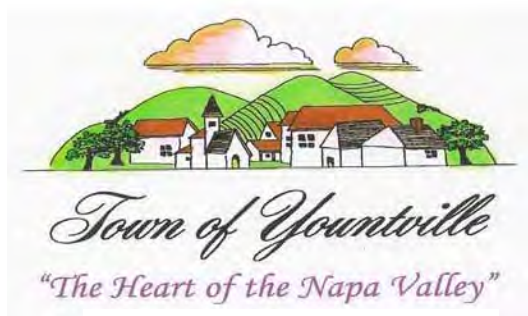


YOUNTVILLE RECYCLED WATER EXPANSION PROJECT

DRAFT ENVIRONMENTAL ASSESSMENT AND INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION

PREPARED FOR:



6550 Yount Street
Yountville, CA 94599



6550 United States Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825

JUNE 2012

DRAFT ENVIRONMENTAL ASSESSMENT/INITIAL STUDY-PROPOSED MITIGATED NEGATIVE DECLARATION FOR THE YOUNTVILLE RECYCLED WATER EXPANSION PROJECT

Prepared for:

Town of Yountville
6550 Yount Street
Yountville CA, 94599

United States Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825

JUNE 2012



2235 Mercury Way, Suite 150
Santa Rosa, CA 95407
(707) 523-1010

TABLE OF CONTENTS

1.	Purpose and Need for Action	3
	Project History	3
	Project Purpose and Need	4
	Project Objectives	5
	Project Location	5
	Public Involvement	5
	Purpose of this Document	9
	Requirements and Approvals	9
2.	Alternatives, Including the Proposed Action	10
	Introduction	10
	No Action / No Project Alternative	10
	Project Description	11
	Project Construction Activities	17
	Operations	24
	Project Measures	24
	Alternatives Considered but not Retained for Detailed Analysis	25
3.	Analysis of the Proposed Action	27
	I. Aesthetics	27
	II. Agricultural and Forest Resources	30
	III. Air Quality	34
	IV. Biological Resources	44
	V. Cultural Resources	57
	VI. Geology and Soils	68
	VIII. Hazards and Hazardous Materials	80
	IX. Hydrology and Water Quality	85
	X. Land Use and Planning	93
	XII. Noise	96
	XIII. Population and Housing	103
	XIV. Public Services	104
	XV. Recreation	106
	XVI. Transportation and Traffic	107
	XVII. Utilities and Service Systems	113
4.	Mandatory Findings of Significance	117
5.	Other Required Analyses	121
	Environmental Justice	121
	Indian Trust Assets	122
	Energy Resources	122
	Unavoidable Adverse Impacts	122

Irreversible and Irretrievable Commitments of Resources.....	122
Short-Term Uses versus Long-Term Productivity.....	123
Growth-Inducing Impacts	123
Cumulative Effects	123
6. Consultation and Coordination	125
Summary of Public Involvement	125
EA and IS/Proposed MND Document Distribution.....	125
Final MND/NOD	125
Public Meetings.....	125
Compliance with Federal Statutes and Regulations	125
State and Local Requirements.....	128
7. Preparers	131
8. References.....	133

FIGURES

Figure 1 - Location Map.....	9
Figure 2 – Project Overview	13
Figure 3 – Phase 1 Facilities	14
Figure 4 – Joint Treatment Plant	16
Figure 5 – Phase 2 Facilities	18
Figure 6 – Phase 3 Facilities	20

APPENDICES

Appendix A –Mitigation Monitoring and Reporting Program
Appendix B - RoadMod Assumptions and Input
Appendix C - Biological Resource Special Status Species Tables
Appendix D - Wetlands Delineation
Appendix E – FEMA Flood Hazard Maps
Appendix F – Area of Potential Effect Map

PROJECT INFORMATION

Project Title	Yountville Recycled Water Expansion Project
Lead Agency Name & Address	Town of Yountville 6550 Yount Street Yountville, CA 94599 United States Bureau of Reclamation-Mid-Pacific Region 2800 Cottage Way Sacramento, CA 95825
Contact Person & Information	Graham S. Wadsworth, P.E. Public Works Director/Town Engineer 707-948-2628 gwadsworth@yville.com
Project Location	The Project would be located in and near the Town of Yountville in Napa County, California. The Joint Treatment Plant (JTP) is located at 7501 Solano Avenue west of State Highway 29 at the southwest end of the Yountville town limits. Except for the Vintner Golf Course, the Project is generally located to the east of the JTP.
Project Sponsor's Name & Address	Town of Yountville 6550 Yount Street Yountville, CA 94599
General Plan Designation	Public Facilities (Town of Yountville). Agricultural Resource (Napa County).
Zoning	Public Facilities (Town of Yountville). Agricultural Preserve (Napa County).
Description of Project	The Town of Yountville is proposing to meet its water reuse permit requirements and offset Napa River water use and groundwater use by expanding its existing recycled water system to accommodate additional recycled water users.

DETERMINATION

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology /Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning |
| <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities / Service Systems | <input checked="" type="checkbox"/> Mandatory Finding of Significance | |

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.\
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an EARLIER EIR or NEGATIVE DECLARATION pursuant to applicable legal standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Graham Wadsworth, Public Works Director / Town Engineer
Name, title

1. PURPOSE AND NEED FOR ACTION

PROJECT HISTORY

The Town of Yountville (Town) owns and operates a Joint Wastewater Treatment Plant (JTP or Joint Treatment Plant) that treats domestic wastewater from the Town and from the Veterans Home of California. The JTP is designed to treat an average dry weather flow of 0.55 million gallons per day (MGD), and has hydraulic capacity to handle a peak flow of 2.0 MGD. Treated effluent from the JTP meets the minimum standards for Disinfected Secondary – 2.2 Recycled Water as defined in Title 22 of the California Code of Regulations¹.

Tertiary treatment is provided at the JTP for flows up to 1.0 MGD. When flows exceed 1.0 MGD, the tertiary treatment facilities are bypassed and secondary treatment is provided until the total flow received at the Joint Treatment Plant decreases to less than 1.0 MGD. This exceedence typically occurs during storm events in winter months. In 2011, the Town submitted an Engineering Report to the California Department of Public Health for certification that the tertiary treated water meets the minimum criteria for disinfected tertiary recycled water as defined in Title 22. Tertiary treated water meeting this criteria would allow for reuse of the water for any application permitted under Title 22.

The average monthly effluent rate from 2007 to 2010 was 0.383 MGD, and the maximum daily effluent flow recorded during this period was recorded in February 2009 at 1.76 MGD (Winzler & Kelly 2011). During wet weather flow the wastewater treatment facility can treat up to 2.0 MGD. Flows in excess of the JTP's secondary treatment capacity are stored in a 3.7 million gallon pond for later treatment. Wastewater treatment processes at the JTP include grit removal, primary and secondary trickling filters/clarification, aerated solids contact, coagulant addition, final sedimentation, filtration, disinfection (chlorination), and dechlorination (sulfur dioxide). Tertiary treatment is accomplished with a "fuzzy filter," which provides filtration using a media bed consisting of synthetic fiber spheres capable of achieving a high rate of filtration. The treated wastewater flows to an effluent storage pond for discharge to the Napa River or for recycling and reuse (RWQCB 2010). Secondary and tertiary treated recycled waters from the JTP are currently used for restricted access golf course irrigation and drip irrigation of vineyards.

The wastewater treated for recycling and reuse is pumped to storage ponds for irrigation of approximately 770 acres at an existing golf course and four existing vineyards. Because recycled water is produced year-round but the irrigation demand is seasonal, open storage ponds are used to hold recycled water over the course of the year. Integrating storage with the operation of the JTP enables the Town to balance recycled water supplies with recycled water demands.

During 2007-2010, the Town produced an average of 429 acre-feet per year (AFY) of recycled water². During 2004-2010, the Town delivered an average of 336 AFY of recycled water to its existing customers. The surplus of recycled water (i.e., an average of 93 AFY) is discharged to the Napa River during the

¹ "Disinfected secondary-2.2 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period (California Code of Regulations §60301.225).

² Average monthly recycled water flows provided by the Town were available only for 2007-2010.

winter months/wet season (October 1 through May 15) within the permitted requirement for dilution ratio (42:1) between treated effluent flow and river flow (Winzler & Kelly 2011)³.

The recycled water delivery system uses an existing recycled water pump station. The recycled water pump station is served by two 40-horse power (hp) pumps. One pump provides dedicated service to existing golf course, and the other serves existing vineyard customers. The pumps are capable of delivering approximately 300 gallons per minute (gpm) to the furthest location in the existing system. Recycled water is delivered to existing storage ponds by a 6-inch transmission pipeline and distribution system. Pond level monitoring and distribution valve operations are handled manually to direct recycled water to storage ponds with available storage capacity.

The Town's wastewater operations are the subject of two permits issued by the San Francisco Regional Water Quality Control Board (RWQCB)⁴: General Order 96-011, General Water Reuse Requirements for Municipal Wastewater Agencies, permits the water recycling activities. In addition, National Pollutant Discharge Elimination System (NPDES) No. 0038121 (Order No. R2-2010-0072) permits the Town's discharge to the Napa River. Order No. R2-2010-0072, issued in May 2010, requires the Town to increase the amount of effluent that is recycled, minimize discharges to the Napa River by December 2013, and construct a supervisory control and data acquisition (SCADA) system by December 2015⁵.

On September 7, 2010, the Town Council approved a five-year Capital Improvement Program, which included upgrades to the JTP and control system and an expanded water recycling system. In 2010, the recycled water system at the JTP was upgraded by modifying the JTP's filters and disinfection system to produce Title 22 disinfected tertiary treated recycled water. The 2010 JTP upgrade was considered Phase I of the overall recycled water system upgrades required in the 2010 NPDES Permit. The Project that is the subject of this environmental review represents Phase IIa of the recycled water system upgrades called for in Order No. R2-2010-0072.

PROJECT PURPOSE AND NEED

The Project purpose and need are to comply with provision C.4 of Order No. R2-2010-0072, by effectively and reliably providing recycled water for irrigation, minimizing effluent discharges to the Napa River, and offsetting the use of groundwater and Napa River water for irrigation purposes.

The Project would expand the Town's recycled water infrastructure and provide the additional pipeline alignments required to serve recycled water to new agricultural irrigation customers. Currently, the Town's ability to deliver recycled water is constrained by limiting factors at the Recycled Water Pump Station (RWPS) located at the JTP and system constraints in the distribution system. The existing 6-inch

³ Surplus is the difference between the amount of recycled water produced and the amount of recycled water demand. The Town has a surplus of recycled water because the amount of recycled water produced is greater than the existing storage capacity.

⁴ The JTP's discharge is also currently under Order No. R2-2007-0077 (NPDES Permit CA0038849), that superseded all requirements on mercury from wastewater discharges in the region. The mercury permit remains unchanged (RWQCB 2010).

⁵ The previous NPDES permit, under Order No. R2-2004-0017 required the installation of a diffuser for the JTP's Napa River discharge outfall (Provision 7 of the NPDES permit). In 2005, the Town applied for re-issuance of the permit, in order to eliminate the diffuser requirement from its permit conditions, and instead, upgrade the JTP facilities to produce Title 22 tertiary recycled water and reduce discharges to the Napa River (Town of Yountville 2005).

diameter pipeline serves the water delivery needs of existing customers, but additional distribution pipelines are required to accommodate new recycled water customers, increase water delivery rates, and reach additional storage pond locations.

If constructed, the Project would reduce effluent discharges to the Napa River by achieving a year-round water balance between JTP recycled water production and agricultural irrigation customer demand. Because of temporal differences between recycled water production and recycled water demand, storage provides operational flexibility and better enables production to meet demand. The Project would achieve a water balance by providing the infrastructure to deliver recycled water to new customers for storage in existing vineyard irrigation storage ponds when recycled water demand is lower than recycled water production.

PROJECT OBJECTIVES

The Project objectives are to

- Comply with the Town's wastewater NPDES Permit by minimizing discharges to the Napa River;
- Expand the delivery of Title 22 tertiary treated recycled water to current and future irrigation customers to replace groundwater and Napa River water with recycled water;
- Install the infrastructure necessary to deliver recycled water to current and future recycled water customers; and
- Increase delivery rate and utilize existing storage capacity of the recycled water system, while balancing the amount of recycled water produced at the JTP with customer demand.

PROJECT LOCATION

The Project would be constructed in and near the Town in Napa County California (see Figure 1, Location Map). The JTP is located at 7501 Solano Avenue west of State Highway 29 at the southwest end of the Town limits. Except for the Vintner Golf Course and the JTP site, the Project is generally located to the east of the JTP. The Project extends easterly across State Highway 29, through vineyard service roads to the Beringer Pond and the Herrick Ranch Pond on the west side of the Napa River and to future users along Silverado Trail on the east side of the River. The south end of the Project terminates at the irrigation storage ponds located near the Chimney Rock winery on Silverado Trail and the northern end of the Project terminates north of the Silverado Vineyards.

PUBLIC INVOLVEMENT

Pursuant to Sections 15073.5 and 15105(b) of the state's California Environmental Quality Act (CEQA) Guidelines, the Town is circulating this document for a 30-day public and agency review. All comments received prior to 5:00 p.m. on July 24, 2012 will be considered, as will oral comments received at the August 7, 2012 Town Council meeting. To provide input on this Project, please send comments to:

Graham Wadsworth
 Town of Yountville Public Works Director/Town Engineer
 6550 Yount Street
 Yountville CA, 94599
 (707) 948-2628
gwadsworth@yville.com

PURPOSE OF THIS DOCUMENT

This joint Environmental Assessment and Initial Study / Proposed Mitigated Negative Declaration (EA/IS-Proposed MND) was prepared to evaluate the environmental impacts of the Project in compliance with CEQA and the National Environmental Policy Act (NEPA). The Town, which has discretionary approval over the Project, is the CEQA lead agency. The U.S. Bureau of Reclamation (Reclamation) is the lead Federal agency for compliance under NEPA. The Federal action is to provide partial funding for Phase 1 of the Project under Title XVI of Public Law 102, 575, as amended (Title XVI). Reclamation's purpose is to facilitate water recycling projects within the Mid-Pacific Region to extend the beneficial use of existing water supplies. Title XVI provides authority for Reclamation's water recycling and reuse program (Title XVI Program), which provides funding for design and construction of specified water recycling projects and planning studies for the reclamation and reuse of wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii. The proposed action is eligible for funding under the Title XVI Program.

Scope of Document

This EA/IS-Proposed MND has been prepared to examine the impacts, if any, on environmental resources as a result of the Project. Areas of possible impacts subject to analysis include:

- Agricultural Resources,
- Air Quality,
- Biological Resources,
- Cultural Resources,
- Geology and Soils,
- Greenhouse Gas Emissions,
- Hazards and Hazardous Materials,
- Hydrology and Water Quality,
- Land Use Planning,
- Mineral Resources,
- Noise,
- Population and Housing,
- Public Services,
- Recreation,
- Transportation/Traffic, and
- Utilities and Service Systems.

REQUIREMENTS AND APPROVALS

The Town and Reclamation are the lead agencies for the purposes of environmental documentation and compliance with CEQA and NEPA. As the Project proponent, the Town would also need to obtain the appropriate permits and approvals. The following permits, approvals, and actions may be required for the Project.

Town of Yountville: Adoption of the IS/MND and approval of the Project.

U.S. Bureau of Reclamation: Completion of National Historic Preservation Act (NHPA) Section 106 consultation with the Office of Historic Preservation (SHPO); completion of Endangered Species Act Section 7 informal consultation with United States Fish and Wildlife Service and/or National Marine Fisheries Service; issuance of a Finding of No Significant Impact

Napa County: Grading permit; Encroachment Permit; Floodplain Permit.

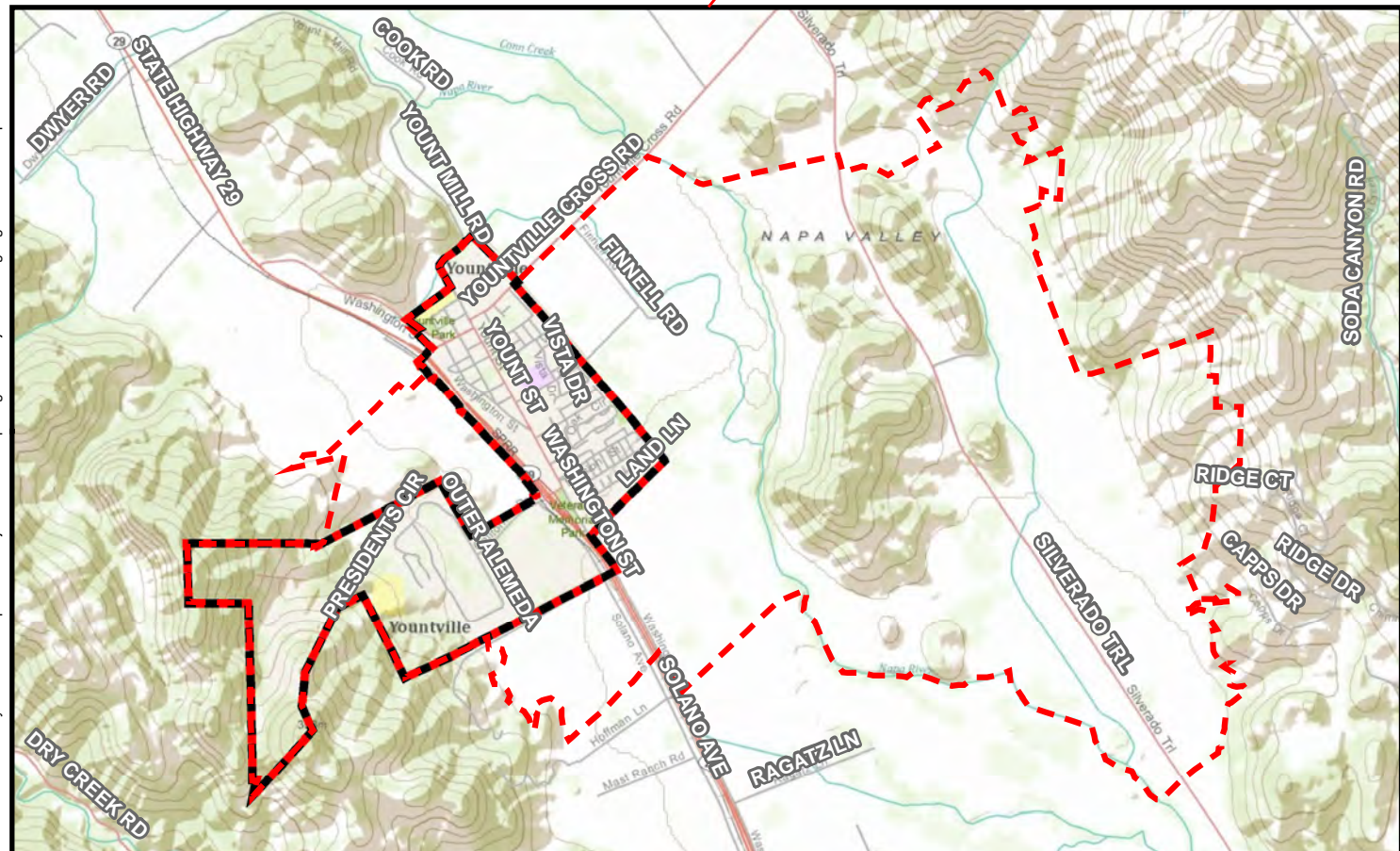
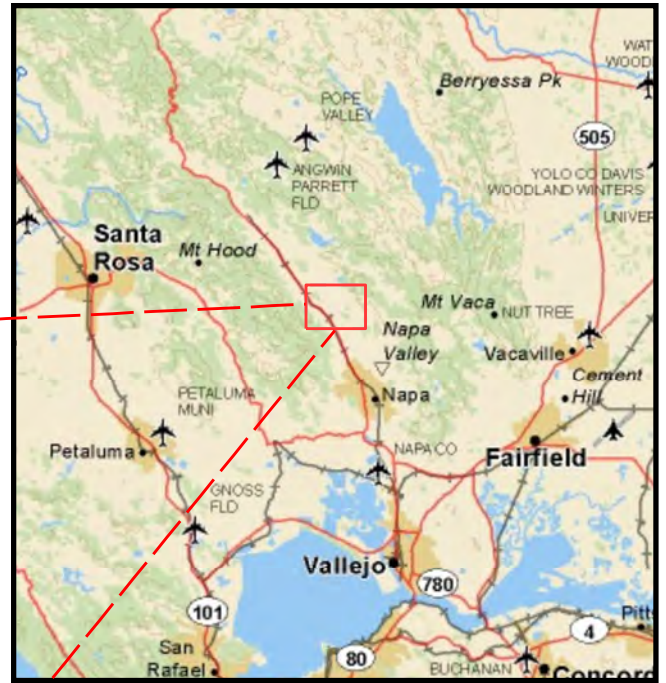
San Francisco Bay RWQCB: Amendment to the Town's existing water reuse NPDES permit and compliance with any of the following potentially required permits:



- NPDES General Permit for Stormwater Discharges Associated with Construction Activity
- Section 401 Water Quality Certification

California Department of Fish and Game: Streambed Alteration Agreement

Army Corps of Engineers: Section 404 permit.

THIS PAGE LEFT INTENTIONALLY BLANK



-  Study Area Boundary
-  Yountville Town Limits



Sources: USDA: Aerial NAIP 2009 1 meter resolution; Humboldt County GIS: Parcels, BlueLine Streams.

