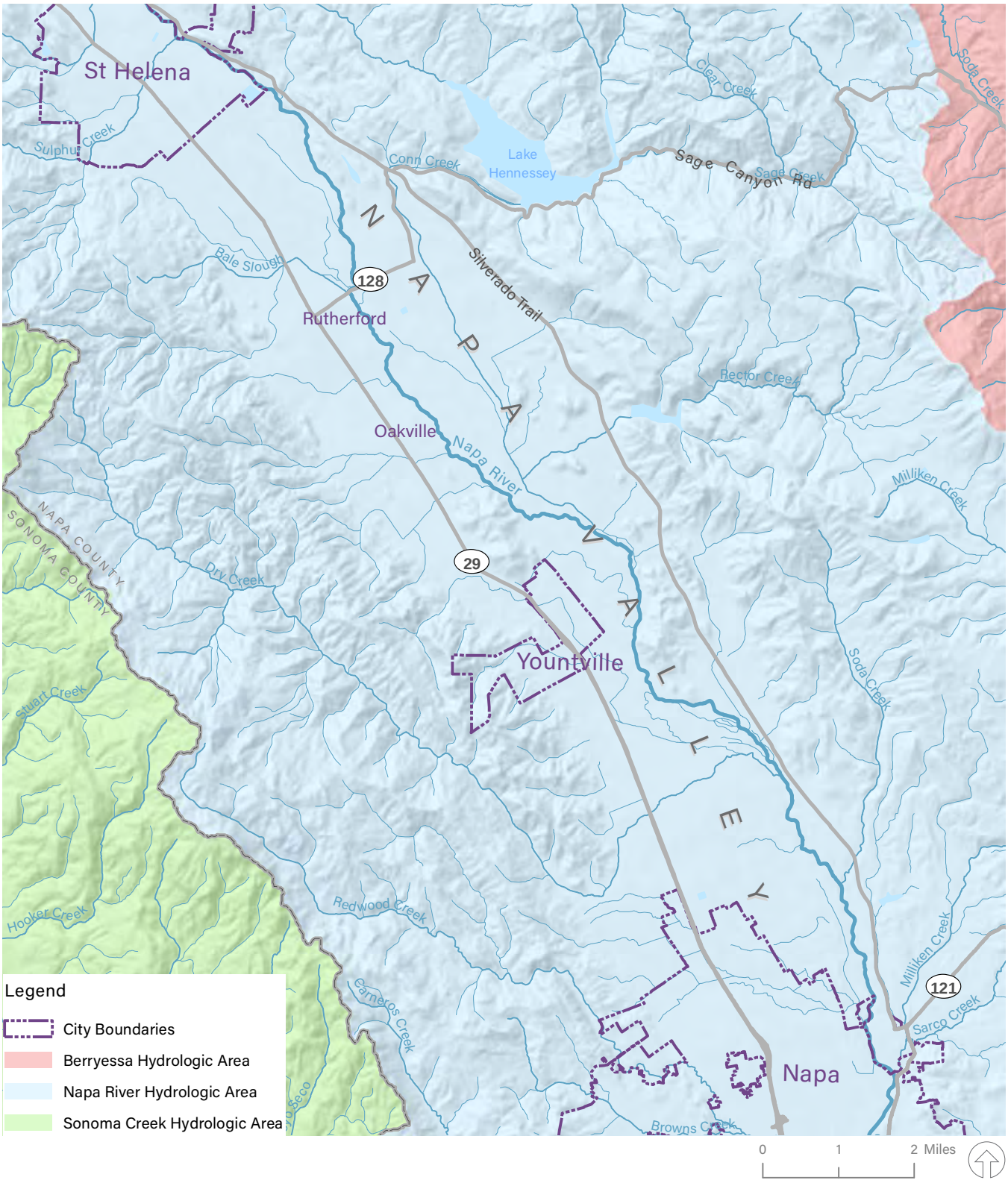

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Figure 3.9-2. FEMA Flood Insurance Rate Map

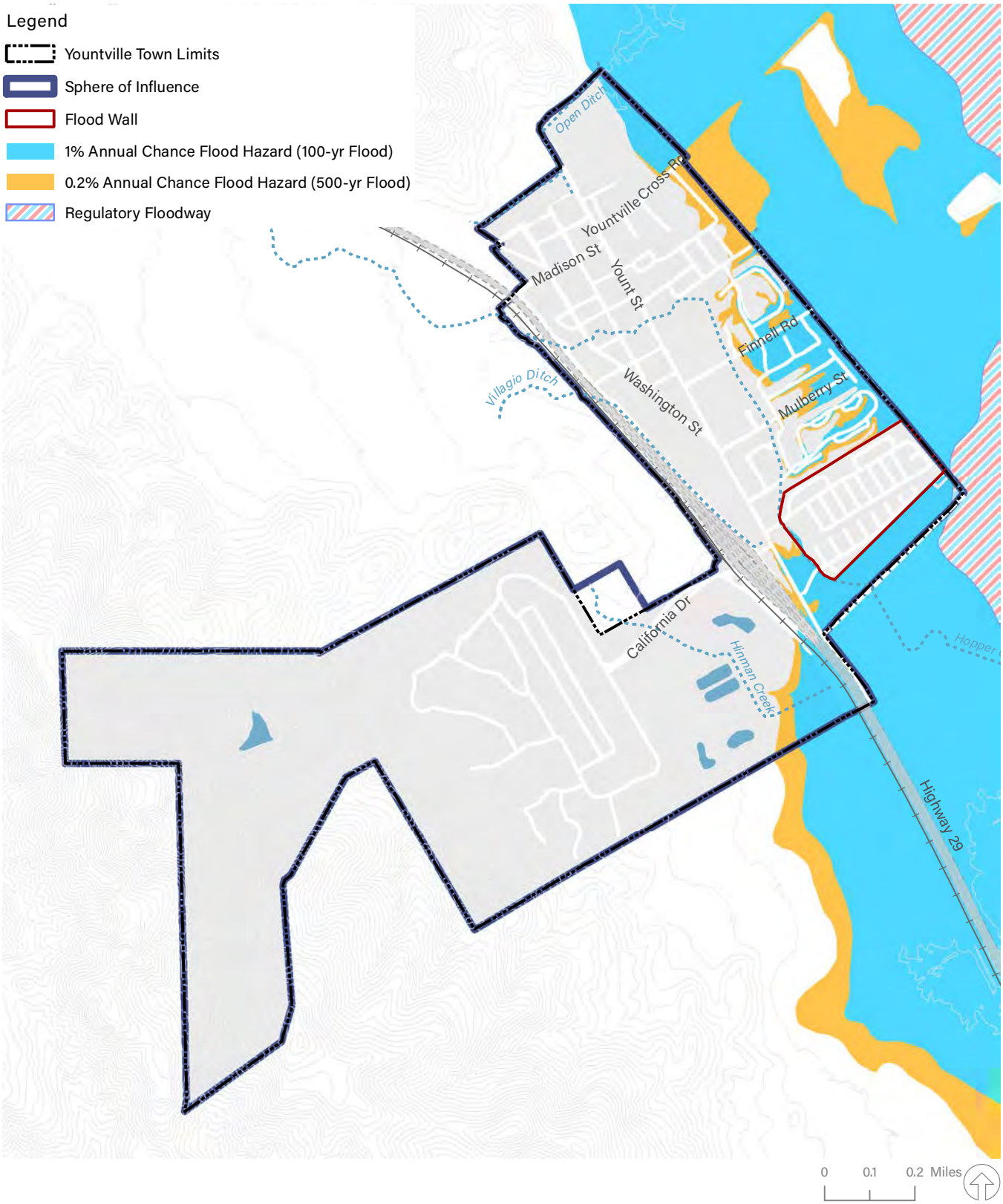

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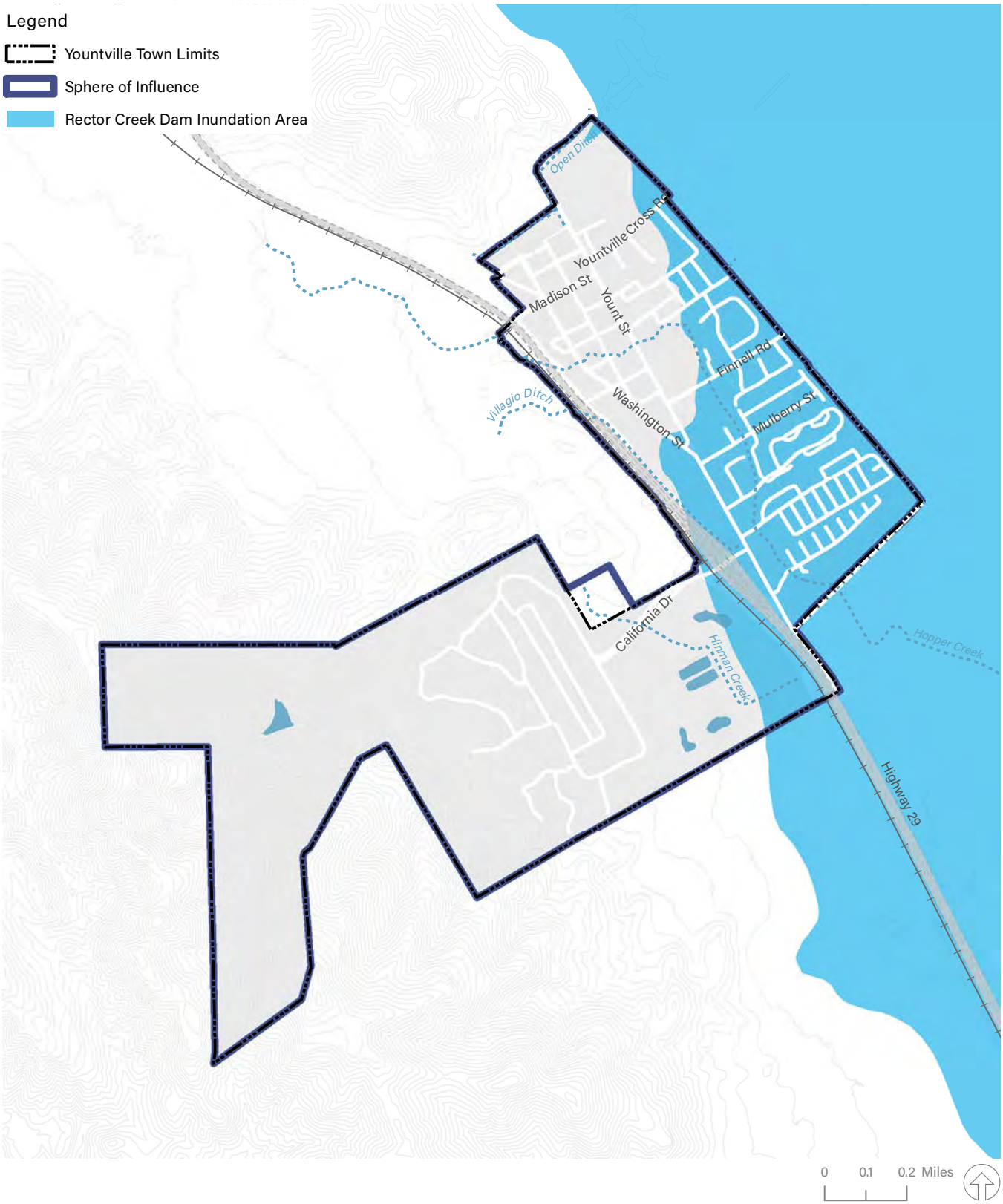
Figure 3.9-3. Dam Inundation Areas



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The purpose of this EIR section is to identify the existing land use conditions on the proposed General Plan area and the surrounding areas, analyze the General Plan's consistency with relevant planning documents, policies, and regulations adopted to reduce or avoid an environmental impact and the General Plan's potential to physically divide an existing community, and recommend mitigation measures to avoid or minimize the significance of potential impacts.

Information in this section is based on site surveys conducted by De Novo Planning Group in 2017, ground and aerial photographs, and the Yountville General Plan (2001) and Zoning Code.

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

3.10.1 ENVIRONMENTAL SETTING

GENERAL PLAN AREA

The Town of Yountville is located in Napa County, approximately 40 miles north of San Francisco and 50 miles southwest of Sacramento. The Town comprises approximately 1.5 square miles, straddling Highway 29 in the heart of the Napa Valley, located between the cities of Napa and St. Helena. See Figure 2.0-1, Regional Location Map. The Town's business district and residential neighborhoods lie to the east of Highway 29, while the Veterans Home is to the west.

The Town limits include the area within the Town's boundary, over which the Town exercises land use authority and provides public services. Figures 2.0-1 and 2.0-2 in Section 2.0 show the regional location and the project vicinity.

When discussing land use, it is important to distinguish between planned land uses and existing land uses. The General Plan land use designations identify the long-term planned use of land but do not present a complete picture of existing land uses. Existing land uses refers to the existing built environment, which may be different from the land use or zoning designations applied to land in the Town for planning purposes. The Napa County Assessor's office maintains a database of existing land uses on individual parcels, including the number of dwelling units and area of each use. This information is used as the basis for property tax assessments and assessed land uses in the Town are summarized in Table 3.10-1.

TABLE 3.10-1: EXISTING LAND USES – TOWN OF YOUNTVILLE

EXISTING LAND USE DESCRIPTION	*PARCEL COUNT*	*NUMBER OF UNITS*	*AREA (ACRES)*	*% OF TOTAL ACRES*
Single Family Residential				
Rural Res < 5 Ac W/1 Res	1	1	1.27	0.15%
SFR-Direct Entry Sales Program	325	328	50.42	5.86%
Single Family Residential	169	172	29.08	3.38%
Vacant Lot Residential	9	0	1.69	0.20%
Vacant Lot W/Misc. Improvements	2	0	0.42	0.05%
Single Family Residential Total	***506***	***501***	***82.88***	***9.64%***

EXISTING LAND USE DESCRIPTION	*PARCEL COUNT*	*NUMBER OF UNITS*	*AREA (ACRES)*	*% OF TOTAL ACRES*
Multifamily Residential				
10 To 19 Apartment Units	1	0	0.44	0.05%
20 To 49 Apartment Units	2	50	2.71	0.32%
5 To 9 Apartment Units	5	35	1.71	0.20%
Condominium/Townhouse Common Area	20	1	24.11	2.80%
Condominiums - Townhouses	129	129	4.64	0.54%
Condominiums-Townhouses	43	43	1.49	0.17%
Duplex	18	36	2.69	0.31%
Four Dwelling Units	2	8	0.51	0.06%
Four-Plex	1	4	0.21	0.02%
Manufactured Homes	2	317	39.85	4.63%
Three Dwelling Units	3	9	0.68	0.08%
Triplex	1	3	0.13	0.01%
Two Dwelling Units	39	78	11.77	1.37%
Vacant Land Multiple	1	0	0.01	0.00%
Multifamily Residential Total	***267***	***713***	***90.96***	***10.58%***
Commercial				
Commercial Improved	27	1	24.31	2.83%
Retail	1	2	0.23	0.03%
Vacant Commercial w/Misc. Improvements	3	0	7.03	0.82%
Vacant Land Commercial	3	0	5.15	0.60%
Commercial Total	***34***	***3***	***36.72***	***4.27%***
Agricultural Lands				
Vineyard Land >5 Acres	2	0	47.16	5.48%
Agricultural Lands Total	***2***	***0***	***47.16***	***5.48%***
Hotel/Motel				
Motel - B & B	12	0	22.89	2.66%
Hotel/Motel Total	***12***	***0***	***22.89***	***2.66%***
Office				
Office	1	0	0.08	0.01%
Office Total	***1***	***0***	***0.08***	***0.01%***
No Use Code				
Improved Land Non-Taxable	11	25	350.21	40.72%
Vacant Land Non-Taxable	12	0	222.87	25.91%
Vacant Land R/W	3	0	0.50	0.06%
Vacant Land Valued By S.B.E.	3	0	5.77	0.67%
No Use Code Total	***29***	***25***	***579.34***	***67.36%***
Grand Total	**851**	**1,242**	**860.04**	**100.00%**

SOURCE: NAPA COUNTY ASSESSOR'S OFFICE, 2017; DE NOVO PLANNING GROUP, 2017.

Existing assessed land uses shown in Table 3.10-1 are based on data provided by the County Assessor and are described below.

Single family residential is the dominant developed land use type in the Town, accounting for 9.64% of the Town's land area. Single family residential land uses are generally located throughout the Town. There are approximately 506 single family residential parcels in the Town, located on 82.88 acres. The majority of single family residential units (494 parcels) are typical single family residences, with one residence located on one parcel.

Multifamily residential refers to parcels that contain more than one housing unit, including duplexes, triplexes, fourplexes, condominiums, townhomes, manufactured homes, and apartment buildings. Multifamily residential accounts for 10.58% of the Town's land area. The predominate type of multifamily development are manufactured homes, which account for 317 parcels on 39.85 acres. Condominiums/townhouses account for 20 parcels on 24.11 acres. An additional 39 parcels of two dwelling unit residences are located on 11.77 acres. Multifamily uses are generally located near commercial areas throughout the Town.

Commercial refers to parcels that contain improved commercial uses, retail uses, and vacant commercial land. The predominate type of commercial land use, based on the percent of total acres, is improved commercial land, which accounts for 27 parcels, totaling 24.31 acres. An additional six parcels of vacant commercial land with various miscellaneous improvements and other vacant commercial land are located on 12.18 acres. Many of the Town's commercial uses are located along Highway 29, Washington Street, and Yount Street.

The *Agricultural Lands* category includes agricultural lands with vineyards located on more than five acres. Most of this land is not developed with built structures. This category totals 47.16 acres on two parcels. Agricultural uses are located along the northeast and south borders of the Town.

Hotel/Motel refers to parcels that contain improved hotel, motel, and bed and breakfast uses. Motel/bed and breakfast land uses account for 12 parcels, totaling 22.89 acres. Many of the Town's hotel/motel uses are located along Highway 29, Washington Street, and Yount Street.

Office refers to parcels that contain improved office uses. Office land uses account for 0.08 acres on one parcel. The Town's only office parcel is located at 6550 Washington Street, at the intersection of Humboldt Street and Washington Street.

The *No Use Code* category includes land without a use code assigned. The Town contains 29 parcels without a use code assignment on 579.34 acres. The parcels with no use code are mainly located west of Highway 29, with a few parcels east of the Highway. Some of the uses located west of Highway 29 that do not have a use code include the Vintner's Golf Club and the Veterans Home.

Development Trends

Like many other towns, large and small, throughout California, development in Yountville reflects two distinctly different eras of planning and development. The town was chartered in 1879 as an agrarian

settlement with a gridiron of streets. As was typical of American towns in the nineteenth century, growth was directed by a town map which laid out streets and individual lots. The Town of Yountville was incorporated in 1965.

In recent years, the patterns of growth in Yountville, and most other American towns, has been very different. Recent development has been on large parcels of land, without a pre-configured pattern of streets, blocks, and lots. Planned Development procedures encouraged development of these parcels as self-contained areas, with fewer connections to the existing town fabric. Planned Developments, as they have evolved in California, reflect both the dominance of the automobile and the fact that most construction is now the domain of professional developers, not individual settlers building for their own use.

Yountville has grown outward from the geographic center at Yount Street. In the early 1990's, residential uses were concentrated east of Highway 29, north of Land Lane and south of Grant Lane and Yountville Cross Road. During this time, some residential development also existed west of Highway 29 on Veterans Home property. By 2002, the residential areas of the Town had filled in and largely built out. Additionally, the Vintner's Golf Club was constructed and redesigned in 2003. Since then, infill residential and commercial development has occurred over many of the previously-vacant or underutilized parcels within the Town Limits.

SURROUNDING LAND USES

The land uses outside of the Yountville Town Limits are located in unincorporated Napa County. The Napa County General Plan designates the majority of the area surrounding the Town Limits as Open Space: Agricultural Resources. The area to the north, west, and south of the Veterans Home is designated Open Space: Agriculture, Watershed, and Open Space by the County General Plan. The areas surrounding the Town Limits are primarily used for agricultural or open space uses, with the Napa River located east of the Town.

3.10.2 REGULATORY SETTING

STATE

Government Code

For general law cities, such as the Town of Yountville, the State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code, Section 65860, subd. [c]).

California 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 county or 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 2017 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 describe the mandatory land use element as a guide to planners, the general public, and decision makers prescribing the ultimate pattern of development for the county or city.

LOCAL

Town of Yountville General Plan

The Town's current General Plan was last comprehensively updated in 1992, and updates to the Circulation and Housing Elements were completed in 2015. Land uses in Yountville have been developed based on the Land Use Map, goals, and policies established by the Yountville General Plan. The Town's General Plan includes broad goals that guide land use and planning decisions within the Town.

Town of Yountville Zoning Ordinance

Title 17 of the Yountville Municipal Code is the Town's Zoning Ordinance. The Zoning Ordinance carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the Town, consistent with the General Plan. The Zoning Ordinance is adopted to promote, protect and preserve the health, safety, and general welfare of the public, and for the following more specified purposes:

A. To guide, control and regulate the future growth and development of the Town in a sound and orderly manner, and to promote achievement of the goals and purposes of the Yountville General Plan;

B. To protect and enhance the character and stability of agricultural, residential, commercial, industrial and other areas within the Town;

C. To promote excellence of design in all future developments and to preserve the internal beauty and established character of the Town. (Ord. 231-92 § 1.2; Ord. 236-93)

Section 17.16.010 of the Zoning Ordinance includes the Town's Zoning Map and Sections 17.16.020 through 17.16.060 provide direction for the interpretation of the Zoning Map. Chapter 17.08 defines allowable land uses within each zoning district, and Chapters 17.20 through 17.80 provide development standards for each zoning district.

Local Agency Formation Commission (LAFCO) of Napa County

In 1963, the State Legislature created a 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 a LAFCO include preserving agricultural and open space land resources and providing for efficient delivery of services. The LAFCO of Napa County has authority over land use decisions in Napa 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;
- Extensions of service beyond an agency's jurisdictional boundaries;
- Development of, and amendments to, Spheres of Influence (SOI). The 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; and
- Provision of new or different services by districts.

In addition, 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.

Legislation, including Assembly Bill 1555 and Senate Bill 244, has been enacted to encourage the identification and annexation of islands, which are unincorporated areas substantially surrounded by a city or cities.

Airport Land Use Compatibility Plan (ALUCP) – Napa County

The Napa County Airport Land Use Commission (ALUC) ALUCP was adopted in April 1991 and revised in December 1999. The Plan sets forth the policies and criteria with Napa County ALUC will use in evaluating land use plans and proposed developments in the vicinity of the public-use airports located within Napa County. Three public-use airports are covered by the Plan: Calistoga Gliderport, Angwin-Parrett Field, and Napa County Airport. The Angwin-Parrett Field is the closest public-use airport to Yountville. The primary function of the ALUCP is to provide guidance to the ALUC in reviewing the land use plans and zoning regulations of the affected local jurisdictions to ensure that future development in the airports' environs is compatible with airport activities.

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. Angwin-Parrett Field is the closest airport to Yountville. The Town of Yountville 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.

Napa County General Plan

Napa County adopted its General Plan on June 3, 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 2030. The County's General Plan includes the following sections, or Elements:

- Agricultural Preservation and Land Use Element
- Community Character Element
- Conservation Element
- Circulation Element
- Economic Development Element
- Housing Element
- Recreation and Open Space Element
- Safety Element

While the Town of Yountville General Plan Land Use Map identifies planned land uses within the Town Limits, Napa County has ultimate land use planning and project approval authority within the area surrounding the Town's SOI unless the lands are annexed to the Town in the future. The County's land use designations for areas surrounding the Town of Yountville include Open Space: Agricultural Resources, and Open Space: Agriculture, Watershed, Open Space.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan will have a significant impact on land use if it will:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: General Plan implementation would not physically divide an established community (Less than Significant)

The proposed General Plan establishes the Town's vision for future growth and development. The land uses allowed under the proposed General Plan (Figure 2.0-6 in Chapter 2.0, Project Description) provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas of the Town, as well as new growth adjacent to existing urbanized areas, but would not create physical division within the community. New development and redevelopment projects would be designed to complement the character of the existing community and neighborhoods and provide connectivity between existing development and new development. The proposed General Plan Land Use Map designates sites for a range of urban and rural developed uses as well as agricultural and park uses. 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 3.10-2: General Plan implementation would not 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 Town 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.

TOWN PLANS

As set forth by State law, the General Plan serves as the primary planning document for the Town and subordinate documents and plans would be updated to be consistent with the General Plan. Similar to the existing General Plan, the Envision Yountville General Plan focuses on ensuring that the Town's quality of life is maintained, that agricultural and conservation uses and activities are maintained and enhanced within the Planning Area, and that growth remains focused within the Town's SOI. The proposed General Plan carries forward and enhances policies and measures from the Town's existing General Plan that were intended for environmental protection and would not remove or conflict with Town plans, policies, or regulations adopted for environmental protection. The proposed General Plan would require modifications to the Town's Zoning Ordinance, including the Zoning Map, to

provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Yountville Municipal Code that were adopted to mitigate an environmental effect.

CONCLUSION

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 to mitigate environmental effects by the Town 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 environmental impacts, including those related to traffic, noise, water quality, biological resources, aesthetics, agricultural resources, drainage and water quality, air quality, hazards, geology/soils, and cultural resources. Impacts to these resources, including consistency with applicable plans, policies, and regulations, are evaluated in the appropriate sections of this EIR.

Impact 3.10-3: General Plan implementation would not conflict with an applicable habitat conservation plan or natural community conservation plan (No Impact)

The General Plan area is not subject to an adopted habitat conservation plan or natural community conservation plan. Therefore, implementation of the proposed General Plan would have **no impact** relative to this topic.

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This section provides a discussion of the regulatory setting, a general description of existing noise sources in Yountville, and a discussion of the impacts and mitigation measures associated with implementation of the proposed General Plan. The analysis in this section was prepared with assistance from Saxelby Acoustics and j.c. brennan & associates, Inc. The technical data in support of this EIR section is presented in Appendix C.

3.11.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{DN}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{EQ}	Equivalent or energy-averaged sound level.
L_{MAX}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(N)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.

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 micropascals), 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, but are expressed as dB, unless otherwise noted.

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 (Leq), 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 Leq is the foundation of the composite noise descriptor, L_{DN}, 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 weighing 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 tends to

disguise short-term variations in the noise environment. CNEL is similar to L_{DN}, but includes a +3 dB penalty for evening noise. Table 3.11-1 lists several examples of the noise levels associated with common situations.

TABLE 3.11-1 : 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. SEPTEMBER 2013.

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, while 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 Yountville, 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 in a high state of disrepair and the construction activity (e.g., impact pile driving) occurs immediately adjacent to the structure.

Table 3.11-2 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 3.11-2: 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 3.11-3 identifies some common sources of vibration, corresponding VdB levels, and associated human perception and potential for structural damage.

TABLE 3.11-3: 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	75	Commuter rail, typical bus or truck over frequent bumps 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.

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 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 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA L_{dn} with open windows and 65 to 70 dBA L_{dn} if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75 to 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, while those facing major roadways and freeways typically need special windows and doors with a high sound attenuation rating.

EXISTING NOISE LEVELS

Traffic Noise Levels

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for all highways and major roadways in the General Plan area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq}

values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the General Plan study area. Day/night traffic distributions were based upon continuous hourly noise measurement data and Saxelby Acoustics file data for similar roadways. Caltrans vehicle truck counts were obtained for State Route (SR) 29. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.11-4 shows the results of this analysis.

TABLE 3.11-4: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY	*SEGMENT*	*NOISE LEVEL AT CLOSEST RECEPTORS (DB, L_{DN})[1]*	*DISTANCE TO 70 DB L_{DN} NOISE CONTOUR*	*DISTANCE TO 65 DB L_{DN} NOISE CONTOUR*	*DISTANCE TO 60 DB L_{DN} NOISE CONTOUR*
California Dr.	SR 29 NB Ramp to Washington St.	66.6	9	20	44
California Dr.	SR 29 SB Ramp to Presidents Cir.	49.7	4	10	21
Finnell Rd.	Yount St., East of Intersection	55.7	3	7	15
Madison St.	SR 29 to Washington St.	58.2	8	18	38
Madison St.	Washington St. to Yount St.	56.9	7	14	31
SR 29	Madison St., North of Intersection	71.6	94	202	436
SR 29	Madison St. to California Dr.	69.6	103	223	480
SR 29	Trubody Ln. to California Dr.	69.6	120	259	559
Washington St.	Madison St., North of Intersection	55.2	4	8	18
Washington St.	Madison St. to Yount St.	60.4	7	14	31
Washington St.	Yount St. to California Dr.	61.0	8	18	39
Washington St.	California Dr. to Land Ln.	46.1	3	6	14
Yount St.	Finnell Rd. to Washington St.	55.1	5	11	24
Yount St.	Madison St. to Finnell Rd.	56.8	4	9	19
Yount St.	Yountville Cross Rd., North of Intersection	50.1	2	4	8
Yount St.	Yountville Cross Rd. to Madison St.	58.6	7	16	34
Yountville Cross Rd.	Yount St. to Silverado Trail	61.3	12	25	54

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.

[1] TRAFFIC NOISE LEVELS ARE PREDICTED AT THE CLOSEST SENSITIVE RECEPTORS

SOURCE: W-TRANS TRANSPORTATION ENGINEERS, CALTRANS, SAXELBY ACOUSTICS, 2018.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or

elevated receivers. The distances reported in Table 3.11-4 are generally considered to be conservative estimates of noise exposure along roadways in the Town of Yountville.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each General Plan area roadway segment. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the General Plan area roadway segments analyzed in this section. Where sound walls were found to be shield the majority of sensitive receptors along a particular roadway segment, a -5 dB correction was applied to the traffic noise modeling.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.11-4 are generally considered to be conservative estimates of noise exposure along roadways in the General Plan area.

Railroad Noise Levels

The Napa Valley Wine Train is operated by the Napa Valley Railroad (NVRR). The train is a privately-operated excursion train that runs between Napa and St. Helena. Much of the rail line parallels SR 29 after leaving the City of Napa and passes Yountville, Rutherford, and Oakville. The typical operating schedule for the train includes two roundtrips per day for a total of four train passages per day.

In order to quantify noise exposure from existing train operations, a short-term noise level measurement survey was conducted west of the railroad line at the grade crossing of Madison Street. The noise survey was conducted on Wednesday, March 1, 2016. The purpose of the noise level measurements was to determine the typical Sound Exposure Level (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns, and other factors which may affect noise generation.

Table 3.11-5 shows a summary of the excursion train noise measurement results.

TABLE-3.11-5: RAILROAD NOISE MEASUREMENT RESULTS

MEASUREMENT LOCATION	*RAILROAD TRACK*	*GRADE CROSSING / WARNING HORN*	*TRAIN EVENTS PER 24-HR PERIOD*	*AVERAGE SEL AT 75 FEET*
West of RR line at Madison St. crossing	NVRR	Yes	4	103 dBA

SOURCE: J.C. BRENNAN & ASSOCIATES, INC., 2017.

Noise measurement equipment consisted of Larson Davis Laboratories (LDL) Model 824 precision integrating sound level meter equipped with a LDL ½" microphone. The measurement system was calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the day/night average (Ldn) railroad contours, it is necessary to calculate the Ldn for typical train operations. This was done using the SEL values and above-described number and distribution of daily train operations. The L_{dn} may be calculated as follows:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dBA, where:}$$

SEL is the mean Sound Exposure Level of the event, N_{eq} is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the L_{dn} value for railroad line operations have been calculated, and the distances to the L_{dn} noise level contours are shown in Table 3.11-6.

TABLE 3.11-6: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS

EXTERIOR NOISE LEVEL AT 75 FEET, L_{DN}	*DISTANCE TO EXTERIOR NOISE LEVEL CONTOURS, FEET*		
	60 DBA L_{DN}	*65 DBA L_{DN}*	*70 DBA L_{DN}*
NVRR RAILROAD LINE WITH WARNING HORNS			
60 dBA	71	33	15

SOURCE: J.C. BRENNAN & ASSOCIATES, INC., 2017.

Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (Occupational Safety and Health Administration [OSHA] and California Division of Occupational Safety and Health [Cal-OSHA]), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational, and public service facility activities can also produce noise which affects adjacent sensitive land uses. 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 fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

In the General Plan area, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (heating, venting, air conditioning [HVAC], exhaust fans, etc.)

From a land use planning perspective, fixed-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 near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include, but are not limited to, the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified Music and Voice

The types of uses which may typically produce the noise sources described above, include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields. Typical noise levels associated with various types of stationary noise sources are shown in Table 3.11-7.

TABLE 3.11-7: TYPICAL STATIONARY SOURCE NOISE LEVELS AND DISTANCES TO NOISE CONTOURS

LAND USE	*NOISE LEVEL AT 100 FEET, LEQ [1]*	*DISTANCE TO 50 DB LEQ (NO SHIELDING)*	*DISTANCE TO 45 DB LEQ (NO SHIELDING)*	*DISTANCE TO 50 DB LEQ (WITH 5 DB SHIELDING)*	*DISTANCE TO 45 DB LEQ (WITH 5 DB SHIELDING)*
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

NOTE: [1] ANALYSIS ASSUMES A SOURCE-RECEIVER DISTANCE OF APPROXIMATELY 100 FEET, NO SHIELDING, AND FLAT TOPOGRAPHY. ACTUAL NOISE LEVELS WILL VARY DEPENDING ON SITE CONDITIONS AND INTENSITY OF THE USE. THIS INFORMATION IS INTENDED AS A GENERAL RULE ONLY, AND IS NOT SUITABLE FOR FINAL SITE-SPECIFIC NOISE STUDIES.
SOURCE: SAXELBY ACOUSTICS, 2018.

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document ambient noise levels at various locations throughout the Town. Short-term noise measurements were conducted at four locations throughout the Town on February 28th and March 1st, 2017. In addition, a continuous 24-hour noise monitoring sites was also conducted to record day-night statistical noise level trends. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Tables 3.11-8 and 3.11-9. Figure 3.11-1 shows the locations of the noise monitoring sites.

TABLE 3.11-8: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	LDN (DBA)	MEASURED HOURLY NOISE LEVELS, DBA LOW-HIGH (AVERAGE)					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM – 7:00 AM)		
			L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
A	Adjacent to SR 29, 87 feet from Washington St. Centerline, 110 feet from SR 29 centerline.	67	58-66 (64)	55-65 (62)	72-94 (79)	49-66 (59)	37-65 (48)	66-79 (73)

SOURCE: J.C. BRENNAN & ASSOCIATES, INC., 2017.

TABLE 3.11-9: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS

SITE	LOCATION	TIME[1]	MEASURED SOUND LEVEL, DBA			NOTES
			L_{EQ}	L_{50}	L_{MAX}	
1	On the corner of Presidents Cir. and California Dr.	February 28th 11:24 a.m.	53.1	52.3	69.1	Traffic on Presidents Circle and pedestrians in parking lot are primary noise sources.
2	Van De Leur Park	February 28th 11:55 a.m.	56.6	52.0	67.8	Traffic along Washington Street is the primary noise source.
3	Intersection of Finnel Rd. and Harvest Wy.	February 28th 12:27 p.m.	57.2	56.4	64.6	Landscaping equipment is the primary noise source.
4	Yountville Community Park	March 1st 12:19 p.m.	52.3	51.5	63.2	Traffic is the primary noise source.

NOTE: [1] ALL COMMUNITY NOISE MEASUREMENT SITES HAVE A TEST DURATION OF 10:00 MINUTES.
SOURCE: J.C. BRENNAN & ASSOCIATES, INC., 2017.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 and 824 precision integrating sound level meters equipped with LDL ½" microphones**.** The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

The results of the community noise survey shown in Tables 3.11-8 and 3.11-9 indicate that existing transportation (traffic) noise sources were the major contributor of noise observed during daytime hours, especially during vehicle pass-bys.

3.11.2 REGULATORY SETTING

The following is an overview of the federal, state and local regulations that may be applicable to projects within the Town of Yountville.

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 L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} 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 L_{dn} 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 L_{dn}, have generally agreed on the 65 dBA L_{dn} 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.

The Department of Housing and Urban Development (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 Ldn or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - 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 Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.

- Exceeding 75 dBA Ldn - 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. HUD regulations were promulgated solely for residential development requiring government funding and are not related to 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.

STATE

California Department of Transportation (Caltrans)

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

California Environmental Quality Act (CEQA)

The CEQA Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels.

Governor's Office of Planning and Research (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2003). The guidelines include land use compatibility guidelines for noise exposure.

California State Building Code

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dBA L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dBA, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

LOCAL

Noise Ordinance

Chapter 8.04 of the Town's Municipal Code prohibits excessive or annoying noise or vibration to residential and commercial properties in the Town. Section 8.04.026 establishes exterior noise standards (see Table 3.11-10) and provides for adjustments to address high ambient noise levels and continuous intruding noise sources.

TABLE 3.11-10: NOISE STANDARD BY RECEIVING LAND USE

CUMULATIVE NUMBER OF MINUTES IN ANY HOUR	*DAY: 8:00 A.M. TO 9:00 P.M.[2]*	*NIGHT: 9:00 P.M. TO 8:00 A.M.[2]*
HOSPITAL, LIBRARY, RELIGIOUS INSTITUTION, RESIDENTIAL, OR SCHOOL USES		
30[1]	55 dBA	50 dBA
15	60 dBA	55 dBA
5	65 dBA	60 dBA
1	70 dBA	65 dBA
0	75 dBA	70 dBA
COMMERCIAL USES		
30	65 dBA	60 dBA
15	70 dBA	65 dBA
5	75 dBA	70 dBA
1	80 dBA	75 dBA
0	85 dBA	80 dBA

NOTES:

1. FOR EXAMPLE, THIS MEANS THE MEASURED NOISE LEVEL MAY NOT EXCEED 55 DBA FOR MORE THAN 30 MINUTES OUT OF ANY ONE-HOUR TIME PERIOD.

2. THE START OF DAY HOURS SHALL BE 8:00 A.M. UNLESS OTHERWISE SPECIFIED IN THIS CHAPTER; THE START OF NIGHT HOURS SHALL BE SEASONALLY ADJUSTED IN SUMMER MONTHS (DEFINED AS JUNE 1ST TO SEPTEMBER 30TH) TO COINCIDE WITH SUNSET AND MAY EXTEND TO ONE HOUR PAST SUNSET BUT NOT LATER THAN 10:00 P.M.

DETERMINATION OF A SIGNIFICANT INCREASE IN NOISE LEVELS

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

Table 3.11-11 is based upon recommendations made in August 1992 by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been asserted by industry professionals

that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{DN}.

TABLE 3.11-11: SIGNIFICANCE OF CHANGES IN CUMULATIVE NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, L_{DN}	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dBA	+5.0 dB or more
60-65 dBA	+3.0 dB or more
>65 dBA	+1.5 dB or more

SOURCE: FICON, AUGUST 1992.

Based upon the Table 3.11-11 criteria, an increase in the traffic noise level of 1.5 dB or more would be significant where the ambient noise level exceeds 65 dB L_{DN}. The rationale for the Table 3.11-11 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant annoyance.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan 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 Table 3.11-10).
- 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 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 noise 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 exceed the FICON significant increase thresholds outlined in Table 3.11-11.
- Result in a substantial temporary or periodic increase in the ambient noise levels in the project vicinity above levels existing without the project;
    - A significant temporary increase would be identified if noise 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 exceed the FICON significant increase thresholds outlined in Table 3.11-11.

- 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, the General Plan would have **no impact**, and this checklist item is not analyzed further.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: General Plan implementation has the potential to increase traffic noise levels at existing receptors (Less than Significant)

Table 3.11-12 shows the predicted traffic noise level increases on the local roadway network for Existing No Project, Existing plus Project, Cumulative, and Cumulative plus Project conditions. Appendix C provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE 3.11-12: PREDICTED EXISTING, EXISTING PLUS PROJECT, CUMULATIVE, AND CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS AT THE NEAREST SENSITIVE RECEPTORS

ROADWAY	*SEGMENT*	*EXISTING LEVEL DB, LDN*	*EXISTING + PROJECT LEVEL DB, LDN*	*CHANGE*	*CUMULATIVE LEVEL DB, LDN*	*CUMULATIVE +PROJECT DB, LDN*	*CHANGE*
California Dr.	SR 29 NB Ramp to Washington St.	66.6	67.4	0.8	67.1	67.8	0.7
California Dr.	SR 29 SB Ramp to Presidents Cir.	49.7	49.7	0.0	52.0	52.0	0.0
Finnell Rd.	Yount St., East of Intersection	55.7	56.8	1.0	56.2	57.2	0.9
Madison St.	SR 29 to Washington St.	58.2	58.9	0.8	58.5	59.2	0.7
Madison St.	Washington St. to Yount St.	56.9	57.6	0.7	57.2	57.9	0.7
SR 29	Madison St., North of Intersection	71.6	71.9	0.2	72.9	73.0	0.2
SR 29	Madison St. to California Dr.	69.6	69.7	0.1	70.7	70.8	0.1
SR 29	Trubody Ln. to California Dr.	69.6	69.6	0.0	69.6	70.8	1.2
Washington St.	Madison St., North of Intersection	55.2	55.2	0.0	55.2	55.2	0.0
Washington St.	Madison St. to Yount St.	60.4	61.7	1.3	60.5	61.8	1.2
Washington St.	Yount St. to California Dr.	61.0	62.1	1.1	61.4	62.4	1.0
Washington St.	California Dr. to Land Ln.	46.1	49.2	3.1	46.1	49.2	3.1
Yount St.	Finnell Rd. to Washington St.	55.1	56.4	1.3	55.8	56.9	1.1
Yount St.	Madison St. to Finnell Rd.	56.8	58.2	1.4	57.4	58.6	1.2

ROADWAY	*SEGMENT*	*EXISTING LEVEL DB, LDN*	*EXISTING + PROJECT LEVEL DB, LDN*	*CHANGE*	*CUMULATIVE LEVEL DB, LDN*	*CUMULATIVE +PROJECT DB, LDN*	*CHANGE*
Yount St.	Yountville Cross Rd., North of Intersection	50.1	50.3	0.1	50.1	50.3	0.1
Yount St.	Yountville Cross Rd. to Madison St.	58.6	59.6	1.0	59.0	59.9	0.9
Yountville Cross Rd.	Yount St. to Silverado Trail	61.3	62.4	1.0	61.7	62.7	0.9

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.

[1] TRAFFIC NOISE LEVELS ARE PREDICTED AT THE CLOSEST SENSITIVE RECEPTORS. ***BOLD*** *INDICATES A SIGNIFICANT INCREASE IN TRAFFIC NOISE LEVELS.*

Δ INDICATES THE RATE OF CHANGE IN NOISE LEVELS.

SOURCE: W-TRANS TRANSPORTATION ENGINEERS, CALTRANS, SAXELBY ACOUSTICS, 2018.

Based the Table 3.11-12 data, the proposed General Plan would not cause traffic noise levels to exceed the FICON criteria outlined in Table 3.11-11. The maximum traffic noise level increase is shown to be 3.1 dBA on Washington Street from California Drive to Land Lane. The FICON increase criteria for this section is 5 dBA as existing traffic noise levels are below 6o dBA Ldn.

The proposed General Plan includes policies and programs that are intended to reduce noise associated with transportation noise sources (listed below). Specifically, Policy NS-1.2 and associated programs would prevent land uses and new development that increase noise levels above acceptable standards. Implementation of the proposed policies and programs of the General Plan will ensure transportation noise impacts are **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy NS-1.2 Noise Impacts of Development. Prevent land uses and new development that increase noise levels above acceptable standards as feasible.

> *Program NS-1.2a Land Use Compatibility Standards. Apply the Land Use Compatibility Standards in Table NS-3 in locating and designing new development.*

GENERAL PLAN TABLE NS-3 LAND USE COMPATIBILITY STANDARDS

Land Use Category	Exterior Noise Exposure—dBA L_{dn}													
	50		55		60		65		70		75		80	
Residential and hotels														
Outdoor sports and recreation, neighborhood parks and playgrounds, golf courses, cemeteries														
Schools, libraries, churches, hospitals, nursing homes, museums, meeting halls														
Office buildings, business commercial and professional														
Industrial, manufacturing, utilities, agriculture														
Auditoriums, concert halls, amphitheaters, sports arenas														

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible.

Program NS-1.2b Indoor Noise Standard. The maximum acceptable interior noise level for all new residential development, including hotels, is 45 dBA Ldn. Include appropriate site and building design, building construction, and noise attenuation techniques in new development to meet this standard.

Program NS-1.2c Acoustical Compatibility Study. Require an acoustical study for all new residential and noise-sensitive projects with a future exterior noise exposure of 60 dBA Ldn or greater as shown on Table NS-3 [reproduced as Figure 3.11-2] and incorporate mitigation measures to lower interior noise exposure to a maximum indoor noise level of 45 dBA Ldn.

Program NS-1.2d Noise Mitigation. Consider mitigation measures for new projects or land uses that would cause a substantial increase in noise (i.e., cause an increase above 60 dBA Ldn or cause an increase of 5 dBA Ldn or more in the ambient noise levels) in adjacent residential areas or in residential areas affected by traffic generated by the proposed project.

Program NS-1.2e Caltrans Noise Mitigation. Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State projects, and request that Caltrans obtain Town concurrence prior to initiating any noise mitigation project in Yountville.

Impact 3.11-2: General Plan implementation has the potential to expose new sensitive receptors to excessive exterior and interior traffic noise (Less than Significant)

Future potential noise-sensitive receptors would potentially be located within a 60 dBA L_{dn} transportation noise contour, especially along the SR 29 corridor. The 60 dBA L_{dn} Cumulative plus Project noise contour for SR 29 is located between 540-feet and 674-feet from the roadway centerline. Future development of sensitive used proposed within the General Plan area and located within a traffic noise contour exceeding the applicable noise standard would require mitigation in order to ensure that exterior and interior traffic noise is minimized.

Modern construction typically provides a 25-dB exterior-to-interior noise level reduction with windows closed. Therefore, new sensitive receptors exposed to exterior noise of 70 dB L_{dn}, or less, would typically comply with the Town of Yountville 45 dB L_{dn} interior noise level standard. Additional noise reduction measures, such as acoustically-rated windows, are generally required for exterior noise levels exceeding 70 dB L_{dn}.

General Plan Policy NS-1.2, discussed above, is intended to minimize exposure to excessive noise. Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that alleviate noise impacts.

Implementation of the proposed policies and programs of the General Plan will ensure that transportation noise impacts are **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy NS-1.2 Noise Impacts of Development. Prevent land uses and new development that increase noise levels above acceptable standards as feasible.

> *Program NS-1.2a Land Use Compatibility Standards. Apply the Land Use Compatibility Standards in Table NS-3 in locating and designing new development.*

GENERAL PLAN TABLE NS-3 LAND USE COMPATIBILITY STANDARDS

Land Use Category	Exterior Noise Exposure—dBA L_{dn}													
	50		55		60		65		70		75		80	
Residential and hotels														
Outdoor sports and recreation, neighborhood parks and playgrounds, golf courses, cemeteries														
Schools, libraries, churches, hospitals, nursing homes, museums, meeting halls														
Office buildings, business commercial and professional														
Industrial, manufacturing, utilities, agriculture														
Auditoriums, concert halls, amphitheaters, sports arenas														

	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible.

> *Program NS-1.2b Indoor Noise Standard. The maximum acceptable interior noise level for all new residential development, including hotels, is 45 dBA Ldn. Include appropriate site and building design, building construction, and noise attenuation techniques in new development to meet this standard.*

> *Program NS-1.2c Acoustical Compatibility Study. Require an acoustical study for all new residential and noise-sensitive projects with a future exterior noise exposure of 60 dBA Ldn or greater as shown on Table NS-3 [reproduced as Figure 3.11-2] and incorporate mitigation measures to lower interior noise exposure to a maximum indoor noise level of 45 dBA Ldn.*

> *Program NS-1.2d Noise Mitigation. Consider mitigation measures for new projects or land uses that would cause a substantial increase in noise (i.e., cause an increase above 60 dBA Ldn or cause an increase of 5 dBA Ldn or more in the ambient noise levels) in adjacent residential areas or in residential areas affected by traffic generated by the proposed project.*

> *Program NS-1.2e Caltrans Noise Mitigation. Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State projects, and request that Caltrans obtain Town concurrence prior to initiating any noise mitigation project in Yountville.*

Impact 3.11-3: General Plan implementation could result in temporary or periodic increases in ambient noise levels in the project vicinity (Significant and Unavoidable)

During construction of subsequent development projects proposed within the General Plan area, including roads, water and sewer lines, and related infrastructure, construction noise would add to the noise environment in the vicinity of the General Plan area. As indicated in Table 3.11-13, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 3.11-13: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*MAXIMUM LEVEL, DB AT 50 FEET*
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

Construction-related noise would also be generated by increased truck traffic on area roadways. A significant noise source resulting from construction of subsequent development projects in the General Plan area would be truck traffic associated with transport of heavy materials and equipment to and from construction sites.

The Town of Yountville Noise Ordinance establishes exterior noise level limits of 55 dBA L_{50} and 75 dBA L_{max} for daytime (8:00 a.m. to 9:00 p.m.) for noise sensitive (hospital, library, religious institution, residential, or school uses). For nighttime (9:00 p.m. to 8:00 a.m.) the standards are reduced by 5 dBA. Construction activity occurring within 50 feet of a noise-sensitive use could easily cause maximum noise levels to exceed 75 dBA L_{max} during daytime hours. The 75 dBA L_{max} noise contour for construction activity is approximately 281 feet based upon a reference level of 90 dBA at 50 feet. Therefore, even at a distance of 280 feet, typical construction noise could still exceed the 75 dBA L_{max} daytime Noise Ordinance limit. Additionally, the Town's Noise Ordinance does not currently provide any exception for normal construction activity.

Program NS-1.2f requires future projects to address construction-related noise impacts. If necessary, standard best practice controls would be required in order to alleviate construction noise. However, it is unlikely that this Program could guarantee compliance with the Town's Noise Ordinance standards. Therefore, this would be a **significant unavoidable** impact.

GENERAL PLAN PROGRAM THAT MITIGATES POTENTIAL IMPACTS

Program NS-1.2f Construction Best Practices. During review of development, infrastructure, and other projects involving construction activities, determine if proposed construction projects could exceed the Town's Noise Ordinance standards at nearby residences and sensitive receptors and, if necessary, require mitigation measures in addition to the standard best practice controls.

Impact 3.11-4: General Plan implementation has the potential to expose persons to or generate excessive groundborne vibrations associated with construction activities (Less than Significant)

The primary vibration-generating activities associated with implementation of the proposed General Plan would occur during construction when activities such as grading, utilities placement, and road construction occur.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage. Table 3.11-14 shows the typical vibration levels produced by construction equipment.

TABLE 3.11-14: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

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 NS-1.3, shown below, is intended to minimize exposure to excessive vibration. Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that alleviate noise impacts.

Implementation of the proposed policies and programs of the General Plan will ensure that vibration impacts from demolition and construction projects are **less than significant**.

GENERAL PLAN POLICY AND PROGRAM THAT MITIGATES POTENTIAL IMPACTS

Policy NS-1.3 Vibration Impacts of Development. Reduce vibration impacts from demolition and construction projects.

> *Program NS-1.3a Vibration Mitigation. 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.*

Impact 3.11-5: General Plan implementation has the potential to expose existing and future sensitive receptors to substantial noise from 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 Town of Yountville 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 Map includes agricultural and commercial land use designations, which may result in new noise sources. Specific land uses that would be located in the Town 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 Town's standards.

General Plan Policy NS-1.2, discussed above, is intended to minimize exposure to excessive noise. Subsequent development projects proposed within the General Plan area would be subject to all relevant General Plan policies and programs that alleviate noise impacts. However, the proposed General Plan policies are less restrictive than the Town's Noise Ordinance standards outlined in Table 3.11-10.

Implementation of the proposed policies and programs of the General Plan will reduce non-transportation noise impacts. Impacts would be **less than significant.**

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy NS-1.1 Noise in the Community. Protect the livability and quality of life in Yountville by reducing unwanted noise as feasible.

> *Program NS-1.1a Noise Ordinance. Maintain and periodically update a Noise Ordinance that addresses noise resulting from tourism, outdoor businesses, building construction, landscape maintenance machines and leaf blowers, amplified music, special events, on-site trash disposal, animals, and similar sources. Consider advancements in technology and the needs of all community members when revising the ordinance.*

Policy NS-1.2 Noise Impacts of Development. Prevent land uses and new development that increase noise levels above acceptable standards as feasible.

> *Program NS-1.2a Land Use Compatibility Standards. Apply the Land Use Compatibility Standards in Table NS-3 in locating and designing new development.*

GENERAL PLAN TABLE NS-3 LAND USE COMPATIBILITY STANDARDS

Land Use Category	Exterior Noise Exposure—dBA L_{dn}						
	50	55	60	65	70	75	80
Residential and hotels							
Outdoor sports and recreation, neighborhood parks and playgrounds, golf courses, cemeteries							
Schools, libraries, churches, hospitals, nursing homes, museums, meeting halls							
Office buildings, business commercial and professional							
Industrial, manufacturing, utilities, agriculture							
Auditoriums, concert halls, amphitheaters, sports arenas							

	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible.

> *Program NS-1.2b Indoor Noise Standard. The maximum acceptable interior noise level for all new residential development, including hotels, is 45 dBA Ldn. Include appropriate site and building design, building construction, and noise attenuation techniques in new development to meet this standard.*

Program NS-1.2c Acoustical Compatibility Study. Require an acoustical study for all new residential and noise-sensitive projects with a future exterior noise exposure of 60 dBA Ldn or greater as shown on Table NS-3 [reproduced as Figure 3.11-2] and incorporate mitigation measures to lower interior noise exposure to a maximum indoor noise level of 45 dBA Ldn.

Program NS-1.2d Noise Mitigation. Consider mitigation measures for new projects or land uses that would cause a substantial increase in noise (i.e., cause an increase above 60 dBA Ldn or cause an increase of 5 dBA Ldn or more in the ambient noise levels) in adjacent residential areas or in residential areas affected by traffic generated by the proposed project.

Program NS-1.2e Caltrans Noise Mitigation. Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State projects, and request that Caltrans obtain Town concurrence prior to initiating any noise mitigation project in Yountville.