Figure 1
Location Map

Cartography
JR

Date
1/4/2012

Project #
12207-11001



Recycled Water
Project
Town of Yountville

2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

INTRODUCTION

NEPA defines the activity that is evaluated in an EA as a proposed action by a federal entity, whereas CEQA defines the activity as a proposed project undertaken, supported, or permitted by a local public agency. As discussed in Chapter 1, the proposed federal action is the provision of federal funds by Reclamation under the Title XVI Program to the Town for the implementation of the Project examined in this EA/IS-Proposed MND. Reclamation is the NEPA lead agency for this proposed action and intends to use this EA/IS-Proposed MND to consider provision of federal funding under Title XVI for construction of the Project. The CEQA proposed project refers to the whole of the proposed action that has the potential to result in a physical change to the environment, which, in this case, is the new recycled water pipelines, distribution of recycled water to existing irrigation storage ponds, and equipment upgrades at the JTP, examined in this Joint EA/IS-Proposed MND. The Town is the CEQA lead agency and intends to use this EA/IS-Proposed MND to consider approval of the Project. In addition, the State Water Resources Control Board (SWRCB) may use this EA/IS-Proposed MND to consider the provision of State Revolving Fund (SRF) Program funds for implementation of the Project.

For the purposes of this document, in addition to the use of the above terminology, the term “Project” is used to refer to all federal and local agency actions or approvals that would be issued as part of the Recycled Water Expansion Project.

NO ACTION / NO PROJECT ALTERNATIVE

Where CEQA does not require the analysis of alternatives in an IS, an EA must discuss alternatives, including a No Action Alternative, as required under Section 102(2)(E) of NEPA (42 U.S.C. §4332(2)) and Council on Environmental Quality (CEQ) Regulations Section 1502.14(d). The No Action/No Project Alternative examines the future without Project conditions, that is, the future if the proposed action is not implemented or constructed. In the context of this Joint EA/ IS- Proposed MND, “no action” means that the Project would not be implemented.

No Action/No Project Alternative

The No Action/No Project Alternative examines the future without Project conditions, that is, the future if the proposed action is not implemented or constructed. In the context of this EA/ IS-Proposed MND, “no action” means that the Project would not be implemented. This alternative would have none of the environmental impacts described in Chapters 2 and 3, but also would not satisfy the Project objectives, which include:

- Comply with the Town’s NPDES Permit by minimizing discharges to the Napa River;
- Expand the delivery of Title 22 tertiary treated recycled water to current and future agricultural customers to replace groundwater use for irrigation purposes;
- Install the infrastructure necessary to deliver recycled water to current and future recycled water customers; and
- Increase delivery rate and storage capacity of the recycled water system, while balancing the amount of recycled water produced at the JTP with customer demand.

Under this alternative, there would be no expansion of the storage and delivery of Title 22 tertiary treated recycled, and thus the alternative would not replace river water and groundwater use for irrigation purposes, and would not achieve compliance with the Town’s NPDES Permit that requires minimizing

discharges to the Napa River. Although no new infrastructure would be installed and none of the adverse environmental effects described in Chapters 2 and 3 would occur, the No Action/No Project alternative would not meet the purpose, objectives, or needs of the Project, and the Town would not be able to comply with their existing NPDES permit.

PROJECT DESCRIPTION

Proposed Federal Action

The Federal action is to provide partial funding for Phase I of the Project, as described below, under Title XVI of Public Law 102, 575, as amended (Title XVI).

Proposed Project

The Town is proposing to meet its wastewater reuse permit requirements and offset river water and groundwater use by expanding its existing recycled water system to accommodate additional recycled water users. The Project includes three phases and each phase is described in the following sections. The Project would install approximately 20,000 linear feet of new 8-inch diameter pipeline, 1,190 linear feet of new 6-inch diameter pipeline, new valves and turnouts (inlets) for new recycled water customers, and equipment upgrades at the JTP and RWPS to distribute disinfected tertiary recycled water to existing vineyard irrigation ponds (refer to Figure 2). The recycled water pumped from the JTP would augment the water in these ponds for all or part of the year for irrigation purposes. Under the Project, new vineyard customers currently utilizing river water or groundwater for drip irrigation would switch to use of Title 22 disinfected tertiary treated recycled water when it is available. Vineyard customers would continue to utilize pumped river water or groundwater when recycled water is not available.

The Project would provide increased recycled water delivery rates via equipment upgrades at the RWPS and installation of parallel pipelines and increased use of existing storage capacity through the installation of new pipeline. The Project would utilize 215 AF of available storage capacity of recycled water by using customers' existing vineyard irrigation ponds (Winzler & Kelly 2011).

Recycled Water Customers

The Project would serve three "tiers" of customers, as indicated by the shaded areas on Figure 2. The tiers include existing and future recycled water customers:

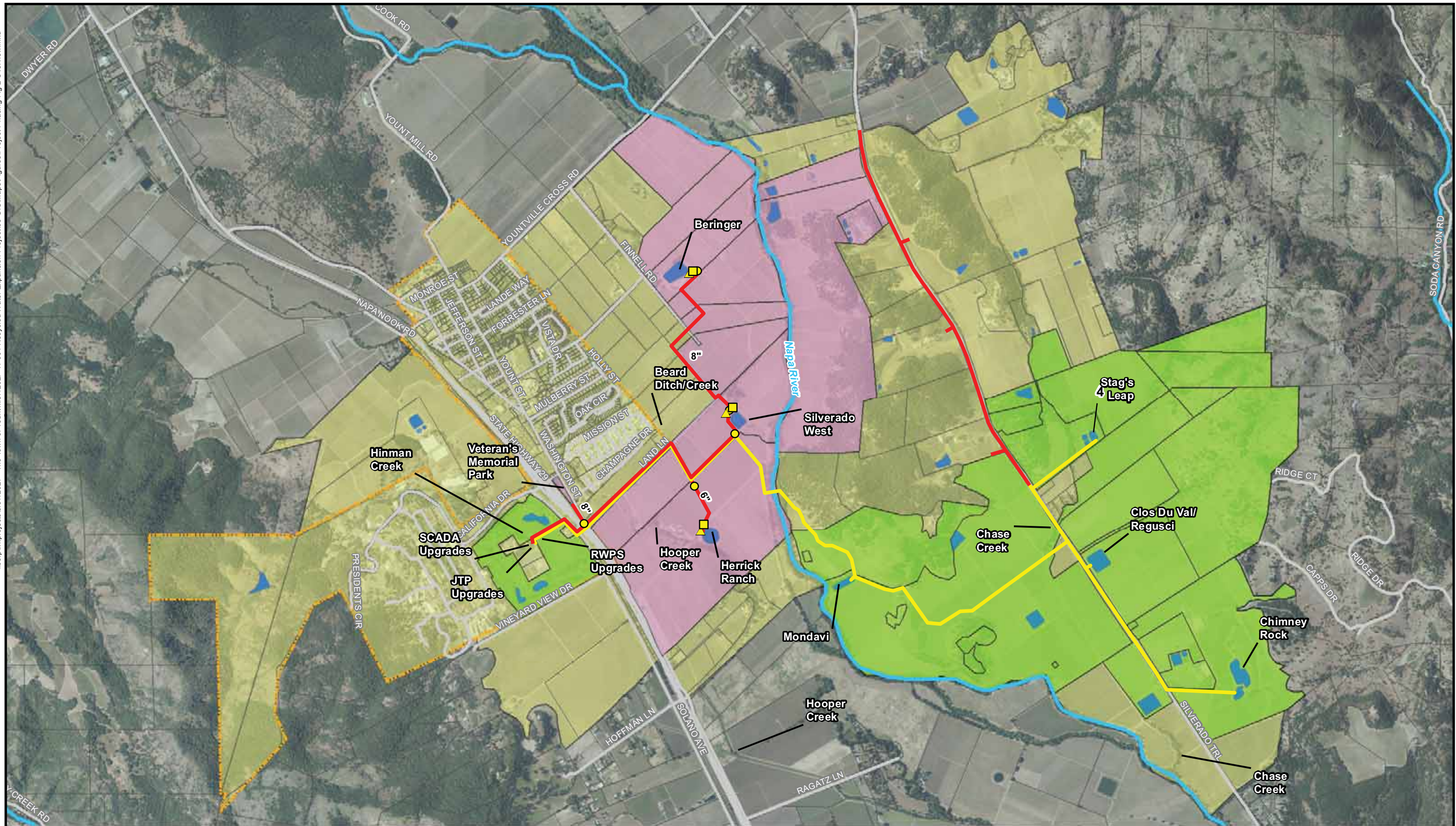
Tier 1. Tier 1 customers are existing users of recycled water that would continue to receive and store recycled water for irrigation with the implementation of the Project. Tier 1 customers include four vineyards (Stag's Leap, Clos du Val/Regusci, Chimney Rock, and Mondavi), as well as the Vintner Golf Course.

Tier 2. Tier 2 customers are potential future customers that have already been identified by the Town. Tier 2 customers have existing storage ponds and are located geographically near the existing 6-inch recycled water transmission main. Tier 2 customers include three vineyards (Beringer, Herrick Ranch, and Silverado West) and the Town's Veterans Memorial Park.

Tier 3. Tier 3 customers are potential future customers that have not been fully identified. Tier 3 customers are located geographically further from the existing recycled water transmission main than Tier 2 customers.

Depending on costs and available funding, the Project could be constructed in three phases, with full Project build-out completed in Phase 3. While most of the Project components serve to provide new recycled water connections to Tier 2 and Tier 3 customers, the Project also includes other system upgrades that would improve service to existing Tier 1 customers and the overall recycled water delivery system. The three Project phases are described in detail below.

\\corpwk\projects\ro\12027 - The Town of Yountville\12027-11-001 Recycled Water Expansion Project\08-GIS\Maps\Figures\Project Phasing-Fig 2 Overview.mxd



Town Limits	Tier 1 Service Area	Existing RW Pipelines	New Isolation Valves	 1:22,000		Sources: ESRI Basemap: Aerial; Napa County GIS: Parcels, City Limits, Roads; Winzier and Kelly GIS: Study Area, RW Pipes, Tiers.	Cartography AF	Date 5/3/2012	Project # 1202711001	 Town of Yountville
Parcel Boundary	Tier 2 Service Area	New RW Pipelines	Pond Level Control/Telemetry							

Figure 2
Project Overview

Recycled Water
Project

Town of Yountville

Project Phases

Phase 1

Phase 1 would expand the existing Tier 1 distribution system to include Tier 2 customers west of the Napa River, as shown on Figure 3. It would also provide the necessary automated valve operation, pump speed control, pond level control, SCADA system and upgrades at the JTP to provide automation and the ability of JTP staff to effectively control delivery of recycled water (Figure 4). By adding the Tier 2 customers, the Town would be able to balance its supply of recycled water and avoid discharging to the Napa River in an average weather year. This would result in an additional 130 AF (approximate for an average weather year) of recycled water per year for irrigation compared to the existing system.

The following list provides a description of the Phase 1 upgrades:

- Approximately 6,100 feet of new 8-inch and 1,190 feet of new 6-inch polyvinyl chloride (PVC) distribution piping to connect Tier 2 customers from the existing 6-inch transmission main. The new pipeline would serve to expand recycled water delivery to new customers. The majority of the pipeline alignment would be located on existing, unpaved vineyard service roads and other previously disturbed areas. A small portion of the new pipeline, connecting to the Veterans Memorial Park, would be located along the shoulder of Washington Street. The pipelines would be installed using open-trench construction.
- 6-inch and 8-inch valves for distribution pipe isolation and ties-ins to the existing 6-inch distribution system, located at and near the irrigation ponds for both Tier 1 and Tier 2 customers.
- Upgrades at the existing RWPS, including installation of one new pump, three new 40-horsepower inverter duty type motors, and pump discharge upgrades (Figure 4).
- Upgrades at the existing JTP, including filter backwash modifications, new filter media, new and rehabilitation of control valves, and upgrades to the dechlorination system (Figure 4). A SCADA system, including an approximately 12- to 24-foot tall antenna, would be installed at the JTP to automate recycled water delivery.

Phase 2

Phase 2 would build on the Phase 1 improvements, and would include additional upgrades intended to increase the delivery rate of recycled water to the more distant users east of the Napa River, as shown on Figure 5. Currently, the capacity of the existing 6-inch distribution system and pump station allows the Town to pump approximately 300 gpm to the most hydraulically distant location in the recycled water system. The addition of the Phase 2 pipeline would reduce friction losses in the pipeline system and would enable the Town to supply approximately 350 gpm to the furthest location while using less energy, thus increasing the delivery rate and reliability of the recycled water system.

By increasing the pumping capacity for all users, the Town would be better equipped to deliver recycled water during periods of high wet weather flows, and thereby maximize reuse and minimize discharges to the Napa River. The Phase 2 Project components include the following:

- Approximately 4,410-feet of new 8-inch transmission system piping constructed parallel to the existing 6-inch piping, beginning east of Highway 29 along Land Lane to the existing Silverado West pond, as shown on Figure 5.
- 8-inch pipeline distribution valves and tie-ins to the existing 6-inch distribution system piping.

THIS PAGE LEFT INTENTIONALLY BLANK



- Town Limits
- Parcel Boundary
- Existing Ponds
- Existing 6-inch Pipe
- Streams and Rivers

0 150 300 ft
1:6,000



Sources: ESRI Basemap: Aerial; Napa County GIS: Parcels, City Limits, Roads; Winzler and Kelly GIS: Study Area, RW Pipes, Tiers.

Cartography
JR

Date
5/3/2012

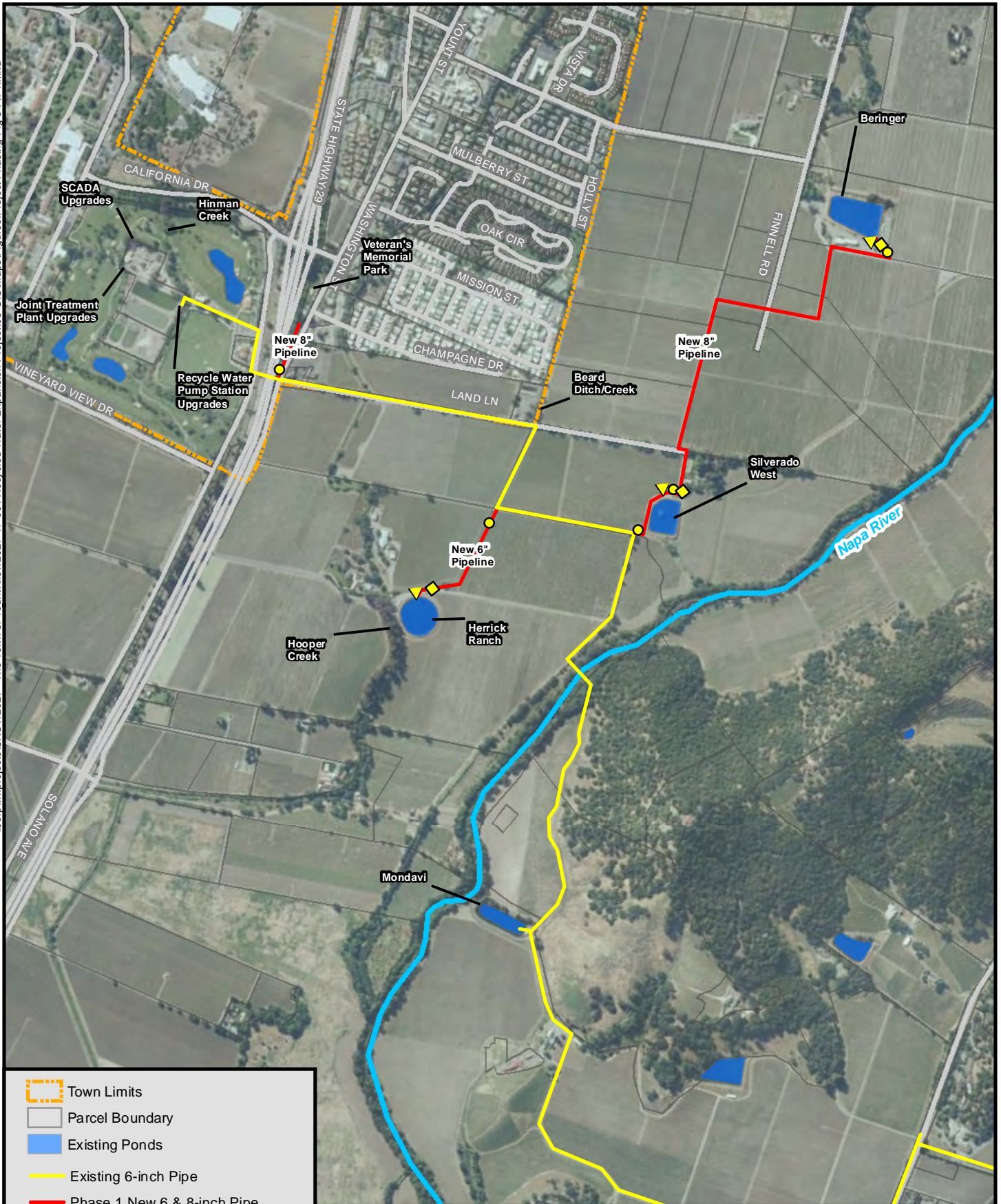
Project #
1202711001



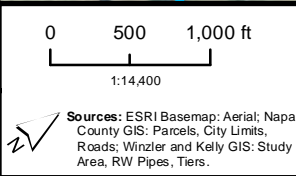
Figure 4
Joint Treatment Plant

Recycled Water
Project

Town of Yountville




- Town Limits
- Parcel Boundary
- Existing Ponds
- Existing 6-inch Pipe
- Phase 1 New 6 & 8-inch Pipe
- Streams and Rivers
- New Isolation Valves
- New Pond Level Control/Telemetry
- New Motor-Operated Control Valves



Cartography	Date	Project #
JR	5/3/2012	1202711001

Figure 3
Phase 1

Recycled Water Project

 Town of Yountville

Phase 3

Phase 3 would be the full build-out of the Project and is intended to provide increased use of existing irrigation water storage capacity by providing the necessary infrastructure to serve future Tier 3 customers, and the ability to increase current recycled water pump capacity. Phase 3 improvements are shown on Figure 6. While Phase 3 would include the framework to serve future Tier 3 customers, specific Tier 3 customers have not been identified at this time. When the Town identifies Tier 3 customers, the Town would install a connection to the recycled water pipeline. Installation of the pipelines and other infrastructure necessary to deliver water from the Town's recycled water pipeline is not included in this Project. The majority of Tier 3 customers' existing ponds are located at higher elevations which may require private booster pump stations to fill the ponds. Individual Tier 3 users would be responsible for installation of the needed infrastructure. Phase 3 includes the following upgrades in addition to those listed for previous phases:

- Approximately 8,100 feet of new 8-inch distribution system piping in Silverado Trail extending from the existing 6-inch pipe west of Stag's Leap ponds north along Silverado Trail to approximately 0.25 mile north of the Silverado Vineyards.
- Approximately 1,300 feet of new 8-inch distribution system piping extending from the JTP to connect to the Phase 2 parallel pipeline just east of Highway 29.
- Upgrades to the RWPS including the following:
 - Three new 40-hp Gormann-Rupp U-Series pumps and inverter duty motors.
 - Associated pump connection and piping and system pressurization equipment.

PROJECT CONSTRUCTION ACTIVITIES

Pipelines and Valves

The majority of the pipelines would be installed using open trench construction, with the exception of Phase 3 undercrossings of Solano Avenue/ Highway 29 and Chase Creek which would be installed using trenchless construction methods.

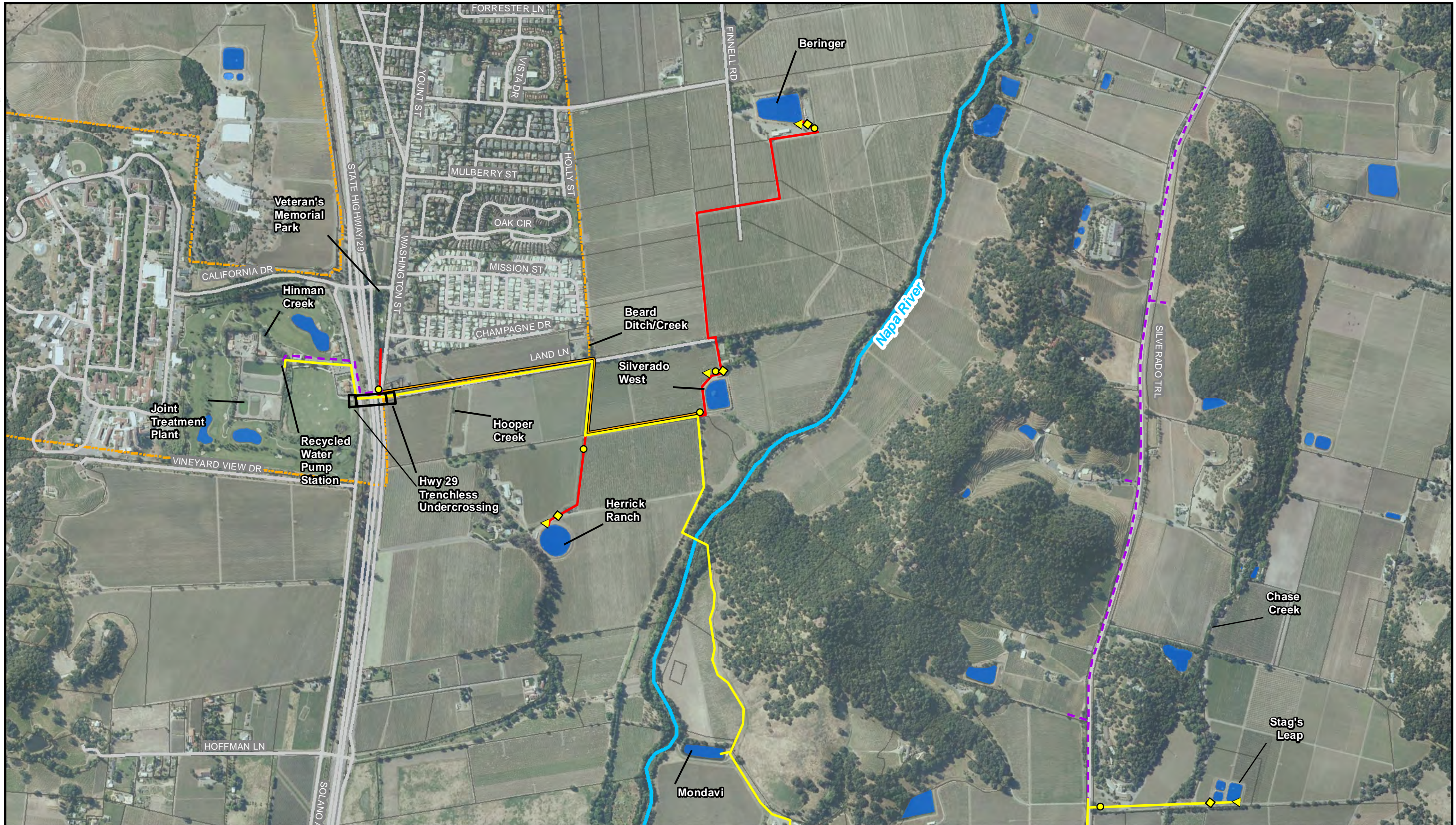
Open Trench Construction Methods

The open trench method involves clearing the ground of vegetation within the work area; grading or pavement cutting; excavation and potential shoring of the trench; installation of the pipe bedding, pipeline, valves and appurtenances; backfilling of the trench; and restoration of the ground surface.

Installation of the pipelines would require a minimum 3-foot wide and approximately 4- to 5- foot deep trench. Dewatering of the trench would be required in areas where groundwater is encountered (dewatering is described later in this chapter). Once the trench is excavated, shored (if necessary), and dewatered (if necessary), bedding material (i.e. sand) would be placed in the bottom of the trench, and the pipe sections would be installed. Native material would be reused to backfill the trench where feasible based on the geotechnical recommendations. Engineered aggregate base material would also be used for backfill. Following compaction, the work surface area would be restored to its preconstruction or close to preconstruction condition.

THIS PAGE LEFT INTENTIONALLY BLANK

\\corpwk\projects\ro\12027 - The Town of Yountville\12027-11-001 Recycled Water Expansion Project\08-ci\SWaps\Figures\Project Phasing-Fig 6 Ph 3.mxd



- Town Limits
- Parcel Boundary
- Existing Ponds
- Streams and Rivers

- Existing 6-inch Pipe
- Phase 1 - New 6 & 8-inch Pipe
- Phase 2 - New Parallel 8-inch Pipe
- Phase 3 - New 8-inch Pipe

- New Isolation Valves
- New Pond Level Control/Telemetry
- New Motor-Operated Control Valves

0 500 1,000 ft
1:12,000

Sources: ESRI Basemap: Aerial; Napa County GIS: Parcels, City Limits, Roads; Winzler and Kelly GIS: Study Area, RW Pipes, Tiers.

Cartography
AF

Date
5/3/2012

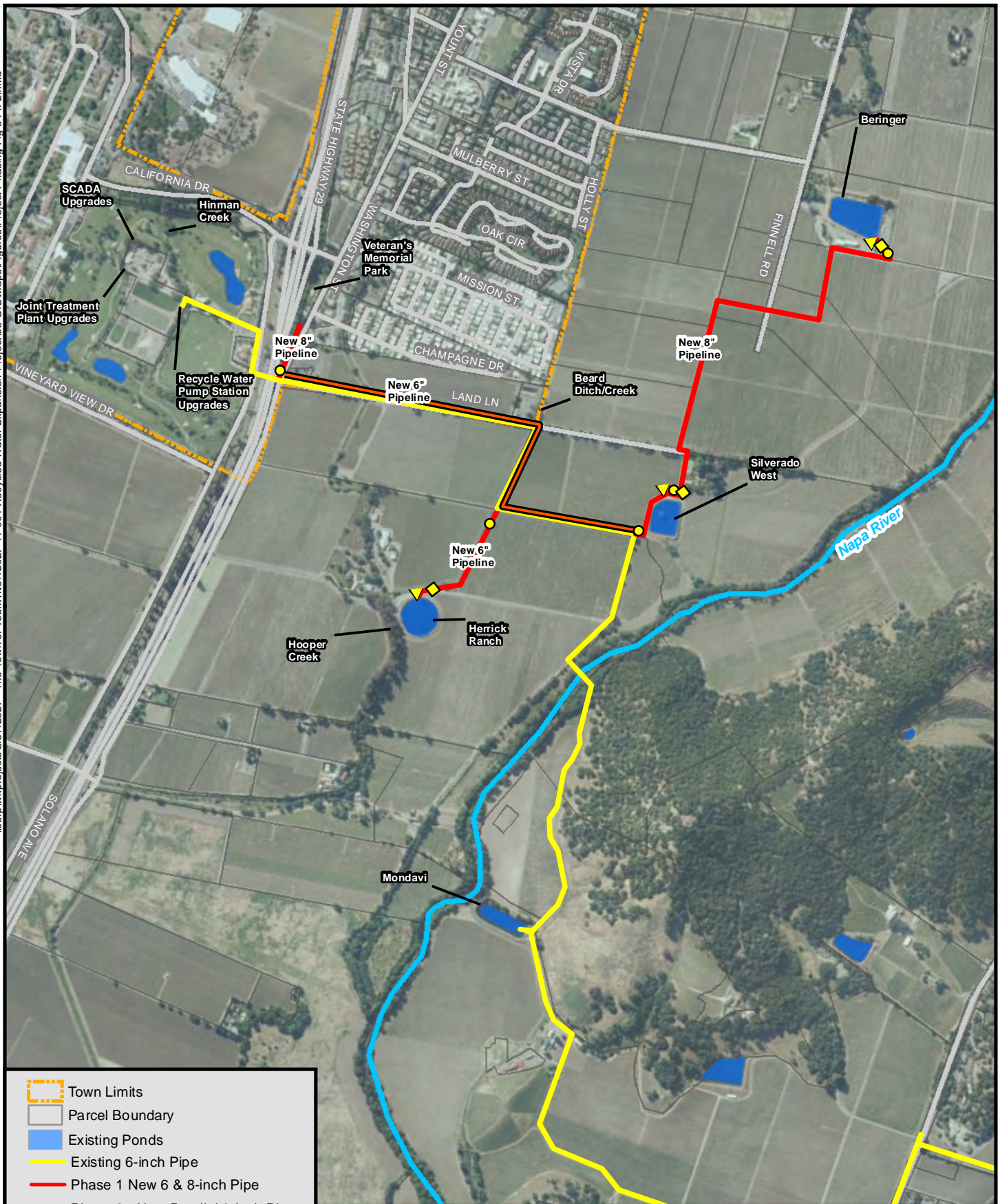
Project #
1202711001













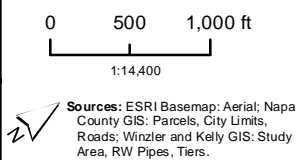
Figure 6
Phase 3

Recycled Water
Project

Town of Yountville




-  Town Limits
-  Parcel Boundary
-  Existing Ponds
-  Existing 6-inch Pipe
-  Phase 1 New 6 & 8-inch Pipe
-  Phase 2 - New Parallel 8-inch Pipe
-  Streams and Rivers
-  New Isolation Valves
-  New Pond Level Control/Telemetry
-  New Motor-Operated Control Valves



Cartography	Date	Project #
JR	5/3/2012	1202711001

Figure 5
Phase 2



Recycled Water Project

Town of Yountville

Trenchless Construction Methods

Trenchless methods would be used to install the pipeline under Solano Avenue/Highway 29. As shown on Figure 6, approximately 380 linear feet of 8-inch pipeline would be installed under Solano Avenue/Highway 29 during Phase 3 and 120 linear feet of 8-inch pipeline would be installed under Chase Creek.

Horizontal directional drilling (HDD) and jack and bore installation are the two trenchless construction techniques that may be employed to install underground pipelines. These processes are described below.

Horizontal Directional Drilling

HDD is a process that uses a laser-guided and remotely controlled boring machine and auger that is driven from a sending pit to a receiving pit. HDD involves the use of bentonite drilling slurry, which is a fine clay material. The work areas around the pits require adequate space to accommodate auger separation and associated equipment and slurry waste management practices. The sending and receiving pit areas require an approximately 5 to 10 feet deep, 75 square feet (5 feet wide by 15 feet long) work area. The pits would be sized to accommodate drilling equipment, support equipment, and a sump for drilling slurry. Sump areas would be required to contain the drilling slurry/fluids used during the construction process and to capture the slurry/fluid once the initial hole is excavated.

Jack and Bore Installation

Jack and bore installation is a multi-stage tunneling process that would install the pipeline simultaneously with the excavation process in sending and receiving pits located on either side of the crossing. If jack and bore installation is used, sending and receiving pits would be approximately 10 feet deep for Solano Avenue/Highway 29 and Chase Creek.

A temporary horizontal jacking platform and a starting alignment track in an entrance pit would be constructed at the desired elevation. A steel casing pipe is then jacked by manual control along the starting alignment track with simultaneous excavation of the soil being accomplished by a rotating cutting head. This process may require the use of drilling slurry. The ground up soil (spoil) is transported back to the entrance pit by a drill rotating inside the pipe. After the casing pipe is installed, the new pipeline is installed through the casing and the ends of the casing are sealed.

Valves and Discharge Piping

Gate valves would be installed in the new distribution piping every 1,000 to 2,000 feet in order to isolate pipeline segments for maintenance purposes. Additionally, each plumbed storage pond would be equipped with an isolation valve for maintenance, and a motor-operated control valve designed to work with the SCADA system to allow for pond filling. Storage ponds not currently connected to the recycled water distribution system would require the installation of discharge piping into these ponds. The discharge piping would be installed over the top of the pond levee or buried several feet below the top of the levee in order to provide local vehicle access across the top of the pond levee allowing for some type of "air gap" or other backflow prevention device. Construction would temporarily impact a small area of storage pond berms.

Construction Access and Staging Areas

Primary construction access would be via Highway 29, Silverado Trail, and existing private vineyard service roads. Permission for construction access, construction easements and permits would be obtained from Napa County and the private property owners of the vineyard service roads. Phase 1, 2, and the western portion of Phase 3 construction would occur mostly in vineyard service roads, which would likely be accessed via Highway 29 and Town streets. The western and northern portion of Phase 3 construction would occur in the shoulder of Silverado

Trail, which would also serve as the main construction access route. Some temporary lane closures would be necessary at Silverado Trail along the pipeline alignment. The Town's contractor would develop a Traffic Control Plan, subject to Town review and approval, which would include a work area access plan detailing access to each portion of the Project area, including those properties which may experience temporary delay or disruption of access. If necessary, detour routes for bus routes and stops, and pedestrian/bike paths would be included in the Plan, as well as public noticing of detours.

Construction staging areas would be located within the construction easement, within existing paved or unpaved roads, at the JTP site, and at an existing dirt parking lot located to the south of Veterans Memorial Park. Staging areas would be used by contractors for construction-related equipment and materials storage, such as construction vehicles, pipes, fuels and lubricants. Staging areas could also be used for stockpiling excavated soil for reuse. The construction contractor would likely utilize those staging areas nearest to the active construction sites. The staging areas would be restored to their pre-construction condition through grading, and if necessary, revegetation. As discussed in the following environmental analysis, potential staging areas would be subject to the same regulations and mitigation requirements as the rest of the Project. Staging areas would be located along pipeline routes or at the JPP.

Construction Equipment

Construction equipment used for the Project would consist of typical equipment used for pipeline installation activities. Generally, equipment would include the following items listed in Table 1 below.

TABLE 1
Construction Equipment

Earthmoving Equipment	Materials Handling	Trenchless Construction Equipment	Impact Equipment	Stationary Equipment
Backhoe Excavator Grader Trencher Loader Compactor Haul Trucks for supplies, deliveries, water	Crane Concrete mixer Paver Paving equipment	Drill rig & Auger Controls Shafts Pipe Fuser Slurry Handling Containers	Hoe ram Jackhammer Pneumatic tool	Compressor Generator Pump Saws Welder

Groundwater Dewatering

During construction, dewatering of the construction work area could be required if water accumulates in an open trench or in a jack and bore pit area as a result of groundwater seepage. Dewatering typically involves pumping water out of the trench and, following appropriate onsite treatment (for example, mixing settling, filtration, or both to remove sediments to meet stream discharge requirements), discharging the water into a nearby open channel or onto land. Discharging to surface waters would be performed in accordance with the requirements of the Statewide General Construction Permit for Stormwater Discharges Associated with Construction Activity regulated by the State Water Resources Control Board. Permit requirements and required best management practices are discussed in Section 3.9, Hydrology and Water Quality.

Pipeline Excavation

It is estimated that Project construction would result in the excavation of approximately 8,475 cubic yards of soil, based on an assumption that trenches would be approximately 6 feet deep and 4 feet wide. Table 2 below shows a cumulative estimate of cubic yards of soil that would be excavated for pipeline placement, and the excess cubic yards of soil that would be hauled from the Project site after pipeline placement and backfilling. Some excess soil would be reused onsite for trench backfill, and the remainder of excavated soil would be disposed of at Clover Flat Landfill, in Napa County, or another approved landfill or disposal area. An average of approximately three truck-trips for soil off-haul would be required per day for the duration of construction.

TABLE 2
Estimated Soil Excavation

Project Phase	Length of Pipeline (feet) ¹	Pipeline Size	Estimated Excavation (CY) ¹	Estimated Off-Haul (CY) ¹
Phase 1	7,290	6-inches and 8-inches	2,430	1,233
Phase 1 and 2	11,700	8-inches	4,680	2,400
Phase 1, 2 and 3 (Full Project Build-Out)	21,190	8-inches	8,475	4,345

Notes: 1. The pipeline length, estimated excavation and estimated off-haul numbers are cumulative (i.e. Phase 2 estimates include both Phases 1 and 2, and Phase 3 estimates represent the entire Project, including Phases 1 and 2).

Roadway Restoration and Right-of-way Cleanup and Restoration

Following installation of pipelines, Silverado Trail and the vineyard and JTP service roads would be restored to pre-construction condition over the pipeline alignment. If any other areas within the construction zone are altered by construction activities, they would be restored to at or near pre-construction contours. The soil or pavement over the trenched areas would be restored or replaced.

Workforce and Anticipated Trips

The number of construction-related vehicles traveling to and from the Project would vary on a daily basis. During pipeline installation, a Project average of three haul trucks per day (8-cubic yard trucks) would be utilized for soil off-hauling. In addition to haul truck traffic, an average of eight vehicles per day is estimated for the construction crew. Therefore, an average of 11 construction-related vehicles per day would utilize local roadways. In addition, it is estimated that a total of 16 truck trips would be needed to deliver pipeline over the entire Project construction duration.

Construction Schedule

The new pipelines would be installed at a rate of approximately 315 linear feet/day (LF/day), with the exception of the Phase 3 pipeline along Silverado Trail which would be installed at a rate of approximately 235 LF/day. Construction of Phase 1 is expected to take eight months to complete, and is anticipated to occur from April 2013 to November 2013. The construction schedule for Phases 2 and 3 depends on funding. Funding has not been secured for these phases at this time. However, future phases would be similar in duration (8 months each). Connections to the existing irrigation water storage ponds, including installation of valves and other system instrumentation, would likely occur in late October/early November when the water levels in the ponds are at their lowest.

OPERATIONS

With the implementation of the Project, the Town's supply of recycled water would be balanced with demands in an average weather year, reducing discharges to the Napa River. Recycled water production, demand, delivery rate, and storage capacity would increase with the addition of Tier 2 customers, as shown in the table below. Potential demand and storage for Tier 3 customers is not known at this time, because Tier 3 customers have not been identified, and Phase 3 construction provides the framework for future Tier 3 customers. The expanded operational storage capacity of the recycled water distribution system is summarized below in Table 3.

TABLE 3
Recycled Water Distribution System

Recycled Water	Pre-Project	Post-Project (through Phase 3)
Average Production	429 AFY ¹	429 AFY
Average Demand	245 AFY ²	470 AFY
Average Delivery Rate	300 gpm	350 gpm
Irrigation Pond Storage	142 AF	215 AF

Source: Winzler & Kelly 2011, Technical Memorandum No. 2

Notes: 1. Average from period 2007-2010
2. Average from period 2004-2010

Operation of the recycled water distribution system at the JTP and irrigation storage ponds would be automated by the SCADA system, reducing vehicle trips currently required for manual system operation. Other operational activities would continue to be manned by existing staff, including operations at the JTP, and drip application of irrigation water by recycled water users, and would essentially remain the same as pre-Project conditions.

PROJECT MEASURES

The following measures and practices are part of the Recycled Water Expansion Project to reduce or avoid adverse environmental effects that could result from construction.

Project Measure 1: Basic Air Quality Measures

The Town shall implement the Bay Area Air Quality Management District's Basic Construction Measures, which consist of the following:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered up to two times per day as necessary to reduce dust.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- 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 corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Project Measure 2: Traffic Control Plan

The Town shall require the contractor to develop a traffic control plan to minimize the impacts of construction traffic on Project area roadways and at key intersections used during construction. The traffic control plan shall include the following provisions and may include other measures if a further need is identified.

- Location(s) of designated Project construction staging areas.
- Post warning signage at points where construction traffic will enter or leave Solano Avenue, Land Lane, and Silverado Trail.
- Use flag control during work hours when equipment or materials are delivered to the work area.
- Detour routes to be used in order to maintain access during various phases of the Project's construction.
- Restrict all construction traffic to normal daytime business hours, unless the Town identifies a need for off-hours routing to avoid impacts on peak-hour commute traffic.
- Consult with the Napa County Fire Department and provide notification of the timing, location, and duration of construction in the vicinity of the Town fire station.
- In order to minimize any potential overlap with other construction and roadway improvement project(s), the contractor shall work with the Town and Napa County to identify the routes and intersections that should be avoided, as well as appropriate alternate travel routes or times. The plan shall address routes to minimize construction traffic on State Highway 29 during peak hours.

ALTERNATIVES CONSIDERED BUT NOT RETAINED FOR DETAILED ANALYSIS

The following alternatives were evaluated but were not retained for detailed analysis.

Additional Recycled Water Storage

During design, adding recycled water storage at the JTP was evaluated as a way to provide some flexibility regarding the Town's ability to store water during periods when pond storage is not available. Design included an evaluation of constructing a 5 million gallon tank at the JTP, which would have the capacity to store approximately 15 additional AF of water during the winter, and then pumping this water to users during irrigation months when pond storage becomes available. However, tank storage alone would not provide sufficient storage to meet the Town's permit requirement of minimizing discharges to the Napa River, in which over 230 acre-feet of storage is needed. Additionally, the relatively small increase in recycled water storage could not justify the high cost of constructing the tank. Therefore, construction of additional recycled water storage at the JTP was not retained for detailed analysis.

Distribution to Parks

Distribution of recycled water to Town parks as opposed to vineyards was evaluated project development. Under this scenario, recycled water pipelines would be installed within existing Town streets, and the parks would provide additional discharge areas during the irrigation season. Distribution to the parks would not provide the additional storage which is needed to meet the Town's permit requirement of minimizing discharges to the Napa River. Additionally, recycled water demand for park irrigation during the dry summer months would compete with the demand from existing Tier 1 recycled water customers. Therefore, distribution to parks as opposed to vineyards was not retained for detailed analysis.

Alternative Pipeline Alignments

An alternative 8-inch pipeline alignment that extended from just east of the Mondavi storage pond north to the Silverado West Storage Pond and an alternative 8-inch pipeline alignment that ran from Silverado West north to Silverado East Storage Pond were evaluated. Archaeological surveys of these alignments conducted in September 2011 and in November/December 2011 (ASC 2011a and 2011b), identified the presence of five prehistoric archaeological sites (CA-NAP-558, and ASC-41-11-01 through 04) within the projects' area of potential effects. To avoid impacts to these archaeological sites in accordance with CEQA 151264(b)(3), which states that preservation in place (e.g. avoidance of archaeological sites) is the preferred manner of mitigating impacts to archaeological sites, these pipeline alignments were removed from consideration, and new alignments were identified and evaluated for the proposed Project.

Land Application Alternative

An alternative of purchasing land close to the treatment plant, converting it to irrigated pasture and applying recycled water to the pasture was also evaluated during project development. The land application process would require application rates to dispose of recycled water higher than vineyards require and would include an additional 140 acres of effluent storage to serve the new land disposal area. This option would need 48 acres of prime vineyard land for the land application as well as an additional 20 acres for a storage pond and associated distribution piping.

This alternative provides no real water supply benefits, since it takes an economically viable agricultural operation out of production in order to increase disposal rates. In addition, there are regulations/requirements in Napa County for vineyard conversion which could potentially hinder this approach. Given the high preliminary cost, limited benefits and potential regulatory hurdles, this alternative was dismissed as a viable alternative.

3. ANALYSIS OF THE PROPOSED ACTION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
I. Aesthetics				
Would the project:				
a) Have a substantial adverse effect on a scenic vista?		✓		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings?		✓		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				✓

AFFECTED ENVIRONMENT

The new pipeline alignments would be located in Napa County, to the east of the Town between Highway 29 and Silverado Trail. The landscape is mostly flat (with a few hillsides to the east of the Napa River), and is dominated by vineyards with scattered trees. A portion of the Project, including the Phase 1 pipeline near the JTP and near Solano Avenue and Highway 29, and work at the JTP, would occur within Town limits and within a more urban setting.