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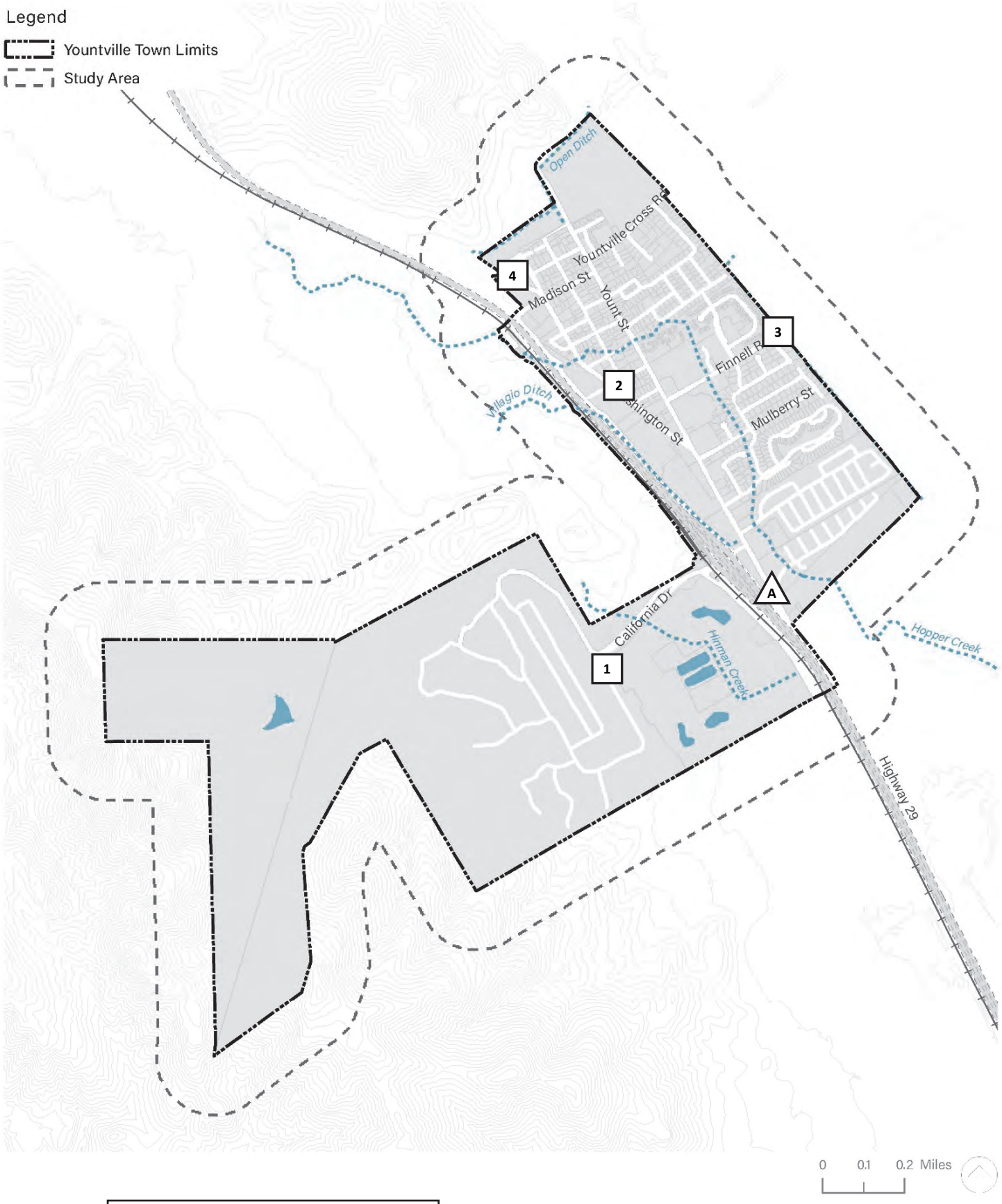

Legend

X : **Continuous Noise Measurement Site**

\# : **Short-Term Noise Measurement Site**

Figure 3.11-1
Noise Measurement Sites

j.c. brennan & associates
consultants in acoustics

Date:
5/4/2017

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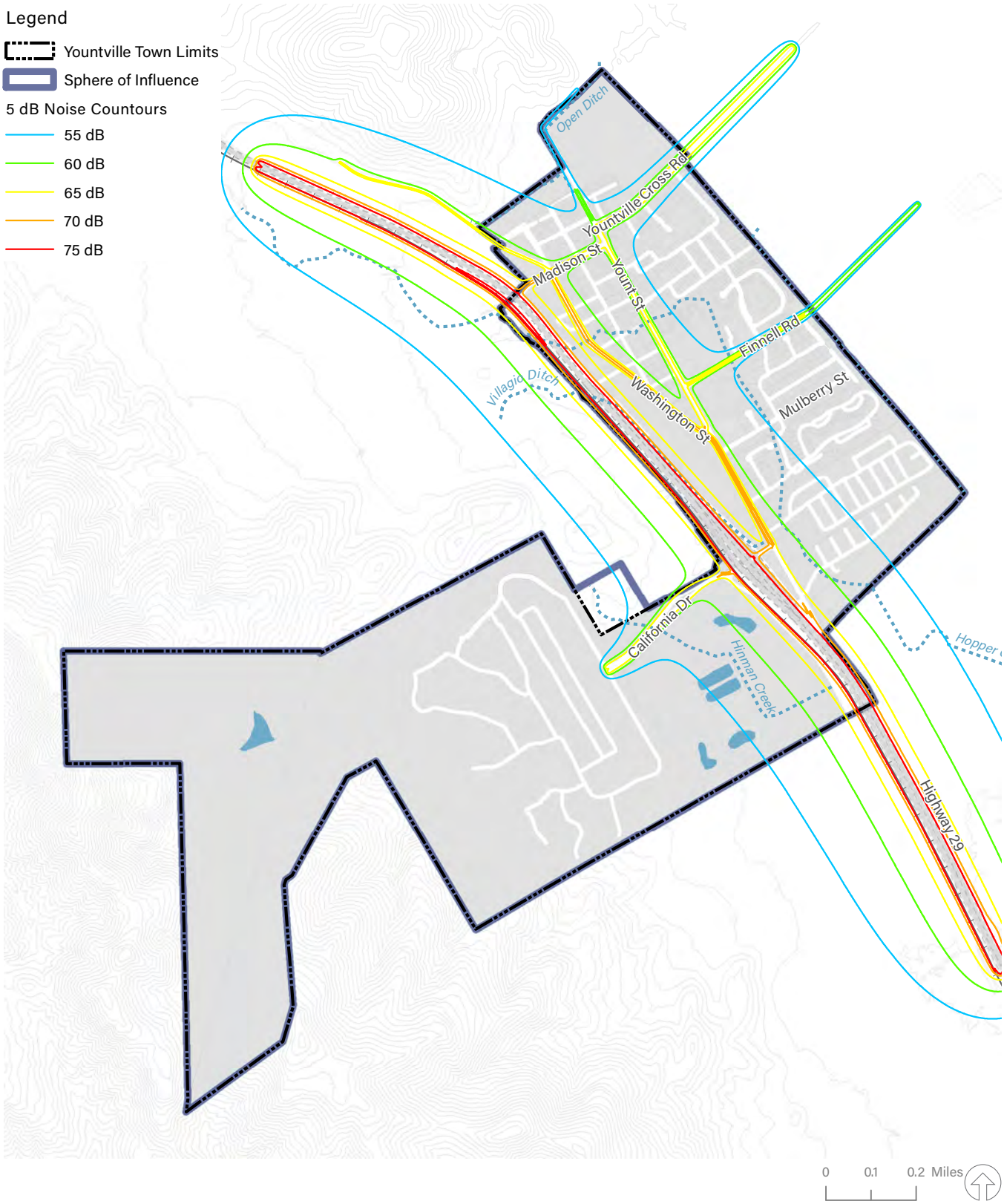
Figure 3.11-2. Future Noise Contours



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This section provides a discussion of the anticipated growth that would result from project implementation, an analysis of the project's consistency with relevant planning documents and policies related to population and housing, the regulatory setting, and an impact analysis. Information in this section is derived primarily from California Department of Finance Population and Housing Estimates, the U.S. Census, and the Town of Yountville General Plan. There were no comments received during the public review period for the NOP related to population and housing.

3.12.1 ENVIRONMENTAL SETTING

DEMOGRAPHICS TRENDS

Yountville was incorporated in 1965 and by 1970, the US Census Bureau recorded the population at 2,332. Between 1965 and 1990, Yountville's agricultural-based economy continued to grow and by 1990, the population had reached 3,259. Table 3.12-1 shows the population growth from 1990 to 2018.

TABLE 3.12-1: POPULATION GROWTH – YOUNTVILLE

YEAR	*POPULATION*	*ANNUAL AVERAGE CHANGE*
1990	3,259	--
2000	2,916	-1.05%
2010	2,933	+0.06%
2015	2,980	+0.32%
2018	2,874	-1.19%

SOURCE: U.S. CENSUS, 1980, 1990, 2000, 2015; YOUNTVILLE HOUSING ELEMENT, 2015; CALIFORNIA DEPARTMENT OF FINANCE, 2018.

From 1990 to 2000, the Town's population decreased by 10.5% from 3,259 to 2,916 persons. During the 2000s and 2010s, Yountville experienced population growth from 2,916 to 2,980 between 2000 and 2015.

HOUSING STOCK

Table 3.12-2 summarizes the the Town's housing stock from 1990 to 2018, based on information from the US Census and California Department of Finance. The number of housing units has increased from 980 in 1990 to 1,294 in 2018, an average annual increase of 1.14 percent.

TABLE 3.12 -2: HOUSING UNIT GROWTH – YOUNTVILLE

YEAR	*HOUSING UNITS*	*ANNUAL AVERAGE CHANGE*
1990	980	--
2000	1,133	+1.56%
2010	1,252	+1.05%
2015	1,291	+0.62%
2018	1,294	+0.08%

SOURCE: U.S. CENSUS, 1990, 2000, 2010, 2015; YOUNTVILLE ELEMENT, 2015.

PERSONS PER DWELLING UNIT

The average number of persons residing in a dwelling unit in Yountville is 1.9 (California Department of Finance, 2018).

3.12.2 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 is a comprehensive long-term plan for the physical development of the county or city and is considered a "blueprint" for both development and the preservation and conservation of resources. 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 county or 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.

Regional Housing Needs Plan

California General Plan law requires each Town and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA) and is based on a Regional Housing Needs Plan (RHNP) developed by councils of government. The Association of Bay Area Governments (ABAG) is the lead agency for developing the RHNP for the nine-county area that includes Napa County and the Town of Yountville. Yountville's fair share of the adopted RHNA for 2014-2022 is summarized in Table 3.12-3.

TABLE 3.12-3: REGIONAL HOUSING NEEDS ALLOCATION

VERY LOW INCOME	*LOW INCOME*	*MODERATE INCOME*	*ABOVE MODERATE INCOME*	*TOTAL*
2014-2022				
4	2	3	8	17

SOURCE: YOUNTVILLE HOUSING ELEMENT, TABLE 30, 2015.

The Town is not required to ensure that adequate development to accommodate the RHNA occurs; however, the Town must facilitate housing production by ensuring that land is available and that unnecessary development constraints have been removed. The Town's Housing Element, adopted in 2015, provides for the accommodation of the 2014-2022 RHNA that has been assigned to the Town of Yountville.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was developed to protect the quality of the environment and the health and safety of persons from adverse environmental effects. Discretionary projects are required to be reviewed consistent with the requirements of CEQA to determine if there is potential for the project to cause a significant adverse effect on the environment. Depending on the type of project and its potential effects, technical traffic, noise, air quality, biological resources, and geotechnical reports may be needed. If potential adverse effects can be mitigated, a mitigated negative declaration is required. If potentially adverse effects cannot be mitigated, an environmental impact report is required. These documents have mandated content requirements and public review times. Preparation of CEQA documents can be costly and, despite maximum time limits set forth in the Public Resources Code, can extend the processing time of a project by a year or longer.

Town of Yountville General Plan

The Town's Housing Element, one of the seven mandated General Plan elements, was adopted in January 2015. The Housing Element establishes the following ten objectives related to population and housing:

1. Preserve the rural, small-town character and scale of Yountville.
2. Promote the development of infrastructure and regulations that accommodate increased residential development of all housing types.
3. Promote the development of a variety of housing types.
4. Provide increased opportunities for multi-family and affordable workforce housing, and maintain affordability for all income groups.
5. Optimize opportunities for residential development, but allow for mixed-use and commercial development in appropriate areas, subject to providing for their fair share of the Town's housing needs.
6. Provide housing-related information to the public and involve the public in determining policies and programs.
7. Provide housing assistance to households in need and publicize the availability of such assistance.
8. Conserve existing affordable housing and rental units, and promote rehabilitation of deteriorating units.
9. Develop housing for households with special needs.
10. Ensure that the Town's policies and regulations address all state housing requirements.

The proposed Land Use Element identifies five land use categories for residential use: Old Town Historic, Master-Planned Residential, Mixed Residential, Manufactured Home Park Residential, and Single Family Residential. The Primary Commercial, Residential-Scaled Commercial, Old Town Commercial, Planned Development, and Retained Commercial categories also allow residential uses.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Based on the standards established by Appendix G of the CEQA Guidelines, the proposed General Plan will have a significant impact on population and housing if it will:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: General Plan implementation would not induce substantial population growth (Less than Significant)

The proposed General Plan accommodates future growth in Yountville, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. At full buildout, the proposed General Plan would accommodate approximately 231 new housing units and 169,646 square feet of new non-residential building square footage within the Town limits, as shown in Table 2.0-2 in Chapter 2.0. This new growth may increase the Town's population by approximately 439 residents and approximately 325 employees at full buildout.[1] The potential for the Town to build out to its maximum capacity is based primarily on market trends, the desires of individual property owners, and the approach to addressing site-specific constraints. It is anticipated that actual development would be less than the maximum capacity during the life of the General Plan and would not exceed the theoretical buildout described in Chapter 2.0.

Given the historical and current population, housing, and employment trends, growth in the Town, as well as the entire state, is inevitable. Population growth in the region is a result of natural increase and net migration. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Yountville 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, office, and other non-residential uses.

[1] The average number of persons residing in a dwelling unit in Yountville is 1.9 (California Department of Finance, 2018).

Napa County's population is projected to increase from 142,337 in 2018 to 169,134 in 2060 by the State Department of Finance, an increase of approximately 18.8%. Yountville's potential population increase under the proposed General Plan from 2,874 in 2018 to 3,313 persons, which is not tied to a specific year but rather full buildout of the Town, is an approximately 15.3% increase and is consistent with growth projected Countywide.

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 but would not be sized to exceed the capacity of the General Plan. Growth allowed under the proposed General Plan would remain within the general growth levels projected regionally and statewide and would not be anticipated to induce substantial growth that would result in any significant changes in growth projections or limitations that have been adopted to avoid an environmental effect. The proposed General Plan is intended to accommodate the Town'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) and to ensure that the Town continues to have housing opportunities for a variety of households, including the work force, families, and other households, as well as housing types to accommodate persons with special housing needs, including disabled persons and seniors, as described in the Housing Element.

The proposed General Plan includes policies and programs that mitigate environmental impacts associated with growth, including impacts associated air quality, noise, traffic, water supply, wastewater treatment, water quality effects, and public services, as discussed in the relevant chapters of this Draft EIR. 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 3.15 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With implementation of General Plan policies and programs 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, the goal and policy framework would not induce substantial population growth. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact.

Impact 3.12-2: General Plan implementation would not displace substantial numbers of people or existing housing (Less than Significant)

While the proposed General Plan does not directly propose any development and does not propose the removal of any residences or displacement of persons, it would allow for the development and redevelopment of lands within the Town 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 231 new housing units in the Town limits, which would provide adequate replacement housing opportunities for any displacement that occurs. Further, any residence that would be removed as part of future development would be purchased prior to any development.

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**.

This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, schools, parks and recreation, and other services for the proposed General Plan. The information in this section is primarily derived from the Town of Yountville General Plan. There were no comments received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic.

3.13.1 ENVIRONMENTAL SETTING

FIRE PROTECTION

The Town contracts for fire protection services for its 1,800 residents and visitors located on the east side of Town with the Napa County Fire Department (County Fire). The Veterans Home has a separate contract with County Fire. County Fire, in turn, contracts with the California Department of Forestry and Fire Protection (CAL FIRE). A three-way cost sharing arrangement between Napa County/CAL FIRE, the Town, and the Veterans Home funds operation of the station such that costs are split equally among the parties. Yountville is assured a minimum level of staffing of four persons 24 hours per day, seven days per week. Service levels are evaluated on a regular basis by County Fire. Regular reports by the Station 12 Battalion Chief in published reports to the Town Council indicate that the Town has the lowest utilization of service among the three parties to this shared service station model.

Countywide, CAL FIRE provides administrative support and coordination with five full-time paid stations and nine volunteer fire companies operating under a County Fire Plan, which is approved by the County Board of Supervisors. The Napa County Fire Chief is responsible for the direction and coordination of fire protection services by these organizations on a countywide basis.

County Fire/CAL FIRE services in Yountville include staffing the Yountville Fire Station and providing structure fire protection, wildland fire protection, emergency medical response, technical rescue/extrication, hazardous materials, water supply, dispatch, training, fire safety education, fire (arson) investigations, fire prevention, vegetation management, and fire marshal (code enforcement) within Yountville. Additionally, County Fire offers domestic preparedness planning and response.

The Yountville Fire Station was constructed as part of a collaborative effort between the California Veterans Home, Town of Yountville, and the County of Napa. The fire apparatus and equipment assigned to the Yountville Fire Station are owned by the County of Napa.

The Town's municipal fire hydrant system has a fire hydrant strategically placed within 1,000 feet of all locations throughout the Town limits. The hydrant capacity/rating is sufficient at more than 1,000 gallons per minute (gpm). There are seven water tenders in the Napa County Fire Department that can be utilized in addition to or in place of the hydrant system should it fail. Two of the water tenders (the two closest to the Town) carry 3,000 gallons of water each. One carries 2,500 gallons, and the remaining four carry 1,800 gallons each.

Napa City Fire Department's dispatch (Napa4) is the Public Safety Answering Point for all of Napa County. Once Napa4 receives the call and it is determined to be a Napa County Fire Department (including Town of Yountville) response, the call information is transferred to the Napa County Fire Department 911 dispatch center in St. Helena (called St. Helena Emergency Command Center). St. Helena then dispatches all emergency calls.

AMR Ambulance Company provides paramedic service to Napa County. Also, there are other Napa County Fire Department career and volunteer stations as well as CAL FIRE stations throughout Napa County that would respond to significant calls within Town limits.

County Fire/CAL FIRE's average response time is three minutes. The response time goal is to be at scene within four minutes, 90 percent of the time. The response time includes the 911 call, dispatching, turnout time, and response time to the scene.

The current staffing of two people per apparatus is adequate for the current call volume. However, studies show that three to four persons staffing per apparatus provides a higher level of efficiency, effectiveness, and firefighter safety. This is also the National Fire Protection Associations 1710 Standard.

Fire protection personnel receive training for various skills annually. All employees receive a minimum of 12 hours of training per month. Employees are sent to formalized classes through CAL FIRE, County Fire, and other fire agencies, and each year, the Department holds a four-hour drill in which all fire agencies within Napa County participate. The drill is designed to test the mutual aid system. In May of each year, there is a four-hour Multi-Casualty Incident drill in which all fire agencies within Napa County participate. Napa County career fire stations participate in multi-company trainings two times per month for three to four hours per drill. Napa County Fire also hosts two monthly drills for each of the nine volunteer companies.

The partnership between the County, State, and Town has provided the following benefits:

- construction of the Yountville Fire Station by the County,
- the lease of State-owned land for a Fire Suppression Training Ground at minimal cost, and
- fire and life safety services provided to the unincorporated area, the Town and the Veterans Home.

Additionally, County Fire participates in many community events and meetings throughout the year including: National Night Out, Fire Prevention Week (Station open house), Town Council Meetings, Town Management Team Meetings, Town Quarterly Report, prevention/education section in the Town of Yountville monthly newsletter, Yountville Sun newspaper, Taste of Yountville, Festival of Lights, Father's Day Car Show, Breakfast with the Bunny, movie nights at the park, and Kiwanis Club events. During these events, there is fire prevention material available and personnel present to discuss fire prevention with the public. Also, there is a fire prevention education program with the Yountville Elementary School.

Through a series of automatic aid and contractual agreements with the other five fire agencies in Napa County, County Fire augments its level of service by providing closest resource response to those areas of the County that are immediately adjacent to these jurisdictions. These agreements also include a reciprocal response of County Fire resources into adjacent jurisdictions when requested. The fire protection contract with the Town, Veterans Home of California, and Napa County funds two fire captains and eleven fire apparatus engineers, with each entity paying a proportional share. They work rotating 72-hour shifts and staff Yountville Fire Station with one two-person engine company and one two-person ladder truck company. The ladder truck carries additional tools and equipment used in vehicle extrications and specialized rescue situations. The 105-foot ladder is needed for large commercial buildings and the multi-story structures at the California Veterans Home.

The Yountville station responded to 1,716 calls during the calendar year of 2016, of which 293, or 17 percent, were incidents within the Town limits. A large majority of these calls are for medical aid responses. As a component of County Fire, the station also responds outside the Town including automatic and mutual aid agreements with surrounding agencies.

The Chief Officers who supervise the station personnel and respond to incidents are CAL FIRE employees not funded by the contract. Station personnel are members of the Napa Interagency Rescue Team and the Napa Interagency Hazardous Incident Team. Both teams are part of a Joint Powers Authority (JPA) and include personnel from each fire agency in Napa County. They receive specialized training in technical rescue situations and hazardous materials incidents. Both teams are also available to respond on a regional level if requested.

The CAL FIRE contract also includes a Fire Marshal Bureau providing review and inspection for use permits, new construction, and special events in the County. The Bureau also manages the County's Firewise Community and brush chipping program. The Bureau is staffed with a Battalion Chief (Napa County Fire Marshal), Fire Captain (Assistant Fire Marshal) and three Fire Prevention Specialists.

Insurance Service Office Rating

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;
- 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.

The County has three distinct ISO ratings. Areas that are within five miles of a fire station and within 1,000 feet of a fire hydrant have an ISO rating of 6. Areas that are within five miles of a fire station, but more than 1,000 feet from a fire hydrant, have an ISO rating of 8B. Any areas that are more than five miles from a fire station regardless of proximity to a fire hydrant have an ISO rating of 10. A rating of 10 usually indicates that no fire protection is provided.

POLICE PROTECTION

The Town contracts with Napa County Sheriff's Department to provide law enforcement and police protection services throughout the Town. Since its incorporation in 1965, Yountville has contracted with Napa County for law enforcement services to protect its residents, workers, and visitors. The contract provides Yountville with year-round law enforcement services through the County Sheriff's Office ("County Sheriff"). County Sheriff is responsible for enforcing all State statutes, local codes, and ordinances, including traffic enforcement and investigation within the confines of the Town limits. This fixed rate contract relieves the Town of any uncertainty in the budget process by providing an exact and maximum financial liability for police services during the term of the contract. The current contract obligates the County Sheriff to provide a minimum of 160 hours of patrol services in Yountville weekly and provides for a full spectrum of municipal law enforcement services including:

- Enforcement of State statutes, Town codes, and ordinances.
- Personnel management- recruitment, training, hiring, etc.
- Patrol support for major incidents from other Sheriff's Deputies including police K-9 units when needed.
- Specialized support - Investigative services in Major Crimes and/or Major Traffic Collisions.
- Crime Scene and lab processing.
- Dispatch services and Records Management.
- Property/Evidence management and storage.
- Participation in DARE program.
- Attendance at Town Council, commission, and other Town meetings as requested.
- Animal Control Services.
- Hazardous Device Mitigation.
- SWAT and Hostage Negotiations Teams.
- Vehicle and equipment, including maintenance.
- IT Services, including network and equipment maintenance and upgrades.

A full spectrum of municipal law enforcement services is provided in Yountville. Additional support from the Sheriff's Office also includes: personnel management (i.e., recruitment, hiring, training, etc.); equipment and vehicle issue and maintenance; dispatch services; records management; crime

scene and lab processing; property/evidence management and storage; investigative services (major crime and accident); supplemental patrol services; canine services; animal services; hazardous device mitigation; SWAT and hostage negotiation; disaster response management and training; and special event services.

The Napa Sheriff's Office is a state-of-the-art facility located near the Napa County Airport at 1535 Airport Blvd. There are several substations in various locations throughout the County including the City of Napa, Yountville, St. Helena, Lake Berryessa, and Angwin. The Town of Yountville Police Station was established in December 2009. The substation is located at 1950 Mulberry Street, Yountville.

The Sheriff's Department has 135 employees. There are three dedicated deputies assigned to the Town as well as one sergeant who acts as the Chief of Police for the Town for a total of four full-time employees. The sergeant attends Town Council meetings, and supervises any deputies working in the Town. The sergeant also prepares quarterly reports for the Town Council and acts as the liaison between Yountville and County Sheriff. County Sheriff evaluates and makes recommendations regarding Yountville's service levels at least once per quarter. The Town is responsible for providing and maintaining the physical facility (Yountville Substation) located at 1950 Mulberry Street used by the deputies.

Law enforcement costs are among the most difficult to plan for and budget given the uncertainty in call volume, emergency needs, and rising costs associated with pensions, liability and workers compensation. Under the Town's fixed cost agreement with Napa County Sheriff's Department, the County of Napa accepts the burden for those costs which may exceed the service level provided. In years of significant unanticipated emergencies or incidents, this is an important benefit to the Town.

The Municipal Service Review (MSR): Countywide Law Enforcement Services was approved in 2012 and addresses Countywide law enforcement, including the Town. The Town's law enforcement situation remains similar to that described in the 2012 MSR. This 2012 MSR contained several determinations which remain relevant and these are listed below:

- County Sheriff has established an effective animal control program now under contract by American Canyon, Napa, and Yountville. The program increased capturing strays by nearly 50% over the last several years, primarily in response to significant new demands tied to the economic downturn. This contracting arrangement provides streamlined animal control services for the south county region and helps to ensure the public receives services in a timely and consistent manner among all four affected jurisdictions.
- Law enforcement dispatch services for four of the six affected local agencies – American Canyon, Napa, Yountville, and County Sheriff – are provided by Napa. This shared arrangement provides for streamlined and timely emergency response throughout the south and central regions while avoiding duplicative costs among the participating agencies.
- County appears to have established effective contract models in insourcing law enforcement services to American Canyon and Yountville. These models provide the

contracting agencies the ability to deliver a full range of law enforcement services to their respective constituents in a tailored manner to meet community needs and preferences with enhanced near-term cost certainty.

Crimes by Category

Statistics on the number of crimes by category of crime in Yountville during each year from 2011 to 2015 are shown in Table 3.13-1 below.

TABLE 3.13-1: CRIMES BY CATEGORY

CATEGORY	*2011*	*2012*	*2013*	*2014*	*2015*
Violent Crimes	4	7	1	7	7
Homicide	0	0	0	0	0
Rape	1	0	1	0	0
Robbery	0	1	0	0	0
Aggravated Assault	3	6	0	7	7
Property Crimes	43	56	57	40	46
Burglary	9	16	17	14	7
Larceny-Theft	33	38	34	24	36
Vehicle Theft	1	2	6	2	3
Arson	0	1	0	0	0

*SOURCE: FEDERAL BUREAU OF INVESTIGATION, CRIMINAL JUSTICE INFORMATION SERVICES DIVISION, OFFENSES KNOWN TO LAW ENFORCEMENT, TABLE 8 (2011, 2012, 2013, 2014, 2015). * 2016 DATA NOT AVAILABLE.*

As shown in the table, the majority of crimes committed in Yountville consist of non-violent property crimes, primarily larceny-theft. Between 2011 and 2015, there were no homicides reported in Yountville.

SCHOOLS

Residents and school children in the Town are served by the Napa Valley Unified School District (NVUSD). The District is comprised of 19 elementary schools, five middle schools, and five high schools. Additionally, the NVUSD operates one independent studies school, Napa Valley Independent Studies (K-12), and one independent charter school, Stone Bridge School (K-8). The only NVUSD school within the Town limits is Yountville Elementary School, located at 6554 Yount Street. The Town does not have a middle or high school within the Town limits. According to the California Department of Education, Educational Demographics Unit, the District had a total student enrollment of 18,098 students during the 2017-18 school year.

Middle school students in Yountville, which includes students in 6th through 8th grades, attend Redwood Middle School, located at 3600 Oxford Street, Napa. High school students in Yountville, which includes students in 9th through 12th grades, usually attend Vintage High School, located at 1375 Tower Avenue, Napa. Vintage High School was improved in 2004 with the addition of a new multipurpose building and playground equipment.

Student enrollment at Yountville Elementary School, Redwood Middle School, and Vintage High School is shown in Table 3.13-2 below. With the relatively static population growth and recent decreases in enrollment, there is currently adequate capacity at Yountville Elementary, Redwood

Middle, and Vintage High Schools to serve the local population. The NVUSD Demographics Analysis & Facility Capacity Study 2017-18 projected a slight increase in students at Yountville Elementary (3 students) and a decline in enrollment at Redwood Middle and Vintage High Schools during the planning and projection period of the report.

TABLE 3.13-2: SCHOOL ENROLLMENT

SCHOOL	*ACADEMIC YEAR*				
	2013-14	*2014-15*	*2015-16*	*2016-17*	*2017-18*
Yountville Elementary	145	127	120	117	123
Redwood Middle	1,048	1,080	1,025	998	963
Vintage High	1,773	1,808	1,845	1,815	1,782

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION, EDUCATIONAL DEMOGRAPHICS UNIT, CALIFORNIA PUBLIC SCHOOL ENROLLMENT-SCHOOL REPORT (2011-2016).

COMMUNITY FACILITIES

The community facilities within the Town are summarized below.

Libraries

The Yountville Library, in operation since 1977, was formerly housed in a single room in the Yountville Town Hall. The library opened at its current location in the new Yountville Community Center at 6516 Washington Street in March 2010. The Yountville library is the smallest of four in the Napa County Library system and is open to the public 28.5 fully staffed hours a week. The hours of operation are from 10:00 AM to 5:00 PM Tuesday, Wednesday, Thursday, and Saturday, with extended volunteer hours from 5:00 PM to 7:00 PM on weekdays.

The Yountville Library offers programs for children and families, as well as adults and teens. The library hosts programs and events, including a book club, career center, and study center. The library offers a collection that includes books, DVDs, music CDs, books on tape, and books on CD, as well as magazines and subscriptions to area newspapers.

Yountville Community & Events Center

The Yountville Community & Events Center is located at 6516 Washington Street in the center of the Town. The Center contains a variety of rooms, outdoor spaces, and amenities that can support groups and functions of all sizes. The Community Center includes two large event areas that can accommodate 250 to 400 guests for dining. Other rental areas include a kitchen, board room for small meetings, art room, outdoor patio / lawn area, and an outdoor town square.

Yountville Community Pool

The Yountville Community Pool is located on the Veterans Home Property at 100 California Drive. The Town offers season passes to the pool for residents and non-residents. The Community Pool offers a party area that can be reserved for parties or groups.

PARKS AND RECREATION

The Town's Parks and Recreation Department provides a wide range of recreation programs, events and services to the residents and visitors of Yountville and to residents of surrounding communities. Programs and services include fitness classes, lifelong learning programs, dance, martial arts, sports, school break camps, after school programs, special events, and aquatics programs. The responsibilities of the Parks and Recreation Department include:

- Manage the daily operations as well as the long-range planning of the Parks and Recreation Department, including all of its services and facilities.
- Supervise department personnel including hiring, training, evaluation, and discipline; mentor employees and foster creativity.
- Oversee, develop and implement administrative procedures and policies associated with recreation programs and facilities.
- Review and analyze the effectiveness of departmental services and make necessary improvements.
- Prepare and monitor the annual budget, make recommendations regarding fees and fee collection.
- Provide staff support to various committees as assigned including the Parks and Recreation Advisory Committee and other ad hoc committees.
- Work collaboratively with citizen and other public groups, agencies, and organizations to bring about coordinated, effective delivery of recreation, Community Center and other related community services.
- Prepare reports and studies related to recreation programs, capital improvements, facility maintenance and other assigned activities.
- Organize and develop volunteer programs.
- Assist in the planning and organizing of community events; coordinate, develop, and distribute various public information and marketing materials related to Town services and programs including the administration of the Town newsletter.
- Prepare and monitor grants.
- Assist in the planning, financing and development of recreational facilities and Community Center renovation and expansion.
- Respond to and resolve difficult and sensitive citizen inquiries and complaints.
- Perform other related duties and special projects as assigned by the Town Manager.

Yountville Parks and Recreation Facilities

The Town owns and operates several parks and recreation facilities totaling over eleven acres. Table 3.13-3 provides a summary of the existing park and recreation facilities, including the acreage and features.

TABLE 3.13-3: EXISTING PARKS AND RECREATION FACILITIES

PARK NAME	*TYPE*	*ACREAGE*	*FEATURES*
Yountville Community Park	Community Park	2.03	Playground, 2 restroom facilities, 4 picnic areas, large group meeting space, public art
Veterans Memorial Park	Community Park	3.65	1 picnic area, 4 bocce courts, 1 restroom facility, 1 sand volleyball court, walking path, amphitheater, public art
Vineyard Park	Neighborhood Park	2.50	1 tennis courts, 1 restroom facility, 1 half-court basketball court, walking path, pickle ball courts, outdoor exercise equipment
Toyon Terrace Tot Lot	Neighborhood Park	0.16	Toddler playground
Hopper Creek Pocket Park	Neighborhood Park	0.10	Native plantings, outdoor art, picnic area
Van de Leur Park	Neighborhood Park	0.28	Path, fountain, picnic tables, outdoor art
Oak Circle Park	Neighborhood Park	0.23	Passive park with gardens, benches, path
Forrester Park	Neighborhood Park	0.86	Playground, path, picnic table
Hopper Creek	Greenway/Open Space	0.77	None
Heritage Court Area	Greenway/Open Space	0.17	None
Forrester Lane	Greenway/Open Space	0.17	Bench
Paths	--	0.11	None
	TOTAL	**11.03**	--

SOURCE: MSR/SOI UPDATE, TOWN OF YOUNTVILLE, TABLE 4-9; TOWN OF YOUNTVILLE, 2017

The Town's park standards and parkland needs are summarized in Table 3.13-4, based on the 2017 population of the Town. Although the Town population includes the Veterans Home (approximately 1,000 people), the Town parkland inventory does not take the Veterans Home acreage into account which skews the calculation for park standards (3 to 5 acres per 1,000 residents). Using 2010 Census data per the Quimby Act methodology, the Town has 3.76 acres of parkland per 1,000 total residents. By subtracting the estimated Veterans Home population, the Town has 5.71 acres of parkland per 1,000 residents based on 2010 Census data.

TABLE 3.13-4: YOUNTVILLE PARK STANDARDS AND PARKLAND NEEDS

PARK FACILITIES	*STANDARD PER 1,000 RESIDENTS*	*EXISTING ACRES AS OF 2017*	*CURRENT PARK ACRES PER 1,000 RESIDENTS*
Neighborhood	Follow Quimby Act – 3 to 5 Acres	4.13	2.47
Community		5.68	2.94
Linear/Greenways		1.11	0.57
Other		0.11 (paths)	0.06
TOTAL		**11.03**	**6.04**

SOURCE: TOWN OF YOUNTVILLE, 2017

The Town is in year two of implementing the Town's 2014 Americans with Disabilities Act (ADA) Transition Plan; improvements have been made in many parks and indoor recreation facilities. Due to the closing of Yountville's only indoor fitness facility, there may be an unmet need for an indoor, self-directed exercise space.

3.13.2 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.

EMERGENCY RESPONSE/EVACUATION PLANS

The State 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.

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.

NAPA COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN

The Napa County Operational Area Hazard Mitigation Plan (OHMP) is a multi-jurisdictional approach to reducing or eliminating future loss of life and property resulting from natural disasters. The OHMP was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000; to update the plan adopted in 2004; and to achieve eligibility for the Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs. The OHMP covers the Napa County, the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, the Napa County Office of Education, the Napa County Flood Control and Water Conservation District, and the Napa Valley College District. The OHMP identifies risks associated with flooding, earthquake, and wildland interface fire hazards. The OHMP establishes a mitigation strategy to reduce risks in the event of a natural disaster.

MULTI-JURISDICTIONAL LOCAL GOVERNMENT HAZARD MITIGATION PLAN FOR THE SAN FRANCISCO BAY AREA

The Association of Bay Area Governments (ABAG) prepared and adopted a Local Hazards Mitigation Plan in 2005. The purpose of the Plan is to serve as a catalyst for a dialogue on public policies needed to mitigate the natural hazards that affect the San Francisco Bay Area. The overall strategy of the Plan is to utilize a multi-jurisdictional effort to maintain and enhance the disaster resistance of the region, and to fulfill the requirements of the Disaster Mitigation Act of 2000 for all local governments to develop and adopt this type of plan.

Parks and Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a Town or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. The Town has adopted park fees as allowed by the Quimby Act, as described in greater detail below.

YOUNTVILLE MUNICIPAL CODE

Section 16.24.020, Park land dedication, of the Yountville Municipal Code requires park land dedication and/or fees. Collection of fees shall be in accordance with Town Council resolutions and ordinances. Park land shall be dedicated at the time of the recording of the final map. The land, fees, or combination thereof are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities. The provisions of this section of the Code do not apply to commercial or industrial subdivisions nor do they apply to condominium projects or stock cooperatives that consist of the subdivision or airspace in an existing apartment building that is more than five years old when no new dwelling units are added.

Schools

CALIFORNIA CODE OF REGULATIONS

California public school districts are authorized to assess development fees within their boundaries under California Education Code Section 17620, et seq. Such fees are subject to the limitations and requirements of California Government Code Sections 65995-65998(h). Under these provisions, the payment of school fees is deemed to be full and complete mitigation of the impacts of land use approvals involving the planning, use, or development of real property with regard to the provision of adequate school facilities.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between 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; and
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- Level I fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- Level II fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15 to 30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- Level III fees are outlined in Government Code Section 65995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect

Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan will have a significant impact on public services and recreation if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
    - Fire Protection
    - Police Protection
    - Schools
    - Parks
    - Other public facilities

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: General Plan implementation would not result in adverse physical impacts on the environment associated with governmental facilities and the provision of public services (Less than Significant)

Development accommodated under the General Plan would result in additional residents and businesses in the Town, including new residential, commercial, office, and agricultural uses. As described in Chapter 2.0, the proposed General Plan would accommodate approximately 231 new housing units, 103,266 square feet of commercial and office uses, and 66,380 square feet of agricultural development within the Town limits. This new growth would increase the Town's population by approximately 439 residents.

Development and growth facilitated by the proposed 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 General Plan includes policies and programs 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 address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices,

maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) may be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the Town.

Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public Facility and Park and Playfields 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 Town, each project will be evaluated for conformance with the General Plan, Municipal 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 proposed General Plan includes a range of policies and programs (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the Town and appropriate service agency, and that new development funds its fair share of services. The 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 General Plan also includes a program to regularly evaluate and update development impact fees in order to fund infrastructure improvements and public service costs.

As previously stated, new facilities will be needed to serve growth allowed under the 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 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 General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.15, and 4.0) of this Draft EIR.

This Draft EIR addresses the potential impacts of development that may occur under the General Plan, including residential, commercial, office, and agricultural uses. 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.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-3.1 Future Growth Conditions. Allow future development where: it contributes to walkability, view corridors, and an active streetscape; the Town has capacity to provide necessary public services; natural, historic, and cultural assets are protected; the costs and revenues associated with new development are balanced; and impacts to traffic circulation are mitigated.

Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

> *Program LU-3.7a Development Impact Fees. Regularly evaluate and update development impact fees.*

Policy LU-8.1 Community Facilities. Support facilities operated by public agencies, such as Yountville Elementary School, Fire Station 12, the Library, the US Post Office, and the Veterans Home.

Policy SH-1.3 Fire Hazards. Reduce the risk of loss of life, personal injury, and property damage resulting from wildland and urban fire hazards through code enforcement and coordination with the Napa County Fire Department.

> *Program SH-1.3a Napa County Fire Department Agreement. Maintain agreement with Napa County Fire Department for fire protection and to maintain adequate level of service.*
>
> *Program SH-1.3b Risk and Response Time. Coordinate with Napa County Fire Department to meet accepted levels of risk and response time.*
>
> *Program SH-1.3c Inspections and Site Plan Review. Maintain programs with Napa County Fire Department for inspections and site plan review.*
>
> *Program SH-1.3d Weed Abatement and Defensible Space. Develop weed abatement and defensible space programs which reduce risk of fire while maintaining native vegetation and wildlife habitat.*
>
> *Program SH-1.3e Heather Street and Heritage Court Emergency Access. Maintain the existing one-lane emergency access connection at Heather Street and Heritage Court.*
>
> *Program SH-1.3f Fire Risk in New Development.*
>
> 1. *Review all development proposals for fire risk and require mitigation measures to reduce the probability of fire. Encourage attractive native and drought-tolerant, low-maintenance landscaping responsive to fire hazards. Require all new development to meet the adopted State and local fire codes.*
> 2. *Require adequate access for emergency vehicles, adequate street width and vertical clearance, driveway access and parking restrictions for new development.*
> 3. *Require sprinkler systems for new commercial and residential development and substantial remodels and additions.*

Program SH-1.3g Water Supply for Fire Fighting. Maintain an adequate water supply, fire hydrant system, and water pressure to effectively suppress fires.

Program SH-1.3h Education and Code Enforcement. Increase fire prevention effectiveness through education and code enforcement, including requirements for defensible space around structures and removal of flammable vegetation near roadways.

Policy SH-1.4 Police and Community Safety. Provide a high level of service to the community by working to ensure order and improve the safety of the community.

Program SH-1.4a Napa County Agreement. Maintain agreement with Napa County for police protection and to maintain adequate level of service.

Program SH-1.4b Risk and Response Time. Coordinate with Napa County to meet accepted levels of risk and response time.

Policy SH-1.9 Emergency Management. Minimize exposure to all hazards through emergency management, planning and training.

Program SH-1.9a Hazard Mitigation Plan. Implement the Napa County Operational Hazard Mitigation Plan 2013 Update approved by the Federal Emergency Management Agency in 2014.

Program SH-1.9b Hazard Mitigation Plan Update. Work with Napa County Office of Emergency Services to periodically evaluate and update the Napa County Operational Area Hazard Mitigation Plan, including addressing climate change impacts.

Program SH-1.9c Emergency Response Plans. Maintain and update the Town's emergency response plans on a regular basis, designating emergency shelters and evacuation routes.

Program SH-1.9d Emergency Shelter. Evaluate adding support systems at the Community Center to enhance its use as an emergency shelter during extended power outages.

Program SH-1.9e Interagency Cooperation. Continue to cooperate with the appropriate federal, State, and local agencies to practice and implement effective emergency plans and provide public safety training programs, where feasible.

Policy SH-1.10 Essential Facilities. Ensure essential public facilities/critical facilities, including utilities and water and wastewater facilities, are accessible and operational during flooding, seismic events, fires, extreme heat events, and other emergencies and, if such facilities are new development, that they are located outside of high risk areas, to the extent feasible.

Impact 3.12-2: General Plan implementation would not result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities (Less than Significant)

Growth accommodated under the General Plan would include a range of uses that would increase the population of the Town and also attract additional workers and tourists to the Town. This growth would result in increased demand for parks and recreation facilities. It is anticipated that over the life of the General Plan, use of regional parks, trails, and recreation facilities would increase, due to new residents as well as tourists visiting the Town. 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 and open space areas 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, as required by Policies OS-1.1, OS-1.2, and OS-2.1.

Development under the 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 General Plan supports the creation of new parks and recreation facilities, including new trails, 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. Parks can be accommodated in the Parks and Playfields land use designation, as well as all of the residential land use designations.

Policy OS-2.1 notes that new development shall maintain or exceed a recreation standard of five acres of park and recreation facilities per 1,000 residents. As shown in Table 3.13-3, there are currently 11.68 acres of developed parkland in Yountville. As shown in Table 2.0-2 in Chapter 2.0, at full buildout, the proposed General Plan would accommodate approximately 231 new housing units and 169,646 square feet of new non-residential building square footage within the Town limits. The current (2018) population of Yountville is 2,874. The new growth allowed under the proposed General Plan may increase the Town's population by approximately 439 residents.[1] Therefore, the projected General Plan buildout population within the Town limits is anticipated to be 3,313. At a ratio of five acres of parkland per 1,000 residents, buildout of the General Plan within the Town

[1] The average number of persons residing in a dwelling unit in Yountville is 1.9 (California Department of Finance, 2018).

limits would result in a demand for 16.57 acres of developed parkland, or 4.89 acres of additional developed parkland in addition to the existing stock of 11.68 developed acres.

As future parks and recreation projects are considered by the Town, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Parks and recreation projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

In addition to ensuring that new and expanded parks and recreation facilities are provided to accommodate new growth, the General Plan includes policies and programs to ensure that parks and recreation facilities are adequately maintained and improved to serve both existing and planned growth, as required by Policies OS-1.1. OS-2.1, OS-2.2, and Program OS-1.1a. 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, and play structures, to ensure that new facilities are provided to serve new growth and existing facilities continue to meet the needs of the community. These improvements to existing facilities would likely have environmental impacts similar to those associated with new development under the General Plan. This Draft EIR addresses the potential impacts of new development across the range of environmental topics under CEQA, and identifies mitigation measures where appropriate, to ensure that environmental impacts associated with new construction and development under the General Plan are reduced to the greatest extent feasible.

The General Plan establishes the policies and programs to ensure that existing parks and recreation facilities are improved and maintained, by providing for a range of improvements appropriate to serve growth and ensure on-going improvement and maintenance of existing facilities, and includes provisions to ensure that adequate parks and recreational facilities are provided at a pace adequate to serve new population growth. The applicable General Plan policies and programs are listed below.

This Draft EIR addresses the potential impacts of development that may occur under the General Plan, including residential, commercial, office, and agricultural uses. 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 level. 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.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-1.1 Community and Neighborhood Parks. Provide a network of community and neighborhood parks within walking distance of all neighborhoods to the maximum extent feasible. As appropriate, identify and evaluate potential new recreational and programming uses within existing parks that are not detrimental to existing developed park uses and locations for additional neighborhood parks and recreational uses.

Program OS-1.1a Maintain Parks and Playfields. Provide funds to maintain existing Town parks and playfields shown in Figure OS-1 Parks and Open Space Areas.

Program OS-1.1b Joint Use Agreements. Maintain existing and evaluate entering additional joint use agreements with the school district, the Veterans Home, and other community partners for community access to recreation and park facilities, where appropriate.

Program OS-1.1c Water Play. Investigate adding a water splash or spray feature to a Town park.

Policy OS-1.2 New Development. Evaluate proposals for new development to maximize on-site recreational space or access to recreational opportunities in the area, including trails. New residential development shall contribute towards communitywide park facilities. Maintain or exceed a recreation standard of 5 acres of park and recreation facilities per 1,000 residents.

Program OS-1.2a New Neighborhood Parks. Provide new neighborhood parks within new residential subdivisions, as feasible.

Program OS-1.2b Park Land Dedication Ordinance. Administer and update as appropriate the Town's Park Land Dedication Ordinance to assure that new development contributes to addressing community park needs.

Policy OS-2.1 Open Space. Establish open space within unbuilt parcels where needed to reinforce or extend the existing network of open space throughout the town.

Policy OS-2.2 Existing Open Space. Preserve and protect existing open space areas, including parks, trails, greenways and Hopper Creek, shown in Figure OS-1 Parks and Open Space Areas.

Program OS-2.2a Hopper Creek Path. Implement steps to complete the gaps in the Hopper Creek path system, as feasible.

Program OS-2.2b Trails and Pathways. Improve trail connections within and beyond the Town limits, as feasible.

Impact 3.12-3: General Plan implementation would not increase demand for schools or result in the need to construct new schools (Less than Significant)

Implementation of the General Plan would indirectly lead to new population growth within the Town limits and Planning Area, which would increase the demand for schools and school facilities. The Town is served by the NVUSD.

In order to further assist the local school districts in the acquisition of suitable sites for future facilities, the General Plan includes a Public Facilities land use designation. This designation is applied to areas appropriate for governmental, public utility, and public educational facilities. This designation ensures that there are sites throughout the Town which are suitable for the construction of future schools to meet demands associated with buildout of the General Plan.

The NVUSD collects developer fees in order to assist in funding facility needs at their sites, and to acquire and develop new school sites to meet increased demand for schools and school facilities. Policy LU-3.7 requires new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town to ensure that adequate schools and related facilities will be available. Additionally, in accordance with Section 65995(h) of the California Government Code, the payment of statutory fees "…is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities."

This Draft EIR addresses the potential impacts of development that may occur under the General Plan, including re residential, commercial, office, and agricultural uses. 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 level. 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 schools or related school facilities. For these reasons, implementation of the General Plan would have a **less than significant** impact related to school facilities.

GENERAL PLAN POLICIES AND PROGRAM THAT MITIGATES POTENTIAL IMPACTS

Policy LU-8.1 Community Facilities. Support facilities operated by public agencies, such as Yountville Elementary School, Fire Station 12, the Library, the US Post Office, and the Veterans Home.

Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

> *Program LU-3.7a Development Impact Fees. Regularly evaluate and update development impact fees.*

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This chapter describes the potential impacts to the transportation system associated with implementation of the proposed Envision Yountville General Plan Update. The impact analysis examines the roadway, transit, bicycle, and pedestrian components of the Town's transportation system. To provide a context for the impact analysis, this chapter begins with a description of the environmental setting. The environmental setting is a description of the existing physical and operational conditions for the transportation system. Following the environmental setting, the regulatory framework which influences the transportation system and provides the basis for impact significance thresholds used in the impact analysis is described. This section concludes with the impact analysis, findings, and recommended mitigation measures.

This section was prepared by W-Trans.

METHODOLOGY

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, LOS A represents free flow conditions and LOS F represents over-capacity, stop-and-go conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

Intersections

LOS at the study intersections were determined using methodologies published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2010. 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 INTERSECTIONS

LOS 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 LOS 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 INTERSECTIONS

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 LOS.

SIGNALIZED INTERSECTIONS

SR 29/Madison Street is currently controlled by a traffic signal and was 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 LOS are indicated in Table 3.14-1.

TABLE 3.14-1: INTERSECTION LOS CRITERIA

LOS	*TWO-WAY STOP-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. Most 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. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle 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 acceptable 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.
E	Delay of 35 to 50 seconds. Few acceptable 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 approach to the intersection.	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 before there is an acceptable gap in traffic for exiting the side streets, 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, 2010.

3.14.1 ENVIRONMENTAL SETTING

The existing physical and operational conditions for Yountville's transportation system are based on a review of local and regional transportation plans, as well as a physical review of the existing transportation system. Descriptions are organized by the transportation system component, beginning with roadways and intersections, and followed by the pedestrian and bicycle network, transit system, and truck route.

EXISTING CIRCULATION NETWORK

This section describes the physical characteristics of Yountville's roadway network, which includes facilities ranging from narrow residential lanes to a regional state highway. Primary regional access to Yountville is provided by State Route (SR) 29, a two- to four-lane highway with the transition between highway and freeway occurring adjacent to the Town. Secondary access is via Yountville Cross Road.

Street Network

This section describes the physical characteristics of Yountville's roadway network. Figure 3.14-1 shows the major routes in Yountville and the surrounding roadway system.

SR 29 is the primary route connecting the Town to the San Francisco Bay Area to the south and Lake County to the north. The highway is the main route for out-of-town travel and provides quick local access to the other side of Town. SR 29 is a four-lane divided freeway with an interchange at California Drive that transitions to a two-lane highway as it approaches a signalized intersection at Madison Street. Existing daily traffic on the highway averages 22,800 vehicles per day and the posted speed limit is 60 miles per hour (mph).

Washington Street runs parallel to SR 29 and is a two-way street that provides parking on both sides south of Yount Street. It is the only street that provides continuous north-south connectivity. North of Yount Street, there are many driveways, and only a few on-street parking spaces. Sidewalks are located on both sides of the street south of Webber Avenue and on the west side from Webber to Madison. The posted speed limit is 25 mph.

Yount Street runs north-south through Yountville to the east of Washington Street. Yount Street intersects with Washington Street at a sharp skew in the center of Town. It is a two-lane road with parking and sidewalks on both sides from Washington Street to Hopper Creek. North of Hopper Creek, sidewalks are located on the east side of the street only. Bike lanes are located along portions of Yount Street north of the intersection of the Hopper Creek path. The posted speed limit is 25 mph.

California Drive is a two-lane street that connects the southeast and southwest (Veterans Home, golf course, and Domaine Chandon) areas of Town, passing under SR 29. It is the only connector for 30 percent of Town residents from the Veterans Home. There are Class II bike lanes from Washington Street to Solano Avenue, sidewalks on the north side of the street, and the posted speed limit is 25 mph. The portion between Washington Street and Solano Avenue is maintained by the California Department of Transportation (Caltrans).

Madison Street is a two-lane arterial that runs east-west and connects the northeastern area of the Town to SR 29. Bike lanes are located in both directions and a Class I pedestrian and bicycle path is located on the south side of Madison Street just west of Washington Street. East of Washington, there is a lack of sidewalk connectivity per Town Council Policy, and the posted speed limit is 25 mph.

Yountville Cross Road runs east-west and connects the eastern part of the Town to the Silverado Trail. It has one lane in each direction with bike lanes on both sides. The posted speed limit is 35 mph within Town limits, increasing to 45 mph and higher for the segment located in unincorporated Napa County.

Solano Avenue is an access point into and out of Town at the southwestern edge of Town. It has two lanes, narrow shoulders, and a speed limit of 35 mph. The Vine Trail, a regional Class I path, extends from Trancas Street in the City of Napa to California Drive in Yountville. The path is located on the east side of Solano Avenue between the railroad and the east side of the roadway.

Finnell Road is a two-lane local street that extends east from Yount Street then turns north and provides access to Yountville Cross Road. The road borders the Town Hall and adjacent school property on the south side and provides access to residential properties via Vista Drive and Heritage Way.

Major Intersections

The following nine intersections were identified as those most critical to Yountville's local circulation system and its connectivity to the regional transportation network. The locations of the study intersections are shown in Figure 3.14-2.

1. Washington Street/Madison Street
2. Washington Street/Yount Street
3. Washington Street/California Drive
4. SR 29/Madison Street
5. SR 29 Northbound Ramps/California Drive
6. SR 29 Southbound Ramps/California Drive
7. Yount Street/Finnell Road
8. Yount Street/Madison Street
9. Yount Street/Yountville Cross Road

Traffic counts were collected in September 2014 for the intersections of Washington Street/Madison Street, Washington Street/Yount Street, and Washington Street/California Drive. Counts for the remaining six intersections were collected in March 2017. Growth factors were applied to each study intersection to reflect September 2017 volumes.

The existing lane configurations for the study intersections are shown in Figure 3.14-3 and the existing peak hour traffic volumes are shown in Figure 3.14-4.

Currently, eight of the nine study intersections are operating acceptably at LOS C or better overall during the p.m. peak period, while the intersection at SR 29/Madison Street is operating at an unacceptable LOS E, as shown in Table 3.14-2. Operating conditions during the weekday p.m. peak period is evaluated. The p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute. LOS Calculations are included in Appendix D.

TABLE 3.14-2: SUMMARY OF EXISTING PEAK HOUR INTERSECTION LOS

INTERSECTION	*PM PEAK HOUR*	
	DELAY	*LOS*
1. Washington Street/Madison Street	12.5	B
2. Washington Street/Yount Street	10.8	B
3. Washington Street/California Drive	15.4	C
4. SR 29/Madison Street	**69.5**	**E**
5. SR 29 Northbound Ramps/California Drive	5.2	A
Northbound SR 29 Off-Ramps	*11.7*	*B*
6. SR 29 Southbound Ramps/California Drive	5.8	A
Southbound SR 29 Off-Ramps	*20.3*	*C*
7. Yount Street/Finnell Road	8.0	A
8. Yount Street/Madison Street	10.1	B
9. Yount Street/Yountville Cross Road	9.0	A
Westbound Yountville Cross Rd Approach	*13.5*	*B*

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*
SOURCE: W-TRANS, 2018.

Existing Pedestrian and Bicycle Facilities

The following section describes the bicycle and pedestrian network and activities in Yountville. Existing and planned bicycle facilities, as well as select pedestrian facilities, are shown in the *Napa County Transportation and Planning Agency Countywide Bicycle Plan* and the *Napa Countywide Pedestrian Plan*, excerpts of which are shown in Figures 3.14-5 and Figure 3.14-6.

BICYCLE FACILITIES

Bicycle circulation in Yountville is supported by an existing network of multi-use paths, on-street bicycle lanes, and bicycle routes. The Yountville Bicycle Plan was prepared in partnership with the Napa Valley Transportation Authority (NVTA) and adopted by Town Council on June 5, 2012. The Town's existing and proposed bike facilities, shown in Figure 3.14-5, expand upon the existing network to create an improved bicycle circulation system in Yountville and better connectivity to towns north and south. Table 3.14-3 summarizes the existing bicycle facilities in Yountville.

The *Highway Design Manual* (Caltrans, 2012) classifies bikeways into three categories:

- ***Class I Multi-Use Path***: a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- ***Class II Bike Lane***: a striped and signed lane for one-way bike travel on a street or highway.
- ***Class III Bike Route***: signing only for shared use with motor vehicles within the same travel lane on a street or highway.

Class I Multi-Use Paths in Yountville include the path on the south side of Madison Street, west of Washington Street, and the path parallel with SR 29 (known as the "Yountville Mile") along the eastern side of the highway running between Madison Street on the north and California Drive on

the south. The Vine Trail, a regional Class I path, extends from Trancas Street in the City of Napa to California Drive in Yountville. The path is located on the east side of Solano Avenue between the railroad and the east side of the roadway. A separate path which runs through Town along Hopper Creek is not considered a Class I path since it is too narrow to accommodate both bicycles and pedestrians.

Class II Bike Lanes include Yountville Cross Road, Yount Street, Solano Avenue, California Drive, Finnell Road and Madison Street.

TABLE 3.14-3: EXISTING AND PLANNED BICYCLE FACILITIES

FACILITY	*CLASS*	*LENGTH (MILES)*	*BEGIN POINT*	*END POINT*
EXISTING				
Vine Trail (Yountville Portion)	I	1.25	Madison Street	Southern Town limits (Trail continues to Napa City)
Madison Street	I	0.06	SR 29	Washington Street
Madison Street	II	0.13	Washington Street	Yount Street
Yountville Cross Road	II	0.50	Yount Street	Town Limits
Yount Street	II	0.25	Yountville Cross Road	Hopper Creek
California Street	II	0.10	Washington Street	Solano Avenue
Solano Avenue	II	0.50	California Drive	Town Limits
Finnell Road	II	0.30	Hopper Creek	Town Limits
Webber Avenue	III	0.07	Yountville Mile Bike Path	Washington Street
PLANNED				
Completion of Hopper Creek Path	I	0.40	Yount St @ Hopper Creek	South Town Limits

SOURCE: W-TRANS, 2018.

BIKEWAY TRANSITIONS

Madison Street and Yountville Cross Road are popular streets for bicyclists to travel on to get to and from rural Napa Valley, but the two roads are offset with each other when they intersect with Yount Street. There is minimal guidance for the bicyclists, especially in the westbound to southbound direction, to negotiate this transition area. Another transition point is the termination of the bike lanes on Yount Street at the entrance to the Hopper Creek Path. There is a striped crosswalk at the entrance of the Vine Trail at the California Drive/Solano Avenue intersection where there are bike lanes on California Avenue.

PEDESTRIAN FACILITIES

Pedestrian facilities include sidewalks, crosswalks, curb ramps, and streetscape amenities. Nearly complete sidewalk coverage, accessible curb ramps, and marked crosswalks are provided along arterial streets in Yountville. High visibility crosswalk marking and in-roadway pedestrian warning signs, among other treatments, are provided at several uncontrolled mid-block crosswalk locations along Yount Street, Washington Street, and Finnell Road.

SIDEWALKS AND WALKWAYS

Sidewalks in Yountville generally range from four to five feet in width which is generally considered narrow for side by side pedestrian travel, especially in commercial areas. There are street sections with wider sidewalks in some locations and a variety of pedestrian amenities are provided throughout the downtown. In the historic Old Town Historic zoning designation, which is bound by the cemetery, Washington Street, Yount Street, and Humboldt Street, the neighborhoods typically have a more rural type of pedestrian path in this neighborhood, rather than a typical curb, gutter, and sidewalk.

While the pedestrian network is generally well-developed throughout Yountville with the exception of the Old Town Historic zoning designation, there are some locations where gaps in the sidewalk network can be found. Short gaps exist along undeveloped properties and various frontages on Yountville Cross Road, Finnell Road, and Washington Street.