The vineyards and mountains surrounding the Town, as well as Washington Street looking north, contribute to the Town's view corridors and enhance the aesthetic character of the community (Town of Yountville 1994).

No rock outcrops or historic buildings are located in the Project area. Rock outcroppings are present in the mountains to the east and west of the Town, and to just east of Highway 12, along Land Lane (Watershed Information Center & Conservancy of Napa County n.d.). Isolated trees are located along the pipeline alignments, with most of the trees growing adjacent to Washington Street and Land Lane.

REGULATORY SETTING

The Town of Yountville General Plan emphasizes the importance of view corridors, established by the street grid (Town of Yountville 1994). The General Plan states that it is essential that all future growth protect view corridors, establish new ones wherever possible, and maintain the highest quality design at the primary gateways to the community. The General Plan also calls for maintaining the scenic beauty of Yountville, protecting view corridors from the Town to the surrounding vineyards and mountains, and enhancing the primary gateways to the Town to reflect the aesthetic and historical character of the community. Chapter 18.12.030-View Corridors, of the Yountville Municipal Code, identifies a proposed view corridor looking south from Champagne Drive and existing view corridors looking east from the Town boundaries.

The Napa County General Plan emphasizes the importance of the scenic qualities of the County, and identifies Highway 29, Silverado Trail, and Yountville Cross Road as County-designated scenic roadways subject to the County's Viewshed Protection Program (Napa County 2008). The Napa County View shed Protection Program (Chapter 18.106 of the County Zoning Ordinance) is designed to minimize the visibility of new developments from Napa County designated scenic roads. It applies to above-ground projects (i.e., new structures or significant grading and excavation) located on slopes of fifteen percent or more or on a minor or major ridgeline, and therefore is not applicable to this Project. Highway 29 is listed as an eligible state scenic highway, but is not officially designated at this time (California Department of Transportation 2011).

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The four criteria listed in the table above were used to determine the extent of potential impact the Project may have on the aesthetic quality of the Project area. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

I. a & c) Adverse Effect on a Scenic Vista or Substantially Degrade Existing Visual Character or Quality – Less than Significant with Mitigation

Project improvements at the JTP would not impact a scenic vista, view corridor or otherwise degrade existing visual quality because these facilities are not located in, and are not visible from, a scenic vista. Improvements at the JTP would occur at the existing facilities and would not change the existing visual character. A new antenna required for the SCADA system would be located at the JTP, and would be approximately 12 to 24 feet in height. No impact to scenic vistas or visual character would occur from these improvements, because the antenna would be attached to the existing building within the JTP site and blend with the existing facilities.

Construction of the new pipelines would result in temporary, construction-related effects on the visual character and scenic corridors in the Project area, due to the presence of construction equipment, trenching and other construction activities. Phase 1 pipeline construction along Washington Street and Phase 3 pipeline construction along Land Lane, the undercrossings of Solano Avenue/Highway 29 and Chase Creek, and pipeline construction along Silverado Trail would be visible to residences, businesses and vehicles traveling along these roadways and could temporarily obstruct views of the vineyards and mountains. Although the remainder of the Phase 1 and 3 pipeline alignments would not be located near Highway 29 and Silverado Trail, construction may be visible to vehicles on these roadways.

Construction of Phase 1 is expected to take eight months to complete, and would occur from April 2013 to November 2013. Future phases would be similar in duration (8 months each). The new pipelines would be installed at a rate of approximately 315 linear feet per day, with the exception of the Phase 3 pipeline along Silverado Trail, which would be installed at a rate of approximately 235 linear feet per day. While pipeline construction activities would be visible from, and located along County-designated scenic roadways and Town-designated view corridors, the impact would be temporary during construction only, and due to the linear nature of the Project, would not impact one particular viewpoint for a significant portion of time. The impact of pipeline construction on scenic vistas and existing visual character would be less than significant.

Trees are located sparingly along the pipeline alignments, with most trees occurring along Washington Street and Land Lane. Trees along Washington Street serve as a visual screen for Highway 29 (Town of Yountville 1994). Tree removal is not part of the Project; however, Phase 1 installation of approximately 1,190 LF of pipeline along Washington Street would occur adjacent to trees that serve as a visual screen. If trees are impacted and lost as a result of Project construction, the impact would be significant, because of the loss of visual screening. The following mitigation measure would reduce potential impacts to trees that serve as an existing visual screen to less than significant.

Mitigation Measure AES-1: Development of Trenching Techniques to Minimize Tree Loss along Washington Street

The Town shall retain a certified arborist to evaluate Project construction plans and develop special trenching techniques to minimize the potential for tree impacts and tree loss along Washington Street. Construction activities within the dripline of trees adjacent to adjacent to trenches shall be avoided to the extent feasible during construction. Pruning of trees shall be completed by either a certified arborist or by the contractor under supervision of either an International Society of Arboriculture qualified arborist, American Society of Consulting Arborists consulting arborist, or a qualified horticulturalist. If trees are damaged or lost, trees shall be replaced in accordance with Chapter 12.16 of the Town's Municipal Code (Tree Ordinance) in a manner that retains the functionality of visual screening along Washington Street.

Following construction, the new pipelines would be buried underground and would not affect the visual quality of the area or scenic corridors. Any above-ground connection to the existing irrigation ponds would be consistent with the existing visual character at the sites. No impact to the visual quality of the vineyards would occur as a result of Project operation.

I. b) Damage Scenic Resources – No Impact

Highway 29 is listed as an eligible state scenic highway but is not officially designated at this time (California Department of Transportation 2011). The Project would install a new pipeline under Highway 29 using trenchless construction, avoiding any trees located along the highway. No historic buildings, significant rock outcroppings or other scenic resources are located within the Project viewshed. Therefore, no impact to scenic resources would occur.

I. d) New Source of Light or Glare – No Impact

The Project would not include nighttime construction or result in any permanent new sources of light such as new structures or light poles. No impact to day or nighttime views would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
II. Agricultural and Forest Resources				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

AFFECTED ENVIRONMENT

Within the Project area, land use is primarily agricultural. Maps prepared pursuant to the Farmland Mapping and Monitoring Program categorize the Town as “Urban and Built-Up Land” (this applies to the Phase 1 Washington Street pipeline alignment, improvements at the JTP, and the segment of the Phase 3 pipeline located within Town limits, including the undercrossing of Solano Avenue/Highway 29). Land immediately east of the Town is mostly classified as “Prime Farmland,” with the exception of areas along the Napa River near the undercrossings classified as “Unique Farmland.” Land adjacent to Phase 3 pipeline along Silverado Trail is classified as “Prime Farmland,” “Unique Farmland,” “Farmland of Local Importance,” and “Other Land” (California Department of Conservation 2011).

The JTP is zoned as Public Facilities. The Phase 1, 2 and 3 pipeline alignments (with the exception of Washington Street and the portions of the Phase 3 pipeline located within Town limits) are located on County land zoned as Agricultural Preserve (Napa County 2011). Maps prepared pursuant to the Williamson Act Program identify land within the Project area to the east of the Town between Highway 29 and the Napa River, and to the west of Silverado Trail, as “Williamson Act – Prime Agricultural Land” (California Department of Conservation 2008).

No forest land or timberland exists at the JTP, or within other areas of the Project (U.S. Forest Service 2009). The Town is urbanized, and most of Napa County’s timberland is located in the Western Mountains, the Eastern Mountains, Livermore Ranch, Pope Valley, and Angwin (Napa County 2009). Coniferous forest is found on the hills adjacent to the Project between the Napa River and Silverado Trail (Watershed Information Center & Conservancy of Napa County n.d.).

REGULATORY SETTING

Important Farmland Series Maps

The California Department of Conservation has modified the U.S. Department of Agriculture Soil Conservation Service maps to show farmland and urban areas in California. Farmlands of the state are classified as:

Prime Farmland

This category of land has the best combination of physical and chemical characteristics to sustain long term agricultural production. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops. Prime Farmland must have been used for irrigated agricultural production some time during the four years prior to the mapping date.

Farmland of Statewide Importance

Although similar to Prime Farmland, this category of land has minor shortcomings, such as greater slopes or less ability to store soil moisture. This land must have been used for the production of irrigated crops at some time during the four years prior to the mapping date.

Unique Farmland

This land has lesser quality soils and is used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Lands must have been cropped sometime during the four years prior to the mapping date.

Farmland of Local Importance

This land is of importance to the local agricultural economy, determined by each county's board of supervisors and local advisory committees. This is land that is not irrigated but is cultivated, or has the potential for cultivation.

Other Land

Other land is land not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land.

Williamson Act Lands

The Williamson Act (Government Code §51200 et seq.) law protects agriculture and open space lands and adjusts imbalanced tax practices. Williamson Act contracts, which are available only for land that has been placed in an Agricultural Preserve, offer tax incentives for agricultural land preservation by ensuring that land will be assessed for its agricultural productivity rather than its highest and best uses. Williamson Act contracts are authorized by State law and entered into by landowners and local governments. Local governments are not mandated to administer the Williamson Act, but those that do have some latitude to tailor the program to suit local goals and objectives.

Forest Resources

Timberland Conversion

Under the California Forest Practice Act of 1973 (Z'berg-Nejedly Forest Practice Act 1973) conversion of timberland occurs when land that has commercial timber species is converted to a

use other than growing of timber. Commercial timber species are defined in the California Forest Practices Rules, adopted pursuant to the Act, on a regional basis. Any timberland conversion of more than 3 acres as defined under the Forest Practice Act requires approval of a Timberland Conversion Permit from the California Division of Forestry and Fire Protection.

Z'berg-Nejedly Forest Practice Act of 1973 California Public Resources Code § 4526

"Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis after consultation with the district committees and others.

California Forest Legacy Program Act of 2007 California Public Resources Code § 12220(d)

The California Forest Legacy Program defines "Forest Land" and is defined as follows: "Forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The five criteria listed above under II. Agricultural and Forest Resources were used to determine the extent of potential impact the Project may have on agricultural and forest resources in the Project area. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

II. a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance – No Impact

Equipment upgrades at the JTP would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses, because the improvements would be located at the JTP and not on status farm lands. The Project components located within Town limits would be located on lands mapped as Urban and Built up Land. No impacts to status farm lands at the JTP or within the Town limits would occur.

The majority of the new pipeline would be located within existing vineyard service roads and along the shoulder of Silverado Trail, in areas mapped as Prime Farmland, Unique Farmland, and Farmland of Local Importance. Because the pipelines are mostly located within existing vineyard service roads and along Silverado Trail, there would be minimal disturbance to mapped farmland during construction and no permanent loss of farmland would occur.

The pipelines would be placed underground, and therefore would not convert status farmland. Additionally, because the Project serves to provide recycled water for agricultural irrigation, the Project would contribute to continued agricultural use. Pipeline operation would not result in the conversion of status farmland to non-agricultural uses and no impact would occur.

II. b & c) Conflict with Existing Zoning or Williamson Act Contract – No Impact

The JTP is zoned as Public Facilities (Town of Yountville 2010). Therefore equipment upgrades and the Phase 3 pipeline alignment at the JTP would not conflict with agricultural or forest land zoning or Williamson Act contracts.

The remaining pipeline alignment is located on County land zoned as Agricultural Preserve (Napa County 2011). Williamson Act Program mapping identifies land within the Project area to the east of the Town between Highway 29 and the Napa River, and to the west of Silverado Trail, as "Williamson Act – Prime Agricultural Land" (California Department of Conservation 2008). The new recycled water pipelines would be buried underground and would not conflict with the agricultural zoning and Williamson Act contracts.

The Project would not impact existing grape vines or otherwise change the existing land uses in the Project area. The Project would provide recycled water for agricultural irrigation, which would contribute to the continued agricultural use of the lands. No impact would occur.

II. d & e) Convert Forest Land or Farmland to Non-forest or Non-agricultural Uses – No Impact

Equipment upgrades at the JTP and the new pipelines would not result in the loss or conversion of forest land because no forest or timberland is located within the Project area. The recycled water pipeline expansion would serve existing recycled water customers and new customers located in geographic proximity to the JTP. The Project would provide the additional storage needed to achieve a water balance and decrease discharges to the Napa River. Therefore, the Project would not result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use due to the expanded distribution of recycled water for irrigation purposes. No impact would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
III. Air Quality				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			✓	
c) Result in a cumulatively considerable net increase any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			✓	
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?			✓	

AFFECTED ENVIRONMENT

Air quality is determined by the type and amount of contaminants emitted to the atmosphere, the size and topography of the air basin, and the air basin's meteorological conditions. The Project is located in the Napa Valley, which is part of the San Francisco Bay Area Air Basin (Air Basin). Air quality with respect to criteria air pollutants within the Air Basin is regulated by the Environmental Protection Agency (EPA) with the National Ambient Air Quality Standards (NAAQ Standards), the Bay Area Air Quality Management District (BAAQMD), and the California Air Resource Board (CARB). Each of these agencies develops rules, regulations, policies, and/or goals to attain the goals or directives imposed through legislation. Although the EPA regulations are not superseded, both state and local regulations may be more stringent.

Climate and Topography

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. 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 (BAAQMD 2011a).

The air pollution potential in the Napa Valley could be high if there were sufficient sources of air contaminants nearby (BAAQMD 2011a). 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. 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 (BAAQMD 2011a).

Existing Ambient Air Quality: Criteria Air Pollutants

The CARB and the EPA currently focus on the following air pollutants as indicators of ambient air quality: ozone, particulate matter (PM), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as “criteria air pollutants.”

If a pollutant concentration is lower than the respective state or federal standard, the area is classified as being in attainment for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. Areas where air quality is a problem for one or more pollutants are classified as maintenance areas. If data is insufficient to determine whether a pollutant is violating the standard, the area is designated an unclassified area.

According to California standards, the Air Basin is currently designated as a nonattainment area for suspended particulate matter (PM_{2.5} and PM₁₀) and ozone (BAAQMD 2011b). For national standards, the Air Basin is currently designated as a marginal nonattainment area for 8-hour ozone and nonattainment for fine particulate matter (PM_{2.5}) (EPA 2011c; CARB 2011). The Air Basin is in attainment (or unclassified) for all other air pollutants with de minimis levels (EPA 2011c; CARB 2011). Similarly, Napa County is in non-attainment for 8-hour ozone precursors and fine particulate matter (PM_{2.5}) and in attainment or unclassified for all other air pollutants; the County is not in an EPA-designated maintenance area for any air pollutants (EPA 2011c). See Table III-1 for a summary of the Air Basin's attainment status.

TABLE III-1**Relevant California and National Ambient Air Quality Standards and Bay Area Attainment Status**

Pollutant	Averaging Time	California ^a		National ^b	
		Standards ^c	Attainment Status ^d	Standards ^{c,e}	Attainment Status ^g
Ozone	1-hour	0.090 ppm	N	—	—
	8-hour	0.070 ppm	N	0.075 ppm	N
Carbon monoxide (CO)	1-hour	20 ppm	A	35 ppm	A
	8-hour	9 ppm		9 ppm	
Nitrogen dioxide (NO ₂)	1-hour	0.180 ppm	A	0.100 ppm ^h	U
	Annual Arithmetic Mean	0.030 ppm	—	0.053 ppm	A
Sulfur dioxide (SO ₂)	1-hour	0.25 ppm	A	0.075 ppm ⁱ	A
	Annual Arithmetic Mean	—	—	0.030 ppm	A
	24-hour	0.04 ppm	A	0.14 ppm	A
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	N	150 µg/m ³	U
	Annual Arithmetic Mean	20 µg/m ³		—	—
Fine Particulate Matter (PM _{2.5})	24-hour	—	—	35 µg/m ³ See Footnote j	N
	Annual Arithmetic Mean	12 µg/m ³	N	15 µg/m ³	A
Lead ^k	30-day average	1.5 µg/m ³	A	—	—
	Calendar quarter	—	—	1.5 µg/m ³	A
	Rolling 3-month average ^l	—	—	0.15 µg/m ³	—
Visibility Reducing Particles	8-hour	See Table Note X	U	No National Standards	
Sulfates	24-hour	25 µg/m ³	A		
Hydrogen Sulfide	1-hour	0.03 ppm	U		
Vinyl Chloride ^k	24-hour	0.01 ppm	—		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more because of particles when the relative humidity is less than 70%	U		

Source: BAAQMD 2011b; EPA 2011c.

Notes:

- a. California standards for ozone, CO (except Lake Tahoe), SO₂ (1- and 24-hour), NO₂, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- b. National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM₁₀ 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal or less than one. The PM_{2.5} 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.
- c. Concentration expressed first in units in which it was promulgated [i.e., parts per million (ppm) or micrograms per cubic meter (µg/m³)]. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- d. Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- i. Attainment (A): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.
- ii. Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area.
- e. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- f. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- g. Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.
- i. Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant.
- ii. Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.
- h. To attain this standard, the 3 year-average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
- i. On June 2, 2010, the EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annually 99th percentile of 1-hour daily maximum concentrations. The secondary SO₂ standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA.
- j. U.S EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ in 2006. EPA issued attainment status designated the Bay Area as nonattainment of the PM_{2.5} standard on October 8, 2009. The effective date of the designation is December 14, 2009 and the BAAQMD has three years to develop a plan, called a State Implementation Plan (SIP), that demonstrates the Bay Area will achieve the revised standard by December 14, 2014. The SIP for the new PM_{2.5} standard must be submitted to the EPA by December 14, 2012.
- k. The ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.
- l. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

REGULATORY SETTING

Federal Conformity Requirements

The Clean Air Act (CAA) Amendments of 1990 requires that all federally funded projects come from a plan or program that conforms to the appropriate State Implementation Plan (SIP). Federal actions are subject to either the Transportation Conformity Rule (40 CFR 51[T]), which applies to federal highway or transit projects, or the General Conformity Rule (40 CFR 51[W]), which applies to all other federal actions.

General Conformity Rule Requirements

The purpose of the General Conformity Rule is to ensure that federal actions conform to applicable SIPs so that they do not interfere with strategies employed to attain the NAAQ Standards. The rule applies to federal actions in designated nonattainment areas for any of the six criteria pollutants and in some areas designated as maintenance areas. The rule applies to all federal actions except:

- Programs specifically included in a transportation plan or program that is found to conform under the federal transportation conformity rule,
- Projects with associated emissions below specified de minimis threshold levels (see Table III-3), and
- Certain other projects that are exempt or presumed to conform.

A general conformity determination would be required if a proposed federal action's total direct and indirect emissions fail to meet the following condition:

- Emissions for each affected pollutant for which the region is classified as a maintenance or nonattainment area for the national standards are below the de minimis levels indicated in Table III-2.

If the condition above is not met, then a general conformity determination must be performed. The determination would demonstrate that total direct and indirect emissions for each affected pollutant for which the region is classified as a maintenance or nonattainment area, under the national standards, would conform with the applicable SIP. However, if the above condition is met, then the requirements for general conformity do not apply, as the proposed action is presumed to conform with the applicable SIP for each affected pollutant. As a result, no further analysis or determination would be required. Table III-2 summarizes the federal de minimis levels for criteria air pollutants in nonattainment and maintenance areas. Bolded text indicates pollutants for which the region is in nonattainment.

TABLE III-2

Federal De Minimis Levels for Criteria Pollutants in Nonattainment & Maintenance Areas

Pollutant	Area Type	Tons/Year
Ozone (NO _x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other ozone nonattainment areas outside an ozone transport region¹	100
	Other ozone nonattainment areas inside an ozone transport region	NO _x - 100
Ozone (NO _x)	Marginal and moderate nonattainment inside an ozone transport region	100
CO	All nonattainment	100
SO ₂	All nonattainment	100
NO ₂	All nonattainment	100
PM ₁₀	Serious nonattainment	70
	Moderate nonattainment	100
PM _{2.5}	All nonattainment - direct emissions	100
	All nonattainment -SO ₂	100
	All nonattainment -NO _x (unless determined not to be significant precursors)	100
	All nonattainment - ammonia (if determined to be significant precursors)	100
Lead (Pb)	All nonattainment	25

Source: EPA 2011a; EPA 2006.

Notes: 1. California is outside an ozone transport region. The Ozone Transport Region is comprised of the states of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Delaware, the northern counties of Virginia, and the District of Columbia

State Air Quality Regulations

In 1992 and 1993, the CARB requested delegation of authority for the implementation and enforcement of specified New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPS) to the following local agencies: Bay Area and South Coast Air Quality Management Districts (AQMDs). The EPA's review of the State of California's laws, rules, and regulations showed them to be adequate for the implementation and enforcement of these federal standards, and EPA granted the delegations as requested.

The CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988, and to achieve and maintain the NAAQ Standards. The CCAA requires that all air districts in the state endeavor to achieve and maintain the California Ambient Air Quality Standards (CAAQ Standards) by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources. The CARB is also primarily responsible for statewide pollution sources and produces a major part of the SIP, although local air districts are still relied upon to provide additional strategies for sources under their jurisdiction. The CARB combines this data and submits the completed SIP to EPA.

Local Air Quality Regulations

The BAAQMD attains and maintains air quality conditions in the Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BAAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA). With respect to applicable air quality plans, the BAAQMD prepared the 2010 Clean Air Plan to address nonattainment of the state 1-hour ozone standard in the Air Basin. The primary goals of the 2010 Clean Air Plan are to protect air quality, public health, and the climate. The 2010 Clean Air Plan includes 55 Control Measures in five categories: stationary and area source, mobile source, transportation control, land use and local impact, and energy and climate.

In 2010, the BAAQMD issued an update to its CEQA Air Quality Guidelines (updated in 2011). The updated CEQA Air Quality Guidelines is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. The CEQA air Quality Guidelines establishes thresholds of significance for criteria air pollutants for construction-related activities and operational-related activities. However, in April 2012 the BAAQMD issued a statement on their website that they were no longer recommending use of the 2011 thresholds but that thresholds in their 1999 CEQA Guidelines could be used. The statement further said that other guidance, such as recommended mitigation measures and the methods for conducting an air quality analysis, could continue to be relied upon. Therefore, the air quality analysis in this document uses both the 1999 thresholds, the 2011 thresholds, and the 2011 recommended methodologies and mitigation measures. The thresholds are provided in Table III-3.

TABLE III-3**BAAQMD CEQA Guidelines (2011 and 1999) – Construction and Operation Thresholds for Criteria Air Pollutants and Precursors**

Criteria Air Pollutant	Construction	Operation	
	Average Daily Emissions (lb/day ¹)	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy ²)
ROG	54 (Basic Control Measures)	54 (80)	10 (15)
NO _x	54 (Basic Control Measures)	54 (80)	10 (15)
PM ₁₀	82 (exhaust) (Basic Control Measures)	82 (80)	15 (15)
PM _{2.5}	54 (exhaust) (Basic Control Measures)	54 (None)	10 (15)
PM ₁₀ /PM _{2.5} (fugitive dust)	Best Management Practices	None	

Notes: 1. lb/day = pounds per day 2. tpy = tons per year

Source: BAAQMD 2011 and (BAAQMD 1999)

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

Criteria used for determining the significance of air quality impacts under CEQA are based on the CEQA guidelines and BAAQMD Air Quality Guidelines (1999 and 2011) identified above in Table III-3. In addition, the federal de minimis thresholds identified above in Table III-2 are used to evaluate potential adverse environmental effects under NEPA.

III. a) Conflict with or Obstruct Applicable Air Quality Plan – No Impact

The BAAQMD Guidelines sets forth established criteria for determining a project's consistency with the Bay Area 2010 Clean Air Plan (BAAQMD 2011). Per the BAAQMD Guidelines, the BAAQMD considers a project consistent with the Clean Air Plan if it: 1) can be concluded that a project supports the primary goals of the Plan (by showing that the project would not result in significant and unavoidable air quality impacts); 2) includes applicable control measures from the Plan, and; 3) does not disrupt or hinder implementation of any Plan control measure.

The primary goals of the 2010 Clean Air Plan are to protect air quality, public health, and the climate. Because the Project would not result in a significant and unavoidable air quality impact (refer to Impacts III. b., c., d., and e. and VII. a. and b. below), the Project would not conflict with any goals of the Plan. The Plan includes 55 Control Measures in five categories: stationary and area source; mobile source; transportation control; land use and local impact; and energy and climate. None of these control measures is applicable to the Project. The Project would not conflict with or obstruct the air quality plan; therefore, there would be no impact.

III. b) Violate Air Quality Standard or Contribute Substantially to Existing or Projected Air Quality Violation – Less than Significant

Project construction would result in the temporary generation of emissions of air pollutants such as ROG, NO_x, CO, PM₁₀, and PM_{2.5}, producing short-term impacts on ambient air quality in the area. Emissions would originate from such activities as construction equipment exhaust, employee vehicle exhaust, dust from clearing the land, exposed soil eroded by wind, and asphalt paving. Construction-related emissions

would vary depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. The air quality impact from construction activities would be temporary and limited to the approximately twenty-four month duration of Project construction (Phase 1 construction is expected to last eight months, from April to November 2013. For the purposes of estimating emissions, it was assumed that construction duration of Phases 2 and 3 would be similar).

The BAAQMD 1999 CEQA Guidelines did not have thresholds of significance for construction emissions but recommended implementation of control measures during construction to reduce impacts to air quality. The BAAQMD 2011 CEQA Guidelines include significance thresholds for maximum daily construction-related air pollutant emissions. The EPA does not have specific de minimis thresholds for criteria air pollutant emissions during construction. However, to provide decision makers with information, the Project construction-related emissions were compared against the federal de minimis levels. Napa County is in marginal nonattainment for 8-hour ozone precursors (NO_x) and in nonattainment for fine particulate matter ($\text{PM}_{2.5}$); therefore only these criteria air pollutants were evaluated against the federal de minimis standards (EPA 2011c).

The construction-related emissions for the Project were estimated using RoadMod Version 6.3-2, using the default equipment list, with an assumed construction period of twenty-four months, commencing in 2013. Appendix B provides detail for the RoadMod inputs and estimates. Table III-4 and Table III-5 present pollutant emissions from construction activities against BAAQMD 2011 and EPA criteria air pollutant emissions thresholds.

TABLE III-4**Maximum Daily Emissions during Construction – BAAQMD Construction Thresholds (1999 and 2011)**

	Pollutant (Lbs/Day)			
	ROG	NO_x	PM_{10} (exhaust)	$\text{PM}_{2.5}$ (exhaust)
Construction of Recycled Water Pipelines	8.1	43.6	2.6	2.3
BAAQMD 2011 Thresholds (BAAQMD 1999)	54 (Basic Control Measures)	54 (Basic Control Measures)	82 (Basic Control Measures)	54 (Basic Control Measures)

TABLE III-5**Maximum Yearly Emissions during Construction – Federal De Minimis Thresholds**

	Pollutant (tons/year) ¹	
	NO_x	Total Direct $\text{PM}_{2.5}$ (exhaust and fugitive dust)
Construction of Recycled Water Pipelines	3.4	0.2
De Minimis Levels for Nonattainment	100	100

Note: 1. RoadMod provides results in tons/construction period. The total NO_x emissions for the construction period is 10.2 tons, and the total Direct $\text{PM}_{2.5}$ emissions is 0.6 ton. A yearly average was determined by dividing the total project emissions by three construction years (i.e. one year per phase).

As shown in Tables III-4 and III-5, Project construction-related maximum daily and yearly emissions would not exceed BAAQMD thresholds of significance for construction-related emissions, or EPA de minimis levels.

Construction activities would also result in the temporary generation of fugitive dust, primarily as a result of land clearing for construction, and grading and excavation for removing soil, trenching, pipeline placement, and backfilling. The BAAQMD recognizes that these are temporary emissions that vary considerably from day-to-day and suggests implementation of effective and feasible measures to control fugitive dust emissions. Instead, the BAAQMD Guidelines suggest that fugitive dust emission measures be implemented for all projects. These suggested measures are included in the Project as Project Measure 1: Basic Air Quality Measures, and the measures are described in the Project Description.

Because construction-related emissions are below the BAAQMD 2011 maximum daily construction-thresholds and the EPA de minimis thresholds for criteria air pollutants for which Napa County is in non-attainment, and because the Project includes the BAAQMD Basic Construction Mitigation Measures, Project construction-related emissions would not violate air quality standards. Construction-related impacts are less than significant.

Project operation would not result in new criteria air pollutant emissions. No new stationary sources of emissions are included in the Project, and no increase in vehicle trips is anticipated. Additionally, the equipment upgrades at the JTP, including the SCADA system, would increase the efficiency of plant operations and therefore reduce overall energy use for the recycled water distribution system. The SCADA improvements would automate the recycled water distribution system, and vehicle trips and energy use required for manual operation of the system would be reduced. No operation-related adverse impact would occur.

III. c) Result in Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Region is Nonattainment – Less than Significant

As described above, the Air Basin is in nonattainment at the State level for the criteria air pollutants PM_{2.5} and PM₁₀ and ozone precursors (ROG and NO_x) and in nonattainment at the federal level for PM_{2.5} and ozone precursors (NO_x). The BAAQMD and EPA thresholds of significance for construction-related activities shown in Tables III-4 and III-5 are calculated to ensure that cumulative impacts for multiple projects in the Air Basin do not create human health impacts. Because Project construction emissions are less than the BAAQMD and EPA thresholds, and there are no operational emissions, the contribution to cumulative impacts would not be considerable. The impact would be less than significant.

III. d) Expose Sensitive Receptors to Substantial Pollutant Concentrations – Less than Significant

Sensitive receptors⁷ are present within approximately 1,000 feet of Project construction activities, the recommended distance for assessing health risks by the BAAQMD. Sensitive receptors within 1,000 feet of Project construction activities include Veterans Memorial Park, a mobile home park and single-family residences to the east of the Phase 1 Washington Street. There are no sensitive receptors along the Phase 2 and Phase 3 pipeline routes.

Project construction would create temporary emissions of toxic air contaminants, primarily as a component of diesel emissions. Due to the variable nature of construction activity, the generation of toxic air contaminant emissions in most cases would be temporary, particularly considering the short amount of time each piece of equipment is typically within a distance that would result in the exposure of sensitive

⁷ The BAAQMD considers sensitive receptors as a place where people live, play, or convalesce (BAAQMD 2011, page 5-8).

receptors to substantial concentrations (concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet [BAAQMD 2011a]). Construction of Phase 1 is scheduled to occur over eight months, and the construction periods for Phases 2 and 3 are anticipated to be similar in duration. The new pipelines would be installed at a rate of approximately 315 linear feet/day (LF/day), with the exception of the Phase 3 pipeline along Silverado Trail, which would be installed at a rate of approximately 235 LF/day. As described above, the Project would not exceed BAAQMD thresholds of significance or EPA de minimis levels for construction- or operation-related activities. In addition, basic control measures, particularly minimization of idling times, would be implemented as part of Project Measure 1, Basic Air Quality Measures, and would reduce diesel exhaust. Health risks from construction of the Project are not anticipated due to the linear nature of the Project and the short duration of the emissions. Impacts from construction equipment emissions are considered less than significant.

Naturally occurring asbestos is usually encountered in areas known as ultramafic rock units. Ultramafic rock units are not known to be present in the Project area (Wanger 2010). No impact would occur relative to naturally occurring asbestos.

Project operation would not result in new criteria air pollutant emissions. Following construction, the JTP would continue to operate as it does today. Project operation would not expose sensitive receptors to substantial pollutant concentrations as the Project would not include any stationary source emissions and would not include the siting of a new sensitive receptor. No operation-related impact would occur.

III. e) Create Objectionable Odors – Less than Significant

During construction, various diesel powered vehicles and equipment could create localized odors. These odors would be temporary and not likely to be noticeable for extended periods of time beyond the construction zone due to atmospheric dissipation. The impact would be less than significant.

Secondary and tertiary treated water are virtually odorless and would not result in new objectionable odors. No impact would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
IV. Biological Resources				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				✓
c) 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?		✓		
d) 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?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

AFFECTED ENVIRONMENT

Biological resources, wetlands, waters of the U.S, and other jurisdictional waters, within the Project area were analyzed as part of special studies undertaken for the Project and completed in September and October 2011 and in March 2012. These studies serve as the basis of findings for this section and are included in Appendix C, Biological Resource Tables, and Appendix D, Draft Wetlands Delineation.

Plant Communities and Associated Wildlife

The dominant vegetation community present within the study area is vineyard. Riverine habitat and associated valley foothill riparian vegetation is also present along the Napa River corridor, and a small section of Hinman Creek. Other vegetation communities present include lacustrine and associated fresh emergent wetland. Descriptions of these plant communities and the habitat they provide for sensitive wildlife species are provided below.

Vineyards

The California Department of Food and Agriculture (2010) estimates that 844,000 acres of California land is planted with grapes (including wine, table, and raisin-type grapes) and Napa Valley is one of the largest grape growing regions in the state. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Vineyards are planted in linear rows with spacing to allow intensive management including the spraying of pesticides or herbicides, to facilitate irrigation, pruning, and fruit harvesting. Between rows of vines, grasses and herbaceous plants may be planted or allowed to grow as a cover crop to control erosion (CDFG 2010). Cover crops usually include annually seeded winter growing grasses and legumes such as cereal rye, barley, annual ryegrass, vetch, and a number of clover species. Vineyards are usually composed of young, mature, or shrub size classes of grapevines and have sparse to open canopy closure.

Vineyards have historically been planted on deep fertile soils which once supported diverse natural habitats (CDFG 2010). Some species of birds and mammals have adapted to vineyard habitats and have become “agricultural pests” which has resulted in intensive efforts to reduce crop losses through fencing, sound guns, exclusion netting, and various other management techniques. Examples of wildlife reported to commonly feed on grapes include numerous bird species, rabbits, hares, gopher, squirrel, and deer. Wildlife observed in the vineyard plant community during the July 2011 survey includes turkey vulture, American kestrel, mourning dove, common raven, American crow, western bluebird, and Botta’s pocket gopher. The monoculture vegetation in the vineyards decreases the likelihood that special-status species would be present. The grapes may provide foraging opportunities for wildlife, however there is little to no nesting and sheltering habitat.

Valley Foothill Riparian

Valley foothill riparian communities are found adjacent to rivers and streams. Riparian vegetation consists of one or more species of deciduous trees, shrubs, and herbs that grow on the banks of most streams, lakes, and springs. Valley foothill riparian vegetation lines the banks of the Napa River in the study area extending about 100 feet from the upper banks of the river upland on each side. Trees present in the riparian corridor include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), willows (*Salix* ssp.), Oregon ash (*Fraxinus latifolia*), and black walnut (*Juglans hindsii*). Shrubs observed in the riparian understory include poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos albus*); toyon (*Heteromeles arbutifolia*), coyote bush (*Baccharis pilularis*), and California blackberry (*Rubus ursinus*). Highly invasive non-native species such as giant reed (*Arundo donax*) and Himalayan blackberry (*Rubus discolor*) are also present.

Riparian vegetation provides wildlife habitat in the form of food, shelter, and breeding sites. Tree canopies shade aquatic habitat and lower water temperatures which is necessary for salmonid spawning and rearing. The valley foothill riparian present along the Napa River provides food, shelter and nesting opportunities for a variety of wildlife. Wildlife species observed during the July 2011 survey included green heron, osprey, Nuttall’s woodpecker, and oak titmouse. Valley foothill riparian habitat in the study area provides an abundance of nesting habitat for birds including special-status species.

Riverine

Riverine habitats are rivers, creeks and streams that occur in association with a variety of terrestrial habitats and are frequently contiguous to lakes and fresh emergent wetland habitats. Waters within the Napa River in the study area are riverine. Riverine habitats provide food, shelter and breeding habitat for aquatic insects, fish, and amphibians. They also provide foraging opportunities for birds that rely on riverine waters for food. Wildlife observed in the riverine habitat within the study area included Canada goose, and mallard. Special-status species that could occur within the riverine habitat within the study area include steelhead, Chinook salmon, California red-legged frog, and foothill yellowlegged frog.

The Napa River basin supports sixteen native fish species, including steelhead, fall-run Chinook salmon, Pacific and river lamprey (*Lampetra tridentata*, *L. ayresi*), hardhead (*Mylopharodon conocephalus*), hitch (*Lavinia exilicauda*), tule perch (*Hysterocarpus traski*), and Sacramento splittail (*Pogonichthys macrolepidotus*).

Lacustrine

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water, permanently flooded reservoirs, intermittent lakes and ponds, freshwater marshes, wetlands, and vernal pools. Most permanent lacustrine systems support fish and amphibians; intermittent types usually do not. There are several lacustrine water features within or in close proximity to the study area including wetlands, man-made ponds, and swales. Many of the vineyard irrigation water storage ponds support emergent freshwater marsh vegetation including willows and cattails, and some contain rushes (*Scirpus ssp.*). Wildlife species observed in the irrigation ponds during the July 2011 surveys include red-eared slider and an unidentified species of frog. The ponds provide habitat for California red-legged frog and western pond turtle.

Fresh Emergent Wetland

Fresh emergent wetland habitats are found in lacustrine environments throughout California, typically in level to gently rolling terrain. They range from shallow depressions to man-made wetlands usually in the form of stock and irrigation ponds. Fresh emergent wetlands sustain enough water or moisture so that plant species requiring perpetually wet conditions to grow emerge. Fresh emergent wetland habitat is present in the irrigation ponds, seasonal wetlands, and some drainages (Valerius 2011). Plant species observed in this habitat included curly dock (*Rumex crispus*), cattails, soft rush (*Juncus effusus*), water cress (*Rorippa nasturtium-aquaticum*), knotweed (*Polygonum sp.*), hyssop loosestrife (*Lythrum hyssopifolium*), and water plantain (*Alisma plantago-aquatica*).

Fresh emergent wetlands provide food, cover, shelter, and water for numerous mammals, reptiles, and amphibians and more than 160 species of birds (Kramer 2011). Wildlife species observed in the fresh emergent wetland habitats during the July 2011 survey included red-eared slider, Canada goose, black phoebe, red-winged blackbird, cliff swallow, American goldfinch and an unidentified species of frog. The vegetation in the fresh emergent wetlands in the study area provide nesting habitat for a variety of birds including special-status species such as saltmarsh common yellowthroat and tricolored blackbird. It also provides cover foraging and shelter for western pond turtle and California red-legged frog.

Special-status Plant Species

A one-time field reconnaissance survey of plant habitat was conducted for the Project as part of the delineation of wetlands and waters of the U.S on July 14, 2011. A second survey of the identified seasonal wetlands and drainages was conducted on February 28 and March 12, 2012 to determine the potential for the presence of plant habitat (Valerius 2012) including the hydrology, soils and plant species associations where the special status plants are typically found. A total of 12 potential special status plant species were considered for the Project area based on a search of the USGS Yountville 7.5 minute

quadrangle. Most of the species are considered to have no potential to occur based on the lack of habitat nor were they observed during the July, February, and March site visits (refer to Appendix C-2, Special-status Plant Species). The following three species were evaluated for their potential to occur in the seasonal wetlands in the Project area:

Small-flowered calycadenia (Calycadenia micrantha)

Small-flowered calycadenia (*Calycadenia micrantha*), a CNPS List 1B.2 species, has a low potential to occur as this species can occur in roadsides and there is one recorded occurrence for this species at 0.3 miles east of Stags Leap about 0.5 miles west of Soda Canyon Road. This species has the potential to occur in the grassland areas along the roadsides and prefers sparsely vegetated areas. Small-flowered calycadenia flowers from June to September. This species was not observed during the field surveys.

Dwarf doweringia (Doweringia pusilla)

Dwarf doweringia (*Doweringia pusilla*), a CNPS List 2 species, has the potential to occur within the seasonal wetland habitats within the Project area. However, this species is typically associated with vernal pools and the seasonal wetland habitats within the Project area do not support typical vernal pool plant species. This species flowers from March to May and would not have been identifiable at the time of the July survey. The seasonal wetland habitats within the Project area are created and disturbed habitats and do not provide habitat for dwarf doweringia.

Sebastopol meadowfoam (Limnanthes vincularis)

Sebastopol meadowfoam (*Limnanthes vincularis*), a federal and state listed endangered plant species, has the potential to occur in the seasonal wetland habitats within the Project area. However, like dwarf doweringia, this species is typically associated with vernal pools and the seasonal wetland habitats within the Project area do not support typical vernal pool plant species. This species flowers from April to May and although the timing of the survey was outside of the flowering season, the leaves and fruits of this species would have been identifiable at the time of the survey and this species was not observed. The seasonal wetland habitats within the Project area are created and disturbed habitats and do not provide habitat for Sebastopol meadowfoam.

Wildlife and Special-status Wildlife Species

The Napa River and surrounding area supports terrestrial and aquatic wildlife. Mammals such as raccoons (*Procyon lotor*), striped skunk (*Mephitis mephitis*), American mink (*Mustela vison*), muskrat (*Ondatra zibethicus*), mule deer (*Odocoileus hemionus*), and coyote (*Canis latrans*) use the riparian corridor for foraging, breeding, refuge, and as a movement corridor between larger habitats (ICF Jones & Stokes 2008). The river channel and adjacent riparian vegetation support a variety of reptiles and amphibians. The riparian corridor and channel provide breeding habitat for a wide variety of birds, including downy woodpecker (*Picoides pubescens*), yellow warbler (*Dendrocica petechia brewseri*), and yellow-breasted chat (*Octeroa virens*), and foraging opportunities for migratory waterfowl. The area provides suitable habitat for California freshwater shrimp (*Syncaris pacifica*), and western pond turtle (*Actinemys marmorata*), California red-legged frog (*Rana draytonii*), and foothill yellow-legged frog (*Rana boylei*).

Special-status wildlife species known to occur or that have potential to occur in or near the study area are summarized below and in Appendix C-1, Special-status Species Table.

California freshwater shrimp (Syncaris pacifica)

The California freshwater shrimp is listed as federal and state endangered. It is the subject of the USFWS Recovery Plan for the California Freshwater Shrimp; however there is no designated critical habitat. This shrimp is endemic to Marin, Sonoma, and Napa counties. They are found in low elevation (less than 115 meters, 380 feet), low gradient (generally less than 1 percent)

perennial freshwater streams or intermittent streams with perennial pools where banks are structurally diverse with undercut banks, exposed roots, overhanging woody debris, or overhanging vegetation (USFWS 2006).

Suitable habitat for the California freshwater shrimp is present in Napa River. There is one CNDDDB record (occurrence 5) for a population found in 1990 in Huichica Creek (a tributary to Napa River) approximately 10 miles south of the study area. No California freshwater shrimp were observed during the 2011 site visit.

Salmonids

Chinook Salmon (*Oncorhynchus tshawytscha*)

Central Valley spring-run chinook salmon are a federally listed threatened species and a state species of special concern. The study area is not within federally declared critical habitat for this species (Calfish 2011). Chinook are the largest salmonid species with adults weighing over 40 pounds. Chinook salmon occur from the Bering Strait area off Alaska south to Southern California. There are 17 Evolutionarily Significant Units (ESU) of Chinook salmon. The ESU is the basic spatial unit used to help describe species diversity within its range and aid in the recovery of a listed species (CRA 2008). Chinook in the Yountville area belong to the Central Valley Spring-Run ESU which includes all naturally spawned populations of Chinook from rivers and streams situated in the inland valley from Redding south to the Carquinez Strait.