CROSSWALKS

Well-marked and enhanced crosswalks are important for a small town like Yountville that has heavy pedestrian traffic. Enhancements such as signage, median refuge, curb bulb-outs, etc., can provide for a safer pedestrian crossing condition as well as create a vehicle traffic calming feature. "Uncontrolled" crosswalks are marked crosswalks where no traffic controls (i.e., stop sign or signal) exist. They are often midblock crossings, like many of the crossings on Washington Street and Yount Street.

Following is a list of uncontrolled crosswalks with enhancements:

1. Washington Street north of Lincoln Avenue – brick, marked crosswalk, pedestrian crossing sign on southbound approach
2. Washington Street, south of Webber Avenue – brick pattern, marked crosswalk, pedestrian crossing signs in each direction and a centerline warning paddle sign.
3. Washington Street at Humboldt Street – brick, marked crosswalk, no warning signs.
4. Washington Street at Bouchon Bakery – brick, marked crosswalk, centerline warning paddles sign, pedestrian crossing sign and "PED XING" striping on southbound approach only.
5. Washington Street at V Marketplace – brick, marked crosswalk, "PED XING" striping on northbound approach, no warning signs.
6. Yount Street just north of Washington Street – brick, marked crosswalk, centerline warning paddles sign.
7. Yount Street, north of Humboldt Street – yellow school marked crossing, curb extensions, centerline warning paddle sign, pedestrian warning signs in each direction.
8. Yount Street, north of Webber Avenue – yellow school marked crossing, curb extensions, centerline warning paddle sign, pedestrian warning signs in each direction.
9. East leg of California Drive at SR 29 northbound ramps – pedestrian crossing sign at crosswalk in westbound direction
10. West leg of California Drive at Solano Avenue – brick, marked crosswalk

11. California Drive west of Solano Avenue – ladder crosswalk, and includes a centerline warning paddle sign
12. Finnell Road at Yountville Town Hall Driveway – Yellow school marked crossing, ladder crosswalk, pedestrian crossing signs in each direction.
13. Finnell Road at Hopper Creek Path – Yellow school marked crossing, ladder crosswalk, pedestrian crossing signs in each direction, curb extension.
14. Oak Circle east of Colombard Way – pedestrian crossing sign at crosswalks on both approaches
15. Oak Circle east of Carignan Way – pedestrian crossing sign at crosswalks on both approaches

Following is a list of uncontrolled crosswalks without enhancements:

1. Washington Street at Champagne Drive – marked crosswalk
2. West leg of Mulberry Street at Heather Street – ladder crosswalk
3. West leg of Madison Street at Jefferson Street – marked crosswalk
4. California Drive at SR 29 Northbound on-ramp – marked crosswalk
5. East leg of California Drive at Solano Avenue (Vine Trail entrance) – ladder crosswalk
6. California Drive at Domaine Chandon Driveway – center island on north leg between northbound and southbound approaches

HOPPER CREEK PATH

The Hopper Creek Pathway System serves alternative modes parallel to most of Hopper Creek that runs through Yountville. This path would eventually start at the intersection of Yount Street with Hopper Creek, run parallel to Hopper Creek, and continue until reaching just south of Champagne Drive, north of the southern limit of Town. The path/route currently uses a sidewalk along Heather Street between Heritage Court and Oak Circle with a crosswalk on Mulberry Street. The gap from Oak Circle to Mission Street is scheduled for completion in 2021.

Existing Transit Service

Two transit services operate within the Town of Yountville; the regional VINE service connecting Yountville to other towns north and south, and the local Yountville Trolley.

VINE

VINE transit provides fixed bus route system within and around the Town and is operated by the NVTA. VINE Regional Routes 10 and 29 provide service in the Town. Route 10 operates Monday through Friday with approximately half-hour headways from 5 a.m. to 12 noon, and then continues until 11 p.m. with one-hour headways. Saturday service operates from 6 a.m. to 8 p.m. and Sunday service operates from 8:00 a.m. to 7:00 p.m., both with approximately one-hour headways. There are eight stops for VINE Route 10 along Washington Street, with four stops northbound and four stops southbound, as well as an additional stop on California Drive, west of SR 29 near the Yountville's Veterans Home.

VINE Route 29 is a commuter route that travels between Calistoga and the El Cerrito Del Norte BART station on SR 29 and I-80. In Yountville, Route 29 makes one stop near the intersection of California Drive/Solano Avenue. It operates Monday through Friday between 5 a.m. and 9 p.m., with more frequent headways during the morning and evening commute periods. Figure 3.14-7 shows the transit routes in Yountville.

YOUNTVILLE TROLLEY

The Yountville Trolley, which is operated by NVTA, provides rides for residents and visitors of the Town, including the Veterans Home. The Yountville Trolley operates a deviated fixed route that provides door to door service when requested by customers. The trolley is free to ride through Town funding and operates Monday through Saturday from 10 a.m. to 11 p.m. and Sunday from 10 a.m. to 7 p.m.

Taxi Service

Taxi service in Yountville is provided by private operators that serve the greater Napa County area and beyond. Taxi service is available 24 hours a day, seven days a week, by calling in a service request. The Town is also served by various transportation network companies including Lyft and Uber.

Park-and-Ride Lots

A Park-and-Ride lot is currently provided along Solano Avenue at California Drive, west of SR 29. The NVTA purchased property and opened the lot in April 2012. The lot was renovated in 2016 and provides 10 vehicle parking spaces, an electric vehicle charging station, and secure bike lockers.

Park-and-Ride lots provide intermodal access for commuter bicyclists and serve as potential staging areas for recreational riders during non-commute hours. Commuter parking at the NVTA-operated park-and-ride lots is free of charge with no permits required. Various amenities are provided at park-and-ride lots including transit access, short and long-term bicycle parking, lighting, information kiosks, etc.

3.14.2 REGULATORY SETTING

The Town of Yountville 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 Yountville. While the Town has primary responsibility for the maintenance and operation of transportation facilities within Yountville, Town staff works on a continual basis with responsible regional, state, and federal agencies including NVTA, the County of Napa, the Metropolitan Transportation Commission (MTC), Caltrans, and Federal Highway Administration, as well as others, to maintain, improve, and balance the competing transportation needs of the community and the region.

STATE

California Complete Streets Act

Assembly Bill (AB) 1358, the California Complete Streets Act of 2008, was signed into law in September 2008. 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 Yountville, Caltrans oversees operation on SR 29, and the freeway on- and off-ramps serving those two facilities. Caltrans generally endeavors to maintain a target level of service (LOS) at the transition between LOS "C" and LOS "D," though for select facilities has designated lower LOS targets.

REGIONAL AND LOCAL

Metropolitan Transportation Commission

The current Regional Transportation Plan (RTP) produced by MTC and the Association of Bay Area Governments, *Plan Bay Area*, was adopted in 2013. Plan Bay Area sets forth regional transportation policy and provides capital program planning for all regional, state, and federally funded projects. In addition, Plan Bay Area provides strategic investment recommendations to improve regional transportation system performance over the next 25 years. Investments in regional highway, transit, local roadway, bicycle, and pedestrian projects are set forth.

Plan Bay Area includes no roadway improvement projects within or immediately adjacent to the Town, though it does include regional funding to implement Safe Routes to School programs, implement bicycle and pedestrian improvements countywide, and enhance VINE bus service in the County.

SENATE BILL 743

Senate Bill (SB) 743, which was signed into law in 2013, establishes new criteria for determining the significance of transportation impacts under CEQA. SB 743 shifts the primary transportation impact metric from LOS to vehicle miles traveled, or VMT, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact. The CEQA updates implementing SB 743 are currently undergoing the formal rulemaking process and are not anticipated to become compulsory until July 1, 2020. Because Yountville has not yet adopted VMT-based significance thresholds and begun implementation of the new transportation-related CEQA guidelines, for the purposes of this EIR, LOS continues to be used as the primary metric for determining auto-related circulation impacts.

BICYCLE AND PEDESTRIAN PLANS

The 2012 *Napa County Transportation and Planning Agency Countywide Bicycle Plan* was prepared to foster local and regional coordination, plan primary facilities that connect Napa County's communities, and develop long-term system planning. The Plan establishes bicycle policies for

Yountville and the larger Countywide bicycle system, along with bicycle infrastructure projects, and programmatic improvements.

The 2016 *Napa Countywide Pedestrian Plan* was intended to "guide and inform pedestrian infrastructure, policies, programs, and development standards to make walking in Napa County safe, comfortable, convenient and enjoyable for all pedestrians. It strives to improve accessibility for the disabled but does not intend to replace existing ADA Transition Plans." The plan established pedestrian policies for Yountville as well as the Countywide system, including infrastructure projects within the city and programmatic improvements.

Yountville General Plan

The Yountville General Plan is a long-range comprehensive planning document required by state law to set policy and guide future growth, development and conservation of resources. The proposed General Plan analyzed in this EIR is the 2018 update to the Yountville General Plan. The 2018 update does not include significant modifications to the policies contained in the Town's current Circulation Element, which was adopted in 2015. Relevant goals, objectives, policies, and programs from the General Plan update are discussed in the Impacts and Mitigation Measures section of this EIR.

3.14.3 THRESHOLDS OF SIGNIFICANCE

The following standards of significance are based on Appendix G of the CEQA Guidelines, in addition to the policies contained within the Town's General Plan Circulation Element. 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.

   The applied thresholds of significance for intersection impacts are based on those applied in the Town's Circulation Element and those applied by Caltrans. Policy C 1.3 of the Yountville General Plan indicated that the Town's operating standard is LOS C. The Caltrans *Guide for the Preparation of Traffic Impact Studies* indicates that intersections on the State Highway system have an operational target of the LOS C/D threshold.

2. Conflict with an applicable congestion management program, including, but not limited to LOS 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.

3.14.4 IMPACTS AND MITIGATION MEASURES

This section describes the transportation analysis of the Project and the project Alternative, and identifies potential impacts and mitigation measures that would be associated with buildout of each.

TRIP GENERATION ANALYSIS

The trip generation rates used to estimate future traffic associated with the proposed General Plan project were obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 10th Edition, 2017. 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 applied trip generation land use categories are shown in **Error! Reference source not found.**. For the agricultural land uses, ITE's trip generation rate "Winery" was applied. Because that trip generation rate is based on the size of the tasting room, it was assumed that 10 percent of the agricultural square footage would be associated with the tasting room.

TABLE 3.14-4: APPLIED ITE TRIP GENERATION RATES

GENERAL PLAN AND/OR ZONING DESIGNATION	*ITE LAND USE CODE AND DESCRIPTION*
Single Family Residential	210 – Single Family Detached Housing
Multi-Family Residential	220 – Apartment
Commercial	820 – Shopping Center
Office	710 – General Office
Agricultural	970 – Winery
Hotel	310 – Hotel

SOURCE: W-TRANS, 2018.

NET TRIPS ADDED AT BUILDOUT OF GENERAL PLANS

The net vehicle trips that are projected to be added to the Town and surrounding street network upon buildout of the project is shown in Table 3.14-5. The net project-added trips at the nine study intersections are shown in Figure 3.14-9.

TABLE 3.14-5: NET ADDITIONAL PM PEAK HOUR VEHICLE TRIPS – PROPOSED GENERAL PLAN

PERIOD	*PROPOSED GENERAL PLAN PROJECT*
PM Peak Hour	850

NOTE: THESE ADDITIONAL TRIPS DO NOT INCLUDE THE TRIPS FROM THE VETERANS HOME FUTURE EXPANSION. THE TRIPS FROM ANY PLANNED FUTURE EXPANSION ARE ADDED TO THE CUMULATIVE BASELINE CONDITION.
SOURCE: W-TRANS, 2018.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: Implementation of the project could not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system and could not conflict with any applicable congestion management program (Significant and Unavoidable)

EXISTING PLUS PROJECT

The existing plus project scenario reflects the addition of trips associated with buildout of the proposed project to existing traffic volumes. Under existing plus project conditions, two of the nine study intersections are projected to either operate unacceptably or have a minor approach that operates unacceptably. A summary of the intersection LOS calculations is contained in Table 3.14-6. Intersection LOS calculations are provided in Appendix D.

TABLE 3.14-6: SUMMARY OF EXISTING PLUS PROJECT PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*EXISTING*		*EXISTING PLUS PROJECT*	
	DELAY	*LOS*	*DELAY*	*LOS*
1. Washington Street/Madison Street	12.5	B	16.4	C
2. Washington Street/Yount Street	10.8	B	14.2	B
3. Washington Street/California Drive	15.4	C	24.3	C
4. SR 29/Madison Street	**69.5**	**E**	**76.0**	**E**
5. SR 29 Northbound Ramps/California Drive	5.2	A	5.6	A
Northbound SR 29 Off-Ramps	*11.7*	*B*	*12.7*	*B*
6. SR 29 Southbound Ramps/California Drive	5.8	A	8.8	A
Southbound SR 29 Off-Ramps	*20.3*	*C*	*42.3*	*E*[1]
7. Yount Street/Finnell Road	8.0	A	8.7	A
8. Yount Street/Madison Street	10.1	B	12.3	B
9. Yount Street/Yountville Cross Road	9.0	A	10.6	B
Westbound Yountville Cross Rd Approach	*13.5*	*B*	*16.7*	*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; ***BOLD*** *= OPERATION BELOW STANDARDS;* [1]*CONSIDERED TO BE ACCEPTABLE OPERATION SINCE OVERALL INTERSECTION OPERATION WOULD BE LOS A, AND SIGNAL WARRANT WOULD REMAIN UNMET*

SOURCE: W-TRANS, 2018.

The majority of local roadways within the Town would not be adversely affected by the project, as shown in Table 3.14-6.

SR 29 is a regional transportation facility and is affected by regional pass-through traffic as well as traffic associated with the Town. As shown in Table 3.14-6, the SR 29 Northbound Ramps at California Drive would operate acceptably with implementation of the project. A drop in automobile LOS attributable to the project is projected to occur at the intersection of SR 29 Southbound Ramps/California Drive (#6) on the southbound off-ramp approach, with a reduction from LOS C to E, though the intersection would still operate at an acceptable LOS A overall. The "peak hour" signal warrant was analyzed using the projected p.m. peak hour volumes, and it was determined that a

signal would be unwarranted. Since the intersection is expected to continue to operate acceptably overall and a signal is not warranted, the project's impact at this location is considered less than significant.

Implementation of the project would contribute to existing unacceptable operations at the intersection of SR 29/Madison Street (#4), which already operates at LOS E under existing conditions and would continue to operate at LOS E, with an increase in delay of 6.5 seconds, with implementation of the project. Any improvement at the intersection would require coordination with Caltrans. The need for an improvement at the intersection has been identified in the Napa Countywide Transportation Plan *Vision 2040 Moving Napa Forward*, Napa Valley Transportation Authority (NVTA), 2015. The plan lists an interchange, or grade-separation, at the Madison Street/SR 29 intersection which would improve the service level. While the improvement is identified in the countywide plan, it is not included in the *Plan Bay Area* Regional Transportation Plan. The project is listed in *2040 Moving Forward Napa Valley* as having an estimated cost of $20 million and estimated completion date of 2031.

While the project would contribute to the unacceptable operation of this intersection, this intersection would operate unacceptably regardless of project implementation. The Town's General Plan also recognizes that this intersection is affected primarily by regional through traffic. General Plan Policy MO 1.3 identifies that the Town's LOS standard does not apply to this intersection and Program MO 1.3b requires monitoring of this intersection and coordination with Caltrans and the NVTA to address future capacity improvements. While *2040 Moving Forward Napa Valley* identifies upgrading the intersection to a grade-separate freeway interchange, there is currently no funding mechanism in place to complete the project, despite commitment made by the Town to coordinate with Caltrans and NVTA in addressing the issue. The Caltrans intersection operation threshold of the LOS C/D boundary would not be achieved without implementation of the interchange. Although the General Plan requires coordination with Caltrans and NVTA and participation in any regional funding for improvements at this intersection, there is no certainty that the interchange will be completed in the future as there is no funding mechanism for the improvements and the Town does not have the jurisdiction to independently implement the interchange improvements. Therefore, the impact of added traffic associated with buildout of the General Plan at the SR 29/Madison Street intersection would be **significant and unavoidable**.

CUMULATIVE PLUS PROJECT

Future traffic volumes for 2040 on SR 29 were determined based on the Solano-Napa Countywide Model as well as the review of historical volumes on SR 29. Based on these sources, a growth rate of 0.6 percent per year was applied to through movements on the highway.

The cumulative traffic projections also include additional in-town growth resulting from implementation of the Veterans Home Master Plan, and was determined based on the land use and respective trip generation that the Plan would be expected to generate. As part of the Master Plan, there would be 129 senior residential units, 56,000 square feet of medical ambulatory care, and 109 hotel rooms. The hotel rooms would target visitors of the Veterans Home but would also be open to the public. The net incremental increases in development associated with the master plan

development along with the trip generation land use categories applied in the analysis is shown in **Error! Reference source not found.** Implementation of the master plan is projected to add 2,517 p.m. peak hour trips to the surrounding street network.

TABLE 3.14-7: VETERANS HOME INCREASE IN DEVELOPMENT AND ITE TRIP GENERATION RATES

VETERANS HOME MASTER PLAN LAND USES	*QUANTITY*	*ITE LAND USE CODE AND DESCRIPTION*
Residential – Senior Housing	129 units	252 – Senior Housing Attached
Medical Clinic	56 ksf	630 – Clinic
Hotel	109 rooms	310 – Hotel

NOTE: KSF = 1,000 SQUARE FEET
SOURCE: W-TRANS, 2018.

Cumulative baseline intersection operation reflects projected year 2040 conditions on SR 29 as well as the in-town growth that would be attributed to the Veterans Home Master Plan. Under these cumulative baseline (No Project) conditions, the study intersection of SR 29/Madison Street is projected to operate at an unacceptable LOS F. A summary of the intersection LOS calculations is contained in Table 3.14-8, and the LOS calculation sheets are included in Appendix D.

TABLE 3.14-8: SUMMARY OF CUMULATIVE BASELINE PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*PM PEAK HOUR*	
	DELAY	*LOS*
1. Washington Street/Madison Street	11.9	B
2. Washington Street/Yount Street	10.7	B
3. Washington Street/California Drive	16.2	C
4. SR 29/Madison Street	**118.9**	**F**
5. SR 29 Northbound Ramps/California Drive	6.0	A
Northbound SR 29 Off-Ramps	*14.1*	*B*
6. SR 29 Southbound Ramps/California Drive	5.1	A
Southbound SR 29 Off-Ramps	*19.7*	*C*
7. Yount Street/Finnell Road	8.1	A
8. Yount Street/Madison Street	10.0	B
9. Yount Street/Yountville Cross Road	8.4	A
Westbound Yountville Cross Rd Approach	*13.1*	*B*

*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*
SOURCE: W-TRANS, 2018.

The cumulative plus project scenario reflects the conditions in 2040 occurring from buildout of the proposed project, as added to cumulative baseline conditions. Under cumulative plus project conditions, two of the nine intersections are projected to either operate unacceptably overall or have a minor approach that operates unacceptably (see Table 3.14-9 for cumulative plus project intersection LOS).

TABLE 3.14-9: SUMMARY OF CUMULATIVE PLUS PROJECT PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*CUMULATIVE BASELINE*		*CUMULATIVE PLUS PROJECT*	
	DELAY	*LOS*	*DELAY*	*LOS*
1. Washington Street/Madison Street	11.9	B	14.7	B
2. Washington Street/Yount Street	10.7	B	13.7	B
3. Washington Street/California Drive	16.2	C	24.8	C
4. SR 29/Madison Street	**118.9**	**F**	**123.1**	**F**
5. SR 29 Northbound Ramps/California Drive	6.0	A	6.5	A
Northbound SR 29 Off-Ramps	*14.1*	*B*	*15.4*	*C*
6. SR 29 Southbound Ramps/California Drive	5.1	A	8.5	A
Southbound SR 29 Off-Ramps	*19.7*	*C*	*44.1*	*E*[1]
7. Yount Street/Finnell Road	8.1	A	8.7	A
8. Yount Street/Madison Street	10.0	B	11.8	B
9. Yount Street/Yountville Cross Road	8.4	A	9.6	A
Westbound Yountville Cross Rd Approach	*13.1*	*B*	*15.7*	*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; ***BOLD*** *= OPERATION BELOW STANDARDS;* [1]*CONSIDERED TO BE ACCEPTABLE OPERATION SINCE OVERALL INTERSECTION OPERATION WOULD BE LOS A, AND SIGNAL WARRANT WOULD REMAIN UNMET*

SOURCE: W-TRANS, 2018.

As shown in Table 3.14-9, implementation of the project would not result in unacceptable cumulative operations at the majority of intersections. While the project is anticipated to cause the southbound off-ramp approach at the intersection of SR 29 Southbound Ramps/California Drive to drop from LOS C to LOS E operation under Cumulative Plus Project conditions, the intersection would operate acceptably at LOS A overall and the "peak hour" signal warrant would remain unmet. The project's impact at this location is therefore considered to be less than significant.

Similar to the project's impacts at the SR 29/Madison Street intersection under existing conditions, implementation of the proposed project would contribute to unacceptable overall operation at the intersection of SR 29/Madison Street under cumulative conditions. The intersection is already projected to operate unacceptably at LOS F under cumulative conditions prior to the addition of project traffic and the project would contribute to LOS F conditions. General Plan Policy MO-1.3 and Program MO-1.3b recognize that the improvements to the SR 29/Madison Street intersection are outside of the Town's jurisdiction and require the Town to coordinate with Caltrans and Napa Valley Transportation Authority to address improvements to the intersection, including conversion to a grade-separated interchange as identified in the countywide transportation plan *2040 Moving Forward Napa Valley*. As previously discussed under the Existing Plus Project impact discussion, because there is no identified funding source or mechanism to ensure that the interchange will be completed in the future and the Town does not have jurisdiction over SR 29, the impact of added traffic associated with buildout of the General Plan would result in a **significant and unavoidable** impact.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy MO-1.1 Land Use and Circulation Coordination. Ensure that the Town's circulation network is maintained and improved over time to support buildout of the General Plan in a manner that is consistent with the Town's Circulation Network. (Figure MO-2)

Policy MO-1.2 Circulation Network. Ensure that the Town'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 MO-1.3 Level of Service Standards. Maintain all of the Town's street intersections at a level of service "C" or better except for the State Route 29/Madison Street intersection, where traffic impacts are largely caused by regional through-traffic growth on State Route 29 that is beyond the control of the Town.

> *Program MO-1.3a VMT Standards. Consider replacement of vehicle Level of Service standards with Vehicle Miles Traveled (VMT) or other designated metrics for traffic conditions in Yountville once Senate Bill 743 is implemented.*
>
> *Program MO-1.3b State Route 29/Madison Street Intersection. Monitor the State Route 29/Madison Street intersection and coordinate with Caltrans and the Napa Valley Transportation Authority regarding decisions on future capacity improvements and implementation of applicable regional funding mechanisms.*

Policy MO-1.4 Circulation Network Impact Analysis. 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 MO-1.6 Safe Travel. Maintain safe travel conditions for all modes of travel.

Policy MO-2.1 Planning for Transportation Improvements. Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.

> *Program MO-2.1c Project Review. 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 Town's circulation network, and that the project provides for complete streets to the extent feasible.*
>
> *Program MO-2.1d Capital Improvement Program. Continue to update the Town's Capital Improvement Program (CIP) to include, as appropriate, the roadway improvements necessary to support buildout of the General Plan.*
>
> *Program MO-2.1f NVTA Coordination. Coordinate with the NVTA to provide a coordinated effort to improve the transportation network and reduce automobile use.*

Impact 3.14-2: The project would not conflict with an applicable congestion management program (No Impact)

With respect to the project's compliance with an applicable congestion management program, the Napa Valley Transportation Authority (NVTA) serves as the countywide transportation planning body, but does not function as a Congestion Management Agency, and has not set binding performance standards for designated routes or highways in the County. As a result, implementation of the project would have **no impact**.

Impact 3.14-3: Implementation of the project would not result in changes in air traffic patterns (No Impact)

The Town has no existing or planned airport facilities and is not located near any airports, or their approach or departure zones. The project does not include any features that are anticipated to affect air traffic patterns. Implementation of the General Plan would be expected to have **no impact** to air traffic.

Impact 3.14-4: Implementation of the proposed project would not substantially increase hazards due to a design feature (Less than Significant)

The Town 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, and prohibiting certain turning movements. New and upgraded roadways needed to accommodate new development will be designed according to applicable federal, state, and local design standards.

Development and infrastructure projects in Yountville would be required to comply with the General Plan, Land Use Code, and applicable state and local regulations. The General Plan also establishes policies and programs, summarized below, that are intended to result in roadway designs that safely accommodate all users and reinforce lower driving speeds where appropriate to enhance safety. Therefore, this impact is **less than significant**.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy MO-1.1 Land Use and Circulation Coordination. Ensure that the Town's circulation network is maintained and improved over time to support buildout of the General Plan in a manner that is consistent with the Town's Circulation Network. (Figure MO-2)

Policy MO-1.2 Circulation Network. Ensure that the Town'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 MO-1.6 Safe Travel. Maintain safe travel conditions for all modes of travel.

Policy MO-2.1 Planning for Transportation Improvements. Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.

> *Program MO-2.1e Traffic Calming and Safety Enhancements. Through the use of available Town funds or grants, apply techniques such as implementation of traffic calming, geometric modifications, increased enforcement, etc., to improve safety.*

Policy MO-2.3 Safe Intersections. Any intersection to be modified should be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities as well as ADA considerations.

Impact 3.14-5: Implementation of the proposed project would not result in impacts related to emergency access (Less than Significant)

Buildout of project would result in increased development densities and land use intensities within the Town. As a result of the intensified land use mix, the volume of users accessing the transportation network is expected to increase. Emergency access along roadways must be accommodated in conjunction within the expected population and employment growth. Plans submitted for individual developments to be constructed in the Town would be reviewed for compliance with emergency access requirements by public safety officials during the Town's entitlement process. The General Plan includes policies to ensure adequate emergency access, including measures to address adequate access to existing and new development as well as Town-wide evacuation routes and access and to ensure coordination with regional agencies during emergency conditions. Implementation of applicable General Plan policies and programs as well as applicable State and local plans would ensure that impacts to emergency access are **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policy MO-1.2 Circulation Network. Ensure that the Town'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 MO-1.6 Safe Travel. Maintain safe travel conditions for all modes of travel.

Policy MO-2.3 Safe Intersections. Any intersection to be modified should be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities as well as ADA considerations.

Policy SH-1.9 Emergency Management. Minimize exposure to all hazards through emergency management, planning and training.

Program SH-1.9a Hazard Mitigation Plan. Implement the Napa County Operational Hazard Mitigation Plan 2013 Update approved by the Federal Emergency Management Agency in 2014.

Program SH-1.9b: Hazard Mitigation Plan Update. Work with Napa County Office of Emergency Services to periodically evaluate and update the Napa County Operational Area Hazard Mitigation Plan, including addressing climate change impacts.

Program SH-1.9c: Emergency Response Plans. Maintain and update the Town's emergency response plans on a regular basis, designating emergency shelters and evacuation routes.

Impact 3.14-6: Implementation of the project would not conflict with adopted plans or policies relating to public transit, bicycle, and/or pedestrian facilities (Less than Significant)

Implementation of the proposed project would not conflict with the Town's Bicycle Master Plan, the *Napa County Transportation and Planning Agency Countywide Bicycle Plan,* the *Napa Countywide Pedestrian Plan*, or other plans and policies to address public transit, bicycle, and pedestrian facilities. The General Plan's Circulation Element provides for implementation of applicable plans and policies related to public transit, bicycle, and pedestrian facilities, including coordination with service providers, plans for improvements to improve existing bicycle and pedestrian circulation infrastructure within the Town by filling in existing gaps and improving existing infrastructure along development sites as needed, and requirements for future projects to consider the needs of all users, including transit, bicycle, and pedestrian system users, when addressing potential impacts. Implementation of the policies and programs identified in the General Plan, including those listed blow, would ensure that the impact is **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE POTENTIAL IMPACTS

Policy MO-1.2 Circulation Network. Ensure that the Town'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 MO-1.4 Circulation Network Impact Analysis. 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 MO-1.6 Safe Travel. Maintain safe travel conditions for all modes of travel.

Policy MO-2.1 Planning for Transportation Improvements. Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.

Program MO-2.1c Project Review. 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 Town's circulation network, and that the project provides for complete streets to the extent feasible.

Program MO-2.1f NVTA Coordination. Coordinate with the NVTA to provide a coordinated effort to improve the transportation network and reduce automobile use.

Policy MO-2.2 Viewpoint. Retain the viewpoint of pedestrians and bicyclists as the primary perspective when identifying any traffic improvements.

Policy MO-2.3 Safe Intersections. Any intersection to be modified should be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities as well as ADA considerations.

Policy MO-6.1 Pedestrian Network. Establish and maintain a system of pedestrian facilities and crossing enhancements that are consistent with the Town's Bicycle Plan and Pedestrian Plan.

Policy MO-6.2 Washington Street Pedestrian Facilities. Strive to maintain continuous pedestrian facilities along the Washington Street corridor and on the east side of Washington Street in the Old Town Historic District.

Policy MO-6.3 New Development. Require development projects to construct sidewalks and walkways on and offsite in order to maintain consistency with the Town's Bicycle Plan and Pedestrian Plan, and as dictated by the location of transit stops and common pedestrian destinations.

Policy MO-6.4 Sidewalk Alternatives. 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, such as in the Old Town Historic district, alternatives such as an off-street path or wider paved shoulders may be considered.

Policy MO-6.5 Gaps in Pedestrian Network. With the exception of the Old Town Historic district, gaps in sidewalks and walkways should be identified and a plan to fill these gaps completed.

Policy MO-6.6 Raised Curbs. Consider providing raised curb or sidewalks at sections in Town where the improvements are necessary for safety, stormwater, or accessibility needs.

Policy MO-6.7 Pedestrian and Parking Separation. Consider implementing an ADA-compliant street cross-section in neighborhoods that currently lack facilities to more fully separate pedestrian and parking activity.

Policy MO-6.8 ADA Improvements. 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 the Town.

Policy MO-6.9 Access to Open Space. Work with Napa County and the NVTA to create active transportation links to the surrounding public open space.

Policy MO-6.10 Pedestrian Crossings. Enhance the safety of pedestrian crossings in the Town.

Program MO-6.10a Intersection Review. Review and evaluate existing policy and determine whether additional measures such as raised crosswalks, additional lighting, enhanced

signage, or other measures or technology are appropriate at the more commonly crossed intersections of Town.

Program MO-6.10b Traffic Calming Review. Review and evaluate existing policy and determine if additional physical modifications such as raised crosswalks, bulbouts, medians, or other traffic calming devices are appropriate at streets with relatively higher traffic patterns.

Program MO-6.10c Pedestrian Route to the Veterans Home. Review the pedestrian route between the Veterans Home property entry and downtown Yountville to determine if any enhancements such as sidewalks/walkways, higher visibility crosswalks, pedestrian warning signs at crosswalks, and traffic calming elements are needed to increase the safety for pedestrians.

Program MO-6.10d Veterans Home Master Plan. Work with the Veterans Home and the California Department of Veterans Affairs to support and assist in implementing circulation improvements identified in the existing Master Plan and in future amendments and revisions to the Plan. Encourage the Veterans Home to improve the pedestrian path on California Drive.

Policy MO-7.1 Bicycle Plan. Establish and maintain bicycle facilities that are consistent with the network depicted in the Town's Bicycle Plan.

Program MO-7.1a Funding. Work with the NVTA to acquire funding to complete bicycle facilities.

Program MO-7.1b Bicycle Lanes and Routes. Consider installing complete street features such as signing and striping to accommodate travel by bicycle.

Policy MO-7.2 Road Construction Projects. Public road construction projects shall incorporate facilities identified in the Bicycle Plan to the greatest extent feasible.

Policy MO-7.3 Bicycle Parking. 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 MO-7.4 Connections with Residential Areas. Provide pedestrian and bike connections which link residential areas with businesses and recreational facilities, including parks, schools, the US Post Office, Town Hall, Community Hall and the commercial core.

Program MO-7.4a Hopper Creek Pathway. Complete the Hopper Creek path system in the areas with gaps and, where possible, explore the potential for widening the path to improve multi-modal opportunities.

Policy MO-7.5 Connections with Alleys. Encourage pedestrian/bike connections where none currently exist, including alleys.

Policy MO-8.1 Yountville Trolley. Work with the NVTA to maintain the trolley system to serve local transit needs.

Policy MO-8.2 Local Transit Service. Work with the NVTA to continue to provide local public transportation, if financially feasible, to the entire town including the Veterans Home of California.

Policy MO-8.3 Regional Bus Service. Continue to support efforts to maintain all regional and town bus service.

> *Program MO-8.3a Transit Ridership. Work with the NVTA to maximize transit ridership through expansion and/or improvement of bus routes and schedules.*
>
> *Program MO-8.3b Public Education. Work with the NVTA to create an effective Rider Awareness Program that will educate the public on the existing transit systems.*
>
> *Program MO-8.3c Bus Stops. Discuss the opportunity to consolidate bus stops on Washington Street with NVTA and consider the potential impact to users, especially residents of the Veterans Home.*
>
> *Program MO-8.3d Bicycle Transport. Work with transit providers to ensure there are adequate facilities to transport bicycles.*

Policy MO-8.4 Veterans Home Coordination. Continue to cooperate with the Veterans Home of California to facilitate public transportation to residential neighborhoods and the business district.

Policy MO-9.1 Student Safety. Prioritize bicycle and pedestrian safety for students travelling to and from school.

> *Program MO-9.1a Safe Routes to School Program. Develop a Safe Routes to School Program and strive to improve infrastructure for parents and students choosing to walk and bike to school by promoting school faculty and parent participation, applying for Safe Routes to School grants, identifying the issues associated with unsafe bicycle and pedestrian facilities between neighborhoods and schools, and executing plans to improve those facilities.*

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Figure 3.14-1 – Circulation Area

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Figure 3.14-2 – Study Intersections

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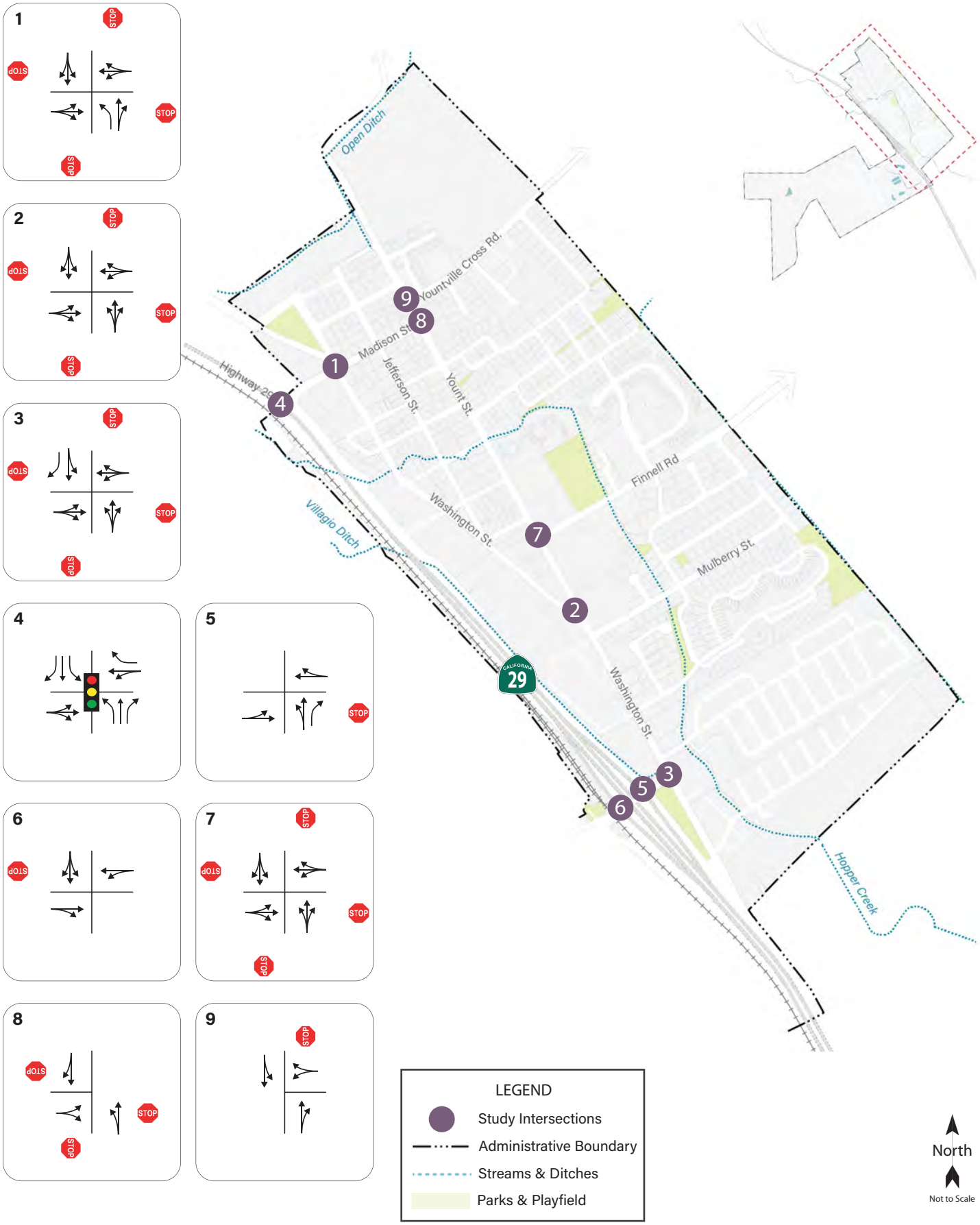

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Figure 3.14-3 – Lane Configurations

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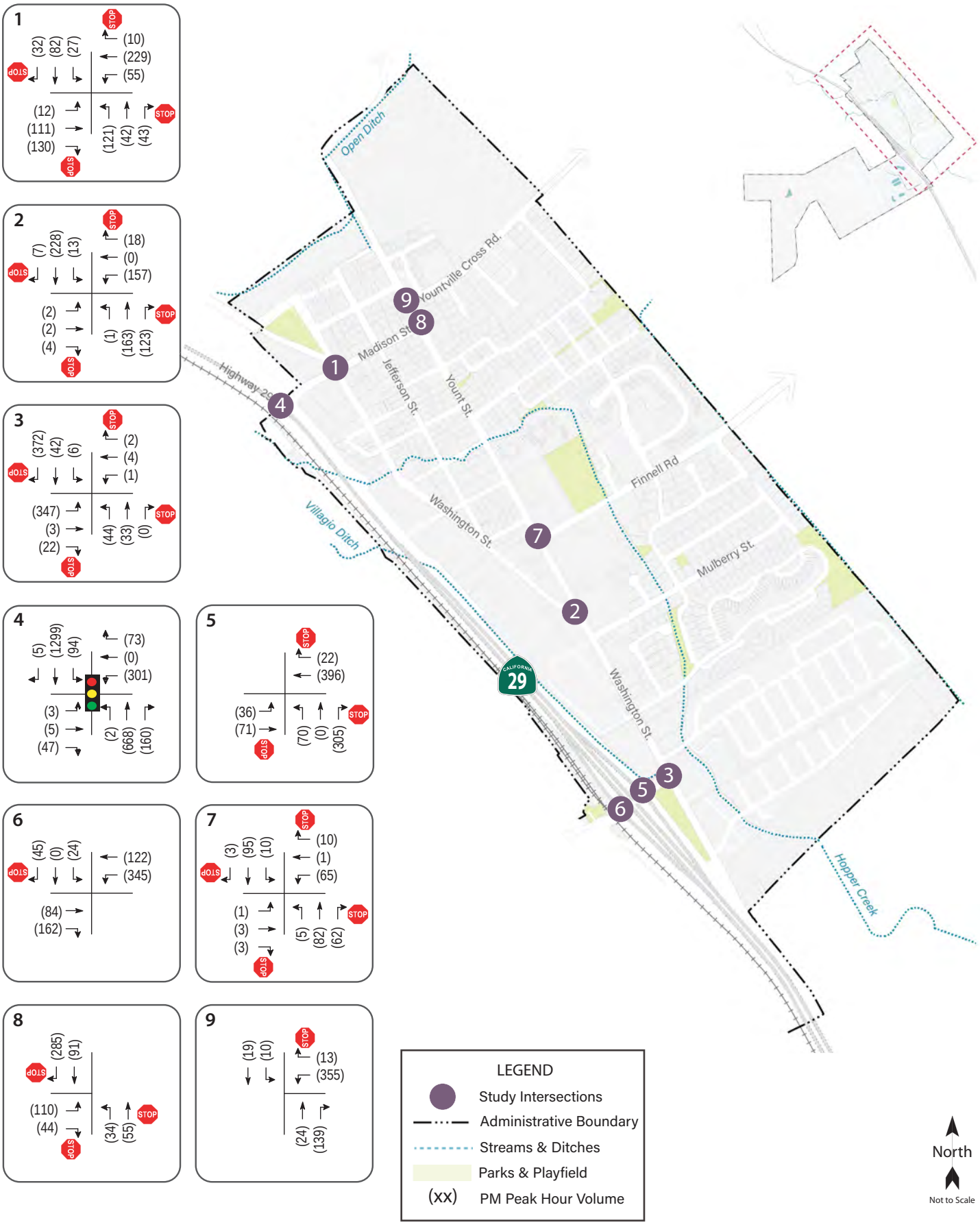

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Figure 3.14-4 – Existing Traffic Volumes

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Figure 3.14-5 – Bicycle Facilities

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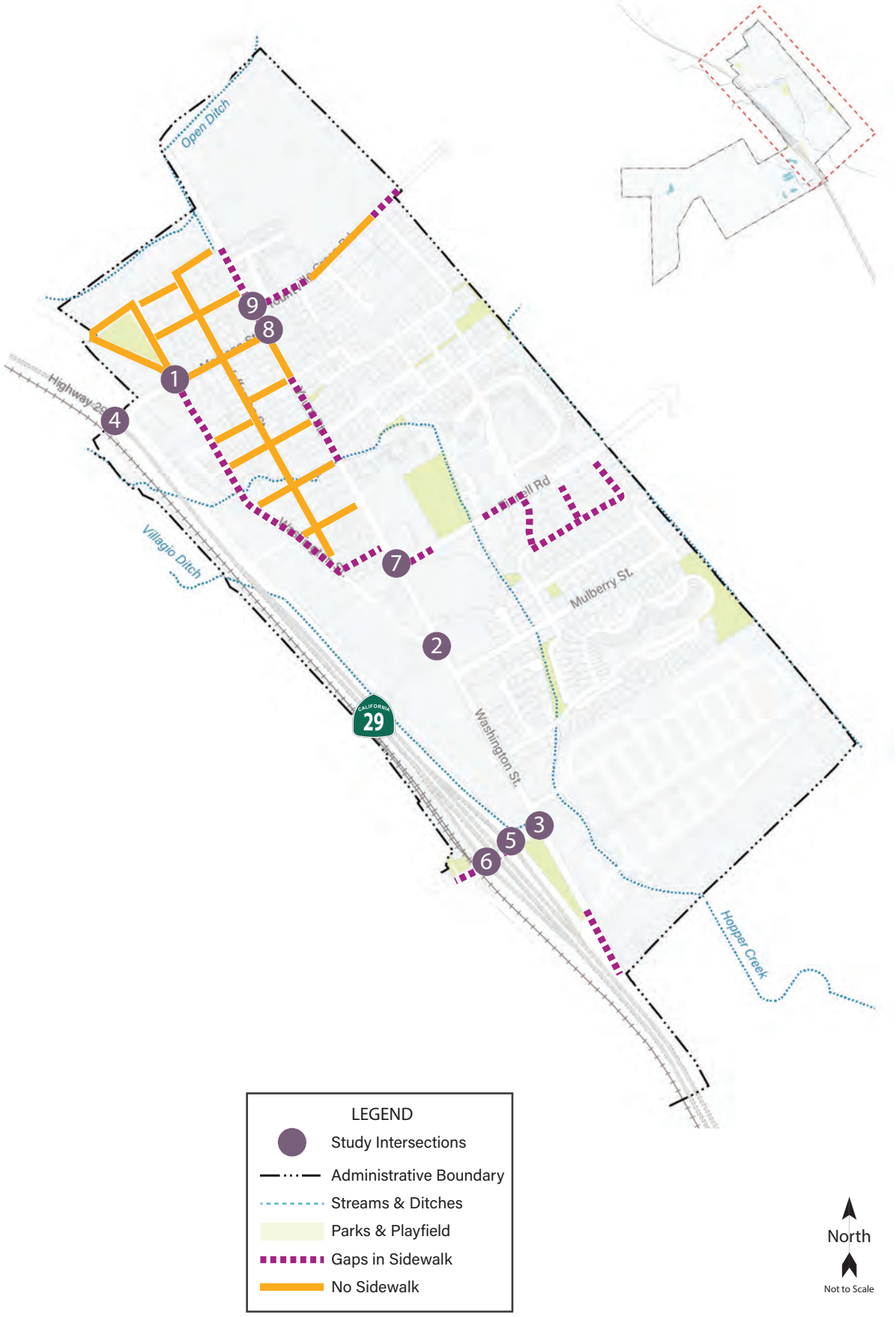

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Figure 3.14-6 – Pedestrian Facilities

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Figure 3.14-7 – Transit Facilities

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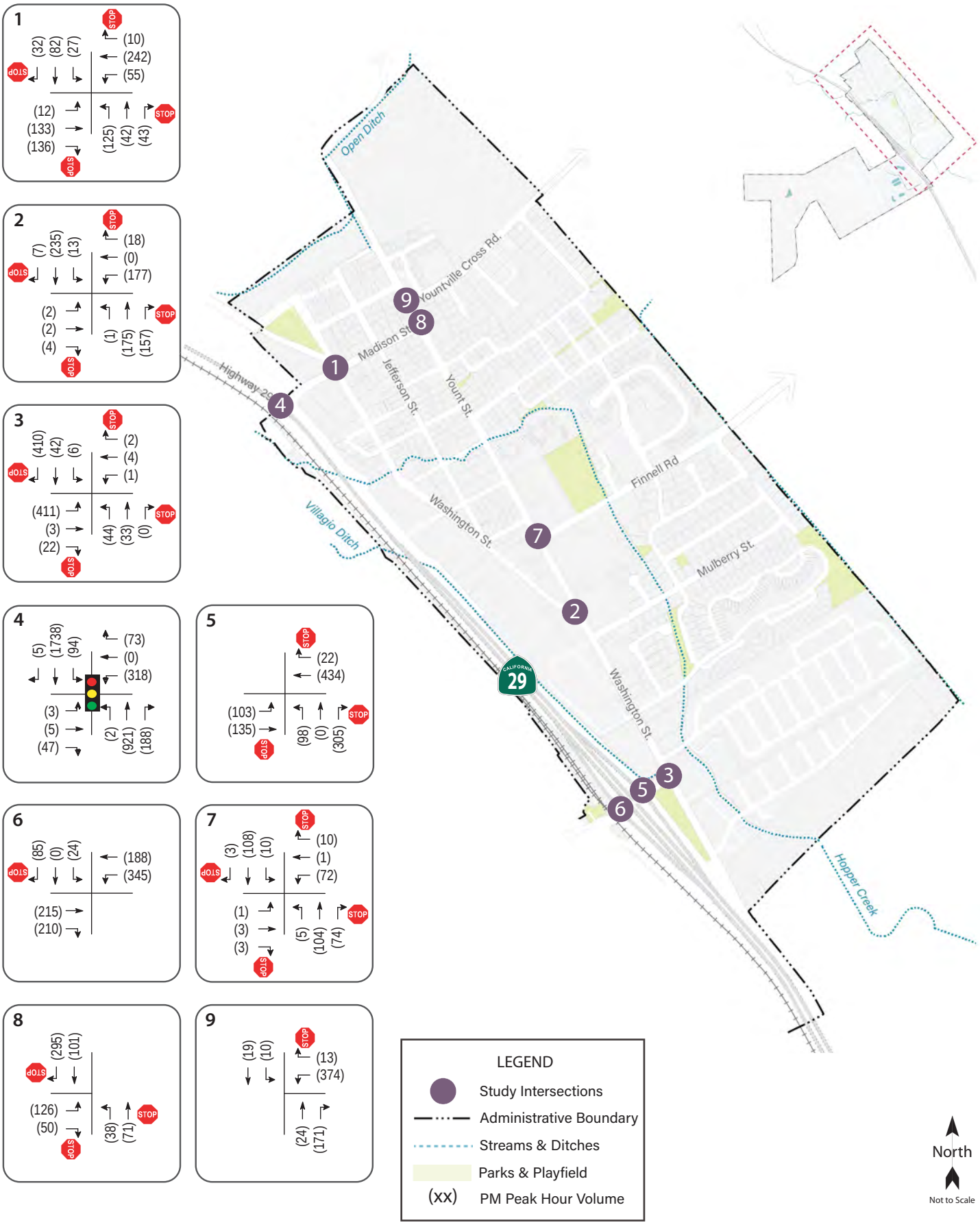

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Figure 3.14-8 – Cumulative Baseline Traffic Volumes

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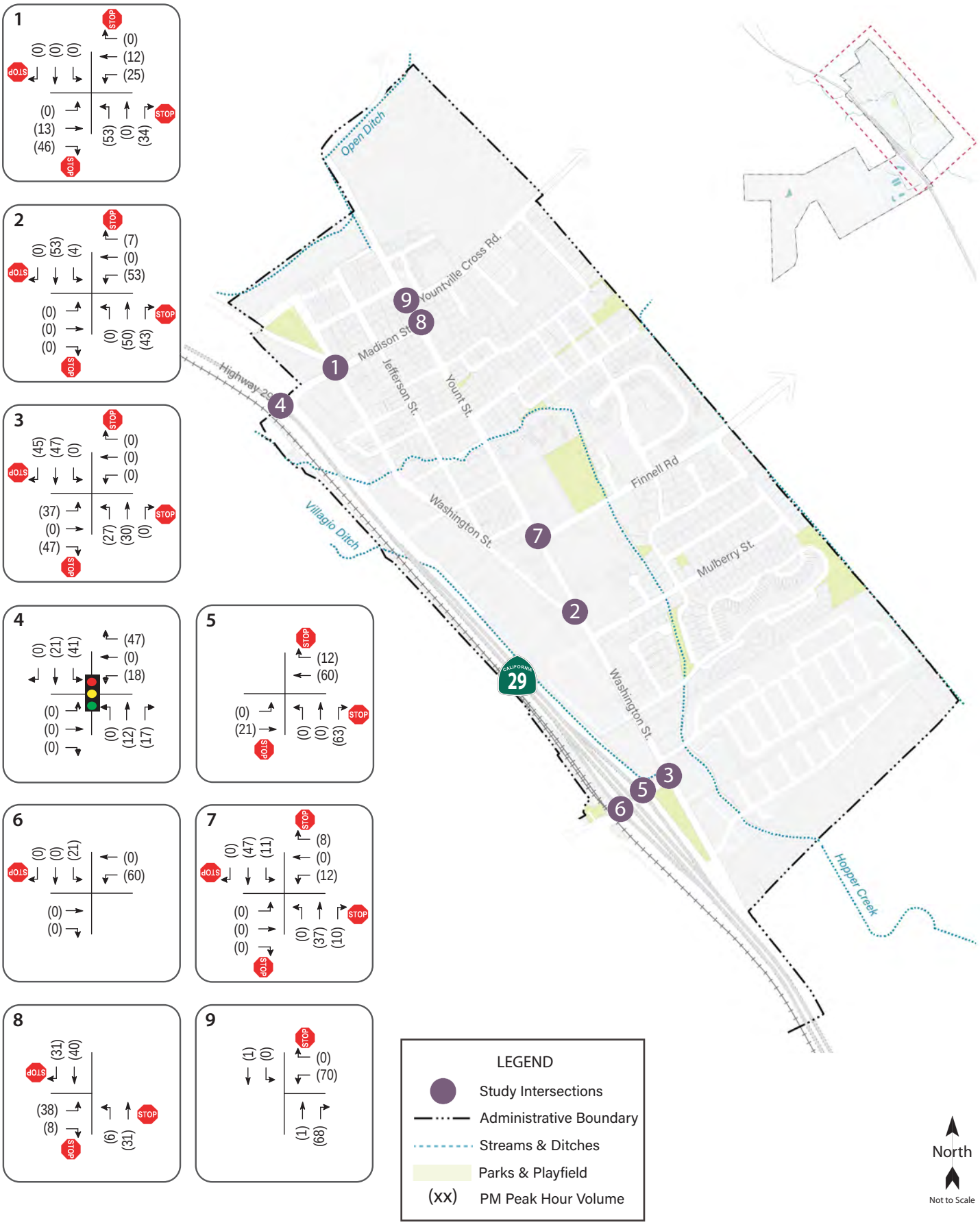

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Figure 3.14-9 – Project Traffic Volumes

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from implementation of the Envision Yountville General Plan, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. This section is based in part on the following documents, reports and studies: *California's Groundwater*, the California Department of Resources Recycling and Recovery (CalRecycle) *Solid Waste Information System,* the CalRecycle *Jurisdiction Diversion/Disposal Rate Summary*, and the Town's *Water Use Efficiency Plan* (2014).

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

3.15.1 WASTEWATER SERVICES

ENVIRONMENTAL SETTING

Yountville's Public Works Department is responsible for operating the Town's wastewater collection and treatment system for residential, commercial, public, and other properties in the Town. All of the Town's wastewater customers are within its limits except one, a commercial customer (Domaine Chandon) that receives service per a 1991 agreement approved by the Town Council in the early 1990's.

Wastewater within the Town is primarily treated at the Joint Wastewater Treatment Plant (JWTP). National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038121 (Order No. R2-2015-0029) issued in June 2015 permits the Town's discharge to the Napa River. The Wastewater Division of the Town's Public Works Department operates and maintains the sewer collection system (or piping) under the streets of the Town, the force main to the Town of Yountville/Veterans Home JWTP, and the recycled water pipeline across the floor of the Napa Valley that serves six vineyards northwest and southeast of the Town limits in unincorporated Napa County. All wastewater from the Town drains by gravity to the Peter J. Bardessono Memorial Pump Station, where it is then pumped to the JWTP for treatment. The wastewater system consists of:

- 8.5 miles of sewer collection piping (primarily gravity fed) in Town.
- Approximately 772 sewer lateral connections, which includes 695 residential service connections, 77 commercial service connections, and one connection to the Veterans Home (which serves about 1,200 residents and 900 employees).
- 0.75 miles of force main from the pump station to the JWTP.
- 1.5 miles of gravity discharge piping from the JWTP to the Napa River.
- 5.5 miles of recycled water force main lines to vineyard customers.
- A duplex (two pumps) wastewater pump station and associated level control and other equipment.

The Town has a Sewer System Map that is updated as new facilities are constructed. The map shows the location of all sewer mains, manholes, pumping stations and pressurized sewer lines (force mains). The map also has reference numbers to the particular construction plans that were used to

build each portion of the system. The map is used in conjunction with the sewer line capacity calculations as a planning tool for the yearly Capital Improvement Program.

The collection system includes all residential and commercial customers in the Town limits. The internal collection system for the State of California (operated and maintained by the Veterans Home of California), the guard station on California Drive, the Napa Valley Museum, the CAL FIRE Station 12/Vintner's Golf Course, and the Domaine Chandon tasting room, are maintained by others. A map showing the sanitary sewer system is presented in Figure 3.15-1.

The Utility Operations staff maintains the Town's collection system, including the operation of equipment such as a jetting and vacuum truck and video camera system to facilitate the regular maintenance of the pipeline system. On May 5, 2015, the Town Council adopted the updated Sewer System Management Plan (SSMP) which staff has implemented, including sections on Sanitary Sewer Overflow Emergency Response Plan and Fats, Oils and Grease (FOG) Program, which is required every five years. Town staff distributed FOG prevention kits to all of the 25 restaurants in Town. As new food service facilities open, staff provides education regarding the importance of keeping "FOG" out of the collection system.

The staff also coordinates the design and construction of capital improvement projects, such as the Inflow and Infiltration Reduction Program (WW-2017), Sewer Main Replacement Program (WW-3017) and the Pump Station Equipment Replacement Program (WW-5017). These projects ensure the wastewater collection system operates in a manner consistent with State and Federal NPDES regulations. The inflow and infiltration projects reduce the amount of rainwater inflow and groundwater infiltration that enters the wastewater collection system, and which must be treated and discharged during wet weather conditions.

The Utility Operations Supervisor, is responsible for implementing, managing and updating the Sewer System Management Plan (SSMP) under the direction of the Public Works Director / Town Engineer. The Public Works Director is responsible for leading staff, leading emergency responses, managing procedures, delegating responsibilities, preparing planning documents, managing the capital improvement program, enforcing standards, approving design projects, approving development project conditions of approval, and managing construction, consultants, and staffing.

Maintenance, Improvements, and Upgrades

The Town Council adopts an annual operating and capital improvement program budget with adequate resources for the operation, maintenance, and repair of the collection system. The Town Council increased the Sewer Rates and Fees in 2007 and again in 2011 with incremental increases taking place over the next few years. Preventive maintenance activities that are not addressed in the operating budget are prioritized in the capital improvement program budget. In 2011, Town staff smoke tested the sewer collections system and did not find any illegal connections.