Central Valley spring-run Chinook salmon are known to spawn in the Napa River between Oakville Cross Road and Zinfandel Lane Bridge (approximately 3 miles north of the study area) and have been caught elsewhere during yearly monitoring of Napa River salmonids (NCRCD 2010).

Steelhead (*Oncorhynchus mykiss irideus*)

Steelhead in the Napa River are included by the National Marine Fisheries Service (NMFS) in the Central California Coast Evolutionarily Significant Unit (ESU) and are listed as a federal threatened species. The ESU includes all naturally spawned populations of steelhead (and their progeny) from the Russian River south to Aptos Creek in Santa Cruz County, and in the drainages of the San Francisco and San Pablo Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers and their tributaries. The Napa River within the study area is located within designated critical habitat for the Central California Coast Steelhead ESU (Calfish 2011); a draft recovery plan for this species is under development by NMFS.

The Napa River provides important habitat for steelhead. A watershed-wide steelhead study conducted by CDFG in 1969 found large populations of juvenile steelhead in the upper reaches of tributary streams, while lower reaches of tributary streams and isolated sections of Napa River supported small populations of steelhead juveniles (Leidy et. al 2005). Although steelhead numbers have dwindled dramatically over time, the Napa River is still considered by DFG to provide important spawning and nursery habitat and acts as a migration route for adult steelhead returning to spawn in the tributaries. The nearest CNDDDB record (occurrence 7) is for some juveniles found in 2003 in Huichica Creek (a tributary to Napa River) approximately 10 miles south of the study area. DFG documentation indicates that steelhead are found in small unpredictable numbers and locations throughout the Napa River watershed with the exception of areas blocked by impassable barriers (Leidy et. al 2005).

California Red-legged Frog (*Rana draytonii*)

The California red-legged frog (CRLF) is listed as a federal threatened species and is designated as a CDFG species of special concern. The CRLF requires habitat that consists of both aquatic and upland elements. They inhabit permanent water sources such as streams, lakes, marshes, and natural and manmade ponds at elevations up to 4,920 feet. CRLF breed in standing or slow-

moving water. The CRLF is known to disperse from its breeding habitat to forage and seek sheltering habitat. During the dry parts of the year, aestivation habitat includes areas within 1 to 2 miles of a breeding site that stay moist and cool through the summer. CRLF may also aestivate during dry periods in rodent holes or cracks in the soil.

Critical habitat for CRLF was designated in April 2006 by the USFWS, and the USFWS revised the critical habitat in 2010 (USFWS 2010a). One area in Napa County is designated as critical habitat. The Wragg Creek Unit is located in east-central Napa County near the intersection of State Highway 128 and State Highway 121, approximately 9 miles east of the Town of Yountville. The Project area is not located within designated critical habitat (USFWS 2010b). The nearest CNDDDB record (occurrence 739) for adult frogs observed in 2003 in Oak Moss Creek approximately 8.7 miles east of the study area. Suitable habitat for California red-legged frog may be present in vineyard irrigation ponds within the study area. Although no CRLF were specifically identified during the 2011 site visit, a frog was observed leaping into Silverado West pond; a positive identification was not possible.

Foothill yellow-legged frog (*Rana boylei*)

Foothill yellow-legged frogs are a CDFG species of special concern. The frogs inhabit partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. They need at least some cobble-sized substrate for egg laying. Suitable habitat for the foothill yellow-legged frog is present in Napa River. The nearest CNDDDB record (occurrence 119) is for frogs observed in 1956 in Dry Creek, approximately 0.5 miles south of the study area.

Western Pond Turtle (*Emys marmorata*)

Western pond turtles, including both the northwestern and southwestern (ssp. *pallida*) subspecies, are a State Species of Special Concern. Western pond turtles range throughout California, from southern coastal California and the Central Valley, east to the Cascade and Sierra Nevada mountains. Western pond turtles occur in a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. Pond turtles require suitable basking and haul-out sites, such as emergent rocks or floating logs, which they use to regulate their temperature throughout the day. In addition to appropriate aquatic habitat, these turtles require an upland oviposition site near the aquatic habitat, often within 650 feet. Nests are typically dug in grassy, open fields with soils that are high in clay or silt fraction. Nesting usually takes place between April and August.

Western pond turtles spend the winter in an inactive state, on land or in the water, and in other cases might remain active and in the water throughout the year. Western pond turtles have been documented hibernating up to 1,100 feet from a watercourse, immediately adjacent to a watercourse, and underwater in mud.

Suitable habitat for western pond turtle is present in the irrigation ponds associated with the Project. Non-native red-eared slider turtles (*Trachemys scripta elegans*) were observed in a few of the ponds. The nearest CNDDDB record (occurrence 458) is for turtles observed in Skellenger Creek and Conn Creek approximately 3.6 miles north of the study area. There are several records of pond turtles found in irrigation ponds within a 10-mile radius of the study area. Given known recordings, it is assumed the species could be present in the area.

Pallid bat (*Anthrozous pallidus*)

Pallid bats are a CDFG species of special concern. Pallid bats roost in caves, mine tunnels, crevices in rocks, bridges, buildings and hollowed trees. There are two CNDDDB records for pallid bat (occurrences 329 and 422) approximately 4.8 miles north of the study area. About a dozen adults were captured and released during a 1998 study near Lake Hennessey. Roosting sites were observed in the same general area in 2007. Bats can occupy trees year-round and are

susceptible to disturbance during the maternity season and hibernation. Mature trees within the study area could provide maternity roosting sites for the pallid bat.

Birds

The study area contains potential nesting habitat for bird species protected under CDF Codes (§3503, §3503.5, and §3800) and under the federal Migratory Bird Treaty Act (50 CFR 10.13). Only non-native species such as feral pigeon, house sparrow, and European starling are exempt from protection. The CDFG requires that if project construction takes place between January 31 and October 1 of any year, a qualified biologist shall conduct preconstruction nesting surveys within 48 hours of construction for nesting passerines (small songbirds) and raptors.

Two special-status bird species could be present in the study area as summarized below.

White-tailed Kite (Elanus leucurus)

The white-tailed kite is a federal species of special concern, a state fully protected species, and is also protected under the federal Migratory Bird Treaty Act. This white hawk can be observed hovering above open grasslands, agricultural fields, and wetlands foraging for rodents. White-tailed kites take cover and build nests in trees and tall shrubs with dense canopies. Their nests are situated near open foraging areas and are constructed of loosely piled sticks and twigs in the fork near the top of a tree or bush. They breed between February and October and the young fledge in 5 to 6 weeks.

The nearest CNDDDB record (occurrence 15) for the white-tailed kite is for a nest observed in 1988 in Napa River Ecological Reserve approximately one mile north of the study area. The tall trees in the study area provide foraging and nesting habitat for the white-tailed kite.

Tricolored Blackbird (Agelaius tricolor)

The tricolored blackbird is currently considered a State Bird Species of Special Concern (breeding), priority 1 and is also considered a federal species of conservation concern. This blackbird breeds locally in lowland areas of California west of the Cascade-Sierra axis and in valleys at higher elevations in northeastern California. Dairy farms and livestock operations are a preferred foraging habitat because the feedlots supply grains such as cracked corn, sprouting rice, ripening oats, and milk barley. They also forage in agricultural croplands in the fall (Hamilton 2004). Nesting habitat consists of marshes dominated by cattails, bulrushes, blackberries and willows.

The nearest CNDDDB record for this species (occurrence 244) is for a nesting colony observed in 1993 approximately 13 miles south of the study area in a wetland that formed in a borrow pit near the State Highway 29 bridge where it crosses over the Napa River south of Napa.

Sensitive Habitats

Valley Foothill Riparian

Valley and foothill riparian communities are found adjacent to rivers and streams. Riparian vegetation consists of one or more species of deciduous trees, shrubs, and herbs that grow on the banks of most streams, lakes, and springs (Holland and Keil 1995). Valley foothill riparian vegetation lines the banks of the Napa River in the study area extending about 100 feet from the upper banks of the river upland on each side. Trees present in the riparian corridor include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), willows (*Salix* spp.), Oregon ash (*Fraxinus latifolia*), and black walnut (*Juglans hindsii*). Shrubs observed in the riparian understory include poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos albus*); toyon (*Heteromeles arbutifolia*), coyote bush (*Baccharis pilularis*), and California blackberry (*Rubus*

ursinus). Highly invasive non-native species such as giant reed (*Arundo donax*) and Himalayan blackberry (*Rubus discolor*) are also present.

Riparian vegetation provides wildlife habitat in the form of food, shelter, and breeding sites. Tree canopies shade aquatic habitat and lower water temperatures which is necessary for salmonid spawning and rearing. The valley foothill riparian corridor present along the Napa River provides food, shelter and nesting opportunities for a variety of wildlife. Wildlife species observed during the July 2011 survey included green heron, osprey, Nuttall's woodpecker, and oak titmouse. Valley foothill riparian habitat in the study area provides an abundance of nesting habitat for birds including special-status species.

Wetlands and Waters of the U.S.

Waters of the U.S. fall into two categories: wetlands and other waters. Wetlands include marshes, meadows, seep areas, floodplains, basins, and other areas experiencing extended seasonal soil saturation. Seasonally or intermittently inundated features such as seasonal pools, ephemeral streams, and tidal marshes are categorized as wetlands if they have hydric soils and support wetland plant communities. Other waters include water bodies and watercourses such as rivers, streams, lakes, springs, ponds, coastal waters, and estuaries. Seasonally inundated water bodies or watercourses that do not exhibit wetland characteristics are classified as other waters.

A wetlands assessment was performed to identify areas that could be considered potential jurisdictional wetlands and waters of the U.S. as defined by the U.S. Army Corps of Engineers. A total of 1.2 acres of wetlands (seasonal wetlands and freshwater marsh), 0.14 acres of other waters (drainage ditches and Chase Creek), and 0.52 acres of navigable waters (Napa River) were mapped in or near the study area. The total potential jurisdictional area is 1.87 acres.

TABLE IV-1
Summary of Potential Jurisdictional Wetlands

Habitat	Acres
Wetlands	
Seasonal Wetland-1 – roadside ditch along Silverado Trail	0.0142
Seasonal Wetland-2 – roadside ditch along Silverado Trail	0.0278
Seasonal Wetland-3 – Beard Ditch	0.5632
Seasonal Wetland-4 – Hopper Creek	0.0223
Freshwater Marsh-1	0.5858
Total wetlands	1.2133
Other Waters	
Drainage-1 – roadside drainage along Silverado Trail that connects to Chase Creek	0.0047
Drainage-2 – roadside drainage along Silverado Trail that connects to Chase Creek	0.0043
Drainage-3 – roadside drainage along Silverado Trail that connects to Chase Creek	0.0239
Drainage-4 – Hinman Creek	0.0230
Chase Creek	0.0881
Navigable Waters	
Napa River	0.52

TABLE IV-1
Summary of Potential Jurisdictional Wetlands

Habitat	Acres
Total Other Waters and Navigable Waters	0.6640
Total Wetlands ,Other Waters, and Navigable Waters	1.8773

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The six criteria listed above under IV. Biological Resources were used to determine the extent of potential impact the Project may have on biological resources within the Project area. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

IV. a) Impacts to Special-status Species – Less than Significant with Mitigation

Special Status Plant Species

A qualified biologist (Valerius 2011 and 2012) completed a CNDDDB search and field evaluations to determine the potential for the presence of special-status plant species in the Project area. No special status plant species were identified at the Joint Treatment Plant or along pipeline alignments in the Project area. The majority of the pipeline installation would occur within vineyard access roads or in vineyards and these areas are largely disturbed and are dominated by non-native and common ruderal species.

Surveys of seasonal wetlands and drainages in the Project area were conducted on February 28 and March 12, 2012 to determine the potential for the presence of plant habitat (Valerius 2012) including the hydrology, soils and plant species associations where special status plants are typically found. Based upon the survey results, the seasonal wetlands in the Project area were found not to support typical habitat for dwarf dowingia or Sebastopol meadow foam, or any other sensitive plant species.

Special Status Wildlife Species

Special-status wildlife species with the potential to occur within the study area include western pond turtle, California freshwater shrimp, Chinook salmon, steelhead, foothill yellow-legged frog, California red-legged frog, pallid bat, white-tailed kite, and tricolored black bird.

Western Pond Turtle

Suitable habitat for western pond turtle is present in the vineyard irrigation ponds associated with the Project. Non-native red-eared slider turtles (*Trachemys scripta elegans*) were observed in several ponds during the 2011 site visit; however, no western pond turtles were identified. There are several records of pond turtles found in irrigation ponds within a 10-mile radius of the study area. Other than at the irrigation ponds, habitat for the western pond turtle does not occur elsewhere in the Project area. The Project would not include physical alterations to the irrigation ponds; therefore there would be no impacts to western pond turtles or their habitat.

California Freshwater Shrimp, Salmonids, and Foothill Yellow-legged Frog

The Napa River is located in the middle of the Project area; although no construction activities would occur within 625 feet of the River. Suitable habitat for the California freshwater shrimp is present in Napa River, although no California freshwater shrimp were observed during the 2011 site visit. The River also provides habitat for steelhead and Chinook, both federally listed as threatened. The Napa River within the

Project area is located within designated critical habitat for the Central California Coast Steelhead ESU (Calfish 2011). Chinook are known to spawn in the Napa River just north of the Project area. Suitable habitat for the foothill yellow-legged frog, a federal and state species of concern, is present in Napa River; although no foothill yellow-legged frogs were observed during the site visit in 2011. Other than habitat along the Napa River, habitat for these species does not occur elsewhere in the Project area. Although the Napa River is located in the study area construction would occur at least 625 feet from the River and most construction would occur much further from the River. The Project would not include construction activities near the Napa River and it would not result in physical alteration to the Napa River; therefore there would be no impacts to California freshwater shrimp, salmonids, or foothill yellow-legged frogs.

California Red-legged Frog

The Project area is not located within designated critical habitat for the California red-legged frog (USFWS 2010b), and the nearest CNDDDB record (occurrence 739) for adult frogs was an observance in 2003 in Oak Moss Creek approximately 8.7 miles east of the study area. A frog was observed leaping in to the Silverado West Pond and into the Beringer Pond during the 2011 site visit; however, a positive identification of the species was not made during the site visit.

The Joint Treatment Plant does not support California red-legged frog habitat and therefore construction activities at the treatment plant would not impact California red-legged frog or its habitat. The portion of the Napa River within the study area is potentially suitable migratory or dispersal habitat; however no construction activities are planned within 525 feet of the habitat along the River. A single frog was observed at the Silverado West Pond and another was observed at the Beringer Pond during the 2011 field visit. A positive identification of the frogs was not possible during the site visit; however, vineyard irrigation ponds can provide marginally suitable habitat for California red-legged frogs. Construction activities would not impact frogs or potential pond habitat as the Project does not include physical alterations to the irrigation ponds as pipeline connections would be located outside the pond boundaries. Following construction of the Project, the irrigation ponds would be operated as they are today. Recycled water would be added to the ponds and used for drip irrigation on vines in the area. The ponds would be filled with recycled water, groundwater or River water depending upon the availability of recycled water and the vineyard irrigation needs. Water levels in the ponds would vary throughout the year; although the ponds would not drain completely during the year. Project operations would not impact frogs or their habitat if they utilize the irrigation ponds during the year.

The highly modified upland areas along the pipeline alignments provide poor-quality foraging habitat because these areas are routinely disturbed and do not support vegetation in many areas. If California red-legged frogs occur within the pipeline construction area, it would be individuals dispersing away from potential irrigation pond habitat towards the habitat along the Napa River. Although considered unlikely to occur, if a California red-legged frog was present in the construction area during ground disturbing activities then the impact could be significant.

Mitigation Measure BIO-1: Avoid Impacts to California Red-legged Frog

The Town shall implement the following minimization measures to avoid impacts to California red-legged frogs during construction within 50 feet of the agricultural irrigation ponds:

- a. Ground disturbing construction activities shall be limited to the dry season period from April 1 through November 1 to avoid potential red-legged frog dispersal events.
- b. A qualified biologist shall conduct a pre-construction survey immediately preceding any construction activity within 50 feet of the irrigation ponds. The biologist shall remain on-site during ground disturbing construction within 50 feet of a pond.
- c. If a CRLF is encountered during construction, all construction activities in the immediate area shall cease until the animal moves away of its own volition. Construction cannot begin until the CRLF has left the construction area. If CRLF do not leave the site to allow for construction, the Town shall contact USFWS for direction on how to proceed.

- d. Prior to the start of construction, a USFWS-approved biologist shall train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices before the start of construction.

Because dusk and dawn are often the times when CRLF are most actively foraging and dispersing, all construction activities shall cease one-half hour before sunset and shall not begin prior to one-half hour before sunrise.

- e. All vehicle parking shall be restricted to previously determined staging areas or existing roads.
- f. The fueling and maintenance of vehicles and other equipment shall occur at least 20 meters (65 feet) from any riparian habitat or water body.

Mitigation Measure BIO-1 would reduce the impacts to less-than-significant levels by requiring pre-construction surveys near the agricultural irrigation ponds and by stopping construction if a frog enters the construction area. Construction would not begin again until the frog has left the area on its own volition.

Nesting Birds and Roosting Bats

The large trees in the study area contain potential nesting habitat for the special-status white-tailed kite and roosting habitat for the pallid bat. No existing trees would be disturbed during construction; therefore, there would be no impact to the pallid bat. However, because noise from construction-related activity could cause nest abandonment, the potential construction-related impact to white-tailed kite and other passerine birds and raptors is considered significant.

Mitigation Measure BIO-2: Conduct Preconstruction Nesting Surveys for Nesting Passerines and Raptors

If construction is scheduled to start between January 31 and October 1, a qualified biologist shall conduct preconstruction nesting surveys within 48 hours of construction for nesting passerines (small songbirds) and raptors. Trees within a 200-foot radius shall be included in the surveys. If active nests are located in the work area, the biologist, in consultation with CDFG, shall establish an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. A minimum of a 50-foot buffer zone shall be placed around passerine nests and 250-foot buffers shall be placed around raptor nests. If a qualified biologist determines that less of a buffer zone is acceptable, the size of the buffer zone may be reduced upon approval by CDFG.

Implementation of Mitigation Measure BIO-2 would reduce impacts to special-status bird species to a less-than-significant level by requiring pre-construction nesting surveys and establishing protection zones for any identified active nests.

IV. b) Impacts to Riparian or Sensitive Natural Community – No Impact

Improvements at the Joint Treatment Plant would occur within the boundary of the existing plant, which does not include riparian vegetation, and therefore would not impact riparian vegetation. None of the vineyard irrigation ponds are located in valley foothill riparian habitat; therefore no impacts would occur in these areas.

An 8-inch recycled water pipeline would be installed under Chase Creek along Silverado Trail as part of Phase 3. Installation of the pipeline would be accomplished using trenchless construction methods and would not impact riparian vegetation present along the channel upstream or downstream of Silverado Trail. Construction activities would not require tree removal; therefore, there would be no impact to riparian vegetation.

A 6-inch recycled water pipeline would be installed across Hopper Creek along Land Lane as part of Phase 2 as illustrated on Figure 5. A 6-inch recycled water pipeline across Hinman Creek within the

existing JTP access roadway would be installed as part of Phase 3 as shown on Figure 6 at the north east corner of the JTP. The pipeline would be installed at Hopper Creek and Hinman Creek during the summer months and in an area that does not support riparian vegetation. Therefore, no impact to riparian vegetation would occur in these locations.

IV. c) Impacts to Wetlands and Waters – Less than Significant with Mitigation

Potential wetlands and waters in the study area are shown on Map 1 of 2 and 2 of 2 in Appendix D, Wetland and Waters Delineation Report. The wetlands delineation identifies four seasonal wetlands, one freshwater marsh, four drainages (including Hinman Creek and Hopper Creek), Chase Creek, and Napa River in the study area, totaling as much as 1.21 acres of wetlands and as much as 0.66 acres of other waters.

No wetlands or waters were mapped at the Joint Treatment Plant; therefore construction activities at the plant would not impact wetlands or waters. The irrigation ponds were identified as non-jurisdictional wetlands during the wetland delineation. Construction in the ponds would not be necessary to deliver recycled water to the ponds; therefore, no impacts to wetlands or waters would occur at any of the irrigation ponds.

An 8-inch recycled water pipeline would be installed under Chase Creek along Silverado Trail as part of Phase 3. Installation of the pipeline under Chase Creek would be accomplished using trenchless construction methods; thereby avoiding impacts to jurisdictional waters and wetlands in these locations.

Installation of the 8-inch and 6-inch recycled water pipelines would cross vineyard drainage ditches, seasonal wetlands, and other drainages in the Project area using open cut construction methods. An 8-inch recycled water pipeline would be installed adjacent to a seasonal wetland (SW-3) during construction of Phase 1. Construction activities would temporarily impact 0.56 acres of seasonal wetland at this location if the pipeline is located in close proximity to these seasonal wetland. A 6-inch recycled water pipeline would be installed across Hopper Creek (SW-5) along Land Lane using open-trench construction methods during Phase 2 construction. Construction would temporarily impact up to 0.02 acres of seasonal wetland in this location. Pipeline installation during Phase 3 would temporarily impact 0.028 acres of jurisdictional waters (D-2 and D-3), and could temporarily impact 0.014 acres of seasonal wetland (SW-1) and up to 0.087 acres of freshwater marsh habitat (FWM-2) during installation of the pipeline along Silverado Trail.

Impacts to jurisdictional waters, freshwater marsh and seasonal wetlands would be significant and would require mitigation to reduce impacts to less-than-significant levels.

Mitigation Measure BIO-3: Avoid or Restore Jurisdictional Wetlands and Waters Temporarily Affected by Construction

The Town shall implement avoidance and minimization measures, including best management practices (BMPs), to protect jurisdictional wetlands and waters during construction. Materials and fluids generated by construction activities shall be placed at least 25 feet away from wetland areas or drainages until they can be disposed of at a permitted site. All wetlands and waters areas located adjacent to the construction zone that could be affected by construction activities shall be temporarily fenced off and designated as environmentally sensitive areas to prevent accidental intrusion by workers and equipment.

The Project shall be designed to avoid impacts to SW-1, SW-3, and FWM-2 to the extent feasible. The pipeline shall be designed for installation along the vineyard or roadway edge and outside the vineyard irrigation ditch/seasonal wetland.

The following measures shall be implemented where construction impacts to jurisdictional waters and wetlands cannot feasibly be avoided. A wetland and waters restoration plan shall be

prepared prior to construction. The restoration shall include, but not be limited to, the following measures:

- Install pipelines when wetlands and streams are dry.
- Restore original contours and drainage patterns, both into and out of the wetland.
- Spread a cover of straw, rice straw if available, over disturbed soils and work into soil.
- Apply an organically based tackifier on disturbed areas to reduce air and water erosion of soils.
- Plants shall be installed, maintained and replaced such that 70 percent of the design plant density is present on the five-year anniversary of plant installation.

Implementation of Mitigation Measure BIO-3 would reduce impacts to jurisdictional wetlands and waters through avoidance measures where feasible. Where impacts cannot be avoided, Mitigation Measure BIO-3 describes the measures need to restore the function of the wetland and reduce the impacts to less-than-significant levels.

IV. d) Impacts to the Movement of Fish or Wildlife Species – No Impact

Improvements at the Joint Treatment Plant would occur within the boundary of the existing plant where fish and wildlife migration does not occur. Delivery of recycled water to the existing vineyard irrigation ponds would not require construction; and therefore would not impact movement of fish or wildlife.

IV. e) Conflict with Local Policies or Ordinances – No Impact

The Napa County General Plan (Napa County 2008) contains numerous goals, policies, and action items to protect biological resources, including trees, and natural resources. The policies include conserving valued habitats including riparian, aquatic, and wetland habitat; wildlife ecosystems; rare plant habitats; waterways; and significant vegetation and trees. The Project includes requirements to avoid or reduce temporary impacts on trees, sensitive habitats, wildlife, and fisheries resources. The Project would not conflict with any of the policies or ordinances because the Project is designed to avoid impacts to these resources when feasible and to restore areas as needed following construction. Where impacts cannot be avoided, the mitigation measures listed above would reduce impacts and avoid conflicts with local policies and ordinances.

IV. f) Conflict with an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other Approved plan – No Impact

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan exists for the Town or surrounding areas in Napa County. No impact would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
V. Cultural Resources				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?		✓		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		
d) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

This section describes the potential impacts to cultural resources within the Project area, the applicable regulations at the federal, state, and local levels, and the potential impacts to cultural resources from the Town of Yountville Recycled Water Project. Information for the section was adapted from Cultural Resources Survey Reports completed for the Project (ASC 2011a, 2011b, 2011c).

AFFECTED ENVIRONMENT

Background

As the lead federal agency for the Project, Reclamation must comply with Section 106 of the National Historic Preservation Act, and its implementing regulation 36 CFR Part 800. These regulations require a federal agency to identify historic properties within a Project's ("undertaking's") area of potential effect (APE), assess any adverse effects, and resolve the adverse effects, if needed. Historic property is defined as any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior as defined in CFR part 800.16 (I)(2): The term eligible for inclusion in the National Register includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria. In determining the historic nature of a property, the assessment must be conducted in consultation with the State Historic Preservation Officer (SHPO), and any "Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by an undertaking." (36 CFR 800.2).

Under State CEQA Guidelines 15064.5, the CEQA Lead Agency for the Project must identify historical resources that could be affected by the Project, determine the effect of the Project on identified resources, identify feasible measures to avoid or mitigate those impacts to a less-than-significant level, and ensure that adopted measures are fully enforceable. Historical resources are defined as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historical resources or identified as significant in a cultural resources survey shall be presumed to be historical resources. Any archaeological resource that does not qualify as an historical resource, but that meets the definition of "unique

archaeological resource” per CEQA PRC 21083.2(g), receives similar protections to those afforded to historical resources.

Area of Potential Effects

The first step in the historic resource identification process under 36 CFR Part 800 is to determine and document a project’s APE. The APE includes the geographic area or areas within which a project may directly or indirectly cause alterations in the character or use of historic properties or historical resources, if any such properties or resources exist. Determining the APE also contributes to the cultural resources review required under CEQA.

The APE for this Project includes all portions of the proposed Project affected by construction and staging. The APE lies in the Napa Valley, northwest of the city of Napa and just south of the Town, and includes two pipeline segments (see Appendix F, Project APE). The western segment extends from the Joint Treatment Plant under Highway 29 east to the Silverado West Pond and north to the Beringer Pond. The APE in this area also extends to the Herrick Ranch Pond to the south. The eastern segment generally follows the Silverado Trail as shown on in Appendix F.

The APE lies entirely within existing roadways, both paved and unpaved, and along irrigation ditches and ponds (ASC 2011a). The width of the APE is 50 feet (25 feet on each side of the centerline of the pipe) along the pipeline alignments. The vertical depth of the APE is a maximum of six feet for pipelines and 20 feet for the jack-and-bore pits at Highway 29. The improvements at the Joint Treatment Plant and the Recycled Water Pump Station would be located within the APE. A figure showing the APE is provided in Appendix F.

Inventory of Cultural Resources, Historic Properties, and Historical Resources

An archaeological resources inventory for the Project was conducted by Sonoma State University, Anthropological Studies Center in 2011 (ASC 2011a, 2011b, 2011c, 2012). The inventory included the following:

- A record and literature search to identify any known archaeological and historic period resources of the built environment (buildings, structures, and objects) within a 1-mile radius of the APE, and to assess the likelihood of unrecorded cultural resources based upon historic documents and literature and on the environmental setting of nearby resources.
- Contact with the Native American Heritage Commission and Native American groups that may have attached religious and cultural significance to cultural resources within the APE.
- Cultural resource field surveys to relocate known and locate any currently unrecorded archaeological resources and resources of the built environment that may be present within the APE.

Record and Literature Search Methods and Results

The record and literature search consisted of an examination of the following documents:

- Northwest Information Center (NWIC) base maps (United States Geological Survey (USGS) 7.5 minute topographic maps), to identify recorded archaeological sites and surveys within a 1-mile radius of the APE. The NWIC is the official state-repository of archaeological and historical records and reports for a 16-county area that includes Napa County.
- NWIC base maps (USGS 7.5minute topographic maps), to identify recorded historic-period resources of the built environment (buildings, structures, and objects) within a 1-mile radius of the APE.
- The California Department of Parks and Recreation’s California Inventory of Historic Resources (1976) and the Office of Historic Preservation’s Historic Properties Directory (updated 2011), to identify California Historical Landmarks, California Points of Historic

Interest, and California historic properties that are listed in or determined eligible for listing in the NRHP or CRHR.

- Historic-period maps (diseños, General Land Office maps, and 19th and early 20th-century USGS 15 minute and 7.5-minute topographic maps), to identify unrecorded historic-period buildings, structures, objects, and areas of archaeological sensitivity located within or near the APE.
- Handbook of North American Indians, Volume 8: California, to identify ethnographic village locations.

Prehistoric, Ethnographic and Historical Overview

Based upon the record and literature search the following provides a brief overview of the prehistoric, ethnographic, and historic background of the region.

The earliest documented human occupation in California, the Paleoindian period (ca. 10,000-6,000 B.C.), was a time of variable climate, rising sea levels, and other broad-scale environmental change. People lived in small, highly mobile groups, moving through broad geographic areas and leaving relatively meager archaeological remains. With the more stable climate of the long Archaic period (6000 B. C. to A.D. 1000), people gradually became more sedentary, new groups entered the area, and regional distinction developed. Many of the archaeological sites in the north were first used during the Middle and Upper Archaic. Beginning around 500 B.C. mobility was being replaced by a more sedentary adaptation that included a reliance on intensive acorn processing and storage. Numerous small villages and the beginnings of a more complex society and economy characterize the end of the Archaic period. Many of the archaeological sites in the North Bay were used during the Middle and Upper Archaic period.

During the Emergent, or Late, period (ca. A.D. 1000 to the historic period), social complexity developed toward a settlement pattern of large, central villages with associated hamlets and specialized activity sites. Archaeological sites dating to this period are common throughout the North Bay and include sites of ritual significance, such as rock art; small resource-processing areas marked by stone-tool-manufacturing debris and flaked-stone tools or milling equipment (such as mortars and pestles); and moderate- to large-sized occupation sites marked by midden soils, dietary bone and shell, and a diversity of artifacts.

Ethnographic literature indicates that at the time of historic contact, the Project area was within the territory of speakers of Wappo, a language within the Proto-Yukian language family, distantly related to Yuki, Coast Yuki, and Huchnom. The Wappo language was heavily influenced by the languages of neighboring groups, including the Lake and Coast Miwok; the Southern, Eastern, and Southeastern Pomo; and various Wintun dialects. Wappo was spoken in several distinct dialects. These were clustered near Clear Lake, in the Russian River vicinity, and in the northern, central, and southern Napa Valley. The Wappo occupied land southwest of Clear Lake within the vicinity of present-day Middletown, around Cloverdale, and in the Napa Valley. Habitation sites were often situated along drainages, creeks, and streams. Wappo village sites included Kaimus located near present-day Yountville, Anakota-noma near St. Helena, Willikos in the northern Sonoma Valley, Mayakma and Mutistul near Calistoga, and Lok-noma near Middletown. Short-term stays at outlying camps and hamlets were made to augment locally obtained resources. Locally exploited plant resources consisted of acorns; nuts from the yellow-pine, buckeye and Manzanita; and pepperwood berries. Animal resources consisted of saltwater and freshwater creatures, including abalone, clams, mussels, crabs, eels, turtles, and salmon; and ducks, geese, quail, deer and rabbit.

It is estimated that the Wappo populations in the Napa Valley around 1770 numbered 10,000 individuals. That number declined dramatically as Europeans moved into the Northern Bay Area and Napa County specifically.

The Town of Yountville was named after George Calvert Yount, who owned the Caymus Rancho, which lies just north of town. Rancho Caymus was the first grant made in Napa County, and Yount's home was the first white habitation inland between Sonoma and the Columbia River in Oregon. The Town was established by 1860, and by the late 1880s the Southern Pacific Railroad was running its Napa Line through the area. With the coming of the railroad the Town began to grow though it did not incorporate until 1965. The Napa Valley has produced a vibrant winery industry since the late 1880s. The Town has a history of wine production with winery pioneer Charles Krug producing 5,000 barrels of wine for George Culvert Yount in 1860 before planting his own vineyard north of St. Helena. Vineyards remain in the region today, including within the vicinity of the proposed Project APE.

Previously Documented Resources

The record and literature search indicated that no previously recorded cultural resources are located within the APE as presently defined, but that four prehistoric archaeological sites are located within a ½ mile but outside the APE. These sites (CA-NAP-323, -558, -987, and -1004) consisted of three lithic scatters and one small habitation site. The record search indicated that portions of the APE had been previously surveyed in 1976, 1979, and 1997. Based upon these findings, ASC concluded that prehistoric archaeological sites in this portion of Napa County tend to be situated at the base of hills and within the valley, near water sources and historic drainages or streams. It was anticipated that prehistoric archaeological resources ranging from isolated artifacts to lithic debris scatters might be encountered. Although the area has a long history of historic-period use, the APE has been consistently used for agriculture, and thus the potential for the presence of historic archaeological is considered low. Regarding resources of the built environment, a dirt road connecting to a house shown on a 1919 map is partially located within the APE, and a historic levee running along the Napa River is located about 500 feet outside the APE.. The 1951 USGS Yountville 7.5 minute quadrangle does not indicate the presence of buildings or structures in the APE or vicinity.

Native American Contact Methods and Results

A fax was sent to the State of California Native American Heritage Commission (NAHC) to request a review of the Sacred Lands file for information on Native American traditional cultural resources for the proposed APE on June 9, 2011 (Montgomery 2011). A response was received on July 16, 2011 indicating that the commission has no records on file for the APE, but provided a list of six Native American individuals/organizations who may have knowledge of cultural resources within the APE. These individuals were contacted by letter on July 1, 2011 and a follow-up letter with a corrected APE map was sent on July 9, 2011. A response from Nick Tipon from the Federated Indians of Graton Rancheria was received on July 18, 2011. It stated that the APE lies outside of their recognized traditional territory and had no other comments. On August 22, 2011, Vincent Salsedo, a representative of the Mishewal-Wappo Tribe of Alexander Valley contacted ASC and expressed an interest in the Project. Mr. Salsedo inquired about the possibility of subsurface investigations within the proposed APE. He was informed that at that time, only a surface survey to identify sites was being conducted and if he had further concerns to contact the Town of Yountville. Mr. Salsedo was contacted prior to the third archaeological survey within the APE that was conducted in November and December 2011. He expressed an interest in being present during the survey. He accompanied the archaeologists that took place on November 22, 2011 (ASC 2011c). Mr. Salsedo was provided with the written findings of the survey.

Cultural Resources Field Surveys Methods and Results

Four cultural resource field surveys for the Project were conducted by ASC archaeologists in 2011 and 2012. The purpose of the surveys was to identify and record prehistoric and historic-era archaeological resources and resources of the built environment within the APE that could be eligible for the National Register or California register, or could qualify as unique archaeological resources. The field methods consisted of intensive on-foot surveys, with archaeologists walking

transect lines spaced 15 meters apart from each other. Together these four surveys covered the entire APE.

The following describes the locations and results of the four cultural resource surveys of the APE as presently defined⁸. The first survey was conducted on July 19 and 20, 2011, and covered the portion of the APE that extends along Silverado Trail, and the two small segments that extend to Herrick Ranch and to Veteran's Memorial Park (ASC 2011a). The second survey was conducted on September 9 and 19, 2011, and included the approximately 1.5 mile long pipeline alignment that extends from Silverado West storage pond to the JTP (ASC 2011b). The third survey was conducted on November 22 and 29 and December 2, 2011 (ASC 2011c) and included the pipeline alignment along the Silverado Trail. The fourth survey was conducted in March 2012 and included the pipeline alignment that extends from the Beringer Pond to the Silverado West pond (ASC 2012). The surveys identified one archaeological site adjacent to the APE.

The archaeological site, designated as ASC-41-11-02, is described as an obsidian lithic concentration centered on a man-made earthen berm for an irrigation pond. Historic-era artifacts also were observed along the berm, and consisted of white improved earthenware ceramic fragments and colorless and amber glass fragments. The obsidian concentration and historic era artifacts appear to be displaced, created from locally piled up and compacted earth, and not *in situ*.

The survey did not result in the identification of any built environment resources, other than than previously identified Napa Valley Railroad (P-28-001547). The Napa Valley Railroad line extends from the City of Napa to just north of the city limits of St. Helena parallel to the west side of Highway 29. The line is approximately 21 miles in length and the boundary is confined to the railroad right of way, including rails, railroad bed, spur lines, associated bridges, culverts, and two extant stations in Rutherford and St. Helena. The line is considered significant under Criterion A for its association with the development of transportation and agricultural commerce in the Napa Valley from 1864 to 1930. It is also significant for its association with Samuel Brannan, a Napa Valley pioneer who funded construction. The rail line crosses the APE immediately west of Highway 29.

The results of the archaeological surveys conducted by ASC in 2011 and 2012, as well as other surveys conducted within ½-mile of the APE led ASC to conclude that a possibility exists for the presence of subsurface (not visible on the present ground surface) prehistoric archaeological deposits within the APE, given the archaeological sensitivity of the area and the fact that many portions are covered by moderate to substantial deposits of colluvium and alluvium. And although human remains have not been found in the area, the possibility of finding such remains cannot be entirely discounted. The possibility of encountering historic-period archaeological resources is considered low.

⁸ In addition to the pipeline alignments described above, the July 2011 survey (ASC 2011a), the November/December 2011 survey (ASC 2011c), and the March 2012 survey (ASC 2012) also included pipeline alignments that are no longer part of the Project, and are therefore not within the APE as presently defined. The Town abandoned portions of those alignments to avoid impacts to four of the five prehistoric archaeological resources that were identified during the field surveys. These resources consisted of four lithic scatters/concentrations (ASC-41-11-1, ASC-41-11-03, ASC-41-11-04, and previously recorded CA-NAP-558). Under CEQA 151264(b)(3) preservation in place (e.g. avoidance of archaeological sites) is the preferred manner of mitigating impacts to archaeological sites.

REGULATORY SETTING

State Regulations

California Health and Safety Code

California Health and Safety Code §7050.5 regulates the treatment of human remains. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to his or her authority. If the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the State Native American Heritage Commission.

California Public Resources Code

Public Resources Code §5097.9 regulates the State's treatment of Native American religion, establishes the State Native American Heritage Commission, and indicates how Native American human remains shall be handled.

Public Resources Code § 5097.5

California Public Resources Code § 5097.5 prohibits excavation or removal of any "vertebrate paleontological site, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

California Register of Historical Resources

A cultural resource is evaluated under four criteria to determine its historical significance. These criteria require that the resource be significant at the local, state, or national level under one or more of the following:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time pass after a resource's period of significance. Fifty years is used as a general estimate of the time needed to develop the perspective to understand the resource's significance (Title 14, California Code of Regulations §4852 (d)(2)). The California Register also requires that a resource possess integrity, which is defined as "the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." To have integrity, a resource should retain its original location, design, setting, materials, workmanship, feeling, and association. Which of these factors are most important depends on the particular criteria under which the resource is considered eligible for listing. Resources that are significant, meet the age guidelines, and possess integrity will generally be considered eligible for listing on the California Register.

Federal Regulations

National Historic Preservation Act of 1966, as amended (NHPA) and Its Implementing Regulations at 36 CFR Part 800

Congress enacted NHPA to preserve the nation's cultural and historic resources. To accomplish this goal, it established the National Register of Historic Places, which is a list of historic properties overseen by the National Park Service. The National Register does not necessarily protect such properties, although the listing does qualify these properties for certain grants, loans, and tax incentives.

The enforcement tool of NHPA is the "Section 106 review," which requires Federal agencies to evaluate the impacts of Federally-funded or permitted projects on historic properties. Each agency complies with Section 106 by following regulations issued by the Advisory Council on Historic Preservation – 36 CFR 800, Protection of Historic and Cultural Properties – as well as its own internal guidelines.

National Register of Historic Places

A cultural resource is evaluated under four criteria to determine if it is a historic property. The quality of significance in American history, architecture, archeology, 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:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
2. That are associated with the lives of significant persons in or past; or
3. 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
4. That have yielded or may be likely to yield, information important in history or prehistory.

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within specified categories.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

Based on Appendix G of the CEQA Guidelines, the criteria listed above under V Cultural Resources were used to determine the extent of potential impact the Project may have on cultural resources within the Project area. The CEQA criteria have been modified to also assess potential adverse environmental effects under NEPA. The modifications include determining the effect of the Project on historic properties, which consists of prehistoric or historic district, site, building, structure or object included in or eligible for inclusion in the National Register maintained by the U.S. Secretary of the interior. Both the CEQA and NEPA evaluations and the determination of the significant impacts use the established APE as the project boundary and analyze potential Project-related impacts to historic or cultural resources within the APE.

V. a & b) Cause a substantial adverse change in the significance of a historic property or archaeological resource as defined in the NHPA or in §15064.5 – Less than Significant with Mitigation

As described above under Archaeological Field Surveys Methods and Results, one archaeological site (ASC-41-11-02) is adjacent to the Project's APE. The archaeological site is described as an obsidian lithic concentration and scattered historic-era artifacts centered within a recent man-made earthen berm for an irrigation pond. The obsidian concentration and historic era artifacts appear to be displaced, created from locally piled up and compacted earth, and not *in situ*. The APE and the proposed Project construction activities were designed to avoid impacts to ASC-41-11-02; however, if portions of the site fall within the APE then the impacts could be significant.

A historic property (P-28-001547), the Napa Valley Railroad, crosses through the APE immediately west of Highway 29 between the highway and Solano Avenue. The Project in this area would include installation of a pipeline under the rail line and under Highway 29 using trenchless construction methods. The pipeline would be installed between 10 and 20 feet below the railroad and highway. Sending and receiving pits needed to install the pipeline would be placed west of Solano Avenue as shown on Figure 6 in the Project Description. Trenchless installation of the pipeline through this area would avoid impacts to the railroad; therefore, no impacts to the resource would occur.

In addition to the archaeological resource located adjacent to the APE, the archaeological investigation conducted within ½-mile of the APE indicates that areas may be sensitive for buried prehistoric archaeological resources that may be considered significant resources. Project construction would involve excavation activities that could inadvertently uncover and affect existing cultural resources and/or archaeological materials, which could be a significant impact. Federal regulations (36 CFR Part 800.13(b)) include provisions for the discovery of historic properties during the implementation of an undertaking and state that the agency official shall make reasonable efforts of avoid, minimize, or mitigation adverse effects to such properties.

Mitigation Measure CR-1: Avoid Known Resources

To avoid potential impacts to ASC-41-11-02, pipeline trenching shall be rerouted to avoid the resource to leave a 30-foot-buffer between the resource and any ground disturbance or equipment use.