Studies by the Town have identified the main causes of sanitary sewer overflows within the Town and efforts have been prioritized to eliminate the causes. The Utility Operations Supervisor keeps a running list in binder form of the sewer spills, which includes the causes of the spills. The Public Works Director/Town Engineer and the field crews use the causes to plan activities, programs and

policies that eliminate the causes. For instance, the Town identified restaurant grease as the number one cause of sewer line blockages and spills in the past, so the Town prepared an ordinance requiring grease interceptors for restaurants.

Areas needing more frequent cleaning, known as hot spots, are subject to excess grease and are cleaned quarterly or more frequently as needed. The Town has historically cleaned the sewer system once a year and continues to do so. Once a year is the industry standard for agencies with comprehensive sewer maintenance programs.

The Town has one sewer cleaning combination truck, which is operated with a two-person crew. In addition to the annual cleaning of the gravity sewer lines by the two person crew, the Town has a wastewater pumping station maintenance program. The Town knows the recommended pump maintenance schedule from the pump manufacturer and for the rest of the piping, valves, and other equipment in the station. The Town uses the recommended maintenance schedule of annual removal and inspection provided by Flygt Corporation. The collection system is hydro-cleaned completely at least once every year.

The Peter J. Bardessono Memorial Wastewater Pump Station has undergone several upgrades and improvements recently. These improvements include installation of a new level control system, new variable frequency drives that control the pump speed based on incoming flow conditions, removal of an "interlock" that prevented the two pumps from operating simultaneously, and the installation of a new pump control system that has Supervisory Control and Data Acquisition (SCADA) functionality that can be integrated in to the new Town-wide SCADA system. In addition, two of the older 47 horsepower submersible pumps were recently replaced with a more efficient 45 horsepower pump that is also less prone to plugging. These improvements will reduce the risk of sanitary sewer overflows and reduce the potential for damage to the Napa River ecosystem. In addition to the improvements at the pump station, three manholes were repaired or replaced to prevent infiltration of groundwater into the system.

Treatment and Disposal

The JWTP, located at 7501 Solano Avenue in Yountville, is owned and operated by the Town. Advanced secondary treatment is provided at the JWTP. The advanced secondary treatment consists of filtration following regular secondary treatment.

The JWTP operation is supervised by the Utility Operations Manager and three certified Utility Operators. Facilities include the JWTP, storage ponds, and recycled water facilities. Expenses are shared with the Veterans Home based on flow volumes, solids loading, and strength of influent determined by weekly testing consistent with the agreement.

The Town's wastewater operations are the subject of two permits issued by the San Francisco Bay Regional Water Quality Control Board (RWQCB):

- General Order 96-011, General Water Reuse Requirements for Municipal Wastewater Agencies, permits the water recycling activities and;

- NPDES No. CA0038121 (Order No. R2-2015-0029) issued in June 2015 permits the Town's discharge to the Napa River.

The NPDES permit allows discharge to the Napa River under flow conditions that are sufficient to achieve a 45 to 1 dilution factor for highly treated effluent that meets advanced secondary treatment standards. Discharge to the Napa River is generally prohibited from May 16 through September 30 of each year. Discharge to the River for a period not to exceed one month may be allowed upon written request to the RWQCB provided that adequate dilution is available within the River. When discharge to the River is not allowed, the Town utilizes a recycled water program, described below.

As flow volumes increase, there may be a need to develop additional storage facilities and/or additional irrigation disposal capacity for the wastewater effluent that is generated during the dry season when there is no discharge to the Napa River. The Wastewater Treatment Plant Master Plan Update found that the most cost-effective effluent reuse and disposal program includes a combination of storage ponds, discharge to the Napa River, and irrigation of golf courses and other crops.

TREATMENT CAPACITY

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 average dry weather flow (ADWF) is the average flow that occurs on a daily basis during the dry weather season. Peak wet weather flow (PWWF) is the highest observed hourly flow that occurs following a design storm event. PWWF is typically used for designing sewers and lift stations.

The JWTP has an ADWF design capacity of 0.55 million gallons a day (MGD) for normal flows and a hydraulic capacity of 2.8 MGD during the wet weather system. Flows in excess of the JWTP's secondary treatment capacity are stored in a 3.8-million-gallon effluent holding pond for later treatment. Between 2014 and 2017, the average daily treatment was 0.3655 MGD (CAFR, 2017). The highest maximum daily effluent flow rate are estimated at 1.76 MGD (NPDES Permit, 2010).

The Town has not had any sanitary sewer overflows at the JWTP. After the storm, water from the pond is routed back through the plant for treatment and eventual discharge or recycled use. The NPDES Permit for the JWTP allows for discharges of treated effluent to the Napa River under certain conditions including effluent/Napa River dilution rate of 45:1. In 2015, the Town recycled 89 percent of the JWTP effluent. In 2011, the Town received State Water Resources Control Board (SWRCB) and U. S. Bureau of Reclamation Planning Grants to prepare a Feasibility Study / Master Plan for expanding the recycled water system. The Town completed the "Recycled Water Expansion Project" in fall of 2015.

PROJECTED WASTEWATER SERVICE DEMAND

The Town's 1992 General Plan projected that at buildout, the JWTP would serve a population of 5,300 persons, representing 1,700 residents in the Veterans Home, 2,700 residents in the Town, plus

900 for tourism and non-residential employment. The Town also treats Domaine Chandon's effluent as previously described. Water conservation requirements and LEED certifications for low water use with new developments have minimized the increase in sewage and treatment. The Town and Veterans Home of California have also been implementing inflow and infiltration reduction projects.

The Town commissioned a report prepared by RSA+, dated June 10, 2015, to analyze projected wastewater treatment demand and to consider the potential addition of Domaine Chandon to the Town's Planning Area and the affect this may have on the property's wastewater service. Table 3.15-1 summarizes projected capacity based on the 2015 RSA+ Report.

TABLE 3.15-1: RSA+ 2015 ANALYSIS OF CAPACITY AT WWTP

WASTEWATER SOURCE	*AVERAGE DRY WEATHER FLOW (MGD)*
Existing Capacity of JWTP	0.550
3-Year Average (2011-2014)	0.332
Population 3,800 Build-Out (2040)	0.378
Domain Chandon	0.010

SOURCE: DRAFT MSR AND SOI UPDATE, TOWN OF YOUNTVILLE, NAPA LAFCO, TABLE 4-8, JANUARY 2017.

As shown in Table 3.15-1, the JWTP has adequate capacity to treat flows from the service area to the Town's projected build out based on the RSA+ analysis. Potential redevelopment of the Veterans Home site within western Yountville is described in the 2012 Veterans Home Facilities Master Plan, which recommended that infrastructure analysis, including sewer capacity, be conducted to identify any potential limitations. Pursuant to the operating agreement between the Town and the State for the JWTP, any significant redevelopment of the Veterans Home facility that creates the need for additional treatment capacity would make the State responsible for the cost of the improvements. Typically, constraints on wastewater service and water supply tend to limit capacity for additional development, although improvements to infrastructure could be completed from a technical perspective if the need arose. The Town does not have any pending will-serve commitments and does not anticipate extending municipal services outside the Town limits, except for the continued potential to provide service to Domaine Chandon.

Recycled Water

Yountville operates a reclaimed water service program at the JWTP. The Town has been moving towards maximizing the reclamation of Title 22 highly treated wastewater through the Recycled Water Program. The Recycled Water Program Manual (2006) lists the current recycled water users as well as the operating procedures/terms for usage and distribution of the Town's recycled water. The Manual contains user agreements for the purchase and sale of reclaimed water, forms and applications that may be required by the Town to purchase and use recycled water, and cross-connection control program requirements.

Initiated in 1979, the original intent of the Town's reclamation program was to reduce storage requirements for treated wastewater when discharge to the Napa River is prohibited by the San Francisco Bay RWQCB. In 2005, the Town completed the Feasibility and Preliminary Design Report for the Recycled Water and Expansion Project which examined the feasibility of expanding the use

of tertiary effluent from the JWTP to existing and potential new recycled water users. The Report looked at upgrading of the JWTP to provide Title 22 unrestricted recycled water through tertiary treatment and to expand the recycled water distribution system. In 2010, the Town completed a $1.2 million upgrade to the JWTP, which improved the quality of the recycled water from advanced secondary treated reclaimed water to Tertiary Title 22 unrestricted reclaimed water. The Town currently provides Tertiary Title 22 unrestricted reclaimed water for irrigation and landscaping uses to seven non-residential customers, six of which are vineyards in the unincorporated County. Subsequently, the Town received state grant funding and loan financing to construct a recycled water distribution system to provide up to 268 ac-ft (volume) to two new and three current reclaimed customers. In 2013, new recycled water agreements were executed. Construction of the Recycled Water Expansion Project was completed in August 2015 as part of Capital Improvement Project WW-0002. In the calendar year 2015, 396 ac-ft (132 million gallons) of wastewater, or approximately 89% of the Town's wastewater, was beneficially reused through the Recycled Water Program.

The Town established a General Plan area for the Recycled Water Expansion Project which encompasses the Town's municipal boundaries, including the Yountville Veterans Home, and approximately 4,000 acres of vineyards within a 5-mile radius of its existing recycled water pipelines. This General Plan area covers approximately 10-percent of the groundwater basin area.

During the summer and fall, reclaimed water is sprayed on the Vintner's Golf Course and transported to six vineyards. The six vineyards currently served in the unincorporated Napa County area include Chimney Rock, Regusci, Stag's Leap, Clos du Val, Mondavi, and Beringer. The Town maintains approximately 5.5 miles of irrigation lines to provide service to these facilities. Under the contract with the Veterans Home, the amount of wastewater that is generated by the Veterans Home must be sprayed on the Vintners Golf Course. In 2015, the facility recycled 89 percent of its treated wastewater through these vineyard contracts, insuring an adequate water supply to these businesses while protecting limited fresh water sources in the groundwater basin. The effluent remaining post-recycling was discharged to the Napa River during the wet season (October 1st through May 15th) in compliance with the NPDES Permit for the JWTP.

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.

On-site septic systems within the Town are allowed in areas where certain conditions are met. If a building in Yountville abuts a right-of-way in which there is a public sewer, the public sewer is within 200 feet of the nearest point of the building, and the topography is not such as to make it impossible to connect to the public sewer, the owner shall connect the building with the public sewer at his or her expense after notice from the Town to do so. If these conditions do not exist, then the owner of the building may install a septic tank in compliance with the County of Napa's rules, regulations and ordinances governing septic tank installation and connection.

REGULATORY SETTING

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program that makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the SWRCB has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to a RWQCB. The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the San Francisco Bay RWQCB NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

Individual On-site Sewage Disposal System Regulations

Regulation of individual on-site sewage disposal systems in and around the Town occurs at a variety of levels, including by the SWRCB, through the San Francisco RWQCB, and locally, by the Napa County Environmental Health Division. SWRCB Resolution No. 2012-0032 establishes the Board's Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy) and approving the supporting substitute environmental documentation. The following sections describe the primary regulatory mechanisms in place for on-site sewage disposal systems.

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. On June 19, 2012, the SWRCB adopted Resolution No. 2012-0032 adopting the Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems.

The policy requires that local agencies adopt the Tier 1 Standards in the policy or create a Tier 2 Local Agency Management Program (LAMP). LAMP's approved under Tier 2 provide an alternate method from Tier 1 programs to achieve the same policy purpose which is to protect water quality and public health. Napa County Planning, Building and Environmental Services, Environmental

Health Division is developing a Tier 2 LAMP for review and approval by the RWQCB to allow for the implementation of the OWTS Policy in Napa County. The LAMP will include siting, design, operation and maintenance requirements for both conventional, alternative and winery OWTS.

Yountville Municipal Code

Title 13, Division 2, of the Yountville Municipal Code identifies requirements for the Town's sewer system, including general provisions, sewer construction, sewer use regulations, and use of septic tanks. Chapter 13.56, Sewer Use Regulations, of the Town's Municipal Code outlines certain prohibited discharges into public sewers and summarizes approved waste discharge types. Additionally, Chapter 13.60 provides the septic tank requirements and summarizes prohibited discharge violations. The Town requires septic tank installations to comply with Napa County regulations

Town of Yountville Sewer System Management Plan

The Town's Sewer System Management Plan was completed in April 2010 and updated in May 2016. The overriding goal of the Sewer System Management Plan (SSMP) is to manage the sewer collection and treatment system in a manner that avoids, to the greatest extent possible, overflows of untreated sewage or partially treated wastewater effluent in compliance with Section 13267 of the California Water Code. By meeting this goal, public agencies and private developments work toward improving the health, safety and welfare of their communities. The SSMP is required by the Section D.13 of the State Water Resources Control Board WQO-2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDR) and the associated Monitoring and Reporting Program (MRP) and subsequent amendments.

Objectives identified to meet these goals are:

- Properly manage, operate, and maintain all parts of the wastewater collection system.
- Provide adequate capacity to convey peak flows.
- Clearly define the lines of communication and responsibilities for reporting and responding to sanitary sewer overflows (SSOs).
- Provide the appropriate procedure for response to spills.
- Reduce the potential for and frequency of sewer overflows by proper design and management of the sewer collection system. Properly monitor the system to minimize the potential overflows.
- Mitigate the impact of SSOs.

3.15 UTILITIES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan 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 and/or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment and/or collection provider which serves or may serve the Project that is does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: General Plan implementation would not exceed wastewater treatment capacity or the requirements of the RWQCB (Less than Significant)

The JWTP operation is supervised by the Town's Utility Operations Manager and three certified Utility Operators. Advanced secondary treatment is provided at the JWTP. The advanced secondary treatment consists of filtration following regular secondary treatment. The JWTP has an ADWF design capacity of 0.55 MGD for normal flows and 2 MGD for high flows. The JWTP can accept up to 2.8 MGD through its primary system during peak wet weather conditions. Flows in excess of the JWTP's secondary treatment capacity are stored in a 3.8-million-gallon effluent holding pond for later treatment. The Town has not had any sanitary sewer overflows at the JWTP. As noted previously, the Town commissioned a report prepared by RSA+, dated June 10, 2015, to analyze projected wastewater treatment demand and to consider the potential addition of Domaine Chandon to the Town's Planning Area and the affect this may have on the property's wastewater service. As shown in Table 3.15-1, the JWTP has adequate capacity to treat flows from the service area to the Town's projected build out, based on an estimated increase in flows of 0.043 mgd.

Table 3.15-2 summarizes projected wastewater flows anticipated with General Plan buildout. Build-out of the proposed General Plan would result in increased wastewater flows by approximately 0.065 MGD, 0.023 MGD more than anticipated in the RSA+ analysis.

The generation of 0.065 MGD associated with General Plan buildout combined with existing flows (average daily treatment of 0.3655 MGD in 2017) would result in approximately 0.4305 MGD average daily flows. This is within the 0.55 MGD treatment capacity of the JWTP.

TABLE 3.15-2: PROJECTED INCREASE IN WASTEWATER FLOWS (GENERAL PLAN BUILDOUT)

DEVELOPMENT TYPE	*PROJECTED DEVELOPMENT*	*EQUIVALENT DWELLING UNIT RATE[1]*	*TOTAL EQUIVALENT DWELLING UNITS*
Single Family	155 units	1	155
Multifamily	76 units	0.6	45.6
Non-residential: commercial, office, hotel	100,638 sq. ft.	1 per 1,000 sq. ft.	100.638
Non-residential: agricultural[2]	6,638 sq. ft*	1 per 1,000 sq. ft.	6.638
TOTAL	**-**	**-**	**307.876**
		Flow Rate per Equivalent Dwelling Unit	*210 gpd[3] (0.00021 mgd)*
TOTAL INCREASE IN WASTEWATER FLOWS			
		307.876 Equivalent Dwelling Units x 0.00021 mgd =	**0.06465**

1: YOUNTVILLE ESD RATE USED FOR SINGLE FAMILY; SONOMA VALLEY COUNTY SANITATION DISTRICT RATES USED FOR MULTIFAMILY AND NON-RESIDENTIAL USES

2: ASSUMES UP TO 10% OF FACILITY WOULD CONNECT TO TOWN WASTEWATER SYSTEM, REMAINING AGRICULTURAL DEVELOPMENT ANTICIPATED TO BE A PRODUCTION-TYPE FACILITY THAT WOULD DISPOSE OF WASTEWATER ON-SITE

3: NAPA SANITATION DISTRICT FLOW RATE PER SINGLE FAMILY EQUIVALENT

SOURCE: DE NOVO PLANNING GROUP, 2018

The Yountville General Plan includes infrastructure and public services policies aimed to support the funding of public improvements which would result from implementation of the General Plan. For example, Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Program LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review. If this analysis determines that a proposed project would result in a significant deterioration of service or would cause available capacity to be exceeded, the Town would respond in one or more of the following ways as permitted by State law:

a. Require project redesign in order to prevent service from deteriorating or capacities being exceeded, provided that all economic use of the property is not prevented;
b. Condition the project on developer funding of improvements needed to maintain services and/or provide additional infrastructure capacity;
c. Approve the project if it can be found that the project will generate substantial overriding public benefits, be in compliance with all of the other goals and policies of the General Plan, or benefit the public health, safety, and general welfare of the community.
d. Deny the project.

Additionally, Policy LU-3.7 requires new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan. Subsequent development projects proposed within the General Plan area would be subject to these policies and programs. Further, Policy OS-8.3 aims to provide adequate wastewater treatment and transmission to meet the needs of existing and future development.

While full buildout of the proposed General Plan would increase the existing treatment capacity of the JWTP, there is adequate capacity to accommodate the additional treatment demand. Further, the proposed General Plan includes policies and programs to ensure that public services and utilities services are adequate to meet the needs of existing and future development.

The Town will also periodically review and update the Sewer System Management Plan, and as growth continues to occur within the General Plan area, the Town will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that the General Plan includes a comprehensive set of policies and programs to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are **less than significant.** The policies and programs listed below would further assist in ensuring that adequate wastewater treatment and conveyance infrastructure is available to serve new growth projected under the proposed General Plan.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-3.6 Public Infrastructure and Services. Provide and maintain adequate public infrastructure and services to meet the needs of existing and future development.

> *Program LU-3.6a Impacts of New Development on Infrastructure and Services. Analyze project impacts on infrastructure capacity and services as part of CEQA review. If a proposed project would result in a significant deterioration of service or would cause available capacity to be exceeded, respond in one or more of the following ways as permitted by State law:*
>
> *a. Require project redesign in order to prevent service from deteriorating or capacities being exceeded, provided that all economic use of the property is not prevented;*
> *b. Condition the project on developer funding of improvements needed to maintain services and/or provide additional infrastructure capacity;*
> *c. Approve the project if it can be found that the project will generate substantial overriding public benefits, be in compliance with all of the other goals and policies of the General Plan, or benefit the public health, safety, and general welfare of the community.*
> *d. Deny the project.*

Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

> *Program LU-3.7a Development Impact Fees. Regularly evaluate and update development impact fees.*

Policy OS-8.3 Wastewater Treatment. Provide adequate wastewater treatment and transmission to meet the needs of existing and future development.

> *Program OS-8.3a Maintenance of Facilities. Provide for regular maintenance of the wastewater facilities and transmission lines.*

Program OS-8.3b Demand for Service. Regulate the development of new businesses or other uses which are sewage intensive.

Program OS-8.3c Building Standards. Encourage building standards which reduce the amount of wastewater and reuse graywater.

Program OS-8.3d Agreements for Recycled Water. Maintain long term agreements for the distribution of the treated effluent for agriculture and irrigation uses and develop new agreements as opportunities arise.

Impact 3.15-2: General Plan implementation may 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 proposed General Plan would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment facilities and conveyance infrastructure, as described above.

The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site, extension of some facilities off-site within roadway rights-of-way, and may also involve improvements to existing facilities and disturbance of existing rights-of-way.

Wastewater conveyance infrastructure would need to be extended throughout the currently unserved portions of the General Plan area. The majority of the on-site wastewater conveyance infrastructure will be constructed in conjunction with future development in the Town. Wastewater conveyance infrastructure would be located underground, within the right-of-way footprint of future roadways in the General Plan area, and must be constructed to meet the requirements contained in the Town of Yountville Standard Specifications.

Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. Impacts associated with construction activities may include air quality, drainage, and noise, and impacts associated with operation including traffic, noise, air quality, hazards, and land stability. These impacts would generally occur as described in the relevant chapters (Chapters 3.1 through 3.15, 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 to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations.

The proposed General Plan includes policies and programs designed to ensure adequate wastewater treatment capacity is available to serve development. Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Policy LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review, and Policy LU-3.7 requires payment of the fair share fee of infrastructure improvements and public service costs to the Town.

Policy LU-3.7 requires all new development, additions, and conversion of use to pay its fair share of infrastructure improvement costs to the Town, which would be used to fund necessary maintenance and improvements for the wastewater system. These policies and programs 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.

3.15.2 WATER SUPPLIES

ENVIRONMENTAL SETTING

The Town of Yountville has three general water sources: surface water, groundwater, and purchased water. Yountville's Public Works Department is responsible for providing water services in the Town, with the exception of the Veterans Home property which provides water storage and distribution on the Veterans Home grounds, and to 32 properties (with 36 meters) outside the Town limits.

WATER SUPPLIES

The Town of Yountville has the following existing drinking water supplies:

- California Department of Veterans Affairs (CDVA) – Long term purchase agreement for 500 acre-feet (per year (AFY) of treated surface water supplied from the Rector Reservoir and treated at the Rector Water Treatment Plant.
- City of Napa – Agreement for purchase of emergency supply up to 25 AFY of treated surface water.
- Emergency Well – The Town owns one groundwater well for use in an emergency or drought situation. The well capacity is 700 gallons per minute (gpm) and up to 300 AFY and is treated for Iron and Manganese.
- State Water Project (SWP) spot purchases – The Town has an agreement with the Napa County Flood Control and Water Conservation District, which administers the SWP for Napa County jurisdictions, to be included in the District's dry-year water bank negotiations for an amount up to 200 AFY.

Additionally, the 1991 Agreement with Domaine Chandon describes potential access to emergency water supplies, as described in Napa LAFCO's 2017 Municipal Service Review and Sphere of Influence Update for the Town. The 1991 Agreement identifies that: the Town treats domestic wastewater resulting from Domaine Chandon at rates similar to Town customers; Domaine Chandon will accept the Town's treated wastewater for irrigation purposes; and the Town may purchase excess water from two Domaine Chandon wells as an emergency water supply in a state of water emergency.

Yountville previously had rights to water from the State Water Project via the North Bay Aqueduct. However, in 2009 Yountville sold those rights to the City of Napa. The Town's regular and emergency water sources are listed in Table 3.15-3. During dry year conditions, it is anticipated the Town would receive 125 AFY from Rector Reservoir, 300 AFY from the Town's well, and up to 200 AFY as spot-market purchases.

The Town provides recycled water to offset its domestic water demands. The Town's recycled water potential is discussed in the Wastewater Section of this chapter.

TABLE 3.15-3: YOUNTVILLE WATER SUPPLIES

SOURCE	*NORMAL YEAR SUPPLY*	*DRY YEAR SUPPLY*
Rector Reservoir (CDVA)	500 AFY	125
Rector Reservoir (CDVA) Surplus	Varies by year, depending on surplus availability	-
City of Napa	25 AFY	-
Yountville Municipal Emergency Well	300 AFY	300
SWP Spot market purchases	200 AFY	200
TOTAL	1,025 AFY or more	625 AFY

SOURCE: DRAFT MSR AND SOI UPDATE, TOWN OF YOUNTVILLE, NAPA LAFCO, TABLE 4-4, JANUARY 2017; ECONOMICS OF SUSTAINABILITY – TOWN OF YOUNTVILLE WATER SUPPLIES, TOWN OF YOUNTVILLE/GHD

California Department of Veterans Affairs

The Town obtains its water supply from the CDVA, which has rights to water from Rector Reservoir. Rector Reservoir is located on Rector Creek, a tributary to the Napa River. The Reservoir was formed following the construction of Rector Dam in 1946 and was subsequently raised in 1985, resulting in a total storage capacity of approximately 4,600 acre-feet. CDVA administers operations at Rector Reservoir and the Rector Water Treatment Plant. The Rector Water Treatment Plant has a daily treatment capacity of 4.5 million gallons. A 1.0 million gallon treated water storage tank is located near the Treatment Plant.

The Reservoir's safe yield is estimated to be 1,670 AFY. An additional amount of raw water is bypassed (to in-stream releases) to meet the California Department of Fish and Wildlife (CDFW) requirements.

CDVA's water rights to Rector Creek are secured through license 10911 with the SWRCB, Division of Water Rights. This license authorizes the CDVA to divert and store up to 1,937 AFY from Rector Creek for beneficial uses. Rector Reservoir supplies local surface water to the Veterans Home, the Town of Yountville, the City of Napa, several wineries, and to the CDFW for environmental uses and a fish hatchery. Additionally, the Napa State Hospital maintains water rights to water in the reservoir, but does not usually exercise those rights due to limited infrastructure.

The CDVA provides the Town with an allocation of 500 AFY via Contract No. 04YS0027, which is set to expire in 2024. The Town's agreement with CDVA allows the Town to purchase more than their annual allocation amount when surplus water is available. The availability of surplus water supply from Rector Reservoir has continued to be reliable for the Town during the last four years of drought conditions. The Town has exceeded its 500 ac-ft allocation in all but one year for the past 10 years. From fiscal year 2010/11 to 2017/18, the Town purchased an average of 548.5 AFY from the CDVA, as listed in Table 3.15-4. In recent years, the cost of purchasing this water has increased by 50 percent.

TABLE 3.15-4: AMOUNT OF CDVA WATER PURCHASED

FISCAL YEAR	*WATER (AFY)*
2010/11	514
2011/12	559
2012/13	581
2013/14	612
2014/15	604
2015/16	614
2016/17	429
2017/18	475
Average	548.5

SOURCE: TOWN OF YOUNTVILLE 2018/19 BUDGET.

City of Napa

The City of Napa exports water to the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the Veterans Home. St. Helena, Yountville, and the Veterans Home are retail customers of the City, with St. Helena contractually obligated to purchase a minimum amount of City of Napa water each year. Yountville and Veterans Home purchases of City water are rare and minimal due to their own sufficient local supply sources.

As noted above, Yountville previously had rights to water from the State Water Project via the North Bay Aqueduct. However, in January 2009, Yountville sold those rights to the City of Napa. According to Town Council Resolution No. 2744-09 which approved the sale of the Town's State Water Project Entitlements, the City of Napa agreed to provide water conservation education services to the Town (20 staff hours annually), to offer the purchase of limited fire flow and emergency water at retail rates (maximum of 25 ac-ft each fiscal year), and to serve as the Town's broker for the purchase of water on the "spot market" during drought (maximum of 200 AFY).

The City of Napa has water rights to three major sources: Lake Hennessey and Milliken Reservoir, which are local surface water reservoirs along tributaries of the Napa River, and the State Water Project water delivered through the North Bay Aqueduct. According to Town Council Resolution No. 2745-09, the Town established a Water Drought Reserve Fund from the proceeds of the sale of the Town's water rights to the City of Napa. This reserve fund provides approximately $2,000,000 for the purchase of additional water supply on the "spot market" in the event of an extended drought or other emergency situations.

Town of Yountville

As noted above, the Town owns one groundwater well for use in an emergency or drought situation. Built in 2005, the well capacity is 700 gpm and up to 300 AFY and is treated for iron and manganese. Additionally, the Town has identified Domaine Chandon groundwater as a potential future emergency water supply but has not developed infrastructure to connect to Domaine Chandon wells. The Yountville Public Works Department maintains and operates the water treatment system at the Municipal Water Well so that it will be ready in case of an emergency.

Town staff takes weekly, monthly, semi-annual, and annual water samples from the distribution system and Municipal Water Well for testing and reporting to the California Department of Public Health and to Town water customers.

The Town overlies the Napa-Sonoma Valley Groundwater Basin, Napa Valley Subbasin, which provides municipal and agricultural water supply in the area. Yountville's municipal well was constructed to provide a back-up supply during drought conditions or an emergency, and this well is not relied upon as a primary water source. Monitoring sites have been established in the vicinity of the municipal well to monitor water quality and the groundwater level. If groundwater levels drop substantially, then adjustments are made to well production.

West Yost & Associates prepared a Groundwater Management Plan (GMP) for the Town in 2004. The GMP projected a total water demand for the Town at maximum Town buildout of 679 AFY in normal years, 611 AFY in below normal years, and 543 AFY in dry years. The GMP also assigned a direct water allocation for known projects and projected an availability of 31 ac-ft for future projects. The Napa County Flood Control and Water District developed the 2050 Napa Valley Water Resources Study (2005) to review the water supply and demand balances for municipal and agricultural uses in Napa County. This study projected the safe yield of the Napa Valley groundwater subbasin to be approximately 28,000 ac-ft. Groundwater quality is generally good; however, selected areas along the Napa Valley floor have elevated levels of nitrates and boron. In summary, the groundwater supply system is anticipated to yield 300 acre-feet annually for the Town.

WATER DEMAND

Town of Yountville

The Town has approximately 831 water service connections to residential, commercial, and public facilities. The Public Works Department also operates a recycled water program that serves six wineries in the unincorporated County and one golf course within Town limits.

From fiscal year 2010/11 to 2017/18, the Town's water demand ranged from a low of 429 AFY (2016/17) to a high of 614 AFY (2015/16), with an average demand of 548.5 AFY, as listed in Table 3.15-4. The amount of water purchased from CDVA varies each year based on the availability of surplus water supply. In recent years, the Town has been able to purchase more than 600 acre-feet of water because Napa State Hospital was not able to use their allocation.

Out of Boundary Customers

When the Town incorporated, it took responsibility for the existing water customers served by a water transmission line along Silverado Trail and Yountville Cross Road. Water use is metered and the Town has noted a trend of increasing demand for water from these customers as the size of houses grow larger. Because the properties may access groundwater via private on-site wells to utilize for landscape and vineyard/agriculture, the Town prohibits use of municipal water for these outdoor purposes. The Town does expend resources to manage and monitor the 32 customers in the unincorporated County. The Town indicates that on a per-unit basis, the out-of-boundary customers utilize a greater quantity of water as compared to in-town customers. Additionally, during

the drought, water was conserved at a lower rate by the out-of-boundary customers. New water connections to parcels located outside the Town's jurisdictional boundary has been prohibited since 1977, although three new connections were allowed in 1993 due to hardship situations. The Town has adopted several resolutions to provide strict policies governing out-of-boundary water customers.

Summary of Water Service

Annual water demand from the Town has exceeded 600 ac-ft in recent years. This is 100 ac-ft more than the contractual allocation from the CDVA; however, the Town has been able to purchase additional water from the CDVA. Given the willingness of CDVA to sell surplus water to the Town and given the Town's designated emergency water supplies, Yountville has sufficient water to meet its current needs. The Town will likely have a future opportunity to collaborate with CDVA to create a water management plan regarding the Rector Dam system, upon which the Town is reliant.

Additionally, construction of the Recycled Water Expansion Project was completed in August 2015 as part of Capital Improvement Project WW-0002. In the calendar year 2015, 396 ac-ft (132 million gallons) of wastewater, or approximately 89% of the Town's wastewater, was beneficially reused through the Recycled Water Program. Yountville's water recycling and water conservation programs help the Town to reduce overall demand on potable water supplies.

WATER DISTRIBUTION INFRASTRUCTURE

Town of Yountville

The Public Works Department operates the Town's water distribution system. The water system for the Town is limited to the distribution of domestic water to its customers in the eastern part of Town. The CDVA provides water service directly to residents at the Veterans Home. The Town's water distribution system is shown in Figure 1.

The Town's distribution system is gravity fed and is under a single pressure zone. Since Yountville operates without treated water storage facilities, the distribution system is continually drawing potable water from its two interconnections with the Veterans Home. These interconnections are located near the intersections of Yountville Cross Road/Finnell Road and Yount Street/Finnell Road. During an emergency, potable water can be drawn through two interconnections with the City of Napa's 36-inch Conn Dam Transmission Line, which runs parallel to State Highway 29 under the French Laundry Garden, Vintage Estate, and Veterans Park in Yountville. The Town's interconnections are located near the intersections of Mulberry Street and Washington Street and Webber Street and Washington Street.

The Water Fund Operations Division of the Public Works Department is used to account for the operation and maintenance of water distribution operations for residential, commercial, public and other properties in the Town and 32 accounts outside of the Town limits that the Town has historically served. The division is responsible for maintenance of the water distribution system, which includes:

- Yountville Municipal Emergency Well
- 6.9 miles of water distribution mains (pipe system)
- 846 service connections and meters
- backflow prevention devices
- two pressure regulator stations between the State's transmission line and Town distribution system

The Utility Operations Manager works with Public Works staff and contractors as necessary to operate and maintain the physical water distribution system. The Division utilizes the Orion electronic meter reading system to remotely read water meters on a monthly billing cycle. The use of meter reading technology has allowed two crew members to completely read all of the water meters in the Town's system in three hours compared to the hand read meters which took up to three days. To further improve efficiency, the Division is implementing a Badger Beacon cellular network meter reading system to electronically read water meters for each monthly billing cycle.

The Utility Operations Supervisor and three Wastewater Treatment Plant operators maintain and operate the water treatment system at the Municipal Water Well, so that it will be ready in case of an emergency. Town staff takes weekly, monthly, annual and semi-annual water samples from the distribution system and Well for testing and reporting to the California Department of Public Health and customers.

The Town uses a tiered rate structure based on the customer's actual usage. Funding is provided through user charges and interest income. On February 15, 2011, the Town Council adopted new water rates and fees that eliminated the General Fund subsidy. There is also an agreement with the City of Napa to provide 20 hours of water conservation education in Yountville, which includes a booth at Yountville Days.

The Town water system has pressure regulators and water meters between the transmission line from Rector Water Treatment Plant and the Town water distribution systems. There are also several large meters at Cross Roads and Hopper Creek Condominium complexes that have needed maintenance to remove sand.

The Town calculates "non-revenue water", the difference between the amount of water produced and the amount of water billed, to make sure that water is getting to customers. The goal is to have total water loss be less than 10% of what is purchased. The Town monitors the amount of non-revenue water that is lost and implements actions such as leak detection and repair, theft prevention, and metering construction use to keep this number low.

The Town is working on implementation of a leak detection program which will help them monitor allowable losses. The Town has a goal to allow customers to track usage and trends on the Town's website. This will also result in enhancements to the meter reading program.

REGULATORY SETTING

Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1974 and amended in 1986 and 1996. It is the Country's primary law regulating drinking water quality and in implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

Sustainable Groundwater Management Act

The SGMA directs the Department of Water Resources (DWR) to identify groundwater basins and subbasins that are in conditions of critical overdraft. This designation is determined based upon the presence of "undesirable impacts" such as seawater intrusion, land subsidence, groundwater depletion, and chronic lowering of groundwater levels. Per DWR's current list of critically overdrafted basins, finalized in January 2016, the Napa Valley Subbasin is not designated as a critically overdrafted basin.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (California Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the Town has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

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.

Consumer Confidence Report Requirements

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 Water Code

Water Code section 10910 states:

> *10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).*
>
> *10910(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.*
>
> *10910(d)(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:*
>
> *(A) Written contracts or other proof of entitlement to an identified water supply.*
>
> *(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.*
>
> *(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.*
>
> *(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.*
>
> *10910(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the*

other public water systems or water service contract-holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

Additionally, subsection (f) of Water Code section 10910 states:

10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.

10910(f)(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

10910(f)(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long term overdraft condition.

10910(f)(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

10910(f)(4) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Senate Bill 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910, et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a Water Supply Assessment if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel with more than 500 rooms;

- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system.

SB 610 does not apply to the proposed General Plan. The growth projections shown in Chapter 2.0, Project Description, do not meet or exceed the above development criteria.

Senate Bill 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.

Bay Area Integrated Regional Water Management Plan

Although Yountville is not required to have an Urban Water Management Plan, the Town does participate in the Bay Area Integrated Regional Water Management Plan (IRWMP). The Bay Area IRWMP is a nine-county effort to coordinate and improve water supply reliability, protect water quality, manage flood protection, maintain public health standards, protect habitat and watershed resources, and enhance the overall health of the Bay.

The IRWM Regions and Funding Areas are based on hydrological watersheds rather than city/county boundaries. In the Bay Area, the Funding Area described in Proposition 84 and the San Francisco Bay Area IRWM Region is coterminous, including all or part of nine counties and 110 cities. The counties include San Francisco, and parts of San Mateo, Santa Clara, Alameda, Contra Costa, Solano, Napa, Sonoma, and Marin. The region is further divided into four subregions to address local issues and projects.

Town of Yountville Water Use Efficiency Plan

The Town of Yountville Water Use Efficiency Plan, dated February 2014, contains background information regarding the Town's historic water supplies and demands, summarizes the water demand and conservation strategies, and provides implementation strategies and measure outcomes. The Plan is reviewed and updated at a minimum of every five years.

Yountville Municipal Code

Title 13, Division 1 of the Yountville Municipal Code addresses the Town's water system requirements, including general provisions, service procedures, service connections, water conservation, and water shortage emergencies. Chapter 13.24 of the Yountville Municipal Code (Water Shortage Emergencies) allows the Town Council to determine that a water shortage emergency exists and has four phases of regulations for requesting volunteer rationing for minor shortages and prohibiting nonessential uses of water for major shortages of water. Chapter 13.20 of the Yountville Municipal Code (Water Conservation) prohibits water waste subject to penalties, civil fines, and discontinuing service, and also provides voluntary water conservation guidelines. The Town has also adopted a Water Use Efficiency Plan and a Water Efficient Landscape Ordinance.

The Town actively promotes water conservation through rebate programs such as "Cash for Grass", washer rebate, plumbing retrofit, and smart irrigation controllers. These water conservation programs help to encourage water use efficiency and augment the overall potable water supply.

THRESHOLDS OF SIGNIFICANCE

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

- 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; and/or
- 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 3.15-3: General Plan implementation would result in an increased demand for water supplies (Less than Significant)

Implementation of the proposed General Plan would result in increased population and employment growth within the General Plan area, and a corresponding increase in the demand for additional water supplies. As described in Chapter 2.0, full buildout of the proposed General Plan Land Use Map would result in an increase in residential, commercial, office, and agricultural uses.

Based on the Figure 3.2A of the Town's Water Use Efficiency Plan and estimates of existing development based on Napa County assessor data, Town data, and California Department of Finance estimate, water demand by land use in Yountville includes: 40% for non-residential

development (approximately 533,460 sq. ft. of lodging, commercial, etc.), 34% for single family uses (approximately 632 units), 18% for multifamily and mobile home uses (approximately 648 units), 4% for Town use, and 4% for residential uses outside of Town. Applying this data to the average water use of 548.5 AFY from 2010/11 to 2017/18, the following water demand rates are estimated:

- Single family dwelling - 0.295 AFY per DU;
- Multifamily dwelling - 0.153 AFY per DU;
- Commercial (including hotel, restaurant, retail, etc.) - 0.412 AY per 1,000 sq. ft. development.

Table 3.15-5 summarizes the projected water demand for buildout of the General Plan.

TABLE 3.15-5: PROJECTED WATER DEMAND

TYPE OF DEVELOPMENT	*SIZE*	*RATE (AFY)*	*DEMAND (AFY)*
Single Family	155 DU	0.295 AFY per DU	45.7
Multifamily	76 DU	0.153 AFY per DU	11.6
Commercial[1]	81,491 sq. ft.	0.412 AFY per 1,000 SF	33.6
Office	21,684 sq. ft.	0.412 AFY per 1,000 SF	8.9
Total	**231 DU, 103,175 sq. ft.**	**--**	**99.8**

1: INCLUDES 4,037 SQ. FT. FOR APPROVED HOTEL ROOMS

SOURCE FOR WATER DEMAND RATE: WATER USE EFFICIENCY PLAN WATER DEMAND BY LAND USE CATEGORY, DEPARTMENT OF FINANCE HOUSING COUNTS FOR 2012, AND COUNTY ASSESSOR DATA FOR SQUARE FOOTAGE OF COMMERCIAL USES.

As shown in the table, the projected water demand for General Plan buildout would be approximately 99.8 AFY. It is assumed that agricultural uses would continue to use on-site wells for water demand and there would not be a significant increase in water use if a portion of an agricultural site was converted from active agricultural use (vineyards) to a production facility or a production facility and tasting room. In recent years, the Town has reduced its water use to 429 AFY (2016/17) and 475 AFY (2017/18). Adding the projected demand to the existing use results in an approximate demand of 528.8 AFY to 574.8 AFY. This demand can be accommodated by the Town's existing supply, including normal year supplies in excess of 1,000 AFY and dry year supplies of 625 AFY.

The proposed General Plan includes infrastructure and public services policies and programs aimed to ensure that service levels are adequate. For example, Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Policy LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review, and Policy LU-3.7 requires payment of the fair share fee of infrastructure improvements and public service costs to the Town. Additionally, Policy OS-6.1 aims to ensure that there is adequate water supply and infrastructure to meet the needs of existing and future development. Subsequent development projects proposed within the General Plan area would be subject to these policies.

Given that the projected future demand is within the Town's existing normal and dry year supply and that the General Plan includes policies and programs to ensure adequate and reliable public infrastructure, impacts associated with water supplies are **less than significant.** The policies and

programs listed below would further assist in ensuring that adequate water supplies are available to serve new growth projected under the proposed General Plan.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-3.6 Public Infrastructure and Services. Provide and maintain adequate public infrastructure and services to meet the needs of existing and future development.

> *Program LU-3.6a Impacts of New Development on Infrastructure and Services. Analyze project impacts on infrastructure capacity and services as part of CEQA review. If a proposed project would result in a significant deterioration of service or would cause available capacity to be exceeded, respond in one or more of the following ways as permitted by State law:*
>
> a. *Require project redesign in order to prevent service from deteriorating or capacities being exceeded, provided that all economic use of the property is not prevented;*
>
> b. *Condition the project on developer funding of improvements needed to maintain services and/or provide additional infrastructure capacity;*
>
> c. *Approve the project if it can be found that the project will generate substantial overriding public benefits, be in compliance with all of the other goals and policies of the General Plan, or benefit the public health, safety, and general welfare of the community.*
>
> d. *Deny the project.*

Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

> *Program LU-3.7a Development Impact Fees. Regularly evaluate and update development impact fees.*

Policy OS-6.1 Adequate Water Supply. Ensure there is adequate water supply and associated infrastructure to meet the needs of existing and future development.

> *Program OS-6.1a Rector Reservoir. Maintain agreement with the California Department of Veterans Affairs for the long-term use of Rector Reservoir water.*
>
> *Program OS-6.1b City of Napa Agreement. Maintain the Town's agreement with the City of Napa for the purchase of an emergency supply of treated water.*
>
> *Program OS-6.1c Emergency Well. Maintain the Town's groundwater well for use in an emergency or drought situation.*

Policy OS-6.2 Groundwater Recharge. Preserve and protect open space and, where appropriate, other natural areas that assist in the recharge of groundwater basins.

Program OS-6.2a Napa Valley Groundwater Subbasin. Work with Napa County to assess and monitor groundwater levels and quality, develop a regional groundwater sustainability plan as appropriate or necessary, and maintain groundwater sustainability.

Policy OS-6.3 Management of Water Supply. Properly manage and conserve the Town's water supply.

Program OS-6.3a Water Conservation. Continue to implement the Town's Water Conservation Ordinance and update the ordinance as necessary.

Program OS-6.3b Water-Efficient Landscapes. Continue to encourage the use of native, drought-resistant plants and water-efficient landscapes in accordance with State requirements.

Program OS-6.3c Reclaimed Water. Continue to provide reclaimed water for irrigation purposes, where possible.

Program OS-6.3d Water Conservation in Public Facilities. Implement and maintain practices that conserve water in public facilities.

Program OS-6.3e Water Conservation in New Development. Support new building and development standards that reduce the use of water and promote groundwater recharge in development projects.

Program OS-6.3f Public Education. Educate the public on indoor and outdoor water conservation practices, water-efficient fixtures and irrigation systems, and graywater and rainwater catchment systems.

Policy HO-10.1 Energy and Water Conservation. Encourage energy and water conservation in the design or modification of housing units.

Impact 3.15-4: General Plan implementation may 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 General Plan area under the proposed General Plan would result in increased demand for water supplies, including water conveyance and treatment infrastructure. The proposed General Plan includes policies 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 3.15-3, the projected water supplies are adequate to meet demand that would be generated by buildout of the 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 in the Town's Water Use Efficiency Plan.

As future development and infrastructure projects within the General Plan area are considered by the Town, each project will be evaluated for conformance with the General Plan, Municipal 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 proposed General Plan includes a range of policies and programs (listed above) to ensure that water supplies meet the demands of existing and future development, 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 for existing customers.

Future development in the General Plan area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the Town's existing water infrastructure network. The specific impacts of providing new and expanded waster distribution infrastructure cannot be determined at this time, as the 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 proposed General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.15, and 4.0) of this Draft EIR.

This Draft EIR addresses the potential impacts of development that may occur under the proposed General Plan, including residential, commercial, public facilities, and agricultural uses. Where potentially significant or significant impacts are identified, this EIR identifies mitigation measures to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels. There are no additional environmental impacts, apart from those disclosed in the relevant chapters of this EIR, which are anticipated to occur. Therefore, this impact is considered **less than significant** and no additional mitigation is necessary.

3.15.3 STORM WATER

The information in this section focuses on the potential for the General Plan to result in the demand for new or expanded stormwater drainage facilities. Chapter 3.9, Hydrology and Water Quality, includes an expanded analysis of water quality, flooding, and other stormwater related issues.

ENVIRONMENTAL SETTING

The Town's stormwater and drainage infrastructure is summarized below.

Stormwater and Drainage Facilities

The Town participates in the Napa Countywide Stormwater Pollution Prevention Program (NCSPPP), which is a joint effort with the other municipalities in the County to:

- Prevent stormwater pollution;
- Protect and enhance water quality in creeks and wetlands;
- Preserve beneficial uses of local waterways; and
- Comply with State and Federal regulations.

The NCSPPP is funded by the member agencies and is administered by the Napa County Flood Control and Water Conservation District's Stormwater Program Manager. Though the entities of the NCSPPP carry out their own individual stormwater pollution prevention programs, the NCSPPP provides for the coordination and consistency of approaches between the individual participants and documents their efforts in annual reports.

The Town's stormwater system directs rainwater and runoff directly to creeks, ditches, and rivers. Stormwater, unlike wastewater, is not treated before entering creeks and ditches. With that in mind, the Town of Yountville prohibits illicit discharges into the stormwater system. Illicit discharge means any discharge into the storm drains that is not composed entirely of stormwater except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities.

Hopper Creek is the major watercourse that traverses the town and is the primary collector for storm water. Hopper Creek discharges to Dry Creek two and a half miles south of town, and Dry Creek discharges into Napa River.

A secondary storm water collector is Beard Ditch which begins near Yountville Cross Road east of the Vineyard Oakes residential development and follows the town's eastern boundary to the south. Initially, it is a very minor swale which continues south and gradually becomes wider and deeper. Significant widening of the ditch near Finnell Road was made at the time of the Heritage Estates development.

There are three other minor channels which provide drainage for a small portion the total storm water. Hinman Creek flows from Lake Hinman north of the Veterans Home of California and to the south along the western edge of State Highway 29. A second and unnamed drainage channel flows from the Yountville Community Park at Madison Avenue towards the cemetery and beyond the town limit. A third minor channel flows between Vintage 1870 and State Highway 29 and provides

drainage south to California Drive into underground pipes, across Washington Street and finally discharges into Hopper Creek.

Floodplain Mapping

The Federal Emergency Management Agency (FEMA) identifies Special Flood Hazard Areas (SFHA). FEMA publishes Flood Insurance Rate Maps that depict the floodplains. The 100-year (1% annual chance flood hazard) floodplain is located mainly in the eastern Study Area, as well as a small area near Himman Creek, west of Highway 29. Additionally, land to the west of Town limits, and the Rancho De Napa Mobile Estates Park, is within the 500-year (0.2% annual chance flood hazard) floodplain. The flood hazards in the Yountville Study Area are illustrated in Figure 2 of the Existing Conditions: Hazards and Safety. Please see the Existing Conditions: Hazards and Safety document for more information regarding flooding.

Stormwater Quality

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.

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.

303(D) 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. While none of the water bodies in the vicinity of the Planning Area are on the 303(d) list, the Napa River,

located approximately 0.5 miles to the east of the Study Area (at its closest point) is 303(d)-listed as containing nutrients, pathogens, and sedimentation/siltation (California SWRCB, 2010).

REGULATORY SETTING

Clean Water Act (CWA)

The CWA regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r);
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s);
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes.

National Pollutant Discharge Elimination System (NPDES)

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 Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the San Francisco Bay Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the San Francisco Bay Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Department of Water Resources

The DWR's major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

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 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 Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260(a)-(c) provides as follows:

> *(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:*
>
> *(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.*
>
> *(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.*
>
> *(3) A person operating, or proposing to construct, an injection well.*
>
> *(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.*
>
> *(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.*

San Francisco Bay Basin Water Quality Control Plan

The San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal 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.

BASMAA Post-Construction Manual

The Bay Area Stormwater Management Agency Association (BASMAA) Post-Construction Manual provides design guidance for stormwater treatment and control for development projects in Marin, Sonoma, Napa, and Solano Counties. This manual is intended to help development project applicants design and submit their projects for approval. It applies to projects in all the municipalities in the NCSPPP service area including the Cities of Napa, American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the County of Napa. These counties, cities, and towns are Permittees under a statewide Phase II municipal stormwater NPDES permit reissued by the SWRCB in 2013. Permit Provision E.12, Post-Construction Stormwater Management Program, requires these agencies to regulate development projects to control pollutants in runoff from newly created or replaced impervious surfaces. Requirements are in effect by June 30, 2015. The Manual is designed to ensure compliance with the requirements, facilitate review of applications, and promote integrated Low Impact Development (LID) design. The Manual interprets, clarifies, and adds to permit requirements.

Appendix C and Appendix D of the Manual are Stormwater Control Plan (SCP) Templates, provided to assist project applicants in writing their own SCPs. Appendix F of the Manual is a Bioretention Plant Matrix. Additionally, to help applicants calculate the size of bioretention features, a Post Construction Sizing Calculator is provided on the NCSPPP website.

Municipal NPDES Permit Waste Discharge Requirements Order R2-2015-0029 NPDES Permit No. CA0038121

In response to the Federal Clean Water Act, the Town regulates waste dischargers under a NPDES Permit administered by the appropriate RWQCB. Specifically, the municipalities are regulated with regard to their jurisdiction over and/or maintenance responsibility for municipal storm drain systems and watercourses that they own or operate. The NPDES Permit is concerned primarily with regulating trash, pollutants of concern, and excessive hydrologic runoff which can carry sediment and cause flooding.

As stated above, pursuant to Section 402 of the CWA and the Porter-Cologne Water Quality Control Act, municipal stormwater discharge in the Town is subject to the requirements of the MS4 Permit (Order No. R2-2015-0029) and NPDES Permit Number CA0038121.

Provision E.12, "Post-Construction Stormwater Management Program," mandates municipalities to require specified features and facilities—to control pollutant sources, control runoff volumes, rates, and durations, and to treat runoff before discharge from the site—be included in development plans as conditions of issuing approvals and permits. The new requirements continue a progression of increasingly stringent requirements since 1989.

Provision E.12 requires all municipal permittees to implement these requirements by June 30, 2015, to the extent allowed by applicable law. This includes projects requiring discretionary approvals that

have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals.

Yountville Municipal Code

Title 13, Division 5 of the Yountville Municipal Code addresses the Town's stormwater discharge system requirements. The following four chapters of the Yountville Municipal Code contain directives pertaining to stormwater:

- Chapter 13.20 – General Provisions. The purpose of this chapter is to establish local regulations to prohibit certain acts and reduce the adverse effects of non-stormwater discharges into the storm drain system and watercourses and require certain best management practices (*BMPs) by property owners in order to reduce the discharge of pollutants in stormwater to the maximum extent practicable.
- Chapter 13.124 – Prohibition of Illicit Connections and Illicit Discharges – Reductions of Pollutants. This chapter identifies prohibited connections, prohibited discharges, and improper maintenance, as well as exceptions to the discharge prohibitions.
- Chapter 13.128 – Control of Urban Runoff. This chapter contains BMPs for ground disturbing activities and new development and redevelopment.
- Chapter 15.52 – Provisions for Flood Hazard Reduction. This chapter contains standards of construction of utilities, subdivisions, and other proposed developments, and provides prohibitions regarding development within FEMA Flood Zones A1-30 and AE.
- Chapter 17.94 – Water Efficient Landscaping. This chapter establishes landscaping and irrigation requirements for any landscaping project, new construction, or rehabilitated landscape within the Town.

THRESHOLDS OF SIGNIFICANCE

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

- 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.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-5: General Plan implementation would result in less than significant impacts associated with new or expanded stormwater drainage facilities (Less than Significant)

Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the General Plan area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure.

The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site, extension of some facilities off-site within roadway rights-of-way, and may also

involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded drainage facilities cannot be determined at this time, as the General Plan does not propose development nor does it designate specific sites for new or expanded public facilities.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. Impacts associated with construction activities may include air quality, drainage, and noise, and impacts associated with operation including traffic, noise, air quality, and land stability. These impacts would generally occur as described in the relevant chapters (Chapters 3.1 through 3.15, 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; 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 to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels.

As future development and infrastructure projects within the General Plan area are considered by the City, each project will be evaluated for conformance with the General Plan, General Plan, Municipal Code, and other applicable regulations.

The Town's General Plan includes policies and programs designed to ensure adequate drainage infrastructure is available to serve development and to minimize the potential adverse effects of stormwater conveyance. The proposed General Plan includes Policy OS-6.4 and Programs OS-6.4a, OS-6.4b, and OS-6.4c which aim to encourage best management practices and comply with the NPDES permit requirements. Specifically, Program OS-6.4a requires new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design. Additionally, Program OS-6.4b requires new development, redevelopment, and infrastructure projects to comply with the requirements of the NPDES permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.

Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Policy LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review, and Policy LU-3.7 requires payment of the fair share fee of infrastructure improvements and public service costs to the Town.

The policies and programs listed below would ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would

ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts. This is a **less than significant** impact.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy OS-6.4 Water Quality. Protect water resources from pollution and sedimentation.

> *Program OS-6.4a Best Management Practices. Require new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design, to naturally filter and biodegrade contaminants and to minimize surface runoff into drainage systems and creeks.*
>
> *Program OS-6.4b NPDES Compliance. Ensure that new development, redevelopment, and infrastructure projects comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.*
>
> *Program OS-6.4c Permeable Surfaces. Encourage use of pervious materials to aid in stormwater treatment and infiltration.*

Policy SH-1.6 Erosion and Runoff Control. Implement measures to reduce soil erosion and surface runoff during and after construction.

> *Program SH-1.6a Soil Stabilization Measures. Encourage soil stabilization measures that prevent soil erosion.*
>
> *Program SH-1.6b Soils Reports. Require soils reports for subdivisions and new development proposals. Building materials and construction procedures must adhere to specifications of soils engineer.*
>
> *Program SH-1.2k Coordination with Napa County. Work with Napa County officials in urging the State and federal governments to make flood control improvements to the Napa River which will reduce or eliminate the danger of flooding caused by overflow of the Napa River.*
>
> *Program SH-1.2l Napa County Stormwater Pollution Prevention Program. Work with the Napa County Flood Control District to implement the Stormwater Pollution Prevention Program to minimize negative impacts of storm runoff.*
>
> *Program SH-1.2m Napa County Flood Control District. Participate in the Napa County Flood Control and Water Conservation District to manage flood and storm waters to protect life and property, and to maintain the Napa River, its tributaries, and watershed.*

Policy LU-3.6 Public Infrastructure and Services. Provide and maintain adequate public infrastructure and services to meet the needs of existing and future development.

> *Program LU-3.6a Impacts of New Development on Infrastructure and Services. Analyze project impacts on infrastructure capacity and services as part of CEQA review. If a proposed project would result in a significant deterioration of service or would cause available capacity to be exceeded, respond in one or more of the following ways as permitted by State law:*

a. *Require project redesign in order to prevent service from deteriorating or capacities being exceeded, provided that all economic use of the property is not prevented;*

b. *Condition the project on developer funding of improvements needed to maintain services and/or provide additional infrastructure capacity;*

c. *Approve the project if it can be found that the project will generate substantial overriding public benefits, be in compliance with all of the other goals and policies of the General Plan, or benefit the public health, safety, and general welfare of the community.*

d. *Deny the project.*

Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

Program LU-3.7a Development Impact Fees. Regularly evaluate and update development impact fees.

3.15.4 SOLID WASTE

ENVIRONMENTAL SETTING

Upper Valley Disposal Service, Inc. (UVDS), a private garbage collection company, provides residential and commercial garbage, recycling, and green waste collection services within and outside of the Town limits. The Town has a mandatory trash collection ordinance that provides that all properties that are occupied or have a water service account shall have trash and recycling services through the Town's waste hauler.

SOLID WASTE GENERATION

CalRecycle has established a per resident disposal target rate of 6.4 pounds per day (PPD) and a per employee disposal rate of 8.2 PPD for the unincorporated areas of Napa County. The per resident and per employee disposal target rates for the Upper Valley Waste Management Agency (UVWMA) are 7.5 and 10.9 PPD, respectively. Both the unincorporated areas of Napa County and the UVWMA have met and exceeded these targets in recent years. The unincorporated areas of Napa County achieved a disposal rate of 5.0 PPD per resident and 5.2 PPD per employee in 2015, while the UVWMA achieved rates of 4.4 PPD per resident and 5.0 PPD per employee in the same year. While current disposal rates are not available at the Town level, CalRecycle's Solid Waste Characterization Database most recent waste stream data at the Town level (2014) shows that Yountville's business uses disposed of 3,199 tons of waste and residential uses disposed of 511 tons of waste.

WASTE COLLECTION SERVICES

CalRecycle has established a per resident disposal target rate of 6.4 pounds per day (PPD) and a per employee disposal rate of 8.2 PPD for the unincorporated areas of Napa County. The per resident and per employee disposal target rates for the UVWMA are 7.5 and 10.9 PPD, respectively. Both the unincorporated areas of Napa County and the UVWMA have met and exceeded these targets in recent years.

WASTE DISPOSAL FACILITIES

Information regarding waste disposal facilities has been taken from the CalRecycle website databases (http://www.calrecycle.ca.gov/databases/) and the UVDS website, both accessed in March 2017.

Yountville's garbage and recycling are disposed of at the Clover Flat Landfill, located east of Calistoga. Recycling is handled through the Whitehall Lane Recycle Center, located between St. Helena and Rutherford. Clover Flat Resource Recovery Park has been producing power made from landfill methane since the end of 2014.

Hazardous materials are disposed of properly through a private, licensed hazardous waste handling company. UVDS hosts an annual one-day hazardous waste collection event that allows local residents to bring in used paint cans and other household hazardous materials for disposal. Electronic Waste (or e-waste) consists of computer equipment and printers etc. and UVDS also hosts an annual one-day hazardous waste collection event that allows local residents to bring in and

dispose of their household e-waste. Additionally, the Wastewater Treatment Plant serves as a Napa County collection facility for hazardous materials.

Clover Flat Landfill

The Clover Flat Landfill features a solid waste landfill and a composting facility. The Clover Flat Landfill solid waste facility accepts agricultural, construction/demolition, industrial, mixed municipal, sludge, and tire waste. The composting facility accepts food waste and green materials. The 79-acre Clover Flat Landfill has a permitted daily capacity of 600 tons at the solid waste facility and 2,500 cubic yards at the composting facility. The solid waste facility has a total permitted capacity of 4,560,000 cubic yards, with a remaining capacity of 2,870,000 cubic yards (58.6 percent). The permit for this facility is scheduled to be reviewed in July 2019.

WASTE DIVERSION

Through the requirements of AB 939, CalRecycle requires cities and counties to calculate their 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.

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). UVWMA's waste diversion rates from 2001 through 2006 are shown in Table 3.15-6 (data is not available for the Town of Yountville). As shown below, with the exception of the year 2003, the UVWMA has seen a steady increase in the volume of waste diverted.

TABLE 3.15-6: UNINCORPORATED NAPA COUNTY WASTE DIVERSION RATE

YEAR	*WASTE DIVERSION RATE*
2006	67
2005	66
2004	59
2003	52
2002	56
2001	55

SOURCE: JURISDICTION DIVERSION/DISPOSAL RATE SUMMARY (1995-2006), CALRECYCLE, 2017. AVAILABLE: HTTP://WWW.CALRECYCLE.CA.GOV/LGCENTRAL/REPORTS/DIVERSIONPROGRAM/JURISDICTION DIVERSION.ASPX

REGULATORY SETTING

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. 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 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.

AB 939: California's Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

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.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (Montanez, Chapter 879, Statues of 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and
2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately-owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

California Green Building Standards Code (CALGreen)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

Bay Area Green Business Program

Napa County is part of the Bay Area Green Business Program. More than 1,700 businesses & organizations have been certified by the Bay Area Green Business program since 1997. Napa's program works primarily with small to medium-sized, locally-based organizations. Green Businesses benefit from free technical assistance and public promotions and are seen as leaders in sustainable business. To become a certified Green Business, a business must comply with all environmental regulations and must implement a minimum number of measures in four different areas. Those four areas are energy efficiency, water conservation, pollution prevention, and solid waste reduction/recycling. The Green Business Program has checklists for different types of businesses that cover these four areas and many businesses find they have adopted many of the measures already.

Yountville Municipal Code

Title 13, Division 3 of the Yountville Municipal Code establishes requirements for solid waste collection and disposal. Chapter 13.72 of the Yountville Municipal Code contains general provisions, definitions, and solid waste collection rates. Chapter 13.76 of the Municipal Code contains regulations related to the following:

- Solid waste containers, container area cleanliness, and location of containers;
- Burning or burying of solid waste;
- Storage of rubbish;
- Throwing or depositing solid waste; and
- Food facility solid waste and recycling storage areas.

Additionally, Chapter 13.80 outlines the collection, transportation, and disposal of solid waste in the Town.

THRESHOLDS OF SIGNIFICANCE

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

- Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs; and/or
- Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-6: General Plan implementation would be served by a landfill with sufficient permitted capacity to accommodate the Plan's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste (Less than Significant)

Development under the proposed General Plan may increase the population within the General Plan area by approximately 439 residents. Implementation of the General Plan would result in an increase in solid waste generation. Assuming the disposal rates remain constant throughout the life of the General Plan, the new growth under General Plan buildout would result in an increase of approximately 2,195 pounds per day of solid waste (439 residents × 5.0 PPD), which equals 1.1 tons per day or 401.5 tons of solid waste per year.

The Town's annual increase in solid waste generation is well within the daily permitted capacity of the Clover Flat Landfill. The 79-acre Clover Flat Landfill has a permitted daily capacity of 600 tons at the solid waste facility and 2,500 cubic yards at the composting facility. The solid waste facility has a total permitted capacity of 4,560,000 cubic yards, with a remaining capacity of 2,870,000 cubic yards (58.6 percent). According to the CalRecycle Solid Waste Facility Permit (289-AA-0002), as of July 2014, the estimated closing date for the landfill is 2047.

While there is adequate permitted landfill capacity to accommodate future growth, the Town's General Plan includes policies and programs to further reduce the project's impact on solid waste services, as identified below. Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Policy LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review, and Policy LU-3.7 requires payment of the fair share fee of infrastructure improvements and public service costs to the Town. Policy OS-8.2 encourages solid waste reduction, recycling, food waste recovery, composting of organic waste, and reuse of materials. Program OS-8.2a aims to work with the Upper Valley Disposal and Waste Management Authority to develop and implement programs to increase recycling of materials and composting of food waste.

The General Plan would not exceed the permitted capacity of the landfill serving the Town, and the General Plan complies with regulations related to solid waste. Therefore, impacts to solid waste are **less than significant** and no mitigation is necessary.

GENERAL PLAN POLICIES AND PROGRAMS THAT MITIGATE POTENTIAL IMPACTS

Policy LU-3.6 Public Infrastructure and Services. Provide and maintain adequate public infrastructure and services to meet the needs of existing and future development.

> *Program LU-3.6a Impacts of New Development on Infrastructure and Services. Analyze project impacts on infrastructure capacity and services as part of CEQA review. If a proposed project would result in a significant deterioration of service or would cause available capacity to be exceeded, respond in one or more of the following ways as permitted by State law:*
>
> *a. Require project redesign in order to prevent service from deteriorating or capacities being exceeded, provided that all economic use of the property is not prevented;*
>
> *b. Condition the project on developer funding of improvements needed to maintain services and/or provide additional infrastructure capacity;*
>
> *c. Approve the project if it can be found that the project will generate substantial overriding public benefits, be in compliance with all of the other goals and policies of the General Plan, or benefit the public health, safety, and general welfare of the community.*
>
> *d. Deny the project.*

Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

> *Program LU-3.7a Development Impact Fees. Regularly evaluate and update development impact fees.*

Policy OS-8.2 Solid Waste Reduction. Encourage solid waste reduction, recycling, food waste recovery, composting of organic waste, and reuse of materials.

Program OS-8.2a Waste Diversion Programs. Work with Upper Valley Disposal and Waste Management Authority to develop and implement programs to increase recycling of materials and composting of food waste.

Program OS-8.2b Environmentally Preferable Purchasing. For Town purchases, continue to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.

Program OS-8.2c Provide Information. Provide information regarding collection and recycling schedules and disposal of household hazardous waste.

Program OS-8.2d Public Education. Work with Upper Valley Disposal and Waste Management Authority to conduct outreach and educational campaigns for composting, recycling, and other waste reduction initiatives.

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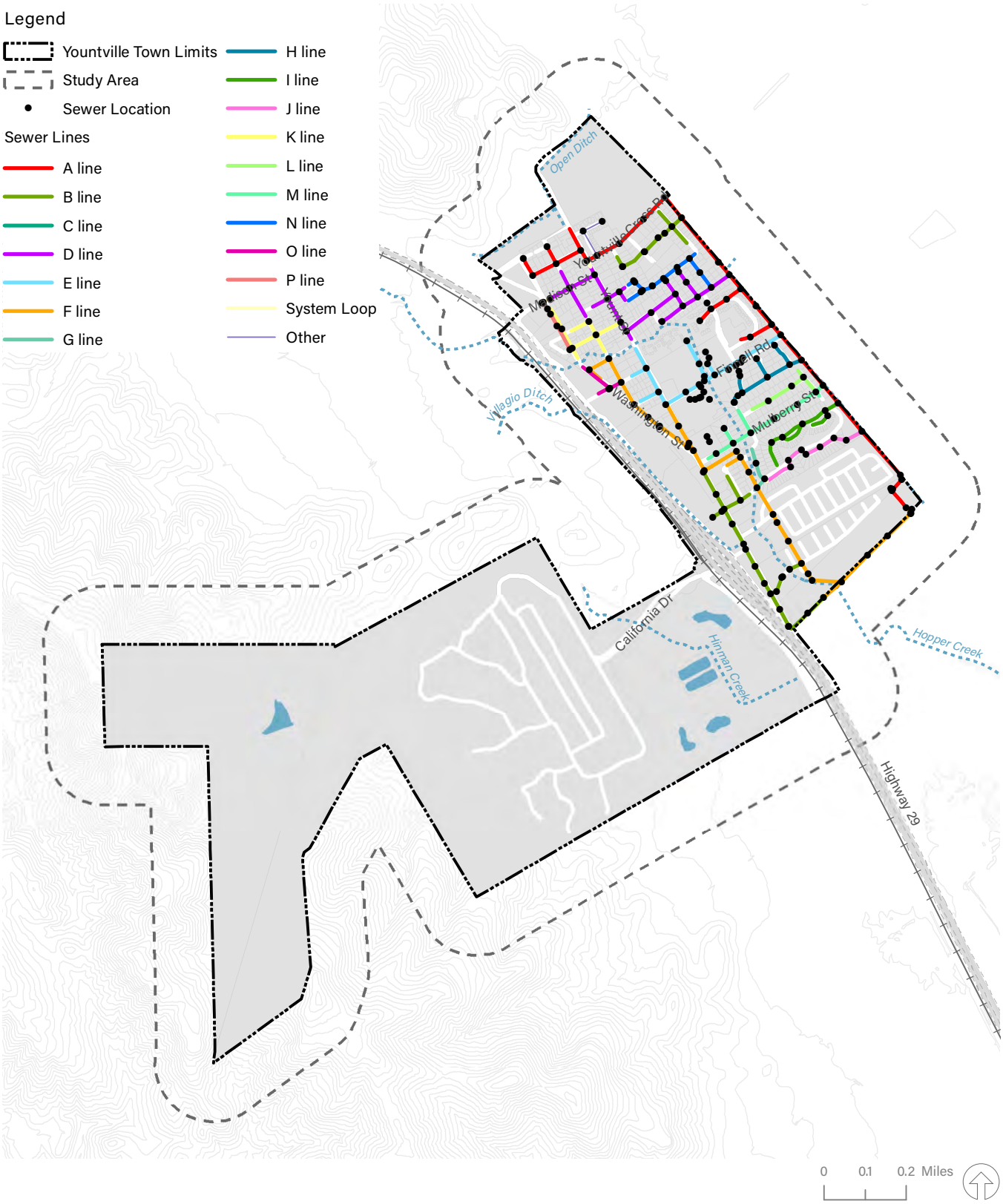
Figure 3.15-1. Sanitary Sewer System Facilities



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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 and irreversible impacts associated with the proposed General Plan. As described below, this section also includes an analysis of the project's growth inducing impacts.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) contain an assessment of the cumulative impacts that could be associated with the General Plan. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> …the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

   (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

   (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

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 Yountville General Plan area, which includes the Town limits and Sphere of Influence, as shown on Figure 2.0-6.

In most cases in this EIR, the buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan. The year 2040 is used as the benchmark year for the cumulative analysis contained in this EIR. The approach and methodology used in the cumulative traffic analysis is described in greater detail in Chapter 3.14 of this Draft EIR.

Population Growth

Population in Napa County and in the Town has slowly grown over the last several decades as shown by Table 4.0-1. From 1990 to 2000, the Town's population decreased by 11% from 3,259 to 2,916 persons. During the 2000s and 2010s, Yountville experienced population growth increasing by approximately 2 percent from 2,916 to 2,980 between 2000 and 2015. Napa County's total population increased by approximately 13 percent during the 2000s and 2010s. Between 1990 and 2015, Yountville's population declined by an average of 0.3 percent per year, while that of Napa County increased an average of 1.1 percent per year.

The Association of Bay Area Governments (ABAG) projects population growth in the San Francisco Bay Area. The adopted Plan Bay Area 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 Napa County will increase to 160,521 by 2040, which is an increase of the current (2018) population of 12.8 percent.

TABLE 4.0-1: POPULATION AND HOUSEHOLD GROWTH

	1990	*2000*	*2010*	*2015*	*1990-2000 CHANGE*	*2000-2015 CHANGE*	*AVG. ANNUAL CHANGE (1990-2015)*
YOUNTVILLE							
Population	3,259	2,916	2,933	2,980	-11%	2%	-0.3%
Households	891	1,046	1,050	1,071	17%	2%	0.8%
Persons per household	1.81	1.95	1.85	1.88	8%	-4%	0.2%
NAPA COUNTY							
Population	110,765	124,279	136,484	140,992	12%	13%	1.1%
Households	41,185	45,402	48,876	49,801	10%	10%	0.8%
Persons per household	2.20	2.62	2.69	2.73	19%	4%	1.0%

SOURCE: U.S. CENSUS, 1980, 1990, 2000, 2015; YOUNTVILLE HOUSING ELEMENT, 2015; COUNTY OF NAPA – MEMORANDUM RE: NAPA PIPE-RESIDENTIAL DEVELOPMENT QUESTIONS. CALIFORNIA DEPARTMENT OF FINANCE, 2017.

Land Use

Existing land uses in the Yountville General Plan area can be characterized in broad terms of residential, commercial, and agricultural. As shown in Table 4.0-2, the predominant land uses within Yountville are public facilities uses (mainly located at the Veterans Home), with residential uses as the second most common use.

TABLE 4.0-2: TOWN OF YOUNTVILLE LAND USE DESIGNATIONS IN TOWN LIMITS

LAND USE	*TOWN LIMITS*	
	PARCELS	*ACREAGE*
Agricultural	3	33.61
Master Planned Residential	294	47.39
Mixed Residential	164	39.25
Mobile Home Park	2	39.85
Not Zoned/ROW	2	0.67
Old Town Commercial	9	4.83
Old Town Historic	156	24.53
Parks and Playfields	16	12.70
Planned Development	6	10.34
Primary Commercial	10	25.39
Public Facilities	15	576.85
Residential Scaled Commercial	18	9.75
Retained Commercial	3	1.10
Single Family Residential	155	33.79
Total	**853**	**860.04**

SOURCES: NAPA COUNTY, 2017; DE NOVO PLANNING GROUP, 2017.

Proposed land uses in the Yountville General Plan area are shown in Table 4.0-3. Much like the existing General Plan Land Use Map, under the proposed Land Use Map, predominant land uses within the Town limits are residential, public facilities, and commercial.

TABLE 4.0-3: PROPOSED LAND USE DESIGNATION ACREAGES

PROPOSED LAND USE DESIGNATION	*TOTAL ACRES*
Single Family Residential	33.79
Mixed Residential	39.26
Manufactured Home Park	31.30
Master Planned Residential	47.37
Planned Development	12.64
Residential-Scaled Commercial	7.70
Primary Commercial	34.13
Old Town Commercial	4.83
Retained Commercial	1.10
Old Town Historic	24.61
Parks and Playfields	12.70
Public Facilities	577.94
Agricultural	33.60

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. Section 15130 of the CEQA Guidelines 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 reasonably 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 Yountville General Plan, this Draft EIR uses the projection approach for the cumulative analysis and considers buildout of the proposed 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 General Plan may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region (Less than Considerable Contribution)

According to the Town's General Plan, the town cemetery provides a scenic vista along the Town's northern limits. There are view corridors located throughout the Town that provide scenic views of agricultural lands, open space, and hillsides.

Buildout under the proposed General Plan and implementation of the General Plan Land Use Map has the potential to result in new or expanded development which would change the visual character and have the potential to interrupt views of scenic areas of the Town and surrounding land. Development under the proposed General Plan and the land use designations identified on the Land Use Map would allow for increased agricultural, commercial, and mixed residential uses along the boundary of the Town. The Yountville Hills, located west of the Town, provided for visually stunning natural feature visible from the Town. Additionally, views of agricultural fields and vineyards surround the Town on all sides. New development within the General Plan area has the potential to reduce the extent of views of the surrounding foothills, hillsides, and agricultural lands from numerous public vantage points within Yountville. The proposed General Plan includes policies that require view corridors to be maintained and to ensure that development is designed and scaled to not conflict with the surrounding environment.

The majority of growth in the region is anticipated to occur in and around existing urban development within the Yountville town limits and within other urbanized areas, including Napa, Oak Knoll, Oakville, Rutherford, and Napa. However, the lands that provide the majority of agricultural and hillside views that surround the Town are located in unincorporated areas of the County. These lands are not designated for urbanization and are anticipated to primarily remain in agricultural and natural open space uses under cumulative conditions.

The Town will maintain a compact urban form under cumulative conditions. Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and programs of the proposed General Plan and adopted regulations pertaining to aesthetics and lighting in Yountville, as described in Chapter 3.1. While development associated with the proposed General Plan has the potential to considerably contribute to permanent changes in visual character, such as conversion of existing visual character, and increased lighting, the General Plan includes extensive policies and programs that would ensure that view corridors are maintained and that future development is designed to reduce impacts to visual resources, including measures to cluster,

scale, and mass development to maintain the area's natural beauty. Therefore, the proposed General Plan's contribution to this cumulative impact is **less than considerable**.

AGRICULTURAL RESOURCES

Impact 4.2: Cumulative Impact to Agricultural Lands and Resources (Considerable Contribution and Significant and Unavoidable)

As shown in Table 3.2-1 in Chapter 3.2, there are approximately 52.5 acres of Important Farmlands located within the General Plan area, including 51.2 acres of Prime Farmland, 0.1 acres of Farmland of Statewide Importance, and 1.2 acres of Unique Farmland. There are two primary areas within the Town's SOI that contain approximately 47 acres of Prime Farmland: one area north of Yountville Cross Road and east of Yount Street, and one area north of Land Street and east of Washington Street. Both of these areas are currently used for agricultural uses and are identified as sites for potential future growth by the Town. The remaining areas of Important Farmlands that are mapped within the Town include a small amount of Important Farmlands, approximately 0.1 acre of Farmland of Statewide Importance, 1.2 acres of Unique Farmland, and approximately 2 acres of Prime Farmland, shown on Figure 3.2-1 are located along the Town's borders and appear to be small portions of larger parcels located outside of the Town boundary and are not affected by the proposed General Plan. It is noted that 2 acres of mapped Prime Farmland is currently in use as a public facility and is no longer Prime Farmland.

In addition to the Important Farmlands shown on Figure 3.2-1, one small agricultural area exists within the Town limits: the Villagio Vineyard located southwest of the intersection of Washington Street and Oak Circle.

As shown on the proposed General Plan Land Use Map (Figure 2.0-6 in Chapter 2.0, Project Description), the majority of land within the Town limits is planned for urban development in one form or another. The two areas within the Town limits that contain Prime Farmland are designated for Agricultural uses and Mixed Residential uses. As shown in Table 2.0-2 in Chapter 2.0, the northern 30-acre Agricultural parcel could support future development of up to 66,380 square feet of non-residential uses. It is noted that this area is expected to remain in agricultural use and approximately 3 acres of the site could be converted to facilities for processing or retail sales of agricultural products that are grown on-site. Additionally, the southern 17-acre Mixed Residential parcel could support up to 118 residential units. Overall, it is assumed that the agricultural viability of approximately 20 acres of Prime Farmland within the Town's SOI will eventually be lost upon full buildout of the Yountville General Plan.

The Yountville 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 General Plan area to the greatest extent feasible. The applicable policies and programs that aim to preserve agricultural lands are identified under Impact 3.2-1.

However, as described in greater detail under Impact 3.2-1, implementation of the Yountville General Plan may lead to the urbanization of approximately 20 acres of Prime Farmland within the

Town limits. The policies and programs identified under Impact 3.2-1 would mitigate this impact to the greatest extent feasible. However, this is considered a cumulatively considerable and **significant and unavoidable** impact. Alternatives to the proposed General Plan that would reduce the amount of Important Farmland that could be converted to non-agricultural use are discussed in Chapter 5.

AIR QUALITY

Impact 4.3: 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 Management District's (BAAQMD'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 recommend 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 Yountville General Plan Open Space and Conservation Element includes an extensive list of policies and programs that are specifically aimed at improving air quality. These policies and programs, which are presented in Chapter 3.3 (Air Quality), are consistent with the intent of the control measures by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations.

Additionally, the Mobility Element includes a range of policies and programs that would effectively reduce vehicle miles travelled throughout the General Plan area, through the use of complete

streets and multi-modal transportation systems. These applicable policies and programs are described in greater detail in Chapter 3.14 (Transportation and Circulation).

The policies and programs included throughout the existing General Plan, most specifically within the Conservation and Open Space Element, and Circulation Element, cover the full breadth of air quality issues as recommended in the 2017 Clean Air Plan. A primary goal of the 2017 Clean Air Plan is to address public health. The 2017 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 proposed General Plan would support the primary goals of the 2017 Clean Air Plan, includes applicable control measures, and does not disrupt or hinder implementation of the 2017 Clean Air Plan.

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 4.4: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may result in impacts to biological resources, including the permanent loss of habitat for special status species and direct and indirect impacts to special status species. The majority of the area surrounding and adjacent to the sensitive habitats within the Town limits are already built out and developed with urban uses.

Subsequent development and infrastructure projects will be required to comply with the Town's General Plan and adopted Federal, State, and local regulations for the protection of special-status plants and animals, including habitat. The Town of Yountville General Plan includes numerous policies and programs intended to protect plants and animals, including habitat, from adverse effects associated with future development and infrastructure projects. Program OS-5.4b requires future projects to address project-related impacts to special-status species and sensitive habitats through a Biological Resources Assessment. While future development of the General Plan area has the potential to result in significant impacts to protected special-status plants and animals, including habitat, the implementation of the policies and programs listed below, as well as Federal and State regulations, would reduce impacts to these resources and would ensure that there are not significant impacts to special-status species and sensitive habitats. Therefore, the proposed General Plan's contribution to this impact is **less than cumulatively considerable**.

CULTURAL AND TRIBAL RESOURCES

Impact 4.5: 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 proposed General Plan may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. The proposed General Plan policies and programs, as well as State and Federal regulations, will reduce the risk to resources in the region. As discussed in Chapter 3.5 (Cultural Resources), each project would require specific surveys for potential resources and the evaluation of any resources discovered during construction activities. Adherence to these policies, programs, 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 proposed General Plan's incremental contribution to cumulative cultural resource impacts would be **less than cumulatively considerable**.

GEOLOGY AND SOILS

Impact 4.6: 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 proposed General Plan will result in risks associated with geology and soils. For example, there is an ongoing possibility 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 risks 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 proposed 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 seismic design, as discussed in Chapter 3.6 (Geology and Soils), the overall cumulative impact would not be significant. As a result, the proposed General Plan's incremental contribution to cumulative geologic and soil impacts would be **less than cumulatively considerable**.

GREENHOUSE GASES AND ENERGY

Impact 4.7: Cumulative Impacts Related to Greenhouse Gases and Climate Change (Less than Cumulatively Considerable)

Implementation of the Yountville 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 Yountville General Plan 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.

As discussed in Impact 3.7-1, the extensive list of policies included in the Town's General Plan and within the latest version of the California Air Resources Board's (CARB's) Scoping Plan, which the proposed General Plan would not conflict with, demonstrate that the General Plan is committed to reducing GHGs and climate change impacts through to the greatest degree feasible. The proposed General Plan would also be consistent with all applicable regulatory requirements aimed at reducing project-related GHG emissions, which include the BAAQMD's Plan-level operational GHG thresholds, as provided within the BAAQMD's CEQA Air Quality Guidelines.

In order to determine if the proposed project would generate GHGs that may have a significant cumulative effect on the environment, Yountville 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, SB 375, and SB 32, which call for reducing statewide GHG emissions to 1990 levels by 2020, and to 40% below 1990 levels by 2030.

The California Emission Estimator Model (CalEEMod) ™ (v.2016.2.2) was used to estimate operational GHG emissions associated with full buildout of the proposed General Plan.

As shown in Tables 3.7-3 and 3.7-4, the proposed General Plan would generate annual operational emissions of approximately 4,712 metric tons of carbon dioxide equivalents ($MTCO_2e$) in the unmitigated scenario and 4,278 MT CO_2e under the mitigated scenario. It should be noted that the mitigated scenario takes into account relevant state and local regulation that would reduce GHG emissions above and beyond the modelled 'unmitigated' scenario, but does not include mitigation as recognized by CEQA. Overall, the proposed General Plan has taken a progressive and proactive approach to the reduction of GHG emissions. As described under the previous impact, the proposed project would not generate GHG emissions that would exceed the BAAQMD's Plan-level thresholds.

The General Plan Land Use Map was developed to maximize the preservation of agricultural and open space lands. The Land Use Element places an emphasis on concentrating new urban development around and within existing established urbanized areas of the Town. The General Plan includes numerous policies that promote and encourage energy efficiency.

All of the policies and programs described in Chapter 3.7 would encourage the development of a compact urban community, while preserving the agricultural and open space resources in the General Plan area. The Town's comprehensive approach to this issue in the 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.

In addition to the General Plan policies and actions that assist in reducing climate change impacts listed above, the proposed General Plan would comply with all existing energy standards, including those established by the Town of Yountville, and would not result in significant adverse impacts on energy resources. Furthermore, existing connections exist between the General Plan area and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. The proposed General Plan would be linked closely with existing networks that, in large part, are sufficient for most residents of the General Plan area. For these reasons, the proposed General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by Appendix F of the *CEQA Guidelines*.

The proposed 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 cumulatively considerable impact.**

HAZARDS AND HAZARDOUS MATERIALS

Impact 4.8: Cumulative Impacts Related to Hazardous Materials (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed 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 or 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 General Plan, some future land uses 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 proposed 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 Chapter 3.8 (Hazards and Hazardous Materials), the overall cumulative impact would not be significant. As a result, the proposed General Plan's incremental contribution to cumulative hazards and human health impacts would be **less than cumulatively considerable**.

HYDROLOGY AND WATER QUALITY

Impact 4.9: 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 proposed General Plan has the potential to result in construction 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 proposed General Plan policies and programs, 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 Chapter 3.9 (Hydrology and Water Quality), the overall cumulative impact would not be significant. As a result, the General Plan's incremental contribution to cumulative hydrology impacts would be **less than cumulatively considerable**.

LAND USE

Impact 4.10: Cumulative Impact on Communities and Local Land Uses (Less than Cumulatively Considerable)

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 proposed 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 proposed General Plan provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas, as well as limited new growth within the General Plan area, 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 proposed General Plan does not include any new roadways, infrastructure, or other features that would divide existing communities. The proposed General Plan's incremental contribution to cumulative land use and population impacts would be **less than cumulatively considerable**.

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 (Less than Cumulatively Considerable)

As shown in Table 3.11-12 in Chapter 3.11, the proposed General Plan would not cause traffic noise levels to exceed the Federal Interagency Committee on Noise (FICON) criteria outlined in Table 3.11-11. The maximum traffic noise level increase is shown to be 3.1 A-weighted sound levels (expressed as dBA) on Washington Street from California Drive to Land Lane. The FICON increase criteria for this section is 5 dBA as existing traffic noise levels are below 6o dBA day/night average sound level (L_{dn}).

The proposed General Plan establishes noise-related policies that, when implemented, protect sensitive receptors from significant noise. The policies that are identified in the Economic Sustainability Element of the 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 General Plan would result in an increase in noise. Consistency with the adopted policies and actions would help to reduce exposure of sensitive receptors to noise levels.

The General Plan includes policies and programs that are intended to reduce noise increases associated with traffic. Specifically, Policy NS-1.2 and associated programs would prevent land uses and new development that increase noise levels above acceptable standards. As concluded in Impact 3.11-1, implementation of the proposed policies and programs of the General Plan will ensure transportation noise impacts are **less than significant**.

POPULATION AND HOUSING

Impact 4.12: Cumulative Impact on Population and Housing (Less than Considerable Contribution)

As described in Chapter 3.12, the proposed General Plan accommodates future growth in Yountville, including new businesses and new residential uses. Infrastructure and services would need to be extended to accommodate future growth.

The proposed General Plan is intended to accommodate a portion of the Town'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 General Plan includes policies and programs 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 3.15 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With adherence to the General Plan policies and programs intended to guide growth to appropriate areas and provide services necessary to accommodate growth, development of the land uses allowed under the proposed General Plan and the infrastructure anticipated to accommodate such development would not induce growth that would exceed adopted thresholds, or exceed the overall buildout projections analyzed in the General Plan EIR.

Additionally, as described in Chapter 3.12, implementation of the General Plan would not displace substantial numbers of people or existing residences. 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. As such, the General Plan would have a **less than cumulatively considerable** impact to this topic.

PUBLIC SERVICES AND RECREATION

Impact 4.13: 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 proposed 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 address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

The proposed General Plan includes a range of policies and actions to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the Town and appropriate service agency, and that new development funds its fair share of services. The 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 General Plan also includes an action to regularly evaluate and update development impact fees in order to fund infrastructure improvements and public service costs. The proposed General Plan's incremental contribution to cumulative public services and recreation impacts would be **less than cumulatively considerable**.

TRANSPORTATION AND CIRCULATION

The transportation and circulation analysis evaluates the potential impacts to multimodal circulation as compared to conditions that would occur without the proposed General Plan Update. Quantitative analyses were conducted for the following two cumulative scenarios:

- Cumulative Baseline – Reflects the conditions in the year 2040 as reflected in the regional growth on State Route (SR) 29. No in-town growth was assumed. The scenario includes the Veterans Home Master Plan development.
- Cumulative Plus Project – This condition reflects the Cumulative Baseline scenario with the addition of the proposed General Plan.

Cumulative Traffic Projections: Future traffic volumes for the year 2040 on SR 29 were determined based on the Solano-Napa Countywide Model as well as the review of historical volumes on SR 29. Based on these sources, a growth rate of 0.6 percent per year was applied to through movements on the highway.

The cumulative traffic projections also include additional in-town growth resulting from implementation of the Veterans Home Master Plan, and was determined based on the land use and respective trip generation that the Plan would be expected to generate. As part of the Master Plan, there would be 129 senior residential units, 56,000 square feet of medical ambulatory care, and 109 hotel rooms. The hotel rooms would target visitors of the Veterans Home but would also be open

to the public. When determining the potential amount of vehicle traffic generated by the development, transportation planners and engineers typically refer to the publication *Trip Generation Manual*, 10th Edition, 2017, by the Institute of Transportation Engineers (ITE). 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 net incremental increases in development associated with the Master Plan development along with the trip generation land use categories applied in the analysis is shown in **Error! Reference source not found.**. Implementation of the master plan is projected to add 2,517 p.m. peak hour trips to the surrounding street network. The projected Cumulative Baseline intersection turning movements are shown in Figure 3.14-8 in Chapter 3.14.

TABLE 4.0-4: VETERANS HOME INCREASE IN DEVELOPMENT AND ITE TRIP GENERATION RATES

VETERANS HOME MASTER PLAN LAND USES	*QUANTITY*	*ITE LAND USE CODE AND DESCRIPTION*
Residential – Senior Housing	129 units	252 – Senior Housing Attached
Medical Clinic	56 ksf	630 – Clinic
Hotel	109 rooms	310 – Hotel

NOTE: KSF = 1,000 SQUARE FEET
SOURCE: W-TRANS, 2018.

Cumulative Baseline Intersection Operations: Cumulative Baseline intersection operation reflects projected year 2040 conditions on SR 29 as well as the in-town growth that would be attributed to the Veterans Home Master Plan. Under these Cumulative Baseline (No Project) conditions, the study intersection of SR 29/Madison Street is projected to operate at an unacceptable Level of Service (LOS) F. It is noted that this intersection operates at an unacceptable LOS E under the Existing condition. A summary of the intersection LOS calculations is contained in Table 4.0-5, and the LOS calculation sheets are included in Appendix D.

TABLE 4.0-5: SUMMARY OF CUMULATIVE BASELINE PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*PM PEAK HOUR*	
	DELAY	*LOS*
1. Washington Street/Madison Street	11.9	B
2. Washington Street/Yount Street	10.7	B
3. Washington Street/California Drive	16.2	C
4. SR 29/Madison Street	**118.9**	**F**
5. SR 29 Northbound Ramps/California Drive	6.0	A
Northbound SR 29 Off-Ramps	*14.1*	*B*
6. SR 29 Southbound Ramps/California Drive	5.1	A
Southbound SR 29 Off-Ramps	*19.7*	*C*
7. Yount Street/Finnell Road	8.1	A
8. Yount Street/Madison Street	10.0	B
9. Yount Street/Yountville Cross Road	8.4	A
Westbound Yountville Cross Rd Approach	*13.1*	*B*

*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*
SOURCE: W-TRANS, 2018.

Impact 4.14: Cumulative Impact on the Transportation Network (Cumulatively Considerable and Significant and Unavoidable)

As described in Chapter 3.14 (Transportation and Circulation), the Cumulative Plus Project alternative scenario reflects the conditions in the year 2040 occurring from buildout of the proposed Project, as added to Cumulative Baseline conditions. Under Cumulative Plus Project conditions, two of the nine intersections are projected to either operate unacceptably overall or have a minor approach that operates unacceptably.

A summary of the intersection LOS calculations is contained in Table 4.0-6. As shown in Table 4.0-6, implementation of the project would not result in unacceptable cumulative operations at the majority of intersections. While the project is anticipated to cause the southbound off-ramp approach at the intersection of SR 29 Southbound Ramps/California Drive to drop from LOS C to LOS E operation under Cumulative Plus Project conditions, the intersection would operate acceptably at LOS A overall and the "peak hour" signal warrant would remain unmet. The project's impact at this location is therefore considered to be less than significant.

TABLE 4.0-6: SUMMARY OF CUMULATIVE PLUS PROJECT PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*CUMULATIVE BASELINE*		*CUMULATIVE PLUS PROJECT*	
	DELAY	*LOS*	*DELAY*	*LOS*
1. Washington Street/Madison Street	11.9	B	14.7	B
2. Washington Street/Yount Street	10.7	B	13.7	B
3. Washington Street/California Drive	16.2	C	24.8	C
4. SR 29/Madison Street	**118.9**	**F**	**123.1**	**F**
5. SR 29 Northbound Ramps/California Drive	6.0	A	6.5	A
Northbound SR 29 Off-Ramps	*14.1*	*B*	*15.4*	*C*
6. SR 29 Southbound Ramps/California Drive	5.1	A	8.5	A
Southbound SR 29 Off-Ramps	*19.7*	*C*	*44.1*	*E*[1]
7. Yount Street/Finnell Road	8.1	A	8.7	A
8. Yount Street/Madison Street	10.0	B	11.8	B
9. Yount Street/Yountville Cross Road	8.4	A	9.6	A
Westbound Yountville Cross Rd Approach	*13.1*	*B*	*15.7*	*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; ***BOLD*** *= OPERATION BELOW STANDARDS; [1]CONSIDERED TO BE ACCEPTABLE OPERATION SINCE OVERALL INTERSECTION OPERATION WOULD BE LOS A, AND SIGNAL WARRANT WOULD REMAIN UNMET*

SOURCE: W-TRANS, 2018.

Similar to the project's impacts at the SR 29/Madison Street intersection under existing conditions, implementation of the proposed project would contribute to unacceptable overall operation at the intersection of SR 29/Madison Street under cumulative conditions. The intersection is already projected to operate unacceptably at LOS F under cumulative conditions prior to the addition of project traffic and the project would contribute to LOS F conditions. General Plan Policy C 1.3 recognizes that the improvements to the SR 29/Madison Street intersection are outside of the Town's jurisdiction and require the Town to coordinate with the California Department of Transportation (Caltrans) and Napa Valley Transportation Authority to address improvements to the

intersection, including conversion to a grade-separated interchange as identified in the countywide transportation plan *2040 Moving Forward Napa Valley*. Because there is no identified funding source or mechanism to ensure that the interchange will be completed in the future and the Town does not have jurisdiction over SR 29, the impact of added traffic associated with buildout of the General Plan would result in a **cumulatively considerable** and **significant and unavoidable** impact.

UTILITIES AND SERVICE SYSTEMS

Impact 4.15: Cumulative Impact on Utilities (Less than Cumulatively Considerable)

Cumulative growth that would occur within the cumulative analysis area over the life of the proposed General Plan will result in increased demand for sewer service, water service, storm water/drainage infrastructure, and solid waste disposal services.

Wastewater: As described in greater detail in Chapter 3.15, the Joint Wastewater Treatment Plant (JWTP) has an ADWF design capacity of 0.55 MGD for normal flows and 2.0 million gallons per day (MGD) for high flows. The JWTP can accept up to 2.8 MGD through its primary system during peak wet weather conditions. Flows in excess of the JWTP's secondary treatment capacity are stored in a 3.8-million-gallon effluent holding pond for later treatment. The Town has not had any sanitary sewer overflows at the JWTP. The Town commissioned a report prepared by RSA+, dated June 10, 2015, to analyze projected wastewater treatment demand and to consider the potential addition of Domaine Chandon to the Town's Planning Area and the affect this may have on the property's wastewater service. The JWTP has adequate capacity to treat flows from the service area to the Town's projected build out, based on an estimated increase in flows of 0.043 MGD.

Build-out of the proposed General Plan would result in increased wastewater flows by approximately 0.065 MGD, 0.023 MGD more than anticipated in the RSA+ analysis. The generation of 0.065 MGD associated with General Plan buildout combined with existing flows (average daily treatment of 0.3655 MGD in 2017) would result in approximately 0.4305 MGD average daily flows. This is within the 0.55 MGD treatment capacity of the JWTP.

The Yountville General Plan includes infrastructure and public services policies aimed to support the funding of public improvements which would result from implementation of the General Plan. For example, Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Program LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review. Further, Policy LU-3.7 requires new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.

While full buildout of the proposed General Plan would slightly increase the existing treatment capacity of the JWTP, the proposed General Plan includes policies and programs to ensure that public services and utilities services are adequate to meet the needs of existing and future development. The Town will also periodically review and update the Sewer System Management

Plan, and as growth continues to occur within the General Plan area, the Town will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that the General Plan includes a comprehensive set of policies and programs to ensure an adequate and reliable wastewater collection and treatment system, impacts associated with wastewater treatment and compliance with waste discharge requirements are **less than cumulatively considerable.**

Water: Table 3.15-6 summarizes the projected water demand for buildout of the General Plan. As shown in the table, the projected water demand for General Plan buildout would be approximately 134.72 AFY. 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 in the Town's Water Use Efficiency Plan.

The proposed General Plan includes infrastructure and public services policies and programs aimed to ensure that service levels are adequate. For example, Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Policy LU-3.6a requires analyzation of project impacts on infrastructure capacity and services as part of CEQA review, and Policy LU-3.7 requires payment of the fair share fee of infrastructure improvements and public service costs to the Town. Subsequent development projects proposed within the General Plan area would be subject to these policies.

Given that projected water demands associated with General Plan buildout would not exceed the projected water supplies described in the Town's Water Use Efficiency Plan, and that the proposed General Plan includes a comprehensive set of policies and programs to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are **less than cumulatively considerable.**

Stormwater: Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the General Plan area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. Impacts associated with construction activities may include air quality, drainage, and noise, and impacts associated with operation including traffic, noise, air quality, and land stability. These impacts would generally occur as described in the relevant chapters (Chapters 3.1 through 3.15, 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; 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 to reduce the impacts and discloses which impacts cannot be reduced to less than significant levels.

The Town's General Plan includes policies and programs designed to ensure adequate drainage infrastructure is available to serve development and to minimize the potential adverse effects of stormwater conveyance. The proposed General Plan includes Policy OS-6.4 and Programs OS-6.4a, OS-6.4b, and OS-6.4c which aim to encourage best management practices and comply with the NPDES permit requirements. Specifically, Program OS-6.4a requires new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design. Additionally, Program OS-6.4b requires new development, redevelopment, and infrastructure projects to comply with the requirements of the NPDES permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.

The policies and programs included in the General Plan would ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts. This is **less than cumulatively considerable.**

Solid Waste: Development under the proposed General Plan may increase the population within the General Plan area by approximately 439 residents. As described in Chapter 3.15, both the unincorporated areas of Napa County and the Upper Valley Waste Management Agency (UVWMA) have met and exceeded CalRecycle's pounds per day (PPD) disposal rate targets in recent years. The unincorporated areas of Napa County achieved a disposal rate of 5.0 PPD per resident and 5.2 PPD per employee in 2015, while the UVWMA achieved rates of 4.4 PPD per resident and 5.0 PPD per employee in the same year. Assuming these disposal rates remain constant throughout the life of the General Plan, the new growth under General Plan buildout would result in an increase of approximately 2,195 pounds per day of solid waste (439 residents × 5.0 PPD), which equals 1.1 tons per day or 401.5 tons of solid waste per year.

The Town's annual increase in solid waste generation is well within the daily permitted capacity of the Clover Flat Landfill. The 79-acre Clover Flat Landfill has a permitted daily capacity of 600 tons at the solid waste facility and 2,500 cubic yards at the composting facility. The solid waste facility has a total permitted capacity of 4,560,000 cubic yards, with a remaining capacity of 2,870,000 cubic yards (58.6 percent). According to the CalRecycle Solid Waste Facility Permit (289-AA-0002), as of July 2014, the estimated closing date for the landfill is 2047.

While there is adequate permitted landfill capacity to accommodate future growth, the proposed General Plan includes policies and programs to further reduce the project's impact on solid waste services, as identified in Chapter 3.15 (Utilities). The General Plan would not exceed the permitted

capacity of the landfill serving the Town, and the General Plan complies 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, directing:

> *Discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

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 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 proposed 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 proposed General Plan would serve as a comprehensive, long-term plan for the physical development of Yountville. Projected growth is described in Chapter 3.12 (Population and Housing), and the environmental consequences related to the potential growth are fully assessed in each topical section. By definition, the proposed Yountville General Plan is intended to provide for and address future growth in the city.

Because the proposed General Plan provides a framework for development through its Land Use Map, land use designations, goals, policies, and programs, it would directly induce population and employment growth in the Yountville General Plan 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 Yountville General Plan focuses on the following factors: inducement of unanticipated population growth; encouragement of economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and resulting service, facility, or infrastructure demands in excess of existing and planned growth.

The proposed General Plan accommodates future growth in Yountville, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to accommodate future growth. The overall purpose of the Envision Yountville General Plan Update is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The cumulative development scenario addressed in this Draft EIR is the maximum projected development that could occur within the existing Town limits and the SOI, if every parcel in the Town developed at or near the higher end of densities and intensities allowed under the proposed General Plan.

As shown in Table 2.0-2, buildout of the General Plan could yield up to 231 new housing units and 169,555 square feet of new non-residential building square footage within the Town's General Plan area. Depending on growth rates, the actual growth during the life of the General Plan could be lower or higher, but is not anticipated to exceed the theoretical maximum buildout described in Chapter 2.0.

Given the historical and current population, housing, and employment trends, growth in the Town, as well as the entire state, is inevitable. Population growth in the region is a result of natural increase and net migration. . Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Yountville 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 Town'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 programs that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality. Additionally, this Draft EIR identifies General Plan policies and programs, where appropriate, that would serve to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Chapters 3.1 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 programs 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

Legal Considerations

CEQA Guidelines Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

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

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 Yountville General Plan area has multiple nonrenewable resources, including agricultural resources, biological resources, and water resources.

The overall purpose of the Envision Yountville General Plan Update is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The proposed General Plan directs most new development to infill areas, and areas surrounding existing neighborhoods and urbanized areas. As a result, the proposed General Plan will minimize the potential for impacts to the nonrenewable resources in the General Plan area, including agricultural resources, biological resources, water resources, and energy resources, to the greatest extent feasible. More detailed and focused discussions of potential impacts to these nonrenewable resources are contained throughout this Draft EIR.

Nonrenewable 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 proposed General Plan. The proposed General Plan includes a variety of policies that seek to 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

Implementation of the proposed General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the 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 habitat, 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 proposed General Plan would result in changes in land use within the Planning Area that would commit future generations to these uses.

Impact 4.16: Irreversible Effects (Significant and Unavoidable)

In summary, the proposed 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 town. However, even with the policies and actions that will serve to reduce potential significant impacts, the proposed General Plan will result in significant irreversible changes. This impact is considered a **significant and unavoidable** impact under CEQA.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed to subsequent development and other projects through

construction, infrastructure installation, operation, and continued maintenance. Construction of future projects within the General Plan area would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the General Plan. The introduction of new residential, commercial, office, agricultural, and other uses to the Town will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the project will increase consumption of available supplies, including gasoline and diesel fuel, and natural gas. These energy resource demands relate to construction, operation and maintenance associated with development, infrastructure, facilities, and other projects, and the transport of people and goods to and from the General Plan area. Additional information the estimated energy usage of the General Plan can be found under Impact 3.7-3 of Chapter 3.7, Greenhouse Gases and Energy. The discussion and analysis in Chapter 3.7 shows that General Plan implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the General Plan are discussed in Sections 3.1 through 3.15 (project-level) and previously in this chapter (cumulative-level).

- Impact 3.2-1: General Plan implementation would result in the conversion of Important Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural use;
- Impact 3.11-3: General Plan implementation could result in temporary or periodic increases in ambient noise levels in the project vicinity;
- Impact 3.14-1: Implementation of the project would not conflict with any applicable congestion management program but could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system;
- Impact 4.2: Cumulative impact to agricultural lands and resources;
- Impact 4.14: Cumulative impact on the transportation network; and
- Impact 4.16: Irreversible effects.

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 proposed General Plan. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed General Plan. No comments were received related to potential alternatives to the proposed General Plan to be addressed in the EIR.

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 degradation of the visual character of the site and its surroundings, conversion of Important Farmlands to non-agricultural uses, and construction noise. Significant impacts are summarized in Chapter 4.0 and described in greater detail in Chapters 3.2, 3.11, 3.14, and 4.0.

As described in Chapter 2.0 (Project Description), the overall purpose of the Envision Yountville General Plan Update is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The key components of the General Plan will include broad goals for the future of Yountville, objectives for meeting those goals, and specific policies and action items that will help implement the goals and objectives.

Full buildout of the General Plan area could accommodate up to 231 dwelling units (DU) and up to 169,646 square feet (SF) of non-residential uses.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

The proposed General Plan Update would result in the following significant and unavoidable impacts, which are described in Chapters 3.2, 3.11, 3.14, and 4.0:

- Impact 3.2-1: General Plan implementation could result in the conversion of Important Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural use;

- Impact 3.11-3: General Plan implementation could result in temporary or periodic increases in ambient noise levels in the project vicinity;
- Impact 3.14-1: Implementation of the project would not conflict with any applicable congestion management program but could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system;
- Impact 4.2: Cumulative impact to agricultural lands and resources;
- Impact 4.14: Cumulative impact on the transportation network; and
- Impact 4.16: Irreversible effects.

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 A**: Alternative A would reduce the potential development density and intensities through the following land use changes:

    - Reduce the floor-area-ratio (FAR) for the Agricultural land use designation to 0.01.

    Alternative A was developed to reduce the impacts associated with aesthetics, agricultural resources, air quality, greenhouse gas emissions, noise, and public services, transportation/circulation. This alternative would decrease the non-residential growth potential by 53,104 SF. There would be no change to potential residential development under this alternative. As shown in Table 5.0-1, this alternative could accommodate up to 231 residential units (including 155 single family and 76 multifamily/mixed use/live-work) and up to 116,451 SF of non-residential uses (including 84,491 SF commercial, 21,684 SF office, and 13,276 SF agricultural).

- **Alternative B**: Alternative B would reduce the potential development densities and intensities through the following land use changes.

    - Limit development west of Washington Street to a two-story maximum height limit.
    - Designate the agricultural land located east of Washington Street and north of Land Lane along the Town's southeast boundary as Mixed Residential on 4.5 acres with the Affordable Housing Overlay, and designate the remaining portion of the site as Agricultural (approximately 12 acres).

    Alternative B was developed to reduce impacts associated with aesthetics, agricultural resources, air quality, greenhouse gas emissions, noise, public services,

transportation/circulation, utilities. This alternative would decrease the residential growth potential by 54 DU and would increase the non-residential growth potential by 26,523 SF associated with development of land designated Agricultural. As shown in Table 5.0-1, this alternative could accommodate up to 177 residential units (including 44 single family and 133 multifamily/mixed use/live-work) and up to 196,078 SF of non-residential uses (including 84,491 SF commercial, 21,684 SF office, and 92,903 SF agricultural).

- **Alternative C - No Project Alternative**: Under Alternative C, the Town would not adopt the General Plan Update. The existing Yountville General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, goals, policies, or programs would occur. The existing Land Use Map is shown on Figure 5.0-1. This alternative would increase the residential growth potential by 82 DU and would decrease the non-residential growth potential by 31,245 SF. As shown in Table 5.0-1, this alternative could accommodate up to 313 residential units (including 164 single family and 149 multifamily/mixed use/live-work) and up to 138,310 SF of non-residential uses (including 71,930 SF commercial and 66,380 SF agricultural).

A comparison of the growth projections, including residential and non-residential uses, is provided in Table 5.0-1

TABLE 5.0-1: ALTERNATIVES COMPARISON

GENERAL PLAN GROWTH	*PROPOSED PROJECT*	*ALTERNATIVE A*	*ALTERNATIVE B*	*ALTERNATIVE C*
RESIDENTIAL GROWTH				
Single Family	155	155	44	164
Multifamily/Mixed Use/Live-Work	76	76	133	149
Subtotal Residential Units	***231***	***231***	***177***	***313***
NON-RESIDENTIAL GROWTH				
Commercial	81,491	81,491	81,491	71,930
Office	21,684	21,684	21,684	-
Agricultural	66,380	13,276	92,903	66,380
Subtotal Non-Residential SF	***169,555***	***116,451***	***196,078***	***138,310***

SOURCE: DE NOVO PLANNING GROUP, 2018.

Additionally, a comparison of the number of vehicle trips generated by the proposed General Plan, Alternative A, Alternative B, and Alternative C is provided in Table 5.0-2. For more discussion regarding trip generation assumptions, see Chapter 3.14, Transportation and Circulation.

TABLE 5.0-2: NET ADDITIONAL PM PEAK HOUR VEHICLE TRIPS FOR GENERAL PLAN ALTERNATIVES

PERIOD	*PROPOSED PROJECT*	*ALTERNATIVE A*	*ALTERNATIVE B*	*ALTERNATIVE C*
PM Peak Hour	567	528	508	555

SOURCE: W-TRANS, 2018; DE NOVO PLANNING GROUP, 2018.

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.

The primary difference between the proposed General Plan and Alternatives A and B, and C are the changes in land use and associated development assumptions (i.e., FAR, building height, etc.) for each of these alternatives. The goals, policies, and programs contained in the proposed General Plan would apply and be implemented under Alternatives A and B, with the exception of the goals, policies, and programs associated with the land use changes under each alternative. Alternative C would maintain the existing goals, policies, and actions of the existing General Plan. Therefore, changes to the development assumptions are the only variables that may increase or decrease the severity of one or more of the significant environmental impacts identified in this Draft EIR.

Following the analysis of each alternative, Table 5.0-5 summarizes the comparative effects of each alternative.

ALTERNATIVE A

As shown in Table 5.0-1, Alternative A would result in an equal amount of residential growth and a decrease in the non-residential growth potential by 53,104 SF. This alternative could accommodate up to 231 residential units (including 155 single family and 76 multifamily/mixed use/live-work) and up to 116,451 SF of non-residential uses (including 81,491 SF commercial, 21,684 SF office, and 13,276 SF agricultural). As shown in Table 5.0-2, Alternative A would result in 39 fewer PM peak hour trips, a 7% reduction, as compared to the proposed General Plan.

The potential for Alternative A to increase, decrease, 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 changes to the Town's visual character, as described under Impact 3.1-1 in Chapter 3.1. Under Alternative A, development patterns within the Town limits would be generally comparable to the proposed project, with equal residential growth and decreased non-residential growth (decrease of 53,104 SF). This alternative would reduce the Agricultural FAR to 0.01, which would lead to less intense development than would occur under the proposed General Plan.

The introduction of new and more intense development into previously undisturbed areas or areas that have been historically used for agricultural operations would result in changes to existing views of agricultural land and open space that shape the Town's visual character. Additionally, new development may result in changes to the skyline throughout the Town. Development projects would be required to include view corridors to ensure that views of the surrounding foothills, hillsides, and agricultural lands are retained from numerous vantage points within Yountville.

Development under Alternative A would allow for increased development of residential, commercial, office, hotel, and agricultural uses in comparison to existing conditions, but would result in a decrease in the intensity of development on lands designated Agricultural. New development under Alternative A would likely be less intense than it would be under the proposed General Plan. Specifically, due to the reduced Agricultural FAR, the development potential for the northern Agricultural parcel (north of Yountville Cross Road) would be greatly reduced. This could, in turn, result in a more compact development that would impact views to the northeast less than would be allowed under the proposed General Plan. Therefore, impacts associated with Alternative A would be reduced in comparison to the proposed project. It is noted that this alternative and the proposed project would both have a less than significant impact on visual resources with implementation of proposed General Plan policies and programs that ensure the visual character and natural beauty of the area is maintained.

Farmland Conversion

The proposed General Plan would result in significant and unavoidable impacts related to the conversion of farmlands, as described under Impact 3.2-1 in Chapter 3.2. Alternative A would reduce the development potential on lands designated for Agricultural uses from 0.05 FAR to 0.01 FAR, which would reduce the amount of Agricultural designated lands that could be converted from Important Farmland to non-agricultural uses. In turn, approximately 0.6 acres of the northern agricultural parcel would be developed rather than approximately 3.0 acres under the proposed General Plan. Under this alternative, potential development on Important Farmland would be reduced from approximately 20 acres under the proposed project to 17.6 acres under this alternative. As such, fewer acres of Important Farmland would be converted by Alternative A, which would result in fewer impacts compared to the proposed project. It is noted that this alternative would still result in a significant and unavoidable impact associated with conversion of Important Farmlands to non-agricultural use.

Air Quality and Greenhouse Gas Emissions

As described in Chapters 3.3 and 3.7, implementation of the proposed General Plan would generate emissions during both the construction phase and the operational phase. Future construction related impacts would be less under this alternative when compared to the proposed General Plan, as the area of potential ground disturbance would be reduced and the overall amount of development that could occur would be reduced. Additionally, under this alternative, mobile source emissions would be less. Mobile source (vehicle emissions) are directly related to the number of vehicle trips generated by a project. As shown in Table 5.0-2, the number of vehicle trips associated with Alternative A (528 PM peak hour trips) would be less than the proposed General Plan (567 PM peak hour trips). Therefore, this alternative would have fewer impacts related to air quality when compared to the proposed project.

Noise Exposure

The proposed project would result in significant and unavoidable impacts associated with increases in temporary and periodic noise levels associated with construction, as described under Impact 3.11-3 in Chapter 3.11. This alternative would result in decreased non-residential

growth in the Town when compared to the proposed General Plan. Under this alternative, fewer residences would be located in the Town, and less overall construction would occur adjacent to sensitive receptors. This alternative would expose fewer sensitive residential receptors to increased traffic and operational noise and, due to the reduction in development, would also result in less traffic and operational noise overall as compared to the proposed General Plan. Therefore, while construction noise impacts would remain significant and unavoidable under this alternative, the severity of this significant impact would be reduced when compared to the proposed project.

Intersection Operations and Alternative Transportation

As described in Chapter 3.14, implementation of the proposed project would cause an increase in traffic on roadways or intersections. All impacts would be less-than-significant or would be reduced to a less-than-significant level with implementation of the mitigation measures included in Chapter 3.14. As noted above, the total non-residential building square footage would be less than the proposed project under this alternative. As shown in Table 5.0-2, Alternative A would result in a 7% reduction in daily PM peak hour vehicle trips, 39 fewer trips, than the proposed project. Alternative A would contribute additional trips to the SR 29/Madison Street intersection and it is anticipated that this intersection would operate unacceptably under Alternative A as well as the proposed project; however, Alternative A would contribute fewer trips resulting in slightly better operations but not an improvement in LOS. Alternative A would be required to adhere to the same programs and policies that reduce overall trips, particularly through encouraging use of non-automotive transportation, as the proposed project. Because the amount of traffic would be less under this alternative than the proposed project, the long-term operation of the Town's roadways and intersections would improve over the proposed project. Under this alternative, transportation and circulation impacts would be reduced when compared to the proposed project.

Public Services and Utilities

Development accommodated under the General Plan and Alternative A would result in additional residents and businesses in the Town, including new residential, commercial, office, and agricultural uses. Future development and infrastructure projects (including new and/or expanded public facilities) allowed under both the General Plan and Alternative A would be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

Under Alternative A, the non-residential growth potential would decrease by 53,104 SF. There would be no change to potential residential development under this alternative. Implementation of the proposed General Plan would result in less-than-significant impacts to the public wastewater, water, stormwater, and solid waste collection and disposal system. Because this alternative could result in less future development throughout the Town, the wastewater, water, and solid waste generation would likely be less.

Overall, this alternative would have reduced wastewater treatment demand, reduced solid waste generated, reduced storm water runoff, and reduced demand for public services when compared to the proposed General Plan and would result in the need for fewer facilities improvements and maintenance associated with the provision of services and utilities. As such, this alternative would have reduced impacts when compared to the proposed project.

Other Impacts

The land disturbance and development associated with this alternative is expected to be less than the proposed project under project-level conditions and cumulative conditions. As such, impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, and hydrology and water quality would be less than proposed project, but would remain less than significant with adherence to applicable laws, regulations, and proposed General Plan policies and programs.

Irreversible Effects

The proposed project would have a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 4.16. During the planning horizon, development under Alternative A within the General Plan area would be reduced in comparison to the proposed project, as described above. Under cumulative conditions, Alternative A would result in less commercial, office, and agricultural development (see Table 5.0-1). The associated irretrievable commitment of nonrenewable resources and permanent conversion of agricultural, open space, and other undeveloped lands under Alternative A would remain a significant and unavoidable impact. However, while Alternative A would use nonrenewable 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, the levels of use would be less than the proposed project due to the decrease in development potential.

ALTERNATIVE B

As shown in Table 5.0-1, Alternative B would decrease the residential growth potential by 54 DU and would increase the non-residential growth potential by 26,523 SF. This alternative could accommodate up to 177 residential units (including 44 single family and 133 multifamily/mixed use/live-work) and up to 196,078 SF of non-residential uses (including 81,491 SF commercial, 21,684 SF office, and 92,903 SF agricultural). As shown in Table 5.0-2, Alternative B would result in 59 fewer PM peak hour trips, a 10% reduction, as compared to the proposed General Plan.

The potential for Alternative B to increase, decrease, 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 Chapter 3.1. Under Alternative B, development patterns within the Town limits would be generally comparable to the proposed project, with slightly less potential for residential

(decrease of 54 DU) but increased potential for non-residential growth (increase of 26,523 SF). This alternative would eliminate some of the proposed building height increases for development west of Washington Street by requiring a two-story maximum height in this area, which would lead to less intense development than would occur under the proposed General Plan.

The introduction of new and more intense development into previously undisturbed areas or areas that have been historically used for agricultural operations would result in changes to existing views of agricultural land and open space that affect the Town's visual character. Additionally, new development may result in changes to the skyline throughout the Town. Development projects would be required to include view corridors to ensure that views of the surrounding foothills, hillsides, and agricultural lands are retained from numerous vantage points within Yountville.

Development under Alternative B would allow for increased development of residential, commercial, office, hotel, and agricultural uses. New development under Alternative B would likely be less intense than it would be under the proposed General Plan, due to the reduction in total residential development permitted in comparison to the proposed General Plan. Due to the elimination of the proposed building height allowance west of Washington Street, and the increase in Agricultural land that would be designated in the southeast area of Town, the potential changes to views of the surrounding naturalized foothills and hillsides from numerous vantage points within Yountville would be reduced. Therefore, impacts associated with Alternative B would be slightly reduced in comparison to the proposed project. It is noted that this alternative and the proposed project would both have a less than significant impact on visual resources with implementation of proposed General Plan policies and programs that ensure the visual character and natural beauty of the area is maintained.

Farmland Conversion

The proposed General Plan would result in significant and unavoidable impacts related to the conversion of farmlands, as described under Impact 3.2-1 in Chapter 3.2. Alternative B would increase the amount of Agricultural land designated on the Land Use Map by approximately 12 acres (the vineyard parcel located in the southeast area of Town The development potential for Agricultural parcels would be similar to the proposed project, allowing future development on Agricultural parcels at 0.05 FAR. Under this alternative, potential development on Important Farmland would be reduced from approximately 20 acres under the proposed project to approximately 7.5 acres under this alternative. As such, fewer acres of Important Farmland would be converted by Alternative B, which would result in fewer impacts compared to the proposed project. It is noted that this alternative would still result in a significant and unavoidable impact associated with conversion of Important Farmlands to non-agricultural use.

Air Quality and Greenhouse Gas Emissions

As described in Chapters 3.3 and 3.7, implementation of the proposed General Plan would generate emissions during both the construction phase and the operational phase. Future

construction related impacts would be less under this alternative when compared to the proposed General Plan, as the area of potential ground disturbance would be reduced. Mobile source (vehicle emissions) are directly related to the number of vehicle trips generated by a project. As shown in Table 5.0-2, the number of vehicle trips with Alternative B (508 PM peak hour trips) would be less than the proposed General Plan (567 PM peak hour trips). Therefore, this alternative would have fewer impacts related to air quality when compared to the proposed project.

Noise Exposure

The proposed project would result in significant and unavoidable impacts associated with increases in temporary and periodic noise levels associated with construction, as described under Impact 3.11-3 in Chapter 3.11. This alternative would result in slight decreases in residential while accommodating increased non-residential growth in the Town when compared to the proposed General Plan. Under this alternative, slightly fewer residences would be located in the Town, and less overall construction would occur adjacent to sensitive receptors. This alternative would expose slightly fewer sensitive residential receptors to excessive operational, traffic, and construction noise as compared to the proposed General Plan. Therefore, while construction noise impacts would remain significant and unavoidable under this alternative, the severity of this significant impact would be slightly reduced when compared to the proposed project.

Intersection Operations and Alternative Transportation

As described in Chapter 3.14, implementation of the proposed project would cause an increase in traffic on roadways or intersections. All impacts would be less-than-significant or would be reduced to a less-than-significant level with implementation of the mitigation measures included in Chapter 3.14. As noted above, the total development, including residential units and non-residential building square footage, would be less than the proposed project under this alternative. As shown in Table 5.0-2, Alternative B would result in 59 fewer PM peak hour vehicle trips, a 10% reduction, than the proposed project. Alternative B would contribute additional trips to the SR 29/Madison Street intersection and it is anticipated that this intersection would operate unacceptably under Alternative B as well as the proposed project as the intersection operates unacceptably under existing and cumulative baseline conditions; however, Alternative B would contribute fewer trips resulting in slightly better operations but not an improvement in the projected LOS. Alternative B would be required to adhere to the same programs and policies that reduce overall trips, particularly through encouraging use of non-automotive transportation, as the proposed project. Because the amount of traffic would be slightly less under this alternative than the proposed project, the long-term operation of the Town's roadways and intersections would improve in comparison to the proposed project. Under this alternative, transportation and circulation impacts would be reduced when compared to the proposed project.

Public Services and Utilities

Development accommodated under the General Plan and Alternative B would result in additional residents and businesses in the Town, including new residential, commercial, office, and agricultural uses. Future development and infrastructure projects (including new and/or expanded public facilities) allowed under both the General Plan and Alternative B would be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

Under Alternative B, the residential growth potential would decrease by 54 DU and the non-residential growth potential would increase by 26,523 SF. Implementation of the proposed General Plan would result in less-than-significant impacts to the public wastewater, water, stormwater, and solid waste collection and disposal system. Because this alternative could result in less future development throughout the Town, the wastewater, water, and solid waste generation and demand for public facilities would likely be less than the proposed project.

Overall, this alternative would have slight reductions in wastewater treatment demand, water demand, and solid waste generated, and reductions in storm water runoff when compared to the proposed General Plan. Impacts associated with public services would also likely be slightly reduced in comparison to the proposed General Plan. As such, this alternative would have reduced impacts when compared to the proposed project.

Other Impacts

The land disturbance and development associated with this alternative is expected to be slightly less than the proposed project under project-level conditions and cumulative conditions. As such, impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, and hydrology and water quality would be slightly less than proposed project, but would remain less than significant with adherence to applicable laws, regulations, and proposed General Plan policies and programs.

Irreversible Effects

The proposed project would have a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 4.16. During the planning horizon, development under Alternative B within the General Plan area would be reduced in comparison to the proposed project, as described above. Under cumulative conditions, Alternative B would result in less residential development and an increase in agricultural development (see Table 5.0-1). Alternative B would use nonrenewable 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, but these would be used at levels less than to the proposed project. Less agricultural land would be permanently converted under this alternative. However, the associated irretrievable commitment of nonrenewable resources and permanent conversion of agricultural, open space, and other undeveloped lands under Alternative B would remain a significant impact. Therefore, Alternative B would have a reduced impact in

comparison to the proposed project, but the irreversible effects would remain significant and unavoidable.

ALTERNATIVE C

Under Alternative C, the Town would continue to implement the adopted General Plan and no changes would be made to address the requirements of State law. Since adoption of the existing 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. The General Plan goals, policies, and programs, as well as the Land Use Map, would not be updated to address the vision and concerns of the town's residents, property owners, decision-makers, and other stakeholders that actively participated in the visioning and goal and policy development process.

Alternative C would result in the continuation of existing conditions and development levels, as described in Chapter 3.10 (Land Use). New growth would be allowed as envisioned under the existing General Plan, with land uses required to be consistent with the existing General Plan Land Use Map.

As shown in Table 5.0-1, Alternative C would result in approximately 82 more housing units and a reduction in non-residential uses by 31,245 SF. Under Alternative C, the existing General Plan policy framework would still be in effect, which would constitute a status quo approach to land use regulation in the Town. The policy framework proposed by the General Plan Update 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.

Impact Analysis

This alternative would not prevent all potential impacts associated with increased development, because development would continue to occur.

Visual Character

The proposed project would result in changes to the Town's visual character, as described under Impact 3.1-1 in Chapter 3.1. Under Alternative C, development patterns within the Town limits would be generally comparable to the proposed project, with increased potential for residential (increase of 82 DU) and a decrease in non-residential growth (decrease of 31,245 SF). This alternative would have a comparable Agricultural FAR to the proposed General Plan. This alternative would not allow for the increased building height of the Vista Circle Condominiums and would not allow for increased building heights in select commercial areas, in comparison to the proposed project. This alternative also would not include programs and policies designed to address site design and building scale, massing, and appearance that have been included in the proposed project to ensure that new development is visually compatible with existing development and does not detract from the beauty of the Town and area.

The introduction of new and more intense development into previously undisturbed areas or areas that have been historically used for agricultural operations would result in changes to existing views of agricultural land and open space Town's visual character. Additionally, new development may result in changes to the skyline throughout the Town. Development projects would be required to include view corridors to ensure that views of the surrounding foothills, hillsides, and agricultural lands are retained from numerous vantage points within Yountville.

Development under Alternative C would allow for increased development of residential, commercial, office, hotel, and agricultural uses in comparison to existing conditions, but would result in a decrease in the intensity of commercial development. However, residential development potential would be increased. Overall, new development under Alternative C would be generally comparable to development under the proposed General Plan. It is anticipated that development would occur in similar locations as the proposed General Plan, including potential development on parcels designated Agricultural. While building heights could be reduced in certain locations in comparison to the proposed General Plan, this alternative does not include the extensive policies and programs designed to address visual impacts (see Chapter 3.1) which could result in worse impacts associated with aesthetics and visual resources under this alternative. Overall, impacts associated with Alternative C are anticipated to be comparable to or slightly worse than the proposed project.

Farmland Conversion

The proposed General Plan would result in significant and unavoidable impacts related to the conversion of farmlands, as described under Impact 3.2-1 in Chapter 3.2. Alternative C would not increase the amount of Agricultural land designated on the Land Use Map in comparison to the proposed General Plan and would not reduce the potential for development on Agricultural lands. It is anticipated that conversion of agricultural lands would occur in generally the same locations under this alternative as would occur under the proposed project. Impacts associated with this alternative would be comparable to the proposed project and would result in a significant and unavoidable impact associated with conversion of Important Farmlands to non-agricultural use.

Air Quality and Greenhouse Gas Emissions

As described in Chapters 3.3 and 3.7, implementation of the proposed General Plan would generate emissions during both the construction phase and the operational phase. Development under this alternative would be comparable to the proposed General Plan, with an increase in residential units and a decrease in non-residential development compared to the proposed project. There would not be a significant change in vehicle trips or associated air quality and greenhouse gas emissions compared to the proposed project. Future construction related impacts would be comparable under this alternative when compared to the proposed General Plan, as the area of potential ground disturbance would be similar. Mobile source (vehicle emissions) are directly related to the number of vehicle trips generated by a project. As shown in Table 5.0-2, the number of vehicle trips with Alternative C (555 PM peak hour trips) would be similar to the proposed General Plan (567 PM peak hour trips). Therefore, this

alternative would be comparable to the proposed project in terms of air quality and greenhouse gas emissions.

Traffic and Noise

As shown in Table 5.0-2, this alternative would decrease the PM peak hour vehicle trips by 12 trips compared to the proposed General Plan. This nominal change would not result in noticeable improvements in traffic or traffic noise. As noted in Table 3.11-13 in Chapter 3.11, the changes in traffic noise levels at the nearest sensitive receptors would be comparable to the proposed General Plan.

Impacts associated with buildout of the Existing General Plan, referred to as "Project Alternative C (Existing General Plan)", were analyzed by W-Trans as part of the traffic impact analysis.

Operating conditions during the weekday p.m. peak period is evaluated. The p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute. The net project-added trips at the nine study intersections are shown in Figure 5.0-2 for the Existing Plus Project Alternative C (Existing General Plan) scenario.

Existing Plus Project Alternative C: The Existing Plus Project Alternative C scenario reflects the addition of trips associated with buildout of the existing General Plan to existing traffic volumes. Under Existing Plus Project Alternative C conditions, three of the nine intersections are projected to either operate unacceptably overall or have a minor approach that operates unacceptably. A summary of the intersection level of service (LOS) calculations is contained in Table 5.0-3.

As shown in Table 5.0-3, implementation of Project Alternative C (Existing General Plan) would contribute to unacceptable overall operation at the intersection of SR 29/Madison Street. The intersection is already operating at an unacceptable LOS E prior to the addition of new traffic, and any improvement at the intersection would require coordination with the California Department of Transportation (Caltrans). This is considered to be a potentially significant impact. Alternative C would not avoid or significantly reduce impacts to this intersection.

Project Alternative C (Existing General Plan) is anticipated to cause the southbound off-ramp approach at the intersection of SR 29 Southbound Ramps/California Drive to drop from LOS C to LOS F operation, though the intersection would operate acceptably at LOS A overall and the "peak hour" signal warrant would remain unmet. The Project Alternative's impact is, therefore, considered to be less than significant.

TABLE 5.0-3: SUMMARY OF EXISTING PLUS PROJECT ALTERNATIVE C (EXISTING GENERAL PLAN) PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*EXISTING*		*EXISTING PLUS PROJECT ALTERNATIVE C (EXISTING GENERAL PLAN)*	
	DELAY	*LOS*	*DELAY*	*LOS*
1. Washington Street/Madison Street	12.5	B	15.1	C
2. Washington Street/Yount Street	10.8	B	14.7	B
3. Washington Street/California Drive	15.4	C	**26.4**	**D**
Install Signal – Mitigation	-	-	13.2	B
4. SR 29/Madison Street	**69.5**	**E**	**76.0**	**E**
5. SR 29 Northbound Ramps/California Drive	5.2	A	5.7	A
Northbound SR 29 Off-Ramps	*11.7*	*B*	*13.0*	*B*
6. SR 29 Southbound Ramps/California Drive	5.8	A	9.9	A
Southbound SR 29 Off-Ramps	*20.3*	*C*	*50.1*	*F*[1]
7. Yount Street/Finnell Road	8.0	A	8.8	A
8. Yount Street/Madison Street	10.1	B	12.2	B
9. Yount Street/Yountville Cross Road	9.0	A	10.6	B
Westbound Yountville Cross Rd Approach	*13.5*	*B*	*16.7*	*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; ***BOLD*** *= OPERATION BELOW STANDARDS;* [1]*CONSIDERED TO BE ACCEPTABLE OPERATION SINCE OVERALL INTERSECTION OPERATION WOULD BE LOS A, AND SIGNAL WARRANT WOULD REMAIN UNMET*

SOURCE: W-TRANS, 2018.

Project Alternative C (Existing General Plan) would include an additional impact at the intersection of Washington Street/California Street that was not identified for the proposed Project. The intersection is projected to operate unacceptably at LOS D, which is considered to be a potentially significant impact.

The impact at the SR 29/Madison Street intersection is addressed in the Existing Plus Project scenario in Mitigation Measure 3.14-1 (see Impact 3.14-1 in Chapter 3.14). Under Alternative C, a traffic signal, multi-way stop control, or yield-controlled roundabout would need to be installed to mitigate operation at the Washington Street/California Drive intersection. Consistent with Caltrans Traffic Operations Policy Directive 13-02, an Intersection Control Evaluation would be completed for this intersection at a future time in order to determine the preferred traffic control. This improvement would need to be added to the Capital Improvement Program. With this improvement and addition to the Capital Improvement Program, these impacts would be reduced to a less-than-significant level.

Cumulative Plus Project Alternative C: The Cumulative Plus Project Alternative C scenario reflects the addition of trips associated with buildout of the existing General Plan to cumulative baseline traffic volumes. Under Cumulative Plus Project Alternative C conditions, three of the nine intersections are projected to either operate unacceptably overall or have a minor approach that operates unacceptably.

A summary of the intersection LOS calculations is contained in Table 5.0-4. As shown in Table 5.0-4, implementation of Project Alternative C (Existing General Plan) would contribute to

unacceptable overall operation at the intersection of SR 29/Madison Street. The intersection is projected to already be operating at an unacceptable LOS F prior to the addition of new traffic, and any improvement at the intersection would require coordination with Caltrans. This is considered to be a potentially significant impact.

TABLE 5.0-4: SUMMARY OF CUMULATIVE PLUS PROJECT ALTERNATIVE PM PEAK HOUR INTERSECTION LOS

INTERSECTION	*CUMULATIVE BASELINE*		*CUMULATIVE PLUS PROJECT ALTERNATIVE C (EXISTING GENERAL PLAN)*	
	DELAY	*LOS*	*DELAY*	*LOS*
1. Washington Street/Madison Street	11.9	B	14.7	B
2. Washington Street/Yount Street	10.7	B	14.1	B
3. Washington Street/California Drive	16.2	C	**26.9**	**D**
Install Signal – Mitigation	-	-	12.4	B
4. SR 29/Madison Street	**118.9**	**F**	**124.0**	**F**
5. SR 29 Northbound Ramps/California Drive	6.0	A	6.6	A
Northbound SR 29 Off-Ramps	*14.1*	*B*	*15.7*	*C*
6. SR 29 Southbound Ramps/California Drive	5.1	A	9.8	A
Southbound SR 29 Off-Ramps	*19.7*	*C*	*53.8*	*F*[1]
7. Yount Street/Finnell Road	8.1	A	8.8	A
8. Yount Street/Madison Street	10.0	B	11.7	B
9. Yount Street/Yountville Cross Road	8.4	A	9.7	A
Westbound Yountville Cross Rd Approach	*13.1*	*B*	*15.7*	*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; ***BOLD*** *= OPERATION BELOW STANDARDS;* [1]*CONSIDERED TO BE ACCEPTABLE OPERATION SINCE OVERALL INTERSECTION OPERATION WOULD BE LOS A, AND SIGNAL WARRANT WOULD REMAIN UNMET*

SOURCE: W-TRANS, 2018.

Project Alternative C (Existing General Plan) is anticipated to cause the southbound off-ramp approach at the intersection of SR 29 Southbound Ramps/California Drive to drop from LOS C to LOS F operation under Cumulative conditions, though the intersection would operate acceptably at LOS A overall and the "peak hour" signal warrant would remain unmet. Therefore, the Project Alternative's impact is considered to be less than significant.

Buildout of Project Alternative C (Existing General Plan) would result in unacceptable LOS D operation at the Washington Street/California Street intersection, which is considered to be a potentially significant impact.

As shown in Table 5.0-4, implementation of Project Alternative C would contribute to unacceptable LOS F operation at the intersection of SR 29/Madison Street and unacceptable LOS D operation at the intersection of Washington Street/California Drive. The impact at the SR 29/Madison Street intersection is addressed in the Existing Plus Project scenario in Mitigation Measure 3.14-1. Under Alternative C, a traffic signal multi-way stop control, or yield-controlled roundabout would need to be installed to mitigate operation at the Washington Street/California Drive intersection as previously described. Consistent with Caltrans Traffic Operations Policy Directive 13-02, an Intersection Control Evaluation would be completed for

this intersection at a future time in order to determine the preferred traffic control. With this improvement and addition to the Capital Improvement Program, the Washington/Street California Drive impact would be reduced to a less-than-significant level; however, this improvement is not included in the existing General Plan. This alternative would result in a comparable significant and unavoidable impact at SR 29/Madison Street intersection as the proposed project would result in a new significant and unavoidable impact at the Washington Street/California Drive intersection, making this alternative worse than the proposed project in terms of transportation and circulation impacts.

Public Services and Utilities

The overall amount of development and disturbance associated with this alternative is expected to be similar to the proposed project. As such, impacts to public services and utilities would be similar under this alternative in comparison to the proposed General Plan.

Other Impacts

The land disturbance and development associated with this alternative is expected to be generally comparable to the proposed project under project-level conditions and cumulative conditions. As such, impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, and hydrology and water quality would be comparable to the proposed project, but would not be reduced by implementation of the proposed General Plan policies and programs that specifically address these issues as discussed in the relevant chapters of this Draft EIR.

Irreversible Effects

The proposed project would have a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 4.16. During the planning horizon, development under Alternative C within the General Plan area would be generally comparable to the proposed project, as described above. Under cumulative conditions, Alternative C would result in more residential development and less commercial and office development (see Table 5.0-1). Alternative C would use nonrenewable 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. Alternative C does not include the proposed General Plan policies and programs developed to address sustainability and climate change and may have a slightly greater impact than the proposed project. Agricultural land would be permanently converted under this alternative, similar to the proposed project. The associated irretrievable commitment of nonrenewable resources and permanent conversion of agricultural, open space, and other undeveloped lands under Alternative C would remain a significant impact. Therefore, Alternative C would have a similar, but slightly worse impact, than the proposed project, and the irreversible effects would remain significant and unavoidable.

Conclusion

The overall purpose of the Envision Yountville General Plan Update is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The key components of the General Plan will include broad goals for the future of Yountville, objectives for meeting those goals, and specific policies and action items that will help implement the goals and objectives. Alternative C fails to meet the basic project objective. As noted above, this alternative would not include a policy framework which is required by new State legislation. Therefore, Alternative C (No Project) was rejected from further consideration as a CEQA alternative.

The environmental effects associated with Alternative C are summarized in Table 5.0-5 to provide a general comparison between the adopted Yountville General Plan (Alternative C), the proposed project, and Alternatives A and B.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (Existing General Plan) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed General Plan.

A comparative analysis of each of the project alternatives is provided in Table 5.0-5 below. As shown in the table, Alternative A would reduce impacts in all areas, Alternative B would reduce or slightly reduce impacts in five areas, and Alternative C would not decrease impacts in any area. It is noted that the significant and unavoidable impacts associated with degradation of the visual character of the site and its surroundings, conversion of Important Farmlands to non-agricultural uses, and construction noise would still occur under all three alternatives. Therefore, Alternative A is the environmentally superior alternative.

TABLE 5.0-5: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED GENERAL PLAN

ENVIRONMENTAL ISSUE	*ALTERNATIVE A*	*ALTERNATIVE B*	*ALTERNATIVE C*
Adverse Effects on Visual Character	Less	Less	Comparable or Slightly Worse
Farmland Conversion	Less	Less	Comparable
Air Quality and Greenhouse Gas Emissions	Less	Slightly Less	Comparable
Noise Exposure	Less	Slightly Less	Comparable
Intersection Operations and Alternative Transportation	Less	Slightly Less	Worse

ENVIRONMENTAL ISSUE	*ALTERNATIVE A*	*ALTERNATIVE B*	*ALTERNATIVE C*
Public Services and Utilities	Less	Slightly Less	Comparable
Other Issues	Less	Slightly Less	Comparable
Irreversible Effects	Less	Less	Comparable or Worse

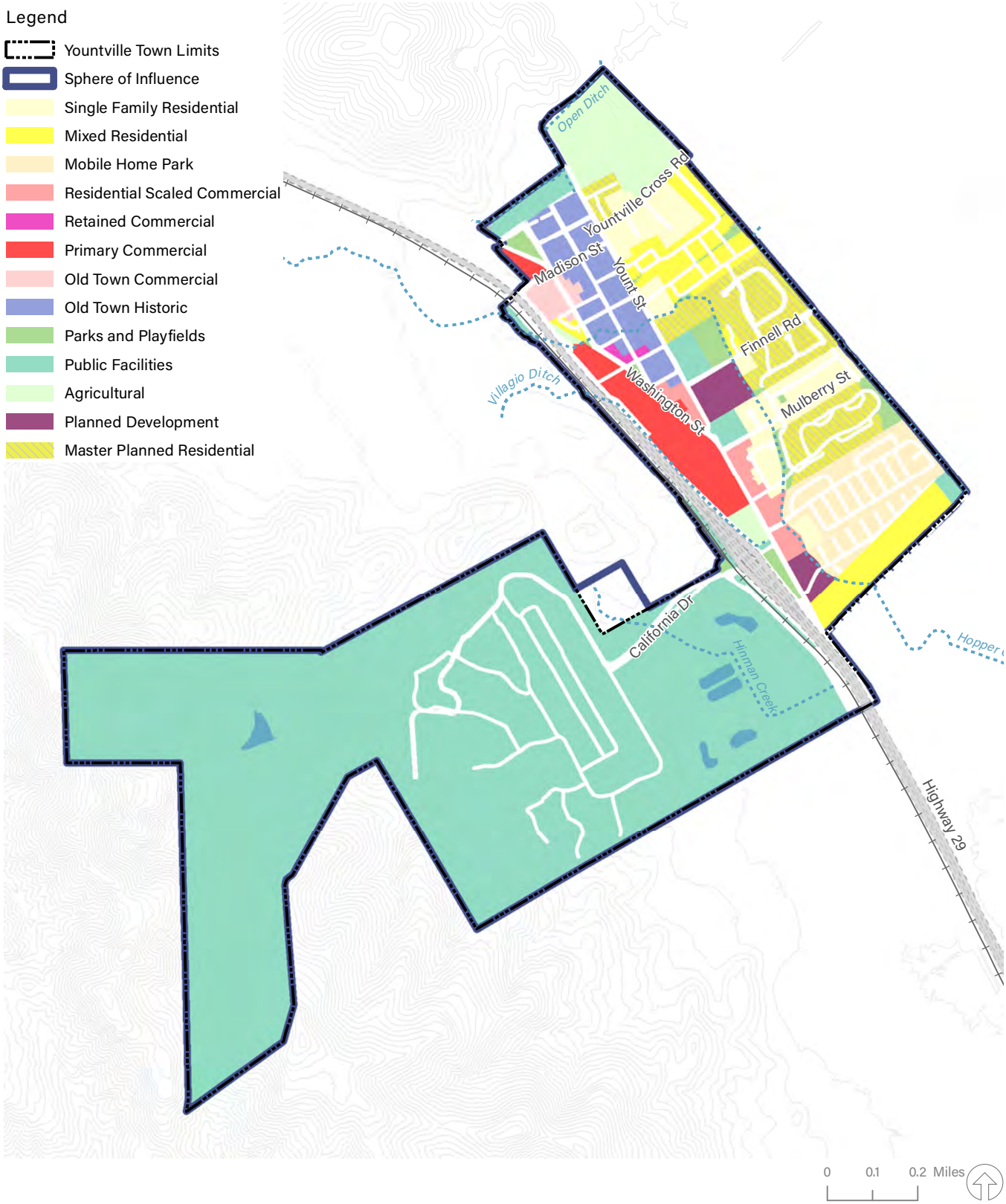
5.4 COMPARATIVE EVALUATION OF THE PROJECT AND ALTERNATIVES TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the project objectives.

As noted previously, the overall purpose of the Envision Yountville General Plan Update is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The key components of the General Plan will include broad goals for the future of Yountville, objectives for meeting those goals, and specific policies and action items that will help implement the goals and objectives.

Alternatives A and B would meet the basic objective of the project because both of these alternatives would maintain the proposed policy framework of the proposed General Plan. Alternative C fails to meet the basic project objective because this alternative would not include a policy framework which is required by new State legislation.

Figure 5.0-1. Existing General Plan Land Use and Zoning



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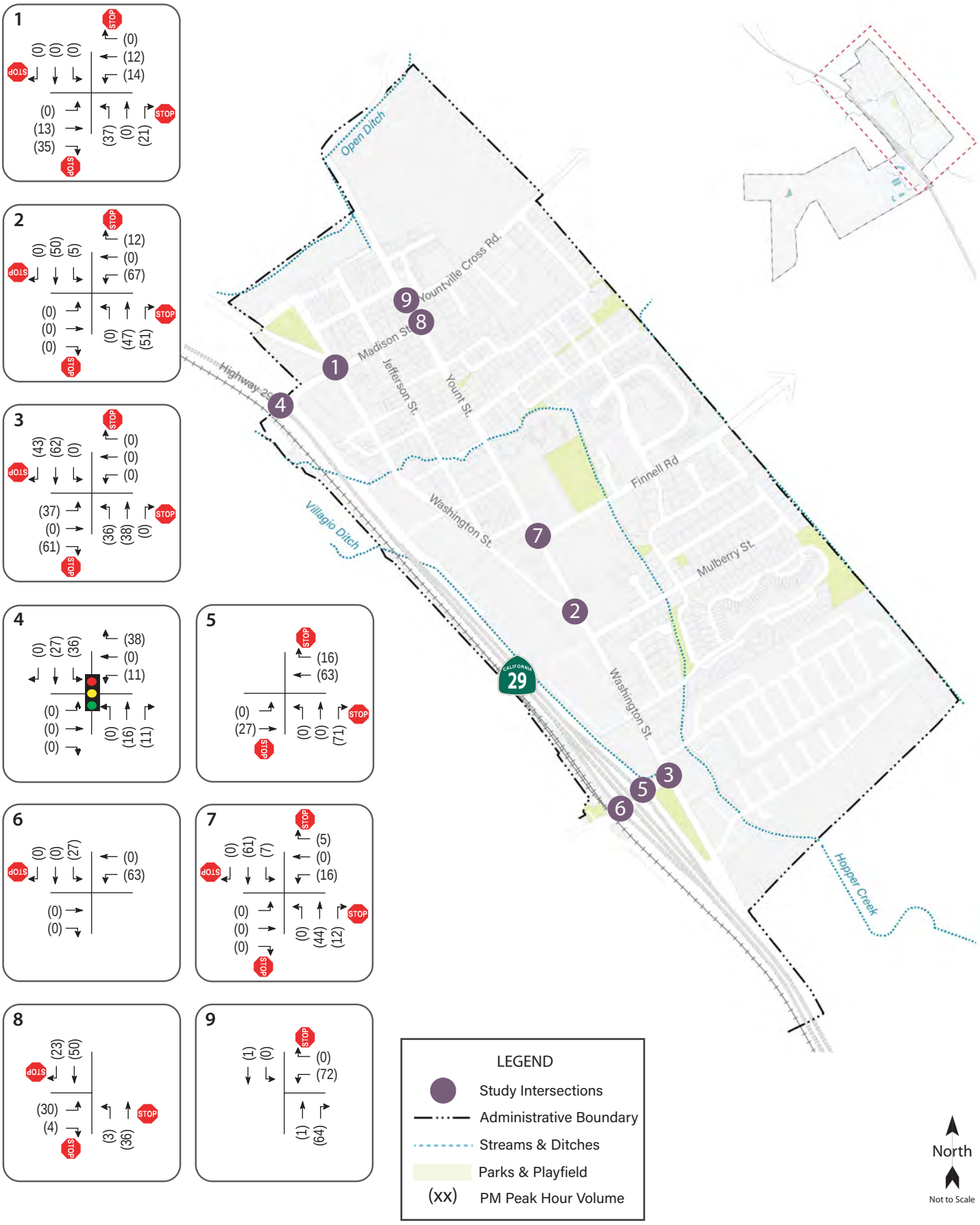

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Yountville General Plan EIR

Figure 5.0-2 – General Plan Alternative Traffic Volumes

W-Trans

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APPENDIX A

Notice of Preparation and NOP Comments

Notice of Scoping Meeting and Preparation of Draft Environmental Impact Report for Envision Yountville General Plan Update

Date:	August 3, 2018
To:	State Clearinghouse, Agencies, Organizations and Interested Parties
Subject:	Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Envision Yountville General Plan Update
Scoping Meeting:	August 27, 2018, 11:00 a.m. to Noon Town Council Chambers 6550 Yount Street, Yountville
Comment Period:	August 3, 2018 to September 4, 2018 at 5:00 p.m.

The Town of Yountville (Town) will serve as Lead Agency in the preparation of a programmatic Environmental Impact Report (EIR) for the Envision Yountville General Plan Update (also referred to as 'General Plan'). This programmatic EIR will address the environmental impacts associated with the adoption and implementation of the Envision Yountville General plan Update. Information regarding the project description, project location, and topics to be addressed in the Draft EIR is provided below. Additional project documents and information are available at the Town of Yountville Planning and Building Department, 6550 Yount Street, Yountville, and on-line at: https://www.envisionyountville.com/.

Scoping Meeting

The Town will hold a scoping meeting to provide an opportunity for agency staff and interested members of the public to submit written or oral comments on the scope of the environmental issues to be addressed in the EIR.

The scoping meeting will be held on **Monday, August 27th, 2018, from 11:00 a.m. to Noon** at the Town Council Chambers, located at 6550 Yount Street, Yountville.

For questions regarding this notice, please contact Sandra Liston at (707) 944-8851.

Submit Your Written Comments

Agencies and interested parties are invited to submit comments in writing as to the scope and content of the EIR. If you are a responsible or trustee agency, we would like to know the views of your agency as to the scope and content of the environmental information that is germane

to your agency's statutory responsibilities in connection to the proposed project. All comments must be received prior to 5:00 p.m. on September 4, 2018.

Please send your written comments to:

Sandra Liston
Planning & Building Director
Town of Yountville
6550 Yount Street
Yountville, CA 94599
Email: sliston@yville.com

Project Characteristics

Envision Yountville Outreach and Public Input

Visioning – Speaker Series

The Town initiated the Envision Yountville process in early 2017. During February through May 2018, the Town held five public workshops (the Speaker Series) to help kick-off the Envision Yountville General Plan Update process. A diverse group of Town residents and stakeholders attended the Speaker Series at Town Hall. The workshops provided an opportunity for the public to offer their thoughts on what they value about their community and the town and what important issues should be addressed in preparing the General Plan Update.

Each workshop included a presentation by the consultant team that explained the role of the General Plan, an overview of the Envision Yountville 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 Envision Yountville team. Each workshop focused on different themes and topics to be addressed in the Envision Yountville General Plan.

Town Advisory Group

The Town Advisory Group worked with staff and the consultant team to develop the goals, objectives, policies and action items to be included in the Envision Yountville General Plan Update, and also worked to develop and refine the draft Land Use Map. The Town Advisory Group met a total of 9 times between July 2017 and August 2018 to work on the General Plan Update.

Project Location and Setting

The Town of Yountville comprises approximately 1.5 square miles, straddling Highway 29 in the heart of the Napa Valley, located between the cities of Napa and St. Helena. The Town's

business district and residential neighborhoods lie to the east of Highway 29, while the Veterans Home is to the west. See Figure 1, Regional Location.

The Town limits include the area within the Town's boundary, over which the Town exercises land use authority and provides public services. The Study Area is defined as all lands within the Town limits and Sphere of Influence, as well as the land within the 750-foot-wide buffer area around the Town limits, that is included in the analysis and planning for the Town's General Plan Update.

Project Description

The Town of Yountville is preparing a comprehensive update to its existing General Plan, which was adopted in 1994 with updates to the Circulation Element in 2016 and the Housing Element in 2015. The update is expected to be complete in 2019.

The overall purpose of the Envision Yountville General Plan is to create a policy framework that articulates a vision for the Town's long-term physical form and development, while preserving and enhancing the quality of life for Yountville residents. The key components of the General Plan will include broad goals for the future of Yountville, objectives for meeting those goals, and specific policies and action items that will help implement the goals and objectives.

General Plan Elements

The Envision Yountville General Plan will include a comprehensive set of goals, objectives, policies and implementation programs, as well as an updated Land Use Map (Figure 2). The State requires that the General Plan include seven mandatory elements: Land Use, Circulation, Housing, Open Space, Noise, Safety, and Conservation. The Housing Element was separately from the rest of the General Plan in 2015 and is not anticipated to require significant revisions. The Envision Yountville General Plan will include all of the State-mandated elements, as well as an optional element addressing Community and Quality of Life.

- The **Land Use Element** designates the general distribution and intensity of residential, commercial, parks, agricultural, public facilities, 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 Town limits and SOI (Figure 2).

- The **Mobility Element** correlates closely with the Land Use Element, and identifies the general locations and extent of existing and proposed streets, roads, highways, and bicycle and pedestrian facilities necessary to support a multi-modal transportation system. This element is intended to facilitate mobility of people and goods throughout Yountville by a variety of transportation modes, including bicycle, pedestrian, and automobile.

- The **Open Space Element** addresses the provision of open space for the conservation of natural resources, including habitat, watercourses, agricultural, land and scenic views, and for park, playfield, and recreational facilities.

- The **Conservation Element** addresses the conservation, development, and use of natural resources, including issues associated with riparian environments, native plant and animal species, soils, archaeological and cultural resources, air quality, water supply and quality, and greenhouse gases.

- The **Noise Element** establishes standards and policies to protect the community from the harmful and annoying effects of exposure to excessive noise levels and unwanted noise. 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, seismic, flood, and fire hazards, as well as setting standards for emergency preparedness.

- The **Community and Quality of Life Element** (optional element) is designed to support and enhance the high quality of life in Yountville, through programs to encourage good neighbor practices, protect historic resources, arts and culture, and to maintain a vibrant and diverse economy.

Goals, Objectives, Policies and Actions

Each element of the Envision Yountville General Plan contains a series of goals, policies, and programs, which provide guidance to the Town on how to direct change, manage growth, and manage resources over the 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 Town seeks to create through the implementation of the General Plan.

- A **policy** is a specific statement that guides decision-making as the Town works to achieve its goals and objectives. Once adopted, policies represent statements of Town regulations. The General Plan's policies set out the standards that will be used by Town staff, the Zoning and Design Review Board, and the Town Council in the review of land development projects, resource protection activities, infrastructure improvements, and other Town actions. Policies are on-going throughout the life of the General Plan.

- An **action** is an implementation measure, procedure, technique, or specific program to be undertaken by the Town to help achieve a specified goal or implement an adopted policy. The Town 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 Town and the SOI. The General Plan Land Use Map is attached as Figure 2.

General Plan Land Use Designations

The Land Use Element 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.

SINGLE FAMILY RESIDENTIAL – The Single Family Residential land use designation is applied to areas suitable for detached single family homes and related residential uses in low density settings. Other compatible uses may be permitted. Densities up to 7 dwelling units per gross acre are allowed.

MIXED RESIDENTIAL - The Mixed Residential land use designation is intended to encourage development of a variety of housing and ownership types, including single family and multifamily dwellings, and related residential uses. Other compatible uses may be permitted. Densities of 8-10 dwelling units per gross acre are allowed; density may be increased up to 25 units per gross acre within an affordable housing overlay.

MANUFACTURED HOME PARK RESIDENTIAL - The Manufactured Home Park land use designation is applied to areas appropriate for manufactured housing and related residential uses. Other compatible uses may be permitted. Densities up to 8 dwelling units per gross acre are allowed.

MASTER PLANNED RESIDENTIAL - The Master Planned Residential land use designation is applied to residential areas developed with an approved master plan. Other compatible uses may be allowed. Maximum residential density is identified on the approved master plan.

PLANNED DEVELOPMENT - The Planned Development land use designation is applied to areas appropriate for mixed land uses in conjunction with affordable housing units in excess of what is provided in other residential districts. All uses permitted or conditionally permitted in the Zoning Code are included in this designation. Maximum residential density and maximum non-residential floor area ratio (FAR) is identified on the approved master plan.

RESIDENTIAL-SCALED COMMERCIAL - The Residential-Scaled Commercial land use designation is applied to properties on the east side of Washington Street that are adjacent to residential neighborhoods. A variety of neighborhood retail, professional office, and service uses are allowed. Higher intensity retail and service uses may be permitted. Maximum permitted FAR is 0.25, with an additional 0.15 FAR for residential and professional office uses if certain findings can be made as detailed in Title 18 of the Yountville Municipal Code.

PRIMARY COMMERCIAL - The Primary Commercial land use designation applies to properties on the west side of Washington Street and is intended to reinforce Washington Street as the main commercial street in Yountville. Professional office uses

are allowed. Commercial uses and mixed commercial and residential uses may be permitted. Maximum permitted FAR is 0.25, with an additional 0.15 FAR for residential and professional office uses if certain findings can be made as detailed in Title 18 of the Yountville Municipal Code. On the west side of Washington Street between California Drive and Humboldt Street, an additional 0.15 FAR may be permitted for retail and service uses that increase business diversity and other benefit to residents and are not restaurant, alcohol, or cannabis-related uses.

OLD TOWN COMMERCIAL - The Old Town Commercial designation is applied to specified properties on North Washington Street. It is intended to reflect Yountville's commercial beginnings and to promote the preservation of the historic character of the area. Professional office uses are allowed. Retail, service, restaurant, lodging, and mixed residential and commercial uses may be permitted, with higher intensity uses directed to the west side of Washington and lower intensity uses directed to the east side of street. Maximum permitted FAR is 0.25, with an additional 0.15 FAR for residential and professional office uses if certain findings can be made as detailed in Title 18 of the Yountville Municipal Code.

RETAINED COMMERCIAL - The Retained Commercial land use designation is intended to establish a transitional buffer between commercial uses in the Town's commercial core and the residential uses of Old Town Historic District. The purpose of the designation is to retain existing commercial uses and structures and encourage the commercial development of parcels with existing residential development. Existing restaurant and lodging uses are allowed. Other compatible uses may be permitted. Existing FAR for the commercial uses existing at the time of the development of the district may be maintained. A maximum FAR of 0.40 is permitted for the expansion of existing commercial uses with supportive or residential uses on an existing commercial or adjacent parcel within the district

OLD TOWN HISTORIC - The Old Town Historic land use designation is intended to maintain Old Town's historical character and provide for predominately single-family houses and related residential uses on small lots. Other compatible uses may be permitted. Densities up to 8 dwelling units per gross acre are allowed.

PARKS AND PLAYFIELDS - The Parks and Playfields land use designation is applied to areas dedicated to outdoor leisure and recreation. A maximum FAR of 0.10 is allowed.

PUBLIC FACILITIES - The Public Facilities land use designation is applied to areas appropriate for governmental, public utility, and public educational facilities. Other compatible uses may be permitted. A maximum FAR of 0.25 is allowed.

AGRICULTURAL - The Agricultural land use designation is applied to lands intended to be maintained in agricultural use. Additionally, commercial facilities for processing or retail sale of agricultural products that are grown on the premises may be permitted.

Residential densities up to 1 dwelling unit per 10 gross acres and a maximum nonresidential FAR of 0.05 is allowed.

Growth Projections

Anticipated growth under the General Plan includes new businesses, expansion of existing businesses, and new residential development. Table 1 summarizes the range of residential (single family units and multifamily units) and commercial, office, and agricultural (square footage and hotel rooms) that could occur. Actual future development would depend on future market conditions, property owner preferences, site-specific constraints, and other factors.

Table 1: New Development Projections

Type of Development	Residential Units	Non-Residential Square Footage or Rooms
Single Family	155	-
Multifamily	76	-
Commercial	-	77,454
Office	-	21,684
Agricultural	-	66,380
Hotel Rooms		3
TOTAL	**231**	**165,518 square feet 3 hotel rooms**

Program EIR Analysis

The Town, as the Lead Agency under the California Environmental Quality Act (CEQA), will prepare a Program EIR for the Envision Yountville General Plan Update. The EIR will be prepared in accordance with CEQA, the CEQA Guidelines (Guidelines), relevant case law, and Town procedures. No Initial Study will be prepared pursuant to Section 15063(a) of the CEQA Guidelines.

The EIR will analyze potentially significant impacts associated with adoption and implementation of the Envision Yountville General Plan Update. In particular, the EIR will focus on areas that have development potential.

The EIR will evaluate the full range of environmental issues contemplated under CEQA and the CEQA Guidelines, with the exception of Forestry Resources and Mineral Resources. At this time, the Town anticipates that EIR sections will be organized in the following manner:

- Aesthetics and Visual Resources
- Agriculture Resources
- Air Quality

- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Population
- Noise
- Public Services and Recreation
- Transportation and Circulation
- Utilities
- Mandatory Findings of Significance/Cumulative Impacts

There are no timberlands or forest-designated lands located within the General Plan area. The project would have no impact on forestry resources. There are no known mineral resource lands, including locally-important mineral recovery sites, within the General Plan area. The project would have no impact on mineral resources. Therefore, forestry and mineral resources will not be analyzed in the EIR.

Figure 1. Regional Location

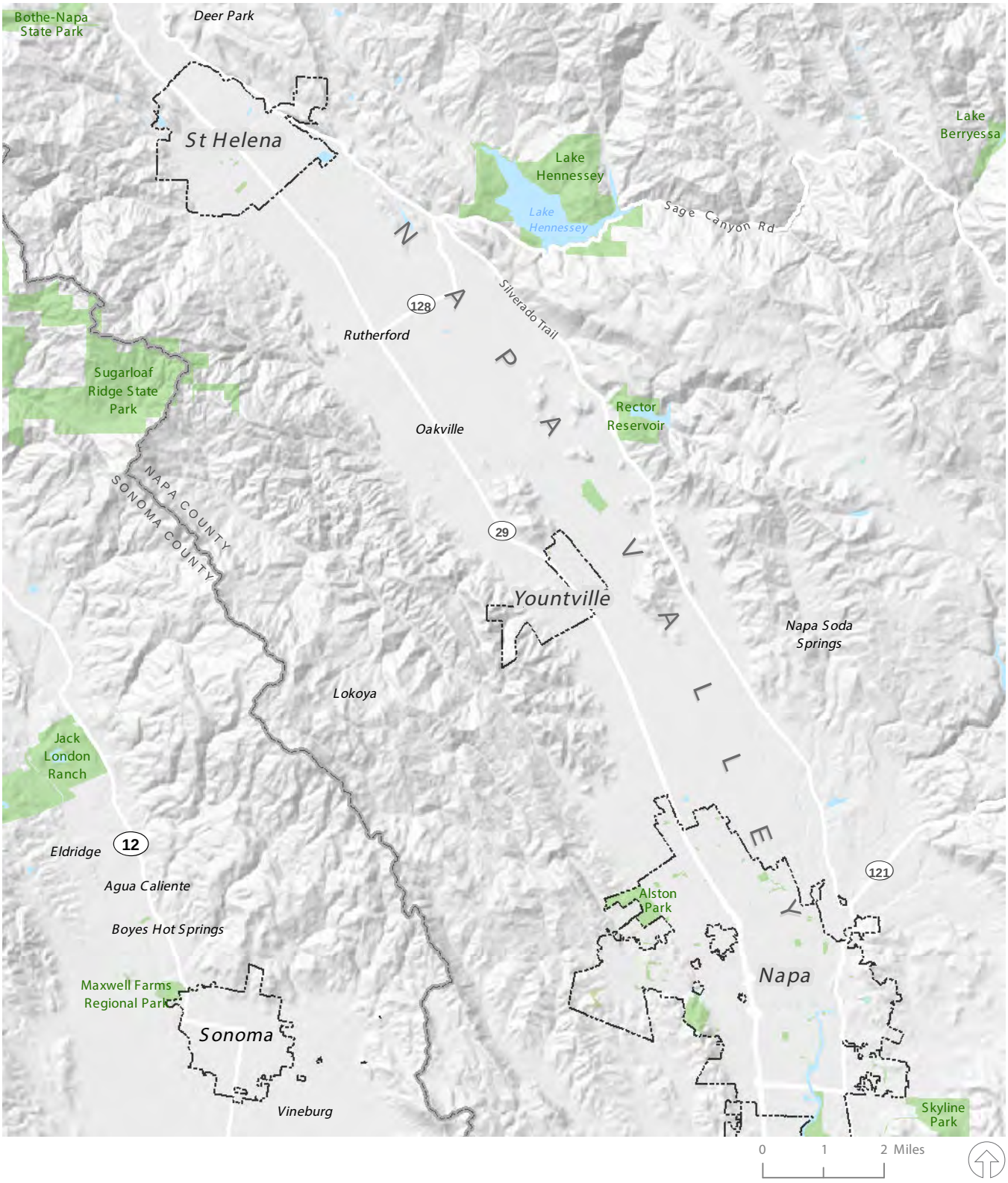
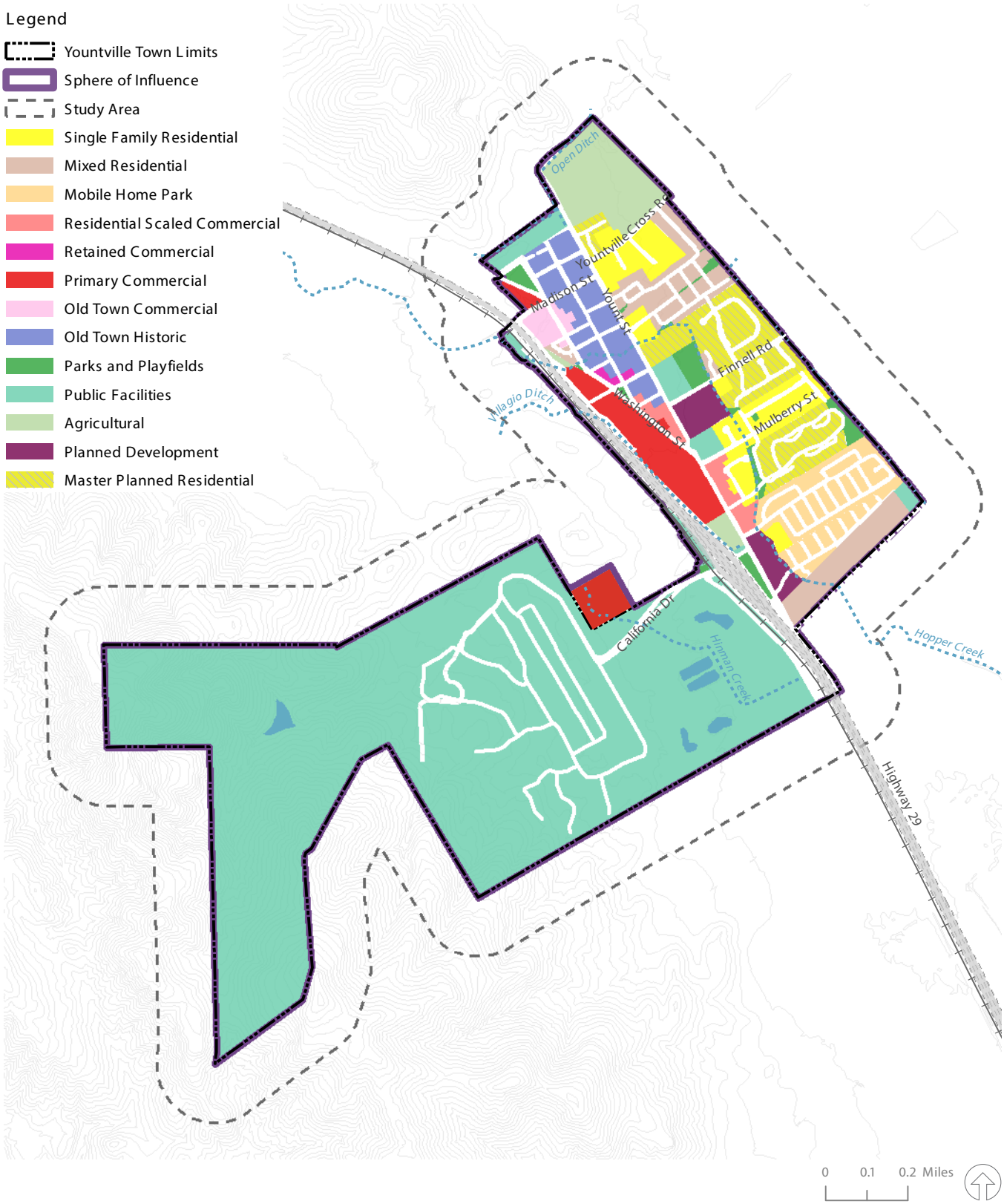


Figure 2. Draft Land Use and Zoning Map



DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

September 4, 2018

SCH # 2018082008
GTS # 04-NAP-2018-00131
GTS ID: 12119
PM: NAP – 29 – 19.04

Ms. Sandra Liston
City of Yountville
6550 Yount Street
Yountville, CA 94599

Envision Yountville General Plan Update – Notice of Preparation (NOP)

Dear Ms. Liston:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the *Envision Yountville General Plan Update*. In tandem with the Metropolitan Transportation Commission's (MTC) Sustainable Communities Strategy (SCS), Caltrans' mission signals a modernization of our approach to evaluate and mitigate impacts to the State Transportation Network (STN). Caltrans' *Strategic Management Plan 2015-2020* aims to reduce Vehicle Miles Traveled (VMT) in part, by tripling bicycle and doubling both pedestrian and transit travel by 2020. Our comments are based on the August 3, 2018 NOP.

Project Understanding
The *Envision Yountville General Plan Update* (General Plan) will include a comprehensive set of goals, objectives, policies, and implementation programs, as well as an updated Land Use Map. The State requires that the General Plan include seven mandatory elements: Land Use, Circulation, Housing, Open Space, Noise, Safety, and Conservation. The Housing element was prepared separately from the rest the General Plan in 2015 and is not anticipated to require significant revisions. The General Plan will include all of the State-mandated elements, as well as an optional element of addressing Community Quality of Life; it plans for a range of land uses to serve the Town, as well as supporting infrastructure and public services.

The City of Yountville is bisected by State Route (SR) 29, which is accessible via the California Avenue interchange and the signalized intersection at Madison Street, both located within City limits.

Multimodal Planning
The active transportation and transit options in Yountville currently include the Napa Valley Vine Trail, a regional multi-use trail, and regional Napa Valley Transportation Authority (NVTA) VINE Transit bus service, including route 10 which operates with approximately 30-

minute peak headways on the SR 29 corridor, and route 29, which offers express bus service on that corridor, with only four daily buses serving Yountville in each direction. Caltrans encourages the Lead Agency to adopt policies and programs to reduce VMT and GHG because of induced travel.

The Draft Environmental Impact Report (DEIR) should discuss if the regional models and Transportation Impact Mitigation (TIM) free programs reflect long-range multi-modal system improvements. We encourage a sufficient allocation of fair share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT. Improvements to VINE Transit bus service or expanded service on the Napa Valley Wine Train corridor, which runs parallel to SR 29 in Yountville, could both have significant effects on induced travel and should be discussed. Please identify in text and graphics, existing and proposed improvements for the pedestrian, bicycle, and transit networks. The City should estimate the cost of needed improvements, expansion, and maintenance for the General Plan area, as well as identify viable sources of funding, correlated with the pace of improvements, and a scheduled plan for implementation along with the DEIR. Caltrans welcomes the opportunity to work with the City and local partners to secure the funding for needed mitigation. Traffic mitigation- or cooperative agreements are examples of such measures.

The project's primary and secondary effects on pedestrians, bicyclists, travelers with disabilities, and transit users should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access for pedestrians and bicyclists to transit facilities must be maintained. For more information on developing multimodal networks in rural communities, please refer to the Federal Highway Administration's December 2016 publication, *Small Town and Rural Multimodal Networks*, available at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/.

Vehicle Trip Reduction

From Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the project site is identified as **Place Type 5a: Rural Towns**, where location efficiency factors, such as community design, are moderate to high and regional accessibility is low. Based on current conditions, Yountville does not have the requisite transit access to meet Priority Development Area (PDA) requirements as established by the Association of Bay Area Government (ABAG). Because Yountville is centrally located within the Napa Valley and SR 29 corridor, and features compact and walkable community design, the alternatives analysis section should include a scenario where PDA guidelines are met, such as by the reduction of headway times for existing VINE bus routes or the development of a transit station per MTC's Resolution 3434. Given the place type and the location of Yountville, projects developed in accordance with this updated General Plan should include a robust Transportation Demand Management (TDM) Program to reduce VMT and GHG emissions. Such measures are critical to facilitating efficient site access. The measures listed below will promote smart mobility and reduce regional VMT.

- Project design to encourage walking, bicycling and transit access;

- Transit and trip planning resources such as a commute information kiosk;
- Real-time transit information system;
- Transit subsidies on an ongoing basis;
- Ten percent vehicle parking reduction;
- Charging stations and designated parking spaces for electric vehicles;
- Carpool and clean-fuel parking spaces;
- Designated parking spaces for a car share programs;
- Unbundled parking;
- Showers, changing rooms and clothing lockers for employees that commute via active transportation;
- Emergency Ride Home program;
- Employee transportation coordinator;
- Secured bicycle storage facilities;
- Fix-it bicycle repair station(s);
- Bicycle route mapping resources;
- Provide rail or bus shuttle service for large events including those at the Lincoln Theater and local wineries and hotels;
- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area; and
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement.

Transportation Demand Management programs should be documented with annual monitoring reports by an onsite TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities. These smart growth approaches are consistent with the MTC's Regional Transportation Plan/SCS goals and would meet Caltrans Strategic Management Plan sustainability goals.

For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Cultural Resources

As part of the programmatic environmental review for the General Plan, we recommend that, in compliance with California Environmental Quality Act (CEQA) Guidelines Section 15064.5, the City of Yountville require environmental review for specific projects that includes the preparation of cultural resource technical studies that at a minimum contain a records search at the Northwest Information Center of the California Historical Resources Information System (CHRIS), Native American consultation, and a field survey of the project area by a qualified archaeologist and qualified architectural historian.

If an encroachment permits are needed for future projects within State right-of-way (ROW), we may require cultural resource technical studies be prepared in compliance with CEQA, Public Resources Code (PRC) 5024, and the Caltrans Standard Environmental Reference (SER) Chapter 2 (http://www.dot.ca.gov/ser/vol2/vol2.htm). Should ground-disturbing activities take place within Caltrans right-of-way and there is an inadvertent archaeological or burial discovery, in compliance with CEQA, PRC 5024.5, and the SER, all construction within 60 feet of the find shall cease and the Caltrans District 4 Office of Cultural Resource Studies (OCRS) shall be immediately contacted at (510) 622-1673.

Hydraulics
Development associated with this General Plan Update will be adjacent to SR 29, therefore, there will be drainage impacts within State ROW. Caltrans will need to review drainage plans and calculations for these projects to ensure all post development discharge shall not exceed the design discharge under existing site conditions.

Lead Agency
As the Lead Agency, the City of Yountville is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Encroachment Permit
Please be advised that any work or traffic control that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. To obtain an encroachment permit, a completed encroachment permit application, environmental documentation, and six (6) sets of plans clearly indicating the State ROW, and six (6) copies of signed and stamped traffic control plans must be submitted to: Office of Encroachment Permits, California DOT, District 4, P.O. Box 23660, Oakland, CA 94623-0660. To download the permit application and obtain more information, visit http://www.dot.ca.gov/hq/traffops/developserv/permits/.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Jake Freedman at 510-286-5518 or jake.freedman@dot.ca.gov.

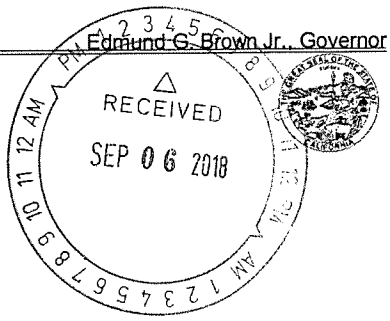
Sincerely,

PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

Edmund G. Brown Jr., Governor



September 4, 2018

Sandra Liston
City of Yountville
6550 Yount Street
Yountville, CA 94599

RE: SCH # 2018082008 Envision Yountville General Plan Update, Napa County

Dear Ms. Liston:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Sharaya.Souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst

cc: State Clearinghouse

APPENDIX B

Air Quality, Greenhouse Gas, and Energy Modeling

Town of Yountville GP EIR - 2040 Operational Year

Napa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	21.68	1000sqft	0.50	21,684.00	0
Hotel	3.00	Room	0.10	4,037.00	0
Condo/Townhouse	76.00	Dwelling Unit	4.75	76,000.00	144
Single Family Housing	155.00	Dwelling Unit	50.32	279,000.00	295
Regional Shopping Center	77.45	1000sqft	1.78	77,450.00	0
General Light Industry	6.64	1000sqft	0.15	6,638.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Town of Yountville GP EIR - 2040 Operational Year - Napa County, Annual

Project Characteristics -

Land Use - 4037 square feet for hotel square footage. Population for residential uses based 1.9 persons per residence (California Department of Finance, 2018)

Vehicle Trips -

Energy Mitigation -

Mobile Land Use Mitigation -

Woodstoves - BAAQMD Rule: "Effective November 1, 2016 - No wood-burning devices of any kind may be installed in new homes or buildings being constructed in the Bay Area". This is consistent with BAAQMD's ban on woodburning fireplaces and stoves.

Construction Phase - Construction not calculated.

Area Mitigation -

Water Mitigation - Include mitigation for WUW-1 (indoor water use)

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	70.00	0.00
tblConstructionPhase	NumDays	40.00	0.00
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	NumDays	1,110.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	NumDays	75.00	0.00
tblConstructionPhase	PhaseEndDate	12/26/2018	9/19/2018
tblConstructionPhase	PhaseEndDate	2/20/2019	12/26/2018
tblConstructionPhase	PhaseEndDate	7/24/2019	2/20/2019
tblConstructionPhase	PhaseEndDate	10/25/2023	7/24/2019
tblConstructionPhase	PhaseEndDate	2/7/2024	10/25/2023
tblConstructionPhase	PhaseEndDate	5/22/2024	2/7/2024
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	12.92	0.00

tblFireplaces	NumberWood	66.65	0.00
tblGrading	AcresOfGrading	0.00	275.00
tblLandUse	LandUseSquareFeet	21,680.00	21,684.00
tblLandUse	LandUseSquareFeet	4,356.00	4,037.00
tblLandUse	Population	217.00	144.00
tblLandUse	Population	443.00	295.00
tblWoodstoves	NumberCatalytic	1.52	0.00
tblWoodstoves	NumberCatalytic	6.20	0.00
tblWoodstoves	NumberNoncatalytic	1.52	0.00
tblWoodstoves	NumberNoncatalytic	6.20	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1743	0.0251	1.7110	1.3000e-004		9.9500e-003	9.9500e-003		9.9500e-003	9.9500e-003	0.0000	9.0644	9.0644	2.7900e-003	1.1000e-004	9.1684
Energy	0.0368	0.3169	0.1530	2.0100e-003		0.0254	0.0254		0.0254	0.0254	0.0000	1,218.5664	1,218.5664	0.0456	0.0147	1,224.0778
Mobile	0.5482	4.6658	6.2051	0.0349	3.9249	0.0147	3.9395	1.0520	0.0137	1.0657	0.0000	3,247.5054	3,247.5054	0.1258	0.0000	3,250.6508
Waste						0.0000	0.0000		0.0000	0.0000	54.8502	0.0000	54.8502	3.2416	0.0000	135.8890
Water						0.0000	0.0000		0.0000	0.0000	8.3287	56.9788	65.3075	0.8580	0.0207	92.9358
Total	**2.7593**	**5.0078**	**8.0691**	**0.0370**	**3.9249**	**0.0500**	**3.9749**	**1.0520**	**0.0491**	**1.1011**	**63.1789**	**4,532.1150**	**4,595.2939**	**4.2738**	**0.0355**	**4,712.7218**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1736	0.0197	1.7087	9.0000e-005		9.5200e-003	9.5200e-003		9.5200e-003	9.5200e-003	0.0000	2.8037	2.8037	2.6700e-003	0.0000	2.8705
Energy	0.0368	0.3169	0.1530	2.0100e-003		0.0254	0.0254		0.0254	0.0254	0.0000	1,218.5664	1,218.5664	0.0456	0.0147	1,224.0778
Mobile	0.5159	4.4783	5.5317	0.0305	3.3558	0.0129	3.3686	0.8995	0.0120	0.9115	0.0000	2,835.1502	2,835.1502	0.1159	0.0000	2,838.0486
Waste						0.0000	0.0000		0.0000	0.0000	54.8502	0.0000	54.8502	3.2416	0.0000	135.8890
Water						0.0000	0.0000		0.0000	0.0000	6.6629	48.7139	55.3769	0.6866	0.0166	77.4918
Total	**2.7264**	**4.8149**	**7.3934**	**0.0326**	**3.3558**	**0.0478**	**3.4036**	**0.8995**	**0.0470**	**0.9465**	**61.5131**	**4,105.2342**	**4,166.7473**	**4.0923**	**0.0313**	**4,278.3778**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.19**	**3.85**	**8.37**	**12.12**	**14.50**	**4.40**	**14.37**	**14.50**	**4.26**	**14.04**	**2.64**	**9.42**	**9.33**	**4.25**	**11.91**	**9.22**

3.0 Construction Detail

Construction Phase

Town of Yountville GP EIR - 2040 Operational Year - Napa County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/20/2018	9/19/2018	5	0	
2	Site Preparation	Site Preparation	12/27/2018	12/26/2018	5	0	
3	Grading	Grading	2/21/2019	2/20/2019	5	0	
4	Building Construction	Building Construction	7/25/2019	7/24/2019	5	0	
5	Paving	Paving	10/26/2023	10/25/2023	5	0	
6	Architectural Coating	Architectural Coating	2/8/2024	2/7/2024	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 275

Acres of Paving: 0

Residential Indoor: 718,875; Residential Outdoor: 239,625; Non-Residential Indoor: 164,714; Non-Residential Outdoor: 54,905; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Town of Yountville GP EIR - 2040 Operational Year - Napa County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	147.00	43.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5159	4.4783	5.5317	0.0305	3.3558	0.0129	3.3686	0.8995	0.0120	0.9115	0.0000	2,835.1502	2,835.1502	0.1159	0.0000	2,838.0486
Unmitigated	0.5482	4.6658	6.2051	0.0349	3.9249	0.0147	3.9395	1.0520	0.0137	1.0657	0.0000	3,247.5054	3,247.5054	0.1258	0.0000	3,250.6508

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	441.56	430.92	367.84	991,996	848,157
General Office Building	239.13	53.33	22.76	434,166	371,212
Hotel	24.51	24.57	17.85	44,776	38,283
Regional Shopping Center	3,307.12	3,870.18	1954.84	5,600,704	4,788,602
Single Family Housing	1,475.60	1,536.05	1336.10	3,381,974	2,891,588
General Light Industry	46.27	8.76	4.51	102,020	87,227
Total	5,534.18	5,923.81	3,703.91	10,555,638	9,025,070

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.632746	0.030342	0.163267	0.091257	0.010061	0.004294	0.015559	0.040787	0.003923	0.001391	0.004851	0.000964	0.000556
General Office Building	0.632746	0.030342	0.163267	0.091257	0.010061	0.004294	0.015559	0.040787	0.003923	0.001391	0.004851	0.000964	0.000556
Hotel	0.632746	0.030342	0.163267	0.091257	0.010061	0.004294	0.015559	0.040787	0.003923	0.001391	0.004851	0.000964	0.000556
Regional Shopping Center	0.632746	0.030342	0.163267	0.091257	0.010061	0.004294	0.015559	0.040787	0.003923	0.001391	0.004851	0.000964	0.000556
Single Family Housing	0.632746	0.030342	0.163267	0.091257	0.010061	0.004294	0.015559	0.040787	0.003923	0.001391	0.004851	0.000964	0.000556
General Light Industry	0.632746	0.030342	0.163267	0.091257	0.010061	0.004294	0.015559	0.040787	0.003923	0.001391	0.004851	0.000964	0.000556

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Town of Yountville GP EIR - 2040 Operational Year - Napa County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	854.5958	854.5958	0.0386	7.9900e-003	857.9444
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	854.5958	854.5958	0.0386	7.9900e-003	857.9444
NaturalGas Mitigated	0.0368	0.3169	0.1530	2.0100e-003		0.0254	0.0254		0.0254	0.0254	0.0000	363.9706	363.9706	6.9800e-003	6.6700e-003	366.1335
NaturalGas Unmitigated	0.0368	0.3169	0.1530	2.0100e-003		0.0254	0.0254		0.0254	0.0254	0.0000	363.9706	363.9706	6.9800e-003	6.6700e-003	366.1335

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.42295e+006	7.6700e-003	0.0656	0.0279	4.2000e-004		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	75.9340	75.9340	1.4600e-003	1.3900e-003	76.3852
General Light Industry	175110	9.4000e-004	8.5800e-003	7.2100e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.3446	9.3446	1.8000e-004	1.7000e-004	9.4001
General Office Building	354967	1.9100e-003	0.0174	0.0146	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9424	18.9424	3.6000e-004	3.5000e-004	19.0550
Hotel	178879	9.6000e-004	8.7700e-003	7.3700e-003	5.0000e-005		6.7000e-004	6.7000e-004		6.7000e-004	6.7000e-004	0.0000	9.5457	9.5457	1.8000e-004	1.8000e-004	9.6024
Regional Shopping Center	183557	9.9000e-004	9.0000e-003	7.5600e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.7953	9.7953	1.9000e-004	1.8000e-004	9.8535
Single Family Housing	4.50509e+006	0.0243	0.2076	0.0883	1.3300e-003		0.0168	0.0168		0.0168	0.0168	0.0000	240.4087	240.4087	4.6100e-003	4.4100e-003	241.8373
Total		**0.0368**	**0.3169**	**0.1530**	**2.0000e-003**		**0.0254**	**0.0254**		**0.0254**	**0.0254**	**0.0000**	**363.9706**	**363.9706**	**6.9800e-003**	**6.6800e-003**	**366.1335**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.42295e+006	7.6700e-003	0.0656	0.0279	4.2000e-004		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	75.9340	75.9340	1.4600e-003	1.3900e-003	76.3852
General Light Industry	175110	9.4000e-004	8.5800e-003	7.2100e-003	5.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	9.3446	9.3446	1.8000e-004	1.7000e-004	9.4001
General Office Building	354967	1.9100e-003	0.0174	0.0146	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9424	18.9424	3.6000e-004	3.5000e-004	19.0550
Hotel	178879	9.6000e-004	8.7700e-003	7.3700e-003	5.0000e-005		6.7000e-004	6.7000e-004		6.7000e-004	6.7000e-004	0.0000	9.5457	9.5457	1.8000e-004	1.8000e-004	9.6024
Regional Shopping Center	183557	9.9000e-004	9.0000e-003	7.5600e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.7953	9.7953	1.9000e-004	1.8000e-004	9.8535
Single Family Housing	4.50509e+006	0.0243	0.2076	0.0883	1.3300e-003		0.0168	0.0168		0.0168	0.0168	0.0000	240.4087	240.4087	4.6100e-003	4.4100e-003	241.8373
Total		**0.0368**	**0.3169**	**0.1530**	**2.0000e-003**		**0.0254**	**0.0254**		**0.0254**	**0.0254**	**0.0000**	**363.9706**	**363.9706**	**6.9800e-003**	**6.6800e-003**	**366.1335**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	383453	111.5508	5.0400e-003	1.0400e-003	111.9879
General Light Industry	54829.9	15.9506	7.2000e-004	1.5000e-004	16.0131
General Office Building	386626	112.4739	5.0900e-003	1.0500e-003	112.9146
Hotel	30761.9	8.9490	4.0000e-004	8.0000e-005	8.9841
Regional Shopping Center	827941	240.8574	0.0109	2.2500e-003	241.8011
Single Family Housing	1.25404e+006	364.8141	0.0165	3.4100e-003	366.2436
Total		**854.5958**	**0.0386**	**7.9800e-003**	**857.9444**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	383453	111.5508	5.0400e-003	1.0400e-003	111.9879
General Light Industry	54829.9	15.9506	7.2000e-004	1.5000e-004	16.0131
General Office Building	386626	112.4739	5.0900e-003	1.0500e-003	112.9146
Hotel	30761.9	8.9490	4.0000e-004	8.0000e-005	8.9841
Regional Shopping Center	827941	240.8574	0.0109	2.2500e-003	241.8011
Single Family Housing	1.25404e+006	364.8141	0.0165	3.4100e-003	366.2436
Total		**854.5958**	**0.0386**	**7.9800e-003**	**857.9444**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1736	0.0197	1.7087	9.0000e-005		9.5200e-003	9.5200e-003		9.5200e-003	9.5200e-003	0.0000	2.8037	2.8037	2.6700e-003	0.0000	2.8705
Unmitigated	2.1743	0.0251	1.7110	1.3000e-004		9.9500e-003	9.9500e-003		9.9500e-003	9.9500e-003	0.0000	9.0644	9.0644	2.7900e-003	1.1000e-004	9.1684

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3072					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8153					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.3000e-004	5.4100e-003	2.3000e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	6.2607	6.2607	1.2000e-004	1.1000e-004	6.2979
Landscaping	0.0512	0.0197	1.7087	9.0000e-005		9.5200e-003	9.5200e-003		9.5200e-003	9.5200e-003	0.0000	2.8037	2.8037	2.6700e-003	0.0000	2.8705
Total	**2.1743**	**0.0251**	**1.7110**	**1.2000e-004**		**9.9600e-003**	**9.9600e-003**		**9.9600e-003**	**9.9600e-003**	**0.0000**	**9.0644**	**9.0644**	**2.7900e-003**	**1.1000e-004**	**9.1684**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3072					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8153					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0512	0.0197	1.7087	9.0000e-005		9.5200e-003	9.5200e-003		9.5200e-003	9.5200e-003	0.0000	2.8037	2.8037	2.6700e-003	0.0000	2.8705
Total	**2.1736**	**0.0197**	**1.7087**	**9.0000e-005**		**9.5200e-003**	**9.5200e-003**		**9.5200e-003**	**9.5200e-003**	**0.0000**	**2.8037**	**2.8037**	**2.6700e-003**	**0.0000**	**2.8705**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	55.3769	0.6866	0.0166	77.4918
Unmitigated	65.3075	0.8580	0.0207	92.9358

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.95171 / 3.12173	12.5441	0.1619	3.9100e-003	17.7562
General Light Industry	1.5355 / 0	2.9042	0.0501	1.2000e-003	4.5166
General Office Building	3.85327 / 2.36168	9.6926	0.1259	3.0400e-003	13.7483
Hotel	0.0761003 / 0.00845559	0.1525	2.4900e-003	6.0000e-005	0.2325
Regional Shopping Center	5.73692 / 3.51617	14.4308	0.1875	4.5300e-003	20.4690
Single Family Housing	10.0989 / 6.36668	25.5833	0.3301	7.9800e-003	36.2132
Total		**65.3075**	**0.8580**	**0.0207**	**92.9358**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.96136 / 3.12173	10.6709	0.1295	3.1400e-003	14.8431
General Light Industry	1.2284 / 0	2.3234	0.0401	9.6000e-004	3.6133
General Office Building	3.08261 / 2.36168	8.2350	0.1008	2.4400e-003	11.4814
Hotel	0.0608802 / 0.00845559	0.1238	1.9900e-003	5.0000e-005	0.1877
Regional Shopping Center	4.58953 / 3.51617	12.2607	0.1500	3.6300e-003	17.0941
Single Family Housing	8.0791 / 6.36668	21.7631	0.2641	6.4000e-003	30.2722
Total		**55.3769**	**0.6866**	**0.0166**	**77.4918**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	54.8502	3.2416	0.0000	135.8890
Unmitigated	54.8502	3.2416	0.0000	135.8890

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	34.96	7.0966	0.4194	0.0000	17.5814
General Light Industry	8.23	1.6706	0.0987	0.0000	4.1389
General Office Building	20.16	4.0923	0.2419	0.0000	10.1385
Hotel	1.64	0.3329	0.0197	0.0000	0.8248
Regional Shopping Center	81.32	16.5072	0.9756	0.0000	40.8960
Single Family Housing	123.9	25.1506	1.4864	0.0000	62.3095
Total		**54.8502**	**3.2416**	**0.0000**	**135.8890**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	34.96	7.0966	0.4194	0.0000	17.5814
General Light Industry	8.23	1.6706	0.0987	0.0000	4.1389
General Office Building	20.16	4.0923	0.2419	0.0000	10.1385
Hotel	1.64	0.3329	0.0197	0.0000	0.8248
Regional Shopping Center	81.32	16.5072	0.9756	0.0000	40.8960
Single Family Housing	123.9	25.1506	1.4864	0.0000	62.3095
Total		**54.8502**	**3.2416**	**0.0000**	**135.8890**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Napa
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	**VMT**	**Fuel_Consumption**	**MPG (derived)**	
Napa	2018	All Other B	Aggregated	Aggregated	DSL	83.20846859	5650.062765	0.699673102		
Napa	2018	LDA	Aggregated	Aggregated	GAS	41637.58815	1666049.89	58.92419082	**28.27446362**	
Napa	2018	LDA	Aggregated	Aggregated	DSL	464.5031429	18875.81271	0.530379963		
Napa	2018	LDA	Aggregated	Aggregated	ELEC	389.9447159	22127.94087	0		
Napa	2018	LDT1	Aggregated	Aggregated	GAS	3949.073733	133059.7567	5.665957348	**23.48407313**	
Napa	2018	LDT1	Aggregated	Aggregated	DSL	4.59146376	104.0536046	0.003790674		
Napa	2018	LDT1	Aggregated	Aggregated	ELEC	2.840627519	79.6598833	0		
Napa	2018	LDT2	Aggregated	Aggregated	GAS	13709.55361	548634.8567	26.28864195	**20.86965381**	
Napa	2018	LDT2	Aggregated	Aggregated	DSL	22.5169637	1067.908189	0.038019746		
Napa	2018	LHD1	Aggregated	Aggregated	GAS	1426.148197	44143.7042	4.632244015		
Napa	2018	LHD1	Aggregated	Aggregated	DSL	1487.553582	50914.20291	3.004517525	**16.94588315**	
Napa	2018	LHD2	Aggregated	Aggregated	GAS	196.4006367	7035.010627	0.817393316		
Napa	2018	LHD2	Aggregated	Aggregated	DSL	398.2078518	15415.69638	1.014264842	**15.19888666**	
Napa	2018	MCY	Aggregated	Aggregated	GAS	2209.96471	18502.48078	0.490878013	**37.6926248**	
Napa	2018	MDV	Aggregated	Aggregated	GAS	11580.97068	397630.6106	25.5597902	**15.55688084**	
Napa	2018	MDV	Aggregated	Aggregated	DSL	143.5077383	6506.463667	0.307892014		
Napa	2018	MH	Aggregated	Aggregated	GAS	377.4932858	3203.070878	0.493549221	**6.489871211**	
Napa	2018	MH	Aggregated	Aggregated	DSL	85.4883386	781.3821335	0.082027174		
Napa	2018	Motor Coa	Aggregated	Aggregated	DSL	15.71138323	2345.158406	0.426971267		
Napa	2018	OBUS	Aggregated	Aggregated	GAS	57.45630186	3709.825057	0.577048278	**6.428968245**	
Napa	2018	PTO	Aggregated	Aggregated	DSL	0	3033.715316	0.662414059		
Napa	2018	SBUS	Aggregated	Aggregated	GAS	11.54573194	673.4408419	0.057950075		
Napa	2018	SBUS	Aggregated	Aggregated	DSL	65.01115538	2492.803687	0.347044591	**7.182949248**	
Napa	2018	T6 Ag	Aggregated	Aggregated	DSL	16.04165574	294.5567205	0.037078379	**7.94416392**	**8.01713**
Napa	2018	T6 CAIRP h	Aggregated	Aggregated	DSL	1.815338327	99.4473101	0.011923817	**8.340224253**	
Napa	2018	T6 CAIRP si	Aggregated	Aggregated	DSL	4.735651141	305.2786977	0.036734689	**8.310365572**	
Napa	2018	T6 instate (	Aggregated	Aggregated	DSL	20.29394196	1435.119108	0.175063698	**8.197696747**	
Napa	2018	T6 instate (	Aggregated	Aggregated	DSL	66.51172875	3850.597118	0.467292102	**8.240235818**	
Napa	2018	T6 instate l	Aggregated	Aggregated	DSL	293.3151859	13621.38269	1.659764766	**8.20681519**	
Napa	2018	T6 instate s	Aggregated	Aggregated	DSL	599.3739987	31111.41686	3.800145846	**8.186900745**	
Napa	2018	T6 OOS hea	Aggregated	Aggregated	DSL	1.077346714	56.9795713	0.006838702	**8.331928046**	
Napa	2018	T6 OOS sm	Aggregated	Aggregated	DSL	2.71335013	174.9132209	0.021047596	**8.310365572**	
Napa	2018	T6 Public	Aggregated	Aggregated	DSL	132.7016228	2236.904424	0.278815074	**8.022896305**	
Napa	2018	T6 utility	Aggregated	Aggregated	DSL	13.48935171	263.9182417	0.033363019	**7.910502302**	
Napa	2018	T6TS	Aggregated	Aggregated	GAS	119.2531676	5832.01926	0.94012216	**6.203469623**	
Napa	2018	T7 Ag	Aggregated	Aggregated	DSL	12.90469319	219.3748242	0.041447788	**5.292799304**	**5.332789**
Napa	2018	T7 CAIRP	Aggregated	Aggregated	DSL	73.55229335	15231.24707	2.669319454	**5.706041309**	
Napa	2018	T7 CAIRP c	Aggregated	Aggregated	DSL	4.33355201	1018.06256	0.179293066	**5.678203741**	
Napa	2018	T7 NNOOS	Aggregated	Aggregated	DSL	76.54048842	18886.76532	3.105308681	**6.082089498**	
Napa	2018	T7 NOOS	Aggregated	Aggregated	DSL	29.84662714	6016.3381	1.075978512	**5.591503952**	
Napa	2018	T7 other p	Aggregated	Aggregated	DSL	8.802625684	1650.327394	0.28066034	**5.880158899**	
Napa	2018	T7 POAK	Aggregated	Aggregated	DSL	47.12338594	6284.720995	1.102899962	**5.698359969**	
Napa	2018	T7 Public	Aggregated	Aggregated	DSL	125.3252808	2870.166606	0.584435391	**4.911007531**	
Napa	2018	T7 Single	Aggregated	Aggregated	DSL	166.0619138	15278.39672	2.676826874	**5.707652172**	
Napa	2018	T7 single c	Aggregated	Aggregated	DSL	28.82888566	2633.593892	0.447619863	**5.883550101**	
Napa	2018	T7 SWCV	Aggregated	Aggregated	DSL	57.58197005	2655.454827	1.167189232	**2.275085097**	
Napa	2018	T7 tractor	Aggregated	Aggregated	DSL	195.2948011	28005.40895	4.676563304	**5.988459286**	
Napa	2018	T7 tractor (	Aggregated	Aggregated	DSL	22.38988574	1963.538895	0.337139241	**5.824118513**	
Napa	2018	T7 utility	Aggregated	Aggregated	DSL	5.927274826	135.7411422	0.026699147	**5.084100259**	
Napa	2018	T7IS	Aggregated	Aggregated	GAS	9.146283311	1094.784971	0.24945539	**4.388700411**	
Napa	2018	UBUS	Aggregated	Aggregated	GAS	20.18231241	3493.642041	0.714096925	**4.892391941**	
Napa	2018	UBUS	Aggregated	Aggregated	DSL	14.78078327	2558.614929	0.602518586		

On-road Mobile (Operational) Energy Usage

Note: For the sake of simplicity, it was assumed that passenger vehicles, light duty trucks, motorcycles, and mobile homes use gasoline, and all medium-duty trucks, heavy-duty trucks, and buses use diesel fuel.

Unmitigated:

Step 1: **Total Net Daily Trips (approximate)**

5,846

Res H-W	*Res H-S*	*Res H-O*
Trip Length (miles) (provided by CalEEMod v2016.3.2)		
10.8	7.3	7.5
Trip % (conservatively estimated)		
42.60%	21.00%	36.40%

Average Trip Length (weighted average)

8.8638

Therefore:

Average Daily VMT:

51,818

Step 2: Given:

Fleet Mix (provided by CalEEMod v2016.3.2)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
63.3%	3.0%	16.3%	9.1%	1.0%	0.4%	1.6%	4.1%	0.4%	0.1%	0.5%	0.1%	0.1%

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2	MDV	MCY	MH	OBUS
28.27446362	23.48407	20.86965	15.55688084	37.6926248	6.489871211	6.428968

Diesel MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LHD1	LHD2	MHD	HHD	UBUS	SBUS
16.94588315	15.19889	8.01713	5.332788669	4.432964734	7.182949248

Therefore:

Weighted Average MPG Factors

Gasoline: **25.5** Diesel: **8.1**

Step 3: **Therefore:**

1,875 daily gallons of gasoline **493 daily gallons of diesel**

or

684,470	**annual gallons of gasoline**	**179,946**	**annual gallons of diesel**

APPENDIX C

Noise Data

Appendix C: Traffic Noise Modeling Inputs and Results

Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180806
Description: Yountville General Plan Update - Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Segment	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 70 dBA	65 dBA	60 dBA	Level, dBA
1	California Dr.	SR 29 NB Ramp to Washington St.	7,940	88	0	12	1.0%	0.5%	25	16	0	9	20	44	66.6
2	California Dr.	SR 29 SB Ramp to Presidents Cir.	4,130	88	0	12	1.0%	0.5%	20	100	0	4	10	21	49.7
3	Finnell Rd.	Yount St., East of Intersection	1,510	88	0	12	1.0%	0.5%	25	28	0	3	7	15	55.7
4	Madison St.	SR 29 to Washington St.	6,330	88	0	12	1.0%	0.5%	25	50	0	8	18	38	58.2
5	Madison St.	Washington St. to Yount St.	4,750	88	0	12	1.0%	0.5%	25	50	0	7	14	31	56.9
6	SR 29	Madison St., North of Intersection	21,420	82	0	18	3.0%	3.0%	55	73	0	94	202	436	71.6
7	SR 29	Madison St. to California Dr.	24,770	82	0	18	3.0%	3.0%	55	110	0	103	223	480	69.6
8	SR 29	Trubody Ln. to California Dr.	32,000	82	0	18	2.0%	3.0%	55	129	0	120	259	559	69.6
9	Washington St.	Madison St., North of Intersection	2,050	88	0	12	1.0%	0.5%	25	37	0	4	8	18	55.2
10	Washington St.	Madison St. to Yount St.	4,730	88	0	12	1.0%	0.5%	25	29	0	7	14	31	60.4
11	Washington St.	Yount St. to California Dr.	6,760	88	0	12	1.0%	0.5%	25	34	0	8	18	39	61.0
12	Washington St.	California Dr. to Land Ln.	1,420	88	0	12	1.0%	0.5%	25	55	-5	3	6	14	46.1
13	Yount St.	Finnell Rd. to Washington St.	3,120	88	0	12	1.0%	0.5%	25	50	0	5	11	24	55.1
14	Yount St.	Madison St. to Finnell Rd.	2,240	88	0	12	1.0%	0.5%	25	31	0	4	9	19	56.8
15	Yount St.	Yountville Cross Rd., North of Intersection	660	88	0	12	1.0%	0.5%	25	38	0	2	4	8	50.1
16	Yount St.	Yountville Cross Rd. to Madison St.	5,370	88	0	12	1.0%	0.5%	25	42	0	7	16	34	58.6
17	Yountville Cross Rd.	Yount St. to Silverado Trail	5,170	88	0	12	1.0%	0.5%	35	44	0	12	25	54	61.3

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Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180806

Description: Yountville General Plan Update - Existing Plus Project Traffic

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway Segment	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 70 dBA	65 dBA	60 dBA	Level, dBA
1	California Dr.	SR 29 NB Ramp to Washington St.	9,500	88	0	12	1.0%	0.5%	25	16	0	11	23	49	67.4
2	California Dr.	SR 29 SB Ramp to Presidents Cir.	4,130	88	0	12	1.0%	0.5%	20	100	0	4	10	21	49.7
3	Finnell Rd.	Yount St., East of Intersection	1,920	88	0	12	1.0%	0.5%	25	28	0	4	8	17	56.8
4	Madison St.	SR 29 to Washington St.	7,560	88	0	12	1.0%	0.5%	25	50	0	9	20	42	58.9
5	Madison St.	Washington St. to Yount St.	5,590	88	0	12	1.0%	0.5%	25	50	0	7	16	35	57.6
6	SR 29	Madison St., North of Intersection	22,630	82	0	18	3.0%	3.0%	55	73	0	97	210	452	71.9
7	SR 29	Madison St. to California Dr.	25,450	82	0	18	3.0%	3.0%	55	110	0	105	227	489	69.7
8	SR 29	Trubody Ln. to California Dr.	32,329	82	0	18	2.0%	3.0%	55	129	0	121	261	563	69.6
9	Washington St.	Madison St., North of Intersection	2,050	88	0	12	1.0%	0.5%	25	37	0	4	8	18	55.2
10	Washington St.	Madison St. to Yount St.	6,310	88	0	12	1.0%	0.5%	25	29	0	8	17	38	61.7
11	Washington St.	Yount St. to California Dr.	8,750	88	0	12	1.0%	0.5%	25	34	0	10	22	47	62.1
12	Washington St.	California Dr. to Land Ln.	2,930	88	0	12	1.0%	0.5%	25	55	-5	5	10	23	49.2
13	Yount St.	Finnell Rd. to Washington St.	4,180	88	0	12	1.0%	0.5%	25	50	0	6	13	29	56.4
14	Yount St.	Madison St. to Finnell Rd.	3,090	88	0	12	1.0%	0.5%	25	31	0	5	11	23	58.2
15	Yount St.	Yountville Cross Rd., North of Intersection	680	88	0	12	1.0%	0.5%	25	38	0	2	4	9	50.3
16	Yount St.	Yountville Cross Rd. to Madison St.	6,770	88	0	12	1.0%	0.5%	25	42	0	9	18	39	59.6
17	Yountville Cross Rd.	Yount St. to Silverado Trail	6,550	88	0	12	1.0%	0.5%	35	44	0	14	29	63	62.4

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Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180806

Description: Yountville General Plan Update - Existing Plus Project Alternative Traffic

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway Segment	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 70 dBA	65 dBA	60 dBA	Level, dBA
1	California Dr.	SR 29 NB Ramp to Washington St.	9,710	88	0	12	1.0%	0.5%	25	16	0	11	23	50	67.4
2	California Dr.	SR 29 SB Ramp to Presidents Cir.	4,130	88	0	12	1.0%	0.5%	20	100	0	4	10	21	49.7
3	Finnell Rd.	Yount St., East of Intersection	1,910	88	0	12	1.0%	0.5%	25	28	0	4	8	17	56.7
4	Madison St.	SR 29 to Washington St.	7,290	88	0	12	1.0%	0.5%	25	50	0	9	19	41	58.8
5	Madison St.	Washington St. to Yount St.	5,350	88	0	12	1.0%	0.5%	25	50	0	7	16	34	57.4
6	SR 29	Madison St., North of Intersection	22,590	82	0	18	3.0%	3.0%	55	73	0	97	210	452	71.9
7	SR 29	Madison St. to California Dr.	25,420	82	0	18	3.0%	3.0%	55	110	0	105	227	489	69.7
8	SR 29	Trubody Ln. to California Dr.	32,840	82	0	18	2.0%	3.0%	55	129	0	123	264	569	69.7
9	Washington St.	Madison St., North of Intersection	2,050	88	0	12	1.0%	0.5%	25	37	0	4	8	18	55.2
10	Washington St.	Madison St. to Yount St.	5,800	88	0	12	1.0%	0.5%	25	29	0	8	17	36	61.3
11	Washington St.	Yount St. to California Dr.	8,910	88	0	12	1.0%	0.5%	25	34	0	10	22	47	62.2
12	Washington St.	California Dr. to Land Ln.	3,390	88	0	12	1.0%	0.5%	25	55	-5	5	12	25	49.8
13	Yount St.	Finnell Rd. to Washington St.	4,450	88	0	12	1.0%	0.5%	25	50	0	6	14	30	56.6
14	Yount St.	Madison St. to Finnell Rd.	3,170	88	0	12	1.0%	0.5%	25	31	0	5	11	24	58.3
15	Yount St.	Yountville Cross Rd., North of Intersection	680	88	0	12	1.0%	0.5%	25	38	0	2	4	9	50.3
16	Yount St.	Yountville Cross Rd. to Madison St.	6,750	88	0	12	1.0%	0.5%	25	42	0	8	18	39	59.6
17	Yountville Cross Rd.	Yount St. to Silverado Trail	6,530	88	0	12	1.0%	0.5%	35	44	0	14	29	63	62.3

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Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180806
Description: Yountville General Plan Update - Cumulative Baseline Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Segment	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 70 dBA	65 dBA	60 dBA	Level, dBA
1	California Dr.	SR 29 NB Ramp to Washington St.	8,960	88	0	12	1.0%	0.5%	25	16	0	10	22	48	67.1
2	California Dr.	SR 29 SB Ramp to Presidents Cir.	6,980	88	0	12	1.0%	0.5%	20	100	0	6	14	29	52.0
3	Finnell Rd.	Yount St., East of Intersection	1,700	88	0	12	1.0%	0.5%	25	28	0	3	7	16	56.2
4	Madison St.	SR 29 to Washington St.	6,780	88	0	12	1.0%	0.5%	25	50	0	9	18	39	58.5
5	Madison St.	Washington St. to Yount St.	5,100	88	0	12	1.0%	0.5%	25	50	0	7	15	33	57.2
6	SR 29	Madison St., North of Intersection	28,340	82	0	18	3.0%	3.0%	55	73	0	113	244	525	72.9
7	SR 29	Madison St. to California Dr.	32,140	82	0	18	3.0%	3.0%	55	110	0	123	265	571	70.7
8	SR 29	Trubody Ln. to California Dr.	32,000	82	0	18	2.0%	3.0%	55	129	0	120	259	559	69.6
9	Washington St.	Madison St., North of Intersection	2,050	88	0	12	1.0%	0.5%	25	37	0	4	8	18	55.2
10	Washington St.	Madison St. to Yount St.	4,830	88	0	12	1.0%	0.5%	25	29	0	7	15	32	60.5
11	Washington St.	Yount St. to California Dr.	7,490	88	0	12	1.0%	0.5%	25	34	0	9	20	42	61.4
12	Washington St.	California Dr. to Land Ln.	1,420	88	0	12	1.0%	0.5%	25	55	-5	3	6	14	46.1
13	Yount St.	Finnell Rd. to Washington St.	3,660	88	0	12	1.0%	0.5%	25	50	0	6	12	26	55.8
14	Yount St.	Madison St. to Finnell Rd.	2,600	88	0	12	1.0%	0.5%	25	31	0	4	10	21	57.4
15	Yount St.	Yountville Cross Rd., North of Intersection	660	88	0	12	1.0%	0.5%	25	38	0	2	4	8	50.1
16	Yount St.	Yountville Cross Rd. to Madison St.	5,880	88	0	12	1.0%	0.5%	25	42	0	8	17	36	59.0
17	Yountville Cross Rd.	Yount St. to Silverado Trail	5,680	88	0	12	1.0%	0.5%	35	44	0	12	27	57	61.7

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Appendix C-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180806
Description: Yountville General Plan Update - Cumulative + Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Segment	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 70 dBA	65 dBA	60 dBA	Level, dBA
1	California Dr.	SR 29 NB Ramp to Washington St.	10,510	88	0	12	1.0%	0.5%	25	16	0	11	25	53	67.8
2	California Dr.	SR 29 SB Ramp to Presidents Cir.	6,980	88	0	12	1.0%	0.5%	20	100	0	6	14	29	52.0
3	Finnell Rd.	Yount St., East of Intersection	2,110	88	0	12	1.0%	0.5%	25	28	0	4	8	18	57.2
4	Madison St.	SR 29 to Washington St.	8,000	88	0	12	1.0%	0.5%	25	50	0	10	20	44	59.2
5	Madison St.	Washington St. to Yount St.	5,940	88	0	12	1.0%	0.5%	25	50	0	8	17	36	57.9
6	SR 29	Madison St., North of Intersection	29,550	82	0	18	3.0%	3.0%	55	73	0	116	251	540	73.0
7	SR 29	Madison St. to California Dr.	32,810	82	0	18	3.0%	3.0%	55	110	0	125	269	579	70.8
8	SR 29	Trubody Ln. to California Dr.	42,387	82	0	18	2.0%	3.0%	55	129	0	145	313	674	70.8
9	Washington St.	Madison St., North of Intersection	2,050	88	0	12	1.0%	0.5%	25	37	0	4	8	18	55.2
10	Washington St.	Madison St. to Yount St.	6,400	88	0	12	1.0%	0.5%	25	29	0	8	18	38	61.8
11	Washington St.	Yount St. to California Dr.	9,480	88	0	12	1.0%	0.5%	25	34	0	11	23	49	62.4
12	Washington St.	California Dr. to Land Ln.	2,930	88	0	12	1.0%	0.5%	25	55	-5	5	10	23	49.2
13	Yount St.	Finnell Rd. to Washington St.	4,720	88	0	12	1.0%	0.5%	25	50	0	7	14	31	56.9
14	Yount St.	Madison St. to Finnell Rd.	3,450	88	0	12	1.0%	0.5%	25	31	0	5	12	25	58.6
15	Yount St.	Yountville Cross Rd., North of Intersection	680	88	0	12	1.0%	0.5%	25	38	0	2	4	9	50.3
16	Yount St.	Yountville Cross Rd. to Madison St.	7,280	88	0	12	1.0%	0.5%	25	42	0	9	19	41	59.9
17	Yountville Cross Rd.	Yount St. to Silverado Trail	7,060	88	0	12	1.0%	0.5%	35	44	0	14	31	66	62.7

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Appendix C-6
FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 180806
Description: Yountville General Plan Update - Cumulative + Alternative Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Segment	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 70 dBA	65 dBA	60 dBA	Level, dBA
1	California Dr.	SR 29 NB Ramp to Washington St.	10,730	88	0	12	1.0%	0.5%	25	16	0	12	25	54	67.9
2	California Dr.	SR 29 SB Ramp to Presidents Cir.	6,980	88	0	12	1.0%	0.5%	20	100	0	6	14	29	52.0
3	Finnell Rd.	Yount St., East of Intersection	2,100	88	0	12	1.0%	0.5%	25	28	0	4	8	18	57.2
4	Madison St.	SR 29 to Washington St.	7,740	88	0	12	1.0%	0.5%	25	50	0	9	20	43	59.0
5	Madison St.	Washington St. to Yount St.	5,700	88	0	12	1.0%	0.5%	25	50	0	8	16	35	57.7
6	SR 29	Madison St., North of Intersection	29,510	82	0	18	3.0%	3.0%	55	73	0	116	250	540	73.0
7	SR 29	Madison St. to California Dr.	32,790	82	0	18	3.0%	3.0%	55	110	0	125	269	579	70.8
8	SR 29	Trubody Ln. to California Dr.	42,361	82	0	18	2.0%	3.0%	55	129	0	145	313	674	70.8
9	Washington St.	Madison St., North of Intersection	2,050	88	0	12	1.0%	0.5%	25	37	0	4	8	18	55.2
10	Washington St.	Madison St. to Yount St.	5,900	88	0	12	1.0%	0.5%	25	29	0	8	17	36	61.4
11	Washington St.	Yount St. to California Dr.	9,640	88	0	12	1.0%	0.5%	25	34	0	11	23	50	62.5
12	Washington St.	California Dr. to Land Ln.	3,390	88	0	12	1.0%	0.5%	25	55	-5	5	12	25	49.8
13	Yount St.	Finnell Rd. to Washington St.	4,990	88	0	12	1.0%	0.5%	25	50	0	7	15	32	57.1
14	Yount St.	Madison St. to Finnell Rd.	3,530	88	0	12	1.0%	0.5%	25	31	0	6	12	26	58.7
15	Yount St.	Yountville Cross Rd., North of Intersection	680	88	0	12	1.0%	0.5%	25	38	0	2	4	9	50.3
16	Yount St.	Yountville Cross Rd. to Madison St.	7,260	88	0	12	1.0%	0.5%	25	42	0	9	19	41	59.9
17	Yountville Cross Rd.	Yount St. to Silverado Trail	7,040	88	0	12	1.0%	0.5%	35	44	0	14	31	66	62.7

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APPENDIX D

Traffic Data

Intersection Level Of Service Report
Intersection 1: Washington St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name				Washington St			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Washington St			Madison St			Madison St		
Base Volume Input [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	12	12	8	23	9	3	31	36	15	64	3
Total Analysis Volume [veh/h]	134	47	48	30	91	36	13	123	144	61	254	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	513	585	587	668	642
Degree of Utilization, x	0.26	0.16	0.27	0.42	0.51

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.04	0.58	1.07	2.08	2.88
95th-Percentile Queue Length [ft]	25.98	14.41	26.83	51.97	72.09
Approach Delay [s/veh]	11.30		11.35	12.23	14.25
Approach LOS	B		B	B	B
Intersection Delay [s/veh]	12.54				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 2: Washington St/Yount St

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Washington St						Driveway			Yount St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Washington St						Driveway			Yount St		
Base Volume Input [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	45	34	4	63	2	1	1	1	44	0	5
Total Analysis Volume [veh/h]	1	181	137	14	253	8	2	2	4	174	0	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	778	733	656	659
Degree of Utilization, x	0.41	0.38	0.01	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.01	1.75	0.04	1.23
95th-Percentile Queue Length [ft]	50.34	43.70	0.93	30.63
Approach Delay [s/veh]	10.80	10.83	8.55	10.72
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	10.77			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	All-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.632

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	9	0	2	12	103	96	1	6	0	1	1
Total Analysis Volume [veh/h]	49	37	0	7	47	413	386	3	24	1	4	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	590	602	691	654	600
Degree of Utilization, x	0.15	0.09	0.60	0.63	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.51	0.29	4.00	4.48	0.04
95th-Percentile Queue Length [ft]	12.71	7.37	100.05	111.92	0.88
Approach Delay [s/veh]	10.15	14.66		17.46	9.07
Approach LOS	B	B		C	A
Intersection Delay [s/veh]	15.41				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 4: SR 29/Madison St

Control Type:	Signalized	Delay (sec / veh):	69.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.389

Intersection Setup

Name				SR 29			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	0	0	1
Pocket Length [ft]	160.00	100.00	160.00	180.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	65.00
Speed [mph]	30.00			55.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name				SR 29			Madison St			Madison St		
Base Volume Input [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	48
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	186	44	26	361	1	1	1	13	84	0	13
Total Analysis Volume [veh/h]	2	742	178	104	1443	6	3	6	52	334	0	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	26.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	15	0	5	15	0	0	4	0	0	4	0
Maximum Green [s]	21	75	0	21	75	0	0	17	0	0	22	0
Amber [s]	3.0	5.4	0.0	3.0	5.4	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	10	69	0	13	72	0	0	8	0	0	8	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	4.4	0.0	1.0	4.4	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	3.00	6.40	6.40	3.00	6.40	6.40	3.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	4.40	4.40	1.00	4.40	4.40	0.00	2.00	2.00
g_i, Effective Green Time [s]	0	67	67	8	75	75	23	22	22
g / C, Green / Cycle	0.00	0.61	0.61	0.07	0.68	0.68	0.21	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.00	0.40	0.11	0.06	0.77	0.00	0.04	0.29	0.03
s, saturation flow rate [veh/h]	1774	1863	1583	1774	1863	1583	1673	1163	1583
c, Capacity [veh/h]	5	1131	962	131	1263	1074	351	295	313
d1, Uniform Delay [s]	55.03	14.17	9.60	50.40	17.80	5.75	36.16	47.73	36.83
k, delay calibration	0.11	0.19	0.15	0.11	0.50	0.15	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.26	1.16	0.13	10.36	73.99	0.00	0.23	92.81	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.66	0.19	0.79	1.14	0.01	0.17	1.13	0.17
d, Delay for Lane Group [s/veh]	92.29	15.32	9.73	60.76	91.79	5.76	36.39	140.54	37.08
Lane Group LOS	F	B	A	E	F	A	D	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.11	11.71	1.88	3.08	49.04	0.04	1.40	15.89	1.23
50th-Percentile Queue Length [ft]	2.79	292.65	46.99	76.94	1226.03	0.91	34.97	397.32	30.69
95th-Percentile Queue Length [veh]	0.20	17.32	3.38	5.54	67.75	0.07	2.52	23.89	2.21
95th-Percentile Queue Length [ft]	5.02	432.93	84.58	138.48	1693.75	1.63	62.95	597.25	55.24

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.29	15.32	9.73	60.76	91.79	5.76	36.39	36.39	36.39	140.54	140.54	37.08
Movement LOS	F	B	A	E	F	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	14.41			89.38			36.39			126.37		
Approach LOS	B			F			D			F		
d_I, Intersection Delay [s/veh]	69.53											
Intersection LOS	E											
Intersection V/C	1.389											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: SR 29/California Dr NB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Peak Hour Factor	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	0.9000	0.9000	1.0000	1.0000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	85	0	0	0	10	20	0	0	110	6
Total Analysis Volume [veh/h]	78	0	339	0	0	0	40	79	0	0	440	24
Pedestrian Volume [ped/h]	0			14			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane												
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance	No											
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.35	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	16.39	16.86	10.59	0.00	0.00	0.00	8.50	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	C	B				A	A			A	A
95th-Percentile Queue Length [veh]	0.73	0.73	1.55	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	18.19	18.19	38.83	0.00	0.00	0.00	9.36	9.36	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.68			0.00			2.86			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	5.21											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 6: SR 29/California Dr SB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	37.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000	0.9000	0.9000	0.9000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	7	0	13	0	23	45	96	34	0
Total Analysis Volume [veh/h]	0	0	0	27	0	50	0	93	180	383	136	0
Pedestrian Volume [ped/h]	0			11			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.19	0.00	0.06	0.00	0.00	0.00	0.30	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	34.11	37.14	12.77	0.00	0.00	0.00	8.96	0.00	0.00
Movement LOS				D	E	B		A	A	A	A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.95	0.95	0.95	0.00	0.00	0.00	1.98	1.98	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	23.77	23.77	23.77	0.00	0.00	0.00	49.46	49.46	0.00
d_A, Approach Delay [s/veh]	0.00			20.26			0.00			6.61		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.75											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Yount St/Finnell Road

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.186

Intersection Setup

Name	Yount St						Finnell Rd			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Yount St						Finnell Rd			Driveway		
Base Volume Input [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	23	17	3	26	1	0	1	1	18	0	3
Total Analysis Volume [veh/h]	6	91	69	11	106	3	1	3	3	72	1	11
Pedestrian Volume [ped/h]	0			0			9			25		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	890	833	812	773
Degree of Utilization, x	0.19	0.14	0.01	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.68	0.50	0.03	0.36
95th-Percentile Queue Length [ft]	17.06	12.57	0.65	9.11
Approach Delay [s/veh]	7.97	8.05	7.47	8.22
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.04			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Yount St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.472

Intersection Setup

Name				Yount St			Madison St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name				Yount St			Madison St			Driveway		
Base Volume Input [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	15	0	0	25	79	31	0	12	0	0	0
Total Analysis Volume [veh/h]	38	61	0	0	101	317	122	0	49	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	733	886	717	675
Degree of Utilization, x	0.14	0.47	0.24	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.47	2.57	0.93	0.00
95th-Percentile Queue Length [ft]	11.65	64.23	23.19	0.00
Approach Delay [s/veh]	8.68	10.65	9.59	0.00
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	10.10			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 9: Yount St/Yountville Cross Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	Yount St		Yount St		Yountville Cross Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Yount St		Yount St		Yountville Cross Rd	
Base Volume Input [veh/h]	24	139	10	19	355	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	139	10	19	355	13
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	39	3	5	99	4
Total Analysis Volume [veh/h]	27	154	11	21	394	14
Pedestrian Volume [ped/h]	0		0		7	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.48	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.64	0.00	13.50	12.99
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.07	0.07	2.76	2.76
95th-Percentile Queue Length [ft]	0.00	0.00	1.78	1.78	69.12	69.12
d_A, Approach Delay [s/veh]	0.00		2.62		13.48	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	8.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Washington St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

Intersection Setup

Name				Washington St			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Washington St			Madison St			Madison St		
Base Volume Input [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	0	34	0	0	0	0	13	46	25	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	42	77	27	82	32	12	124	176	80	241	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	12	21	8	23	9	3	34	49	22	67	3
Total Analysis Volume [veh/h]	193	47	86	30	91	36	13	138	196	89	268	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	473	543	514	602	575
Degree of Utilization, x	0.41	0.25	0.31	0.58	0.64

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.96	0.96	1.28	3.66	4.54
95th-Percentile Queue Length [ft]	48.96	23.91	32.00	91.56	113.46
Approach Delay [s/veh]	13.84		13.03	16.80	19.72
Approach LOS	B		B	C	C
Intersection Delay [s/veh]	16.40				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 2: Washington St/Yount St

Control Type:	All-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	Washington St						Driveway			Yount St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Washington St						Driveway			Yount St		
Base Volume Input [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	50	43	4	53	0	0	0	0	53	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	213	166	17	281	7	2	2	4	210	0	25
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	59	46	5	78	2	1	1	1	58	0	7
Total Analysis Volume [veh/h]	1	237	184	19	312	8	2	2	4	233	0	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	713	668	573	604
Degree of Utilization, x	0.59	0.51	0.01	0.43

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.92	2.89	0.04	2.17
95th-Percentile Queue Length [ft]	97.97	72.25	1.06	54.33
Approach Delay [s/veh]	15.07	13.82	9.38	13.42
Approach LOS	C	B	A	B
Intersection Delay [s/veh]	14.20			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	All-way stop	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.833

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	30	0	0	47	45	37	0	47	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	63	0	6	89	417	384	3	69	1	4	2
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	18	0	2	25	116	107	1	19	0	1	1
Total Analysis Volume [veh/h]	79	70	0	7	99	463	427	3	77	1	4	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	533	551	622	609	518
Degree of Utilization, x	0.28	0.19	0.74	0.83	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.14	0.71	6.57	8.83	0.04
95th-Percentile Queue Length [ft]	28.46	17.64	164.18	220.68	1.03
Approach Delay [s/veh]	12.37	21.06		31.57	10.04
Approach LOS	B	C		D	B
Intersection Delay [s/veh]	24.27				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 4: SR 29/Madison St

Control Type:	Signalized	Delay (sec / veh):	76.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.428

Intersection Setup

Name				SR 29			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	0	0	1
Pocket Length [ft]	160.00	100.00	160.00	180.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	65.00
Speed [mph]	30.00			55.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name				SR 29			Madison St			Madison St		
Base Volume Input [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	17	41	21	0	0	0	0	18	0	47
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	2	680	177	135	1320	5	3	5	47	319	0	95
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	189	49	38	367	1	1	1	13	89	0	26
Total Analysis Volume [veh/h]	2	756	197	150	1467	6	3	6	52	354	0	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	26.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	15	0	5	15	0	0	4	0	0	4	0
Maximum Green [s]	21	75	0	21	75	0	0	17	0	0	22	0
Amber [s]	3.0	5.4	0.0	3.0	5.4	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	10	69	0	13	72	0	0	8	0	0	8	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	4.4	0.0	1.0	4.4	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	3.00	6.40	6.40	3.00	6.40	6.40	3.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	4.40	4.40	1.00	4.40	4.40	0.00	2.00	2.00
g_i, Effective Green Time [s]	0	64	64	11	75	75	23	22	22
g / C, Green / Cycle	0.00	0.58	0.58	0.10	0.68	0.68	0.21	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.00	0.41	0.12	0.08	0.79	0.00	0.04	0.30	0.07
s, saturation flow rate [veh/h]	1774	1863	1583	1774	1863	1583	1671	1166	1583
c, Capacity [veh/h]	5	1079	917	180	1263	1073	351	296	313
d1, Uniform Delay [s]	55.04	16.47	11.18	48.76	17.81	5.76	36.15	47.72	38.14
k, delay calibration	0.11	0.20	0.15	0.11	0.50	0.15	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.22	1.54	0.17	9.49	81.84	0.00	0.23	116.81	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.70	0.21	0.83	1.16	0.01	0.17	1.20	0.34
d, Delay for Lane Group [s/veh]	92.25	18.01	11.34	58.25	99.65	5.76	36.39	164.53	38.78
Lane Group LOS	F	B	B	E	F	A	D	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.11	13.26	2.31	4.34	51.79	0.04	1.40	17.90	2.55
50th-Percentile Queue Length [ft]	2.79	331.48	57.63	108.53	1294.70	0.91	34.97	447.45	63.82
95th-Percentile Queue Length [veh]	0.20	19.23	4.15	7.76	72.09	0.07	2.52	27.15	4.59
95th-Percentile Queue Length [ft]	5.02	480.78	103.73	193.95	1802.27	1.63	62.95	678.67	114.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.25	18.01	11.34	58.25	99.65	5.76	36.39	36.39	36.39	164.53	164.53	38.78
Movement LOS	F	B	B	E	F	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	16.79			95.48			36.39			135.55		
Approach LOS	B			F			D			F		
d_I, Intersection Delay [s/veh]	76.01											
Intersection LOS	E											
Intersection V/C	1.428											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: SR 29/California Dr NB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	19.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	63	0	0	0	0	21	0	0	60	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	0	368	0	0	0	36	92	0	0	456	34
Peak Hour Factor	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	0.9000	0.9000	1.0000	1.0000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	102	0	0	0	10	26	0	0	127	9
Total Analysis Volume [veh/h]	78	0	409	0	0	0	40	102	0	0	507	38
Pedestrian Volume [ped/h]	0			14			0			0		

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Intersection Settings

Priority Scheme	Stop		Stop			Free			Free		
Flared Lane											
Storage Area [veh]	0		0			0			0		
Two-Stage Gap Acceptance	No										
Number of Storage Spaces in Median	0		0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.00	0.43	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	18.81	19.23	11.59	0.00	0.00	0.00	8.76	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	C	B				A	A			A	A
95th-Percentile Queue Length [veh]	0.88	0.88	2.18	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	21.89	21.89	54.62	0.00	0.00	0.00	12.38	12.38	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.74			0.00			2.47			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	5.58											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 6: SR 29/California Dr SB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	60.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	21	0	0	0	0	0	60	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	45	0	45	0	84	162	405	122	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000	0.9000	0.9000	0.9000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	13	0	13	0	23	45	113	34	0
Total Analysis Volume [veh/h]	0	0	0	50	0	50	0	93	180	450	136	0
Pedestrian Volume [ped/h]	0			11			0			0		

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Version 5.00-00

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.46	0.00	0.06	0.00	0.00	0.00	0.35	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	56.97	60.87	27.65	0.00	0.00	0.00	9.28	0.00	0.00
Movement LOS				F	F	D		A	A	A	A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	2.64	2.64	2.64	0.00	0.00	0.00	2.43	2.43	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	66.00	66.00	66.00	0.00	0.00	0.00	60.73	60.73	0.00
d_A, Approach Delay [s/veh]	0.00			42.31			0.00			7.12		
Approach LOS	A			E			A			A		
d_I, Intersection Delay [s/veh]	8.76											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Yount St/Finnell Road

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name	Yount St						Finnell Rd			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Yount St						Finnell Rd			Driveway		
Base Volume Input [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	37	10	11	47	0	0	0	0	12	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	119	72	21	142	3	1	3	3	77	1	18
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	33	20	6	39	1	0	1	1	21	0	5
Total Analysis Volume [veh/h]	6	132	80	23	158	3	1	3	3	86	1	20
Pedestrian Volume [ped/h]	0			0			9			25		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	853	805	757	737
Degree of Utilization, x	0.26	0.23	0.01	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.02	0.88	0.03	0.51
95th-Percentile Queue Length [ft]	25.41	21.98	0.70	12.67
Approach Delay [s/veh]	8.66	8.79	7.80	8.72
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.71			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Yount St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name				Yount St			Madison St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name				Yount St			Madison St			Driveway		
Base Volume Input [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	31	0	0	40	31	38	0	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	86	0	0	131	316	148	0	52	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	24	0	0	36	88	41	0	14	0	0	0
Total Analysis Volume [veh/h]	44	96	0	0	146	351	164	0	58	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	688	827	668	616
Degree of Utilization, x	0.20	0.60	0.33	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.76	4.11	1.46	0.00
95th-Percentile Queue Length [ft]	18.95	102.84	36.39	0.00
Approach Delay [s/veh]	9.56	13.70	11.05	0.00
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	12.34			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 9: Yount St/Yountville Cross Rd

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Yount St		Yount St		Yountville Cross Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Yount St		Yount St		Yountville Cross Rd	
Base Volume Input [veh/h]	24	139	10	19	355	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	68	0	1	70	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	207	10	20	425	13
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	58	3	6	118	4
Total Analysis Volume [veh/h]	28	230	11	22	472	14
Pedestrian Volume [ped/h]	0		0		7	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.60	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.81	0.00	16.74	16.18
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.08	0.08	4.36	4.36
95th-Percentile Queue Length [ft]	0.00	0.00	1.97	1.97	109.02	109.02
d_A, Approach Delay [s/veh]	0.00		2.60		16.72	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	10.57					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: Washington St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name				Washington St			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Washington St			Madison St			Madison St		
Base Volume Input [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	0	0	22	6	0	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	42	43	27	82	32	12	133	136	55	242	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	11	11	7	21	8	3	33	34	14	61	3
Total Analysis Volume [veh/h]	125	42	43	27	82	32	12	133	136	55	242	10
Pedestrian Volume [ped/h]	0			0			0			0		

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Version 5.00-00

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	523	599	601	689	659
Degree of Utilization, x	0.24	0.14	0.23	0.41	0.47

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.93	0.49	0.90	1.99	2.48
95th-Percentile Queue Length [ft]	23.14	12.33	22.60	49.76	61.90
Approach Delay [s/veh]	10.92		10.80	11.78	13.13
Approach LOS	B		B	B	B
Intersection Delay [s/veh]	11.88				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 2: Washington St/Yount St

Control Type:	All-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Washington St						Driveway			Yount St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Washington St						Driveway			Yount St		
Base Volume Input [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	34	0	7	0	0	0	0	20	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	175	157	13	235	7	2	2	4	177	0	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	44	39	3	59	2	1	1	1	44	0	5
Total Analysis Volume [veh/h]	1	175	157	13	235	7	2	2	4	177	0	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	786	731	659	661
Degree of Utilization, x	0.42	0.35	0.01	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.12	1.57	0.04	1.23
95th-Percentile Queue Length [ft]	53.08	39.18	0.92	30.76
Approach Delay [s/veh]	10.90	10.55	8.53	10.71
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	10.71			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	All-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	38	64	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	33	0	6	42	410	411	3	22	1	4	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	8	0	2	11	103	103	1	6	0	1	1
Total Analysis Volume [veh/h]	44	33	0	6	42	410	411	3	22	1	4	2
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	583	596	684	656	600
Degree of Utilization, x	0.13	0.08	0.60	0.66	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.45	0.26	4.02	5.02	0.04
95th-Percentile Queue Length [ft]	11.34	6.54	100.53	125.58	0.89
Approach Delay [s/veh]	10.12	14.88		18.66	9.07
Approach LOS	B	B		C	A
Intersection Delay [s/veh]	16.15				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 4: SR 29/Madison St

Control Type:	Signalized	Delay (sec / veh):	118.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.571

Intersection Setup

Name				SR 29			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	0	0	1
Pocket Length [ft]	160.00	100.00	160.00	180.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	65.00
Speed [mph]	30.00			55.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name				SR 29			Madison St			Madison St		
Base Volume Input [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.32	1.00	1.00	1.32	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	28	0	23	0	0	0	0	17	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	2	921	188	94	1738	5	3	5	47	318	0	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	230	47	24	435	1	1	1	12	80	0	12
Total Analysis Volume [veh/h]	2	921	188	94	1738	5	3	5	47	318	0	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	26.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	15	0	5	15	0	0	4	0	0	4	0
Maximum Green [s]	21	75	0	21	75	0	0	17	0	0	22	0
Amber [s]	3.0	5.4	0.0	3.0	5.4	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	10	69	0	13	72	0	0	8	0	0	8	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	4.4	0.0	1.0	4.4	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	3.00	6.40	6.40	3.00	6.40	6.40	3.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	4.40	4.40	1.00	4.40	4.40	0.00	2.00	2.00
g_i, Effective Green Time [s]	0	68	68	7	75	75	23	22	22
g / C, Green / Cycle	0.00	0.61	0.61	0.07	0.68	0.68	0.21	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.00	0.49	0.12	0.05	0.93	0.00	0.03	0.27	0.03
s, saturation flow rate [veh/h]	1774	1863	1583	1774	1863	1583	1673	1189	1583
c, Capacity [veh/h]	5	1144	972	119	1263	1074	351	300	313
d1, Uniform Delay [s]	55.02	16.30	9.35	50.79	17.79	5.74	36.03	47.59	36.71
k, delay calibration	0.11	0.28	0.15	0.11	0.50	0.15	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.28	3.56	0.14	10.82	174.17	0.00	0.21	68.66	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.81	0.19	0.79	1.38	0.00	0.16	1.06	0.15
d, Delay for Lane Group [s/veh]	92.30	19.86	9.49	61.61	191.96	5.75	36.23	116.25	36.94
Lane Group LOS	F	B	A	E	F	A	D	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.11	17.52	1.96	2.81	84.20	0.03	1.26	14.15	1.11
50th-Percentile Queue Length [ft]	2.79	438.06	48.91	70.13	2104.99	0.76	31.40	353.63	27.70
95th-Percentile Queue Length [veh]	0.20	24.39	3.52	5.05	125.69	0.05	2.26	20.95	1.99
95th-Percentile Queue Length [ft]	5.02	609.68	88.04	126.23	3142.18	1.36	56.52	523.66	49.85

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.30	19.86	9.49	61.61	191.96	5.75	36.23	36.23	36.23	116.25	116.25	36.94
Movement LOS	F	B	A	E	F	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	18.24			184.78			36.23			105.85		
Approach LOS	B			F			D			F		
d_I, Intersection Delay [s/veh]	118.86											
Intersection LOS	F											
Intersection V/C	1.571											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: SR 29/California Dr NB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	0	0	0	0	0	67	64	0	0	38	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	0	305	0	0	0	103	135	0	0	434	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	76	0	0	0	26	34	0	0	109	6
Total Analysis Volume [veh/h]	98	0	305	0	0	0	103	135	0	0	434	22
Pedestrian Volume [ped/h]	0			14			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane												
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance	No											
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.34	0.00	0.33	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	24.08	24.44	10.90	0.00	0.00	0.00	8.70	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	C	B				A	A			A	A
95th-Percentile Queue Length [veh]	1.48	1.48	1.47	0.00	0.00	0.00	0.84	0.84	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	36.92	36.92	36.86	0.00	0.00	0.00	21.10	21.10	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.11			0.00			3.76			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	6.00											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: SR 29/California Dr SB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	44.3
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	40	0	131	48	0	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	24	0	85	0	215	210	345	188	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	0	21	0	54	53	86	47	0
Total Analysis Volume [veh/h]	0	0	0	24	0	85	0	215	210	345	188	0
Pedestrian Volume [ped/h]	0			11			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.21	0.00	0.10	0.00	0.00	0.00	0.30	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	40.42	44.32	13.80	0.00	0.00	0.00	9.55	0.00	0.00
Movement LOS				E	E	B		A	A	A	A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	1.28	1.28	1.28	0.00	0.00	0.00	2.57	2.57	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	32.09	32.09	32.09	0.00	0.00	0.00	64.28	64.28	0.00
d_A, Approach Delay [s/veh]	0.00			19.66			0.00			6.18		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.10											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Yount St/Finnell Road

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.206

Intersection Setup

Name	Yount St						Finnell Rd			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Yount St						Finnell Rd			Driveway		
Base Volume Input [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	12	0	13	0	0	0	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	104	74	10	108	3	1	3	3	72	1	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	19	3	27	1	0	1	1	18	0	3
Total Analysis Volume [veh/h]	5	104	74	10	108	3	1	3	3	72	1	10
Pedestrian Volume [ped/h]	0			0			9			25		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	889	830	804	766
Degree of Utilization, x	0.21	0.15	0.01	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.77	0.51	0.03	0.36
95th-Percentile Queue Length [ft]	19.27	12.74	0.66	9.09
Approach Delay [s/veh]	8.10	8.08	7.51	8.28
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.12			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Yount St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name				Yount St			Madison St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name				Yount St			Madison St			Driveway		
Base Volume Input [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	16	0	0	10	10	16	0	6	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	71	0	0	101	295	126	0	50	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	18	0	0	25	74	32	0	13	0	0	0
Total Analysis Volume [veh/h]	38	71	0	0	101	295	126	0	50	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	735	879	719	676
Degree of Utilization, x	0.15	0.45	0.24	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	2.37	0.96	0.00
95th-Percentile Queue Length [ft]	12.98	59.23	23.98	0.00
Approach Delay [s/veh]	8.75	10.42	9.62	0.00
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	9.95			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 9: Yount St/Yountville Cross Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	Yount St		Yount St		Yountville Cross Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Yount St		Yount St		Yountville Cross Rd	
Base Volume Input [veh/h]	24	139	10	19	355	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	0	19	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	171	10	19	374	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	43	3	5	94	3
Total Analysis Volume [veh/h]	24	171	10	19	374	13
Pedestrian Volume [ped/h]	0		0		7	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.45	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.67	0.00	13.13	12.64
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.07	0.07	2.52	2.52
95th-Percentile Queue Length [ft]	0.00	0.00	1.63	1.63	63.03	63.03
d_A, Approach Delay [s/veh]	0.00		2.64		13.12	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	8.43					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Washington St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name				Washington St			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Washington St			Madison St			Madison St		
Base Volume Input [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	56	0	34	0	0	0	0	35	52	25	25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	177	42	77	27	82	32	12	146	182	80	254	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	11	19	7	21	8	3	37	46	20	64	3
Total Analysis Volume [veh/h]	177	42	77	27	82	32	12	146	182	80	254	10
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	489	563	538	631	600
Degree of Utilization, x	0.36	0.21	0.26	0.54	0.57

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.63	0.79	1.04	3.22	3.63
95th-Percentile Queue Length [ft]	40.87	19.81	26.09	80.44	90.69
Approach Delay [s/veh]	12.83		12.05	15.16	16.78
Approach LOS	B		B	C	C
Intersection Delay [s/veh]	14.65				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 2: Washington St/Yount St

Control Type:	All-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Washington St						Driveway			Yount St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Washington St						Driveway			Yount St		
Base Volume Input [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	77	4	60	0	0	0	0	73	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	225	200	17	288	7	2	2	4	230	0	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	56	50	4	72	2	1	1	1	58	0	6
Total Analysis Volume [veh/h]	1	225	200	17	288	7	2	2	4	230	0	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	728	673	584	611
Degree of Utilization, x	0.59	0.46	0.01	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.85	2.46	0.04	2.05
95th-Percentile Queue Length [ft]	96.14	61.56	1.04	51.36
Approach Delay [s/veh]	14.69	12.90	9.25	13.05
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	13.67			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	All-way stop	Delay (sec / veh):	24.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.846

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	30	0	0	47	82	101	0	47	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	63	0	6	89	454	448	3	69	1	4	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	16	0	2	22	114	112	1	17	0	1	1
Total Analysis Volume [veh/h]	71	63	0	6	89	454	448	3	69	1	4	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	532	551	622	614	525
Degree of Utilization, x	0.25	0.17	0.73	0.85	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.99	0.62	6.24	9.26	0.04
95th-Percentile Queue Length [ft]	24.78	15.45	156.09	231.52	1.01
Approach Delay [s/veh]	12.04	20.43		32.83	9.95
Approach LOS	B	C		D	A
Intersection Delay [s/veh]	24.77				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 4: SR 29/Madison St

Control Type:	Signalized	Delay (sec / veh):	123.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.603

Intersection Setup

Name				SR 29			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	0	0	1
Pocket Length [ft]	160.00	100.00	160.00	180.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	65.00
Speed [mph]	30.00			55.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name				SR 29			Madison St			Madison St		
Base Volume Input [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.32	1.00	1.00	1.32	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	51	45	41	44	0	0	0	0	34	0	47
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	2	933	205	135	1759	5	3	5	47	335	0	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	233	51	34	440	1	1	1	12	84	0	24
Total Analysis Volume [veh/h]	2	933	205	135	1759	5	3	5	47	335	0	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	26.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	15	0	5	15	0	0	4	0	0	4	0
Maximum Green [s]	21	75	0	21	75	0	0	17	0	0	22	0
Amber [s]	3.0	5.4	0.0	3.0	5.4	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	10	69	0	13	72	0	0	8	0	0	8	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	4.4	0.0	1.0	4.4	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	3.00	6.40	6.40	3.00	6.40	6.40	3.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	4.40	4.40	1.00	4.40	4.40	0.00	2.00	2.00
g_i, Effective Green Time [s]	0	65	65	10	75	75	23	22	22
g / C, Green / Cycle	0.00	0.59	0.59	0.09	0.68	0.68	0.21	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.00	0.50	0.13	0.08	0.94	0.00	0.03	0.28	0.06
s, saturation flow rate [veh/h]	1774	1863	1583	1774	1863	1583	1670	1191	1583
c, Capacity [veh/h]	5	1096	931	165	1263	1074	351	301	313
d1, Uniform Delay [s]	55.03	18.78	10.77	49.27	17.81	5.75	36.02	47.58	37.86
k, delay calibration	0.11	0.29	0.15	0.11	0.50	0.15	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.23	5.09	0.17	9.64	181.64	0.00	0.21	86.16	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.85	0.22	0.82	1.39	0.00	0.16	1.11	0.30
d, Delay for Lane Group [s/veh]	92.26	23.87	10.94	58.91	199.45	5.75	36.23	133.74	38.40
Lane Group LOS	F	C	B	E	F	A	D	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.11	19.84	2.35	3.93	86.81	0.03	1.26	15.64	2.27
50th-Percentile Queue Length [ft]	2.79	495.97	58.69	98.19	2170.16	0.76	31.40	391.01	56.72
95th-Percentile Queue Length [veh]	0.20	27.14	4.23	7.07	130.15	0.05	2.26	23.39	4.08
95th-Percentile Queue Length [ft]	5.02	678.59	105.64	176.74	3253.82	1.36	56.53	584.75	102.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.26	23.87	10.94	58.91	199.45	5.75	36.23	36.23	36.23	133.74	133.74	38.40
Movement LOS	F	C	B	E	F	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	21.66			188.95			36.23			112.68		
Approach LOS	C			F			D			F		
d_I, Intersection Delay [s/veh]	123.14											
Intersection LOS	F											
Intersection V/C	1.603											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: SR 29/California Dr NB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	29.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	0	63	0	0	0	67	85	0	0	97	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	0	368	0	0	0	103	156	0	0	493	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	92	0	0	0	26	39	0	0	123	9
Total Analysis Volume [veh/h]	98	0	368	0	0	0	103	156	0	0	493	34
Pedestrian Volume [ped/h]	0			14			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane												
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance	No											
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.00	0.41	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	28.70	29.00	11.87	0.00	0.00	0.00	8.95	0.00	0.00	0.00	0.00	0.00
Movement LOS	D	D	B				A	A			A	A
95th-Percentile Queue Length [veh]	1.79	1.79	2.05	0.00	0.00	0.00	1.02	1.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	44.75	44.75	51.30	0.00	0.00	0.00	25.46	25.46	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.41			0.00			3.56			0.00		
Approach LOS	C			A			A			A		
d_I, Intersection Delay [s/veh]	6.47											
Intersection LOS	D											

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Intersection Level Of Service Report
Intersection 6: SR 29/California Dr SB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	72.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	21	0	40	0	131	48	60	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	45	0	85	0	215	210	405	188	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	11	0	21	0	54	53	101	47	0
Total Analysis Volume [veh/h]	0	0	0	45	0	85	0	215	210	405	188	0
Pedestrian Volume [ped/h]	0			11			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.50	0.00	0.10	0.00	0.00	0.00	0.36	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	67.44	72.64	31.75	0.00	0.00	0.00	9.93	0.00	0.00
Movement LOS				F	F	D		A	A	A	A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	3.44	3.44	3.44	0.00	0.00	0.00	3.14	3.14	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	85.98	85.98	85.98	0.00	0.00	0.00	78.52	78.52	0.00
d_A, Approach Delay [s/veh]	0.00			44.10			0.00			6.78		
Approach LOS	A			E			A			A		
d_I, Intersection Delay [s/veh]	8.50											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Yount St/Finnell Road

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.269

Intersection Setup

Name	Yount St						Finnell Rd			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Yount St						Finnell Rd			Driveway		
Base Volume Input [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	59	22	11	60	0	0	0	0	19	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	141	84	21	155	3	1	3	3	84	1	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	35	21	5	39	1	0	1	1	21	0	5
Total Analysis Volume [veh/h]	5	141	84	21	155	3	1	3	3	84	1	18
Pedestrian Volume [ped/h]	0			0			9			25		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	856	805	756	733
Degree of Utilization, x	0.27	0.22	0.01	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09	0.85	0.03	0.49
95th-Percentile Queue Length [ft]	27.16	21.23	0.70	12.18
Approach Delay [s/veh]	8.74	8.75	7.81	8.71
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.72			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Yount St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name				Yount St			Madison St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name				Yount St			Madison St			Driveway		
Base Volume Input [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	47	0	0	50	41	54	0	14	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	102	0	0	141	326	164	0	58	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	26	0	0	35	82	41	0	15	0	0	0
Total Analysis Volume [veh/h]	44	102	0	0	141	326	164	0	58	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	693	826	675	623
Degree of Utilization, x	0.21	0.57	0.33	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.79	3.62	1.44	0.00
95th-Percentile Queue Length [ft]	19.76	90.38	35.88	0.00
Approach Delay [s/veh]	9.57	12.88	10.93	0.00
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	11.78			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 9: Yount St/Yountville Cross Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.565

Intersection Setup

Name	Yount St		Yount St		Yountville Cross Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Yount St		Yount St		Yountville Cross Rd	
Base Volume Input [veh/h]	24	139	10	19	355	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	100	0	1	89	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	239	10	20	444	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	60	3	5	111	3
Total Analysis Volume [veh/h]	25	239	10	20	444	13
Pedestrian Volume [ped/h]	0		0		7	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.56	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.83	0.00	15.68	15.15
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.07	0.07	3.79	3.79
95th-Percentile Queue Length [ft]	0.00	0.00	1.79	1.79	94.74	94.74
d_A, Approach Delay [s/veh]	0.00		2.61		15.66	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.64					
Intersection LOS	C					

Signal Warrants Report For Intersection 6: SR 29/California Dr SB Ramps

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	11	5	2
2	11	5	2
3	16	7	3
4	16	7	3
5	21	10	4
6	53	25	9
7	58	27	10
8	105	49	18
9	184	86	31
10	190	89	32
11	190	89	32
12	206	96	35
13	227	106	39
14	237	111	41
15	237	111	41
16	253	118	43
17	316	148	54
18	332	155	57
19	358	167	61
20	401	187	68
21	422	197	72
22	495	231	85
23	506	236	86
24	527	246	90

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	16	1	2	No	No	No	No	No	No	No	No	No	No
2	2	16	1	2	No	No	No	No	No	No	No	No	No	No
3	2	23	1	3	No	No	No	No	No	No	No	No	No	No
4	2	23	1	3	No	No	No	No	No	No	No	No	No	No
5	2	31	1	4	No	No	No	No	No	No	No	No	No	No
6	2	78	1	9	No	No	No	No	No	No	No	No	No	No
7	2	85	1	10	No	No	No	No	No	No	No	No	No	No
8	2	154	1	18	No	No	No	No	No	No	No	No	No	No
9	2	270	1	31	No	No	No	No	No	No	No	No	No	No
10	2	279	1	32	No	No	No	No	No	No	No	No	No	No
11	2	279	1	32	No	No	No	No	No	No	No	No	No	No
12	2	302	1	35	No	No	No	No	No	No	No	No	No	No
13	2	333	1	39	No	No	No	No	No	No	No	No	No	No
14	2	348	1	41	No	No	No	No	No	No	No	No	No	No
15	2	348	1	41	No	No	No	No	No	No	No	No	No	No
16	2	371	1	43	No	No	No	No	No	No	No	No	No	No
17	2	464	1	54	No	No	No	No	No	No	No	No	No	No
18	2	487	1	57	No	No	No	No	No	No	No	No	No	No
19	2	525	1	61	No	No	No	No	No	No	No	Yes	No	No
20	2	588	1	68	No	No	No	No	No	No	No	Yes	No	No
21	2	619	1	72	No	No	No	No	No	No	No	Yes	No	No
22	2	726	1	85	No	No	No	Yes	No	Yes	Yes	Yes	No	No
23	2	742	1	86	No	No	No	Yes	No	Yes	Yes	Yes	No	No
24	2	773	1	90	No	No	No	Yes	No	Yes	Yes	Yes	No	No
Hours Met					0	0	0	3	0	3	3	6	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	42.3
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	90
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	863
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: SR 29/California Dr SB Ramps

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	12	9	3
2	12	9	3
3	18	13	4
4	18	13	4
5	24	17	5
6	59	43	13
7	65	47	14
8	119	85	26
9	208	149	46
10	213	153	47
11	213	153	47
12	231	166	51
13	255	183	56
14	267	191	59
15	267	191	59
16	285	204	62
17	356	255	78
18	374	268	82
19	403	289	88
20	451	323	99
21	474	340	104
22	557	400	122
23	569	408	125
24	593	425	130

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	21	1	3	No	No	No	No	No	No	No	No	No	No
2	2	21	1	3	No	No	No	No	No	No	No	No	No	No
3	2	31	1	4	No	No	No	No	No	No	No	No	No	No
4	2	31	1	4	No	No	No	No	No	No	No	No	No	No
5	2	41	1	5	No	No	No	No	No	No	No	No	No	No
6	2	102	1	13	No	No	No	No	No	No	No	No	No	No
7	2	112	1	14	No	No	No	No	No	No	No	No	No	No
8	2	204	1	26	No	No	No	No	No	No	No	No	No	No
9	2	357	1	46	No	No	No	No	No	No	No	No	No	No
10	2	366	1	47	No	No	No	No	No	No	No	No	No	No
11	2	366	1	47	No	No	No	No	No	No	No	No	No	No
12	2	397	1	51	No	No	No	No	No	No	No	No	No	No
13	2	438	1	56	No	No	No	No	No	No	No	No	No	No
14	2	458	1	59	No	No	No	No	No	No	No	No	No	No
15	2	458	1	59	No	No	No	No	No	No	No	No	No	No
16	2	489	1	62	No	No	No	No	No	No	No	No	No	No
17	2	611	1	78	No	No	No	No	No	No	No	Yes	No	No
18	2	642	1	82	No	No	No	No	No	No	Yes	Yes	No	No
19	2	692	1	88	No	No	No	Yes	No	No	Yes	Yes	No	No
20	2	774	1	99	No	No	No	Yes	No	Yes	Yes	Yes	No	No
21	2	814	1	104	No	No	No	Yes	No	Yes	Yes	Yes	No	No
22	2	957	1	122	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
23	2	977	1	125	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
24	2	1018	1	130	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Hours Met					0	3	3	6	3	5	7	8	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	44.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:35
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	130
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1148
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Intersection Level Of Service Report
Intersection 1: Washington St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name				Washington St			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Washington St			Madison St			Madison St		
Base Volume Input [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	0	21	0	0	0	0	13	35	14	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	158	42	64	27	82	32	12	124	165	69	241	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	12	18	8	23	9	3	34	46	19	67	3
Total Analysis Volume [veh/h]	176	47	71	30	91	36	13	138	183	77	268	11
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	483	552	534	620	593
Degree of Utilization, x	0.36	0.21	0.29	0.54	0.60

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.65	0.80	1.22	3.21	3.98
95th-Percentile Queue Length [ft]	41.27	20.08	30.49	80.32	99.42
Approach Delay [s/veh]	13.01		12.54	15.37	17.78
Approach LOS	B		B	C	C
Intersection Delay [s/veh]	15.13				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 2: Washington St/Yount St

Control Type:	All-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Washington St						Driveway			Yount St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Washington St						Driveway			Yount St		
Base Volume Input [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	51	5	50	0	0	0	0	67	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	210	174	18	278	7	2	2	4	224	0	30
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	58	48	5	77	2	1	1	1	62	0	8
Total Analysis Volume [veh/h]	1	233	193	20	309	8	2	2	4	249	0	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	704	656	564	601
Degree of Utilization, x	0.61	0.51	0.01	0.47

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.14	2.95	0.04	2.49
95th-Percentile Queue Length [ft]	103.50	73.77	1.08	62.32
Approach Delay [s/veh]	15.70	14.14	9.48	14.16
Approach LOS	C	B	A	B
Intersection Delay [s/veh]	14.74			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	All-way stop	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	38	0	0	62	43	37	0	61	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	71	0	6	104	415	384	3	83	1	4	2
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	20	0	2	29	115	107	1	23	0	1	1
Total Analysis Volume [veh/h]	89	79	0	7	116	461	427	3	92	1	4	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	524	541	609	601	504
Degree of Utilization, x	0.32	0.23	0.76	0.87	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.37	0.87	6.83	9.88	0.04
95th-Percentile Queue Length [ft]	34.32	21.71	170.69	246.94	1.06
Approach Delay [s/veh]	13.07	21.86		36.00	10.24
Approach LOS	B	C		E	B
Intersection Delay [s/veh]	26.41				
Intersection LOS	D				

Intersection Level Of Service Report
Intersection 4: SR 29/Madison St

Control Type:	Signalized	Delay (sec / veh):	76.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.424

Intersection Setup

Name				SR 29			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	0	0	1
Pocket Length [ft]	160.00	100.00	160.00	180.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	65.00
Speed [mph]	30.00			55.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name				SR 29			Madison St			Madison St		
Base Volume Input [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	11	36	27	0	0	0	0	11	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	2	684	171	130	1326	5	3	5	47	312	0	86
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	190	48	36	368	1	1	1	13	87	0	24
Total Analysis Volume [veh/h]	2	760	190	144	1473	6	3	6	52	347	0	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	26.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	15	0	5	15	0	0	4	0	0	4	0
Maximum Green [s]	21	75	0	21	75	0	0	17	0	0	22	0
Amber [s]	3.0	5.4	0.0	3.0	5.4	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	10	69	0	13	72	0	0	8	0	0	8	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	4.4	0.0	1.0	4.4	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	3.00	6.40	6.40	3.00	6.40	6.40	3.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	4.40	4.40	1.00	4.40	4.40	0.00	2.00	2.00
g_i, Effective Green Time [s]	0	64	64	11	75	75	23	22	22
g / C, Green / Cycle	0.00	0.58	0.58	0.10	0.68	0.68	0.21	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.00	0.41	0.12	0.08	0.79	0.00	0.04	0.30	0.06
s, saturation flow rate [veh/h]	1774	1863	1583	1774	1863	1583	1671	1165	1583
c, Capacity [veh/h]	5	1086	923	174	1263	1073	351	296	313
d1, Uniform Delay [s]	55.03	16.25	10.93	48.96	17.81	5.76	36.15	47.72	37.89
k, delay calibration	0.11	0.20	0.15	0.11	0.50	0.15	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.23	1.54	0.16	9.54	83.78	0.00	0.23	108.08	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.70	0.21	0.83	1.17	0.01	0.17	1.17	0.31
d, Delay for Lane Group [s/veh]	92.26	17.79	11.09	58.51	101.59	5.76	36.39	155.80	38.44
Lane Group LOS	F	B	B	E	F	A	D	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.11	13.24	2.19	4.18	52.47	0.04	1.40	17.17	2.29
50th-Percentile Queue Length [ft]	2.79	330.93	54.70	104.39	1311.78	0.91	34.97	429.33	57.36
95th-Percentile Queue Length [veh]	0.20	19.20	3.94	7.52	73.18	0.07	2.52	25.97	4.13
95th-Percentile Queue Length [ft]	5.02	480.10	98.46	187.90	1829.38	1.63	62.95	649.22	103.25

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.26	17.79	11.09	58.51	101.59	5.76	36.39	36.39	36.39	155.80	155.80	38.44
Movement LOS	F	B	B	E	F	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	16.61			97.42			36.39			130.37		
Approach LOS	B			F			D			F		
d_I, Intersection Delay [s/veh]	75.96											
Intersection LOS	E											
Intersection V/C	1.424											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: SR 29/California Dr NB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	71	0	0	0	0	27	0	0	63	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	0	376	0	0	0	36	98	0	0	459	38
Peak Hour Factor	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	0.9000	0.9000	1.0000	1.0000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	104	0	0	0	10	27	0	0	128	11
Total Analysis Volume [veh/h]	78	0	418	0	0	0	40	109	0	0	510	42
Pedestrian Volume [ped/h]	0			14			0			0		

Intersection Settings

Priority Scheme	Stop		Stop		Free		Free	
Flared Lane								
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.00	0.44	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	19.15	19.59	11.80	0.00	0.00	0.00	8.78	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	C	B				A	A			A	A
95th-Percentile Queue Length [veh]	0.90	0.90	2.30	0.00	0.00	0.00	0.53	0.53	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	22.41	22.41	57.52	0.00	0.00	0.00	13.18	13.18	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.96			0.00			2.36			0.00		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	5.66											
Intersection LOS	C											

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Intersection Level Of Service Report

Intersection 6: SR 29/California Dr SB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	68.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	0	0	63	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	51	0	45	0	84	162	408	122	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000	0.9000	0.9000	0.9000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	14	0	13	0	23	45	113	34	0
Total Analysis Volume [veh/h]	0	0	0	57	0	50	0	93	180	453	136	0
Pedestrian Volume [ped/h]	0			11			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.53	0.00	0.06	0.00	0.00	0.00	0.35	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	64.02	67.97	34.29	0.00	0.00	0.00	9.29	0.00	0.00
Movement LOS				F	F	D		A	A	A	A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	3.22	3.22	3.22	0.00	0.00	0.00	2.45	2.45	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	80.40	80.40	80.40	0.00	0.00	0.00	61.28	61.28	0.00
d_A, Approach Delay [s/veh]	0.00			50.13			0.00			7.15		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	9.88											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Yount St/Finnell Road

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.269

Intersection Setup

Name	Yount St						Finnell Rd			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Yount St						Finnell Rd			Driveway		
Base Volume Input [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	12	7	61	0	0	0	0	16	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	126	74	17	156	3	1	3	3	81	1	15
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	35	21	5	43	1	0	1	1	23	0	4
Total Analysis Volume [veh/h]	6	140	82	19	173	3	1	3	3	90	1	17
Pedestrian Volume [ped/h]	0			0			9			25		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	848	803	748	726
Degree of Utilization, x	0.27	0.24	0.01	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09	0.95	0.03	0.52
95th-Percentile Queue Length [ft]	27.18	23.79	0.71	13.03
Approach Delay [s/veh]	8.79	8.92	7.86	8.83
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.84			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Yount St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name				Yount St			Madison St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name				Yount St			Madison St			Driveway		
Base Volume Input [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	36	0	0	50	23	30	0	4	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	91	0	0	141	308	140	0	48	0	0	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	25	0	0	39	86	39	0	13	0	0	0
Total Analysis Volume [veh/h]	41	101	0	0	157	342	156	0	53	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	695	832	668	619
Degree of Utilization, x	0.20	0.60	0.31	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.76	4.10	1.34	0.00
95th-Percentile Queue Length [ft]	19.07	102.48	33.43	0.00
Approach Delay [s/veh]	9.51	13.61	10.84	0.00
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	12.24			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 9: Yount St/Yountville Cross Rd

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Yount St		Yount St		Yountville Cross Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Yount St		Yount St		Yountville Cross Rd	
Base Volume Input [veh/h]	24	139	10	19	355	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	64	0	1	72	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	203	10	20	427	13
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	56	3	6	119	4
Total Analysis Volume [veh/h]	28	226	11	22	474	14
Pedestrian Volume [ped/h]	0		0		7	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.60	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.80	0.00	16.74	16.18
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.08	0.08	4.38	4.38
95th-Percentile Queue Length [ft]	0.00	0.00	1.96	1.96	109.41	109.41
d_A, Approach Delay [s/veh]	0.00		2.60		16.72	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	10.64					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: Washington St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name				Washington St			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Washington St			Madison St			Madison St		
Base Volume Input [veh/h]	121	42	43	27	82	32	12	111	130	55	229	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	0	21	0	0	0	0	35	41	14	25	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	42	64	27	82	32	12	146	171	69	254	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	11	16	7	21	8	3	37	43	17	64	3
Total Analysis Volume [veh/h]	162	42	64	27	82	32	12	146	171	69	254	10
Pedestrian Volume [ped/h]	0			0			0			0		

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Version 5.00-00

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	497	572	555	648	616
Degree of Utilization, x	0.33	0.19	0.25	0.51	0.54

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.40	0.68	1.00	2.89	3.24
95th-Percentile Queue Length [ft]	35.09	16.89	25.09	72.22	81.01
Approach Delay [s/veh]	12.23		11.69	14.16	15.53
Approach LOS	B		B	B	C
Intersection Delay [s/veh]	13.78				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 2: Washington St/Yount St

Control Type:	All-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Washington St						Driveway			Yount St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Washington St						Driveway			Yount St		
Base Volume Input [veh/h]	1	163	123	13	228	7	2	2	4	157	0	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	59	85	5	57	0	0	0	0	87	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	222	208	18	285	7	2	2	4	244	0	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	56	52	5	71	2	1	1	1	61	0	8
Total Analysis Volume [veh/h]	1	222	208	18	285	7	2	2	4	244	0	30
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	718	662	576	609
Degree of Utilization, x	0.60	0.47	0.01	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.05	2.50	0.04	2.33
95th-Percentile Queue Length [ft]	101.19	62.55	1.06	58.14
Approach Delay [s/veh]	15.25	13.14	9.34	13.66
Approach LOS	C	B	A	B
Intersection Delay [s/veh]	14.14			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	All-way stop	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.879

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	38	0	0	62	81	101	0	61	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	71	0	6	104	453	448	3	83	1	4	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	18	0	2	26	113	112	1	21	0	1	1
Total Analysis Volume [veh/h]	80	71	0	6	104	453	448	3	83	1	4	2
Pedestrian Volume [ped/h]	0			0			0			0		

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Version 5.00-00

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	524	542	610	608	511
Degree of Utilization, x	0.29	0.20	0.74	0.88	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.19	0.75	6.50	10.28	0.04
95th-Percentile Queue Length [ft]	29.63	18.83	162.40	257.00	1.04
Approach Delay [s/veh]	12.63	21.18		37.22	10.14
Approach LOS	B	C		E	B
Intersection Delay [s/veh]	26.92				
Intersection LOS	D				

Intersection Level Of Service Report
Intersection 4: SR 29/Madison St

Control Type:	Signalized	Delay (sec / veh):	124.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.601

Intersection Setup

Name				SR 29			Madison St			Madison St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	0	0	0	1
Pocket Length [ft]	160.00	100.00	160.00	180.00	100.00	180.00	100.00	100.00	100.00	100.00	100.00	65.00
Speed [mph]	30.00			55.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name				SR 29			Madison St			Madison St		
Base Volume Input [veh/h]	2	668	160	94	1299	5	3	5	47	301	0	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.32	1.00	1.00	1.32	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	55	39	36	50	0	0	0	0	28	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	2	937	199	130	1765	5	3	5	47	329	0	86
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	234	50	33	441	1	1	1	12	82	0	22
Total Analysis Volume [veh/h]	2	937	199	130	1765	5	3	5	47	329	0	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	26.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	15	0	5	15	0	0	4	0	0	4	0
Maximum Green [s]	21	75	0	21	75	0	0	17	0	0	22	0
Amber [s]	3.0	5.4	0.0	3.0	5.4	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	10	69	0	13	72	0	0	8	0	0	8	0
Vehicle Extension [s]	3.0	4.0	0.0	3.0	4.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.0	4.4	0.0	1.0	4.4	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	3.00	6.40	6.40	3.00	6.40	6.40	3.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	1.00	4.40	4.40	1.00	4.40	4.40	0.00	2.00	2.00
g_i, Effective Green Time [s]	0	65	65	10	75	75	23	22	22
g / C, Green / Cycle	0.00	0.59	0.59	0.09	0.68	0.68	0.21	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.00	0.50	0.13	0.07	0.95	0.00	0.03	0.28	0.05
s, saturation flow rate [veh/h]	1774	1863	1583	1774	1863	1583	1671	1191	1583
c, Capacity [veh/h]	5	1102	936	159	1263	1074	351	301	313
d1, Uniform Delay [s]	55.03	18.58	10.56	49.44	17.80	5.75	36.02	47.58	37.64
k, delay calibration	0.11	0.29	0.15	0.11	0.50	0.15	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.24	5.07	0.16	9.71	183.71	0.00	0.21	79.63	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.85	0.21	0.82	1.40	0.00	0.16	1.09	0.27
d, Delay for Lane Group [s/veh]	92.27	23.65	10.72	59.15	201.52	5.75	36.23	127.21	38.11
Lane Group LOS	F	C	B	E	F	A	D	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh]	0.11	19.82	2.25	3.79	87.54	0.03	1.26	15.09	2.04
50th-Percentile Queue Length [ft]	2.79	495.60	56.19	94.75	2188.40	0.76	31.40	377.19	51.00
95th-Percentile Queue Length [veh]	0.20	27.13	4.05	6.82	131.40	0.05	2.26	22.49	3.67
95th-Percentile Queue Length [ft]	5.02	678.15	101.14	170.55	3285.10	1.36	56.53	562.20	91.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.27	23.65	10.72	59.15	201.52	5.75	36.23	36.23	36.23	127.21	127.21	38.11
Movement LOS	F	C	B	E	F	A	D	D	D	F	F	D
d_A, Approach Delay [s/veh]	21.51			191.26			36.23			108.75		
Approach LOS	C			F			D			F		
d_I, Intersection Delay [s/veh]	124.00											
Intersection LOS	F											
Intersection V/C	1.601											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: SR 29/California Dr NB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	29.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	70	0	305	0	0	0	36	71	0	0	396	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	0	71	0	0	0	67	91	0	0	101	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	0	376	0	0	0	103	162	0	0	497	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	94	0	0	0	26	41	0	0	124	10
Total Analysis Volume [veh/h]	98	0	376	0	0	0	103	162	0	0	497	38
Pedestrian Volume [ped/h]	0			14			0			0		

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Intersection Settings

Priority Scheme	Stop		Stop		Free		Free	
Flared Lane								
Storage Area [veh]	0		0		0		0	
Two-Stage Gap Acceptance	No							
Number of Storage Spaces in Median	0		0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.00	0.43	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	29.46	29.77	12.07	0.00	0.00	0.00	8.98	0.00	0.00	0.00	0.00	0.00
Movement LOS	D	D	B				A	A			A	A
95th-Percentile Queue Length [veh]	1.84	1.84	2.15	0.00	0.00	0.00	1.06	1.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	45.99	45.99	53.81	0.00	0.00	0.00	26.48	26.48	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.66			0.00			3.49			0.00		
Approach LOS	C			A			A			A		
d_I, Intersection Delay [s/veh]	6.55											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 6: SR 29/California Dr SB Ramps

Control Type:	Two-way stop	Delay (sec / veh):	81.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name							California Dr			California Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name							California Dr			California Dr		
Base Volume Input [veh/h]	0	0	0	24	0	45	0	84	162	345	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	40	0	131	48	63	66	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	51	0	85	0	215	210	408	188	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	13	0	21	0	54	53	102	47	0
Total Analysis Volume [veh/h]	0	0	0	51	0	85	0	215	210	408	188	0
Pedestrian Volume [ped/h]	0			11			0			0		

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Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.57	0.00	0.10	0.00	0.00	0.00	0.36	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	76.39	81.68	40.18	0.00	0.00	0.00	9.95	0.00	0.00
Movement LOS				F	F	E		A	A	A	A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	4.15	4.15	4.15	0.00	0.00	0.00	3.17	3.17	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	103.76	103.76	103.76	0.00	0.00	0.00	79.30	79.30	0.00
d_A, Approach Delay [s/veh]	0.00			53.76			0.00			6.81		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	9.83											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Yount St/Finnell Road

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.280

Intersection Setup

Name	Yount St						Finnell Rd			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Yount St						Finnell Rd			Driveway		
Base Volume Input [veh/h]	5	82	62	10	95	3	1	3	3	65	1	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	66	24	7	74	0	0	0	0	23	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	148	86	17	169	3	1	3	3	88	1	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	37	22	4	42	1	0	1	1	22	0	4
Total Analysis Volume [veh/h]	5	148	86	17	169	3	1	3	3	88	1	15
Pedestrian Volume [ped/h]	0			0			9			25		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	852	803	748	723
Degree of Utilization, x	0.28	0.24	0.01	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.15	0.91	0.03	0.50
95th-Percentile Queue Length [ft]	28.81	22.84	0.71	12.52
Approach Delay [s/veh]	8.86	8.86	7.86	8.81
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.84			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 8: Yount St/Madison St

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.565

Intersection Setup

Name				Yount St			Madison St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name				Yount St			Madison St			Driveway		
Base Volume Input [veh/h]	34	55	0	0	91	285	110	0	44	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	52	0	0	60	33	46	0	10	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	107	0	0	151	318	156	0	54	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	27	0	0	38	80	39	0	14	0	0	0
Total Analysis Volume [veh/h]	41	107	0	0	151	318	156	0	54	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	700	829	674	625
Degree of Utilization, x	0.21	0.57	0.31	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.80	3.61	1.33	0.00
95th-Percentile Queue Length [ft]	19.89	90.25	33.19	0.00
Approach Delay [s/veh]	9.52	12.82	10.74	0.00
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	11.70			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 9: Yount St/Yountville Cross Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	Yount St		Yount St		Yountville Cross Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Yount St		Yount St		Yountville Cross Rd	
Base Volume Input [veh/h]	24	139	10	19	355	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	96	0	1	91	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	235	10	20	446	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	59	3	5	112	3
Total Analysis Volume [veh/h]	25	235	10	20	446	13
Pedestrian Volume [ped/h]	0		0		7	

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Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.57	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.82	0.00	15.68	15.15
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.07	0.07	3.80	3.80
95th-Percentile Queue Length [ft]	0.00	0.00	1.79	1.79	95.10	95.10
d_A, Approach Delay [s/veh]	0.00		2.61		15.66	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.70					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	Signalized	Delay (sec / veh):	13.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	38	0	0	62	43	37	0	61	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	71	0	6	104	415	384	3	83	1	4	2
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	20	0	2	29	115	107	1	23	0	1	1
Total Analysis Volume [veh/h]	89	79	0	7	116	461	427	3	92	1	4	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal group	0	2	0	0	6	8	0	8	0	0	4	0
Auxiliary Signal Groups						6,8						
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	30	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	0	27	44	0	44	0	0	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	10	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No	No		No			No	
Maximum Recall		No			No	No		No			No	
Pedestrian Recall		No			No	No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	81	59	1
g / C, Green / Cycle	0.21	0.21	0.90	0.65	0.01
(v / s)_i Volume / Saturation Flow Rate	0.18	0.07	0.32	0.33	0.00
s, saturation flow rate [veh/h]	936	1653	1425	1564	1585
c, Capacity [veh/h]	254	382	1285	1019	15
d1, Uniform Delay [s]	36.61	30.64	0.64	8.19	44.37
k, delay calibration	0.11	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.05	0.48	0.78	1.84	22.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.32	0.36	0.51	0.48
d, Delay for Lane Group [s/veh]	39.65	31.12	1.42	10.03	66.55
Lane Group LOS	D	C	A	B	E
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.77	2.30	0.28	5.08	0.24
50th-Percentile Queue Length [ft]	94.32	57.60	6.97	127.07	6.10
95th-Percentile Queue Length [veh]	6.79	4.15	0.50	8.78	0.44
95th-Percentile Queue Length [ft]	169.78	103.67	12.55	219.51	10.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.65	39.65	39.65	31.12	31.12	1.42	10.03	10.03	10.03	66.55	66.55	66.55
Movement LOS	D	D	D	C	C	A	B	B	B	E	E	E
d_A, Approach Delay [s/veh]	39.65			7.68			10.03			66.55		
Approach LOS	D			A			B			E		
d_I, Intersection Delay [s/veh]	13.15											
Intersection LOS	B											
Intersection V/C	0.630											

Sequence

Ring 1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Washington St/California Dr

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Washington St			Washinton St			California Dr			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Washington St			Washinton St			California Dr			Driveway		
Base Volume Input [veh/h]	44	33	0	6	42	372	347	3	22	1	4	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	38	0	0	62	81	101	0	61	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	71	0	6	104	453	448	3	83	1	4	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	18	0	2	26	113	112	1	21	0	1	1
Total Analysis Volume [veh/h]	80	71	0	6	104	453	448	3	83	1	4	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Split	Split	Split	Split	Split	Split
Signal group	0	2	0	0	6	8	0	8	0	0	4	0
Auxiliary Signal Groups						6,8						
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	30	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	0	27	44	0	44	0	0	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	10	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No	No		No			No	
Maximum Recall		No			No	No		No			No	
Pedestrian Recall		No			No	No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	81	60	1
g / C, Green / Cycle	0.19	0.19	0.90	0.67	0.01
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.32	0.34	0.00
s, saturation flow rate [veh/h]	938	1656	1425	1568	1585
c, Capacity [veh/h]	236	351	1285	1052	15
d1, Uniform Delay [s]	37.22	31.86	0.64	7.40	44.37
k, delay calibration	0.11	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.86	0.50	0.76	1.75	22.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.31	0.35	0.51	0.48
d, Delay for Lane Group [s/veh]	40.08	32.36	1.40	9.15	66.55
Lane Group LOS	D	C	A	A	E
Critical Lane Group	Yes	No	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.40	2.10	0.27	4.84	0.24
50th-Percentile Queue Length [ft]	84.92	52.58	6.79	121.00	6.10
95th-Percentile Queue Length [veh]	6.11	3.79	0.49	8.45	0.44
95th-Percentile Queue Length [ft]	152.86	94.65	12.22	211.20	10.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.08	40.08	40.08	32.36	32.36	1.40	9.15	9.15	9.15	66.55	66.55	66.55
Movement LOS	D	D	D	C	C	A	A	A	A	E	E	E
d_A, Approach Delay [s/veh]	40.08			7.45			9.15			66.55		
Approach LOS	D			A			A			E		
d_I, Intersection Delay [s/veh]	12.43											
Intersection LOS	B											
Intersection V/C	0.615											

Sequence

Ring 1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signal Warrants Report For Intersection 3: Washington St/California Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	3	11	0	9
2	3	11	0	9
3	5	16	0	14
4	5	16	0	14
5	6	21	0	19
6	15	53	1	47
7	17	58	1	52
8	30	105	1	94
9	53	184	2	165
10	54	189	3	169
11	54	189	3	169
12	59	205	3	183
13	65	226	3	202
14	68	236	3	212
15	68	236	3	212
16	72	252	3	226
17	91	315	4	282
18	95	331	4	296
19	103	357	5	320
20	115	399	5	357
21	121	420	6	376
22	142	494	7	442
23	145	504	7	451
24	151	525	7	470

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	14	2	9	No	No	No	No	No	No	No	No	No	No
2	3	14	2	9	No	No	No	No	No	No	No	No	No	No
3	3	21	2	14	No	No	No	No	No	No	No	No	No	No
4	3	21	2	14	No	No	No	No	No	No	No	No	No	No
5	3	27	2	19	No	No	No	No	No	No	No	No	No	No
6	3	68	2	48	No	No	No	No	No	No	No	No	No	No
7	3	75	2	53	No	No	No	No	No	No	No	No	No	No
8	3	135	2	95	No	No	No	No	No	No	No	No	No	No
9	3	237	2	167	No	No	No	No	No	No	No	No	No	No
10	3	243	2	172	No	No	No	No	No	No	No	No	No	No
11	3	243	2	172	No	No	No	No	No	No	No	No	No	No
12	3	264	2	186	No	No	No	No	No	No	No	No	No	No
13	3	291	2	205	No	No	No	No	No	No	No	No	No	No
14	3	304	2	215	No	No	No	No	No	No	No	No	No	No
15	3	304	2	215	No	No	No	No	No	No	No	No	No	No
16	3	324	2	229	No	No	No	No	No	No	No	No	No	No
17	3	406	2	286	No	No	No	Yes	No	No	No	No	Yes	No
18	3	426	2	300	No	No	Yes	Yes	No	No	No	No	Yes	No
19	3	460	2	325	No	No	Yes	Yes	No	No	No	No	Yes	Yes
20	3	514	2	362	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
21	3	541	2	382	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
22	3	636	2	449	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
23	3	649	2	458	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
24	3	676	2	477	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Hours Met					3	5	7	8	0	0	3	5	8	6

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.2	36
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:01	4:42
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	7	470
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	1153	1153
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 6: SR 29/California Dr SB Ramps

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	11	5	2
2	11	5	2
3	16	7	3
4	16	7	3
5	21	10	4
6	53	25	10
7	58	27	11
8	106	49	19
9	186	86	34
10	191	89	35
11	191	89	35
12	207	96	37
13	228	106	41
14	239	111	43
15	239	111	43
16	254	118	46
17	318	148	58
18	334	155	60
19	360	167	65
20	403	187	73
21	424	197	77
22	498	231	90
23	509	236	92
24	530	246	96

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	16	1	2	No	No	No	No	No	No	No	No	No	No
2	2	16	1	2	No	No	No	No	No	No	No	No	No	No
3	2	23	1	3	No	No	No	No	No	No	No	No	No	No
4	2	23	1	3	No	No	No	No	No	No	No	No	No	No
5	2	31	1	4	No	No	No	No	No	No	No	No	No	No
6	2	78	1	10	No	No	No	No	No	No	No	No	No	No
7	2	85	1	11	No	No	No	No	No	No	No	No	No	No
8	2	155	1	19	No	No	No	No	No	No	No	No	No	No
9	2	272	1	34	No	No	No	No	No	No	No	No	No	No
10	2	280	1	35	No	No	No	No	No	No	No	No	No	No
11	2	280	1	35	No	No	No	No	No	No	No	No	No	No
12	2	303	1	37	No	No	No	No	No	No	No	No	No	No
13	2	334	1	41	No	No	No	No	No	No	No	No	No	No
14	2	350	1	43	No	No	No	No	No	No	No	No	No	No
15	2	350	1	43	No	No	No	No	No	No	No	No	No	No
16	2	372	1	46	No	No	No	No	No	No	No	No	No	No
17	2	466	1	58	No	No	No	No	No	No	No	No	No	No
18	2	489	1	60	No	No	No	No	No	No	No	No	No	No
19	2	527	1	65	No	No	No	No	No	No	No	Yes	No	No
20	2	590	1	73	No	No	No	No	No	No	No	Yes	No	No
21	2	621	1	77	No	No	No	No	No	No	No	Yes	No	No
22	2	729	1	90	No	No	No	Yes	No	Yes	Yes	Yes	No	No
23	2	745	1	92	No	No	No	Yes	No	Yes	Yes	Yes	No	No
24	2	776	1	96	No	No	No	Yes	No	Yes	Yes	Yes	No	No
Hours Met					0	0	0	3	0	3	3	6	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	50.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	1:20
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	96
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	872
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 3: Washington St/California Dr

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	Yes
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	3	11	0	11
2	3	11	0	11
3	5	17	0	16
4	5	17	0	16
5	6	23	0	21
6	15	56	1	53
7	17	62	1	59
8	30	113	1	107
9	53	197	2	187
10	54	203	3	192
11	54	203	3	192
12	59	220	3	208
13	65	242	3	230
14	68	253	3	240
15	68	253	3	240
16	72	270	3	256
17	91	338	4	320
18	95	355	4	336
19	103	383	5	363
20	115	428	5	406
21	121	450	6	427
22	142	529	7	502
23	145	540	7	513
24	151	563	7	534

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	3	14	2	11	No	No	No	No	No	No	No	No	No	No
2	3	14	2	11	No	No	No	No	No	No	No	No	No	No
3	3	22	2	16	No	No	No	No	No	No	No	No	No	No
4	3	22	2	16	No	No	No	No	No	No	No	No	No	No
5	3	29	2	21	No	No	No	No	No	No	No	No	No	No
6	3	71	2	54	No	No	No	No	No	No	No	No	No	No
7	3	79	2	60	No	No	No	No	No	No	No	No	No	No
8	3	143	2	108	No	No	No	No	No	No	No	No	No	No
9	3	250	2	189	No	No	No	No	No	No	No	No	No	No
10	3	257	2	195	No	No	No	No	No	No	No	No	No	No
11	3	257	2	195	No	No	No	No	No	No	No	No	No	No
12	3	279	2	211	No	No	No	No	No	No	No	No	No	No
13	3	307	2	233	No	No	No	No	No	No	No	No	No	No
14	3	321	2	243	No	No	No	No	No	No	No	No	No	No
15	3	321	2	243	No	No	No	No	No	No	No	No	No	No
16	3	342	2	259	No	No	No	Yes	No	No	No	No	Yes	No
17	3	429	2	324	No	No	Yes	Yes	No	No	No	No	Yes	No
18	3	450	2	340	No	No	Yes	Yes	No	No	No	No	Yes	Yes
19	3	486	2	368	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
20	3	543	2	411	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
21	3	571	2	433	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
22	3	671	2	509	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
23	3	685	2	520	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
24	3	714	2	541	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Hours Met					3	6	8	9	0	0	3	5	9	7

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	10.1	37.2
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:01	5:31
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	7	534
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	1255	1255
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	**Yes**	

Signal Warrants Report For Intersection 6: SR 29/California Dr SB Ramps

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	N
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	N
1	12	9	3
2	12	9	3
3	18	13	4
4	18	13	4
5	24	17	5
6	60	43	14
7	66	47	15
8	119	85	27
9	209	149	48
10	215	153	49
11	215	153	49
12	232	166	53
13	256	183	58
14	268	191	61
15	268	191	61
16	286	204	65
17	358	255	82
18	375	268	86
19	405	289	92
20	453	323	103
21	477	340	109
22	560	400	128
23	572	408	131
24	596	425	136

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	2	21	1	3	No	No	No	No	No	No	No	No	No	No
2	2	21	1	3	No	No	No	No	No	No	No	No	No	No
3	2	31	1	4	No	No	No	No	No	No	No	No	No	No
4	2	31	1	4	No	No	No	No	No	No	No	No	No	No
5	2	41	1	5	No	No	No	No	No	No	No	No	No	No
6	2	103	1	14	No	No	No	No	No	No	No	No	No	No
7	2	113	1	15	No	No	No	No	No	No	No	No	No	No
8	2	204	1	27	No	No	No	No	No	No	No	No	No	No
9	2	358	1	48	No	No	No	No	No	No	No	No	No	No
10	2	368	1	49	No	No	No	No	No	No	No	No	No	No
11	2	368	1	49	No	No	No	No	No	No	No	No	No	No
12	2	398	1	53	No	No	No	No	No	No	No	No	No	No
13	2	439	1	58	No	No	No	No	No	No	No	No	No	No
14	2	459	1	61	No	No	No	No	No	No	No	No	No	No
15	2	459	1	61	No	No	No	No	No	No	No	No	No	No
16	2	490	1	65	No	No	No	No	No	No	No	No	No	No
17	2	613	1	82	No	No	No	No	No	No	No	Yes	No	No
18	2	643	1	86	No	No	No	Yes	No	No	Yes	Yes	No	No
19	2	694	1	92	No	No	No	Yes	No	No	Yes	Yes	No	No
20	2	776	1	103	No	No	No	Yes	No	Yes	Yes	Yes	No	No
21	2	817	1	109	No	No	Yes	Yes	No	Yes	Yes	Yes	No	No
22	2	960	1	128	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
23	2	980	1	131	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
24	2	1021	1	136	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Hours Met					0	3	4	7	3	5	7	8	0	0

Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	53.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	2:01
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	136
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1157
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**