Mitigation Measure CR-2: Prepare a Cultural Resources Monitoring Plan and Implement a Subsurface Archaeological Inventory

Prior to construction, a Cultural Resources Monitoring Plan and a subsurface archaeological inventory shall be completed to identify specific portions of the APE that are likely to be sensitive for containing previously undiscovered buried archaeological deposits. A qualified archaeologist shall prepare the monitoring plan and complete the subsurface archaeological survey.

The study shall utilize a variety of archival sources including ethnographic literature, previous archaeological studies with subsurface components within the project vicinity, and geological history and soil survey data for the surrounding area. If sensitive areas are present within the APE, a work plan shall be prepared that defines methods for determining the presence or absence of archaeological deposits within those sensitive areas. The work plan shall consist of an augering program that shall focus on areas identified as potentially culturally sensitive within both the horizontal and vertical APE. Areas identified as culturally sensitive will be those that a) contain a surface archaeological component, such as ASC-41-11-02; b) are identified as a likely location for prehistoric habitation based on ethnographic descriptions of the area and resources present; or c) are identified as areas containing stable landforms with a likelihood of buried deposits due to underlying geologic and soil formation processes. Frequency and spacing of auger holes shall depend on the type of sensitivity identified.

Mitigation CR-3: Avoid Significant Resources or Implement Data Recovery Program

If buried archaeological resources are found during the subsurface archaeological inventory, the archaeologist shall evaluate the resource(s) to determine its significance. For any resource that is determined to be significant, the archaeologist shall assist Reclamation in assessing the Project's effect on the property. If the effect would be adverse (if the project would alter, directly or indirectly, any of the characteristics of a historic property that qualify it for listing in the National Register) then the Town shall redesign the Project to avoid any adverse effect on the significant resource where feasible. If the adverse effect cannot be avoided, an archaeological data recovery program shall be undertaken. The archaeologist shall prepare a draft data recovery plan that identifies how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The Plan shall identify the scientific/historic research questions applicable to the resource, the data classes the resource is expected to possess, and how the data classes would address the applicable research questions. Data recovery, in general, shall be limited to the portions of the historic property that could be adversely affected by the Project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical.

All the above-described procedures shall be completed in consultation with the SHPO and interested parties, including the scope of the resource identification efforts, the evaluation of significance of identified archaeological resources, the assessment of effects, and the development of the data recovery program.

To satisfy the requirements of CEQA, any identified resource that does not meet National Register eligibility criteria, shall be evaluated to determine if it constitutes either a historical resource or unique archaeological resource pursuant to CEQA Guidelines Section 15064.5. For any identified historical or unique archaeological resource, the archaeologist shall assess whether or not the Project would cause a substantial adverse change in the significance of the resource. If the Project would cause such an adverse change, the Project shall be redesigned to avoid the resource if possible, or a program of data recovery shall be implemented in accordance with standard archaeological methods.

Mitigation Measure CR-4: Treatment of Archaeological Resources Discovered During Construction

If archaeological materials are encountered during construction activities, the piece of equipment that encounters the materials must be stopped, and the find inspected by a qualified archaeologist to evaluate the materials and recommend appropriate treatment. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

In the case of an unanticipated archaeological discovery, if it is determined that the find is unique under NHPA and/or potentially eligible for listing in the National Register, and the site cannot be avoided, the Town shall develop a research design and excavation plan, prepared by an archaeologist, outlining recovery of the resource, analysis, and reporting of the find. Treatment and resolution may include modifying the Project to allow the materials to be left in place, or undertaking data recovery of the materials in accordance with standard archaeological methods; protection and preservation of resources is preferable if feasible. The research design and excavation plan shall be submitted to Reclamation who would notify the SHPO and the Native American representatives. Reclamation shall approve the plan prior to construction being resumed.

Mitigation Measures CR-1, CR-2, CR-3, and CR-4 provide the means to identify, avoid and/or treat potentially significant historical resources and historic properties that could be present within the APE. Therefore, with mitigation, the Project would not cause a substantial adverse change in the significance of a historic resource, and the impact would be less than significant.

V. c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature – Less than Significant with Mitigation

As described in the Napa County General Plan Draft EIR, a search of the University of California Museum of Paleontology collections database identified eight paleontological sites and a total of fifty-two paleontological specimens in Napa County (Napa County 2007). Nearly all of the specimens have been identified in the Sonoma Formation, with a few specimens being identified in the Cierbo, San Pablo, Venabo, and Teham Formations (Napa County 2007).

The underlying geology in the Project area consists of Holocene stream terrace deposits (Qhty), Holocene alluvial fan deposits (Qhf), and Holocene alluvium (Qha) (Wagner 2010). The geographic distribution of terrestrial vertebrate fossils in alluvium is generally spotty and unpredictable, as is the depth at which they are buried. Therefore the potential for encountering such fossils is considered low. Although it is unlikely that the Project would impact potentially significant paleontological resources, it cannot be ruled out altogether. Therefore, the potential impact is considered significant.

Mitigation Measure CR-5: Protection and Preservation of Paleontological Materials

If paleontological resources (e.g., vertebrate bones, teeth, or abundant and well-preserved invertebrates or plants) are encountered during construction, the Town shall halt ground-disturbing work in the vicinity of the find. Work near the find shall not be resumed until a qualified paleontologist has evaluated the materials and offer recommendations for further action, including salvage of any significant paleontological resources.

Implementation of Mitigation Measure CR-5 would reduce impacts to significant paleontological resources to a less-than-significant level by requiring evaluation and treatment, such as salvage of any paleontological resources found during construction. Therefore, with mitigation, the Project would not cause a substantial adverse change in the significance of a paleontological resource, and the impact would be less than significant with mitigation.

V. d) Disturb any human remains, including those interred outside of formal cemeteries – – Less than Significant with Mitigation

The records search and field surveys conducted for the Project indicate the presence of a number of prehistoric sites within ½-mile of the APE. Although human remains have not been found in the area, the possibility of finding such remains cannot be entirely discounted. If human remains are encountered during construction of the Project, the impact would be significant.

Mitigation Measure CR-6: Procedures for Encountering Human Remains

If human remains are discovered, potentially damaging activities shall be halted and no further excavation of the remains or nearby area can occur until the Napa County Coroner has made necessary findings as to the origin of the remains, in accordance with the Health and Safety Code 7050.5. The Town shall immediately notify the County Coroner and a professional archaeologist to determine the nature of the remains. If the Coroner determines that the remains are of Native American origin, the Town shall notify the Native American Heritage Commission within 24 hours of identification, as well as the Reclamation representative. Remains shall be treated in accordance with Public Resources Code §5097.9

Implementation of Mitigation Measure CR-6 would reduce impacts to human remains to a less-than-significant level by providing standard procedures to follow in the event that human remains are encountered during construction. The procedures are in accordance with regulatory requirements for the

treatment of human remains, and adherence to these procedures would reduce the potential impacts to less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
VI. Geology and Soils				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) 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.			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic related ground failure, including liquefaction?		✓		
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) 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?		✓		
d) 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?		✓		
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓

AFFECTED ENVIRONMENT

Geologic Hazards

The underlying geology in Napa County consists of unconsolidated deposits, which generally consist of unstratified, geologically very young materials (clay, silt, sand, rock fragments and gravel, and organic material) lying on bedrock (or older deposits or other sedimentary materials) at or near the Earth's surface. Relative to the underlying rock, they are most often weak, soft, loose, and generally susceptible to erosion. These deposits are of variable thickness and comprise valley alluvium, alluvial fans, levee deposits, estuarine deposits, colluvium, stream channel and terrace deposits, and various types of landslide deposits, and the soil horizons that have developed upon them. Within the County the larger and thicker of these deposits are principally found within the Napa Valley (Napa County 2007).

The underlying geology in the Project area consists of Holocene stream terrace deposits, Holocene alluvial fan deposits, and Holocene alluvium (Wagner 2010). Soil types in the Project area include Cole silt loam, Clear Lake clay, Yolo loam, and Perkins gravelly loam (NRCS 2011).

Faults

The California Geological Survey defines Alquist-Priolo Earthquake Fault Zones as regulatory zones that encompass surface traces of active faults that have a potential for future surface fault rupture. Although there are three Alquist-Priolo Earthquake Fault Zones in Napa County, none of the fault zones are located within the Project area.

Other known earthquake faults (non Alquist-Priolo) in the Project area are shown on Figure SAF-1 of the Napa County General Plan, Figure IV.2 of the Yountville General Plan, and USGS Seismic Hazard Mapping (Napa County 2008, Town of Yountville 1994, USGS 2011). Figure SAF-1 of the Napa County General Plan shows two earthquake faults in the Project area; one on the east side of Highway 29 extending toward Land Lane, and another near the western limits of the Town (Napa County 2008). The fault near the western limits of the Town does not cross proposed Project components.

Figure IV.2 of the Yountville General Plan shows fault displacement in the area of the proposed recycled water pipeline near Highway 29 and across the Tier 1 service area. The fault displacement shown is based on a 1973 USGS field studies map (Town of Yountville 1994). USGS Seismic Hazard Mapping indicates that this fault is less than 130,000 years old and is associated with the West Napa Fault, Browns Valley section (USGS 2011). The Napa County General Plan Environmental Impact Report (EIR) describes the West Napa Fault, Browns Valley section as delineated by a zone of north-northwestern-striking late Pleistocene faults that generally lack geomorphic evidence of Holocene displacement (Napa County 2007).

Seismic Ground Shaking

The Project site is located within an area subject to seismic shaking. The Modified Mercalli Intensity Scale is used in the United States to evaluate earthquake movements. Shaking intensity maps prepared by the Association of Bay Area Governments (ABAG) indicate the Project area will experience moderate to strong levels of ground shaking (Modified Mercalli Intensity VI and VII) during major earthquakes (ABAG 2010).

Liquefaction Potential

Liquefaction leads to a sudden loss of soil cohesion and soil collapse, magnifying the effects of ground shaking and increasing the potential for structural damage. The underlying geology in the Project area consists of Holocene stream terrace deposits (Q_{ty}), Holocene alluvial fan deposits (Q_{hf}), and Holocene alluvium (Q_{ha}) (Wagner 2010). The Project area is not located within the California Seismic Hazard Zone for liquefaction (California Geological Survey 2007). The Napa River channel deposits and adjacent alluvial soils to the west of the river have a high to very high liquefaction potential (USGS 2006). The remainder of the Project area has a moderate liquefaction potential (USGS 2006).

Landslides

Mapping of rainfall-induced landslides in the Project area shows one landslide area in the hills located between Napa River and Silverado Trail (USGS 1997). Landslide mapping in the Napa County Basis of Design Report also shows landslides in this area (Napa County 2005). The remainder of the Project area is mapped as flatland with no threat of landslides (USGS 1997).

Soils

Mapping provided in the Napa County Soil Survey indicates several different soil types within the Project area, including Cole silt loam, Clear Lake clay, Yolo loam, and Perkins gravelly loam

(NRCS 2011). These soils are potentially expansive. Expansive soils can cause structural damage to infrastructure as they undergo alternating cycles of wetting (swelling) and drying (shrinking).

REGULATORY SETTING

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. The Act requires the establishment of earthquake fault zones (formerly known as special studies zones) along known active faults in California. Strict regulations on development within these zones are enforced to reduce the potential for damage due to fault displacement.

California Uniform Building Code

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations (CCR), Title 24). The California Building Code (CBC) is based on the Uniform Building Code (UBC), which is used widely throughout the U.S. and has been modified for California conditions with numerous more detailed and/or more stringent requirements. The California Building Standards Commission (BSC) is responsible for coordinating, managing, adopting, and approving building codes in California. As of November 7, 2005, the BSC indicated its intent to release the 2007 Triennial Building Standards Code. This publication will update all the subsequent codes under CCR Title 24 and will include new codes, including the International Building Code, the International Fire Code, and Appendix Chapter A1 of the International Existing Building Code. These codes will replace the adopted Uniform Building Code, Uniform Fire Code and Appendix Chapter 1 of the Uniform Code for Building Conservation (BSC n.d.).

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The five criteria listed above under VI. Geology and Soils were used to determine the extent of potential geology and soil impacts of the Project. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

Under CEQA, potential impacts to paleontological resources are evaluated as cultural resources impacts. Therefore, potential impacts of the Project on paleontological resources are presented in Section IV, Cultural Resources. Under NEPA, effects on paleontological resources are evaluated as Geology impacts. Therefore the evaluation of potential impacts to paleontological resources presented in Section IV is summarized below.

VI. a.i) Fault Rupture – Less than Significant

There are no known active or potentially active faults located in the Project area. The risk of surface rupture at the site is considered low, and the potential for impacts related to surface fault rupture is less than significant.

VI. a.ii) Ground Shaking – Less than Significant

Ground shaking is the most widespread effect of earthquakes and poses a greater seismic threat than local ground rupture. Depending on the level of ground shaking, an earthquake could damage pipelines, valves, and control facilities, resulting in a disruption of water service and/or endangering the health and welfare of nearby roads, buildings and individuals. Such damage could result in short-term, temporary

service interruptions for inspections and repairs, and longer-term interruption for major repairs could also be required.

Per ABAG hazard maps, moderate to strong ground shaking could be expected during an earthquake in the Project area (ABAG 2010). However, although moderate to strong ground shaking could be experienced anywhere in the Project area, the Project would be designed to meet current seismic standards in conformance with applicable building codes, agency seismic design standards, and engineering standards of practice. With implementation of these design measures, the pipeline is expected to withstand seismic damage due to the anticipated ground shaking. With compliance with the standards, impacts due to ground shaking would be less than significant.

VI. a.iii) Seismic Related Ground Failure, Including Liquefaction – Less than Significant with Mitigation

During an earthquake, the presence of liquefiable soils could damage the recycled water pipeline in areas of moderate liquefaction potential near Hinman Creek and other areas of moderate liquefaction potential along the pipeline alignment. The impact from liquefiable soils is considered significant.

Mitigation Measure GEO-1: Geotechnical Study

A California registered Geotechnical Engineer shall conduct a design-level geotechnical study for the Project. Borings shall be advanced in select areas of the pipeline route to evaluate areas susceptible to liquefaction and expansiveness and recommendations to repair, stabilize, or avoid such soils shall be provided. Measures may include, but would not be limited to, removal of soils prone to seismically-induced liquefaction or shrinking and swelling, soil stabilization such as lime treatment, use of restrained joint pipes, and other measures. The recommendations made in the geotechnical study shall be incorporated into the final plans and specifications and implemented during construction.

Implementation of Mitigation Measure GEO-1 would reduce the impact from liquefiable soils to less than significant by requiring a geotechnical investigation to evaluate and mitigate unstable soils and requiring implementation of geotechnical recommendations.

VI. a.iv) Landslides – No Impact

Mapping of landslides in and near the Project area show one landslide in the hills located between Napa River and Silverado Trail; however, no pipelines would be installed near the landslide area. Therefore, there would be no impact from landslides.

VI. b) Loss of Top Soil – Less than Significant

Pipeline installation would require open cut trenching that would temporarily disturb vineyard access roads. The pipelines placed within vineyard access roads would not disturb topsoil. Following installation, the roads and previously disturbed areas would be repaired generally to pre-construction conditions. The impact to top soil is considered less than significant. An evaluation of soil erosion is provided in Section IX, Hydrology and Water Quality.

VI. c) Unstable Geologic Units – Less than Significant with Mitigation

The underlying geology in the Project area consists of Holocene stream terrace deposits, alluvial fan deposits, and alluvium (Wagner 2010). Napa River channel deposits and adjacent alluvial soils to the west of the river have a high to very high liquefaction potential; however, pipelines would not be installed in these high to very high liquefaction potential areas. The pipeline would be installed in areas of moderate liquefaction potential and during an earthquake the presence of liquefied soils could damage recycled water pipelines. The impact from liquefiable soils is considered significant.

As summarized under Impact VI.a.iv) above, the Project would not be located across unstable slopes or be at risk from landslides.

The new recycled water pipelines would be located underground and would not exert new permanent loads on the ground surface that would cause settlement or be affected by long-term subsidence; therefore there would be no impact.

Mitigation Measure GEO-1: Geotechnical Study

Implementation of Mitigation Measure GEO-1, presented above under VI.a.iii, would reduce the impact from liquefiable soils to less than significant by requiring a geotechnical investigation to evaluate and mitigate unstable soils, and requiring implementation of geotechnical recommendations.

VI. d) Expansive Soils – Less than Significant with Mitigation

Based on the Plasticity Index of the Project area soils reported in the Napa County Soil Survey, the potential for soil expansion ranges from medium to high, with the highest potential associated with Clear Lake clay soils along a portion of the Phase 2 pipelines within Land Lane. The impact of potential expansive soils on the proposed pipelines is considered significant. There would be no impact from expansive soils at the JTP as the equipment upgrades would not require ground disturbance.

Mitigation Measure GEO-1: Geotechnical Study

Implementation of Mitigation Measure GEO-1, presented above under VI.a.iii, would reduce the impact from expansive soils to less than significant by requiring a geotechnical investigation to evaluate and mitigate unstable soils and requiring implementation of geotechnical recommendations.

VI. e) Septic Tanks – No Impact

No septic tanks or alternative wastewater disposal systems are proposed. No impact would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
VII. Greenhouse Gas Emissions				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

AFFECTED ENVIRONMENT

The BAAQMD is the regional air quality agency for the San Francisco Bay Area Air Basin which includes Napa County. The information in this section is derived from, and refined as needed to reflect specific conditions in the Project area, from Appendix C of the BAAQMD *California Environmental Quality Act Air Quality Guidelines* (BAAQMD 2011a).

Greenhouse Gases and Global Climate Change

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of greenhouse gases (GHGs) that contribute to global warming or global climate change contribute toward a broader, global impact. Global warming is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs contributing to global warming are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated compounds. The sources of these principal GHGs of concern are given in Table VII-1 below. These gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but they prevent heat from escaping back into space. Among the potential implications of global warming are rising sea levels, and adverse impacts to public health, water supply, water quality, agriculture, forestry, and habitats. In addition, global warming may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality. Like most criteria and toxic air pollutants, much of the GHG production comes from motor vehicles. GHG emissions can be reduced to some degree by improved coordination of land use and transportation planning on the city, county, and subregional level, and other measures to reduce automobile use. Energy conservation measures also can contribute to reductions in GHG emissions.

TABLE VII-1
Examples of Greenhouse Gases

Gas	Sources
Carbon Dioxide (CO ₂)	Fossil fuel combustion in stationary and point sources; emission sources includes burning of oil, coal, gas.
Methane (CH ₄)	Incomplete combustion in forest fires, landfills, and leaks in natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, and certain industrial processes.

TABLE VII-1
Examples of Greenhouse Gases

Gas	Sources
Nitrous Oxide (N ₂ O)	Fossil fuel combustion in stationary and point sources; other emission sources include agricultural soil management, animal manure management, sewage treatment, adipic acid production, and nitric acid production.
Chlorofluorocarbon (CFC), and Hydro-chlorofluorocarbon (HCFC)	Agents used in production of foam insulation; other sources include air conditioners, refrigerators, and solvents in cleaners.
Sulfur hexafluoride (SF ₆)	Electric insulation in high voltage equipment that transmits and distributes electricity, including circuit breakers, gas-insulated substations, and other switchgear used in the transmission system to manage the high voltages carried between generating stations and customer load centers.
Perfluorocarbons (PFC's)	Primary aluminum production and semiconductor manufacturing.

California Greenhouse Gas Emissions Inventory

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Emissions of CO₂ are byproducts of fossil fuel combustion. CH₄, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) is largely associated with agricultural practices and landfills. N₂O also is largely attributable to agricultural practices and soil management. CO₂ sinks, or reservoirs, include vegetation and the ocean, which absorb CO₂ through sequestration and dissolution, respectively, two of the most common processes of CO₂ sequestration.

California produced 474 million gross metric tons (MMT) of CO₂ equivalent (CO₂e) averaged over the period from 2002-2004. CO₂e is 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 (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH₄ has the same contribution to the greenhouse effect as approximately 23 tons of CO₂. Therefore, CH₄ is a much more potent GHG than CO₂. Expressing emissions in CO₂e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2002-2004, accounting for 38 percent of total GHG emissions in the state. This sector was followed by the electric power sector (including both in-state and out-of-state sources) (18 percent) and the industrial sector (21 percent).

Local Greenhouse Gas Emissions

Total GHG emissions in 2005 for the Town were 28,305 metric tons of carbon dioxide equivalents (9.33 per capita emissions) (NCTPA 2009). Total 2005 GHG emissions for unincorporated Napa County were 550,986 metric tons of carbon dioxide equivalents (19.27 per capita emissions)¹⁰ (NCTPA 2009).

REGULATORY SETTING

Federal Greenhouse Gas Regulations

In response to the mounting issue of climate change, the EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions. However, the EPA has not set GHG emissions thresholds, other than permitting thresholds for major sources of emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the U.S. In general, this national reporting requirement will provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO₂ per year. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act

On April 23, 2009, EPA published their Proposed Endangerment and Cause or Contribute Findings for GHGs under the CAA (Endangerment Finding) in the Federal Register. The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of EPA) should regulate and develop standards for “emission[s] of air pollution from any class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” The proposed rule addresses Section 202(a) in two distinct findings. The first finding addresses whether or not the concentrations of the six key GHGs (i.e., those mentioned in Table VII-1) in the atmosphere threaten the public health and welfare of current and future generations. The second finding addresses whether or not the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and therefore the threat of climate change.

State Greenhouse Gas Regulations

Assembly Bill 1493 (2002)

In 2002, the governor signed Assembly Bill (AB) 1493. AB 1493 requires that CARB develop and adopt, by January 1, 2005, regulations that achieve “the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state.”

¹⁰ The relatively high per capita emissions result for unincorporated Napa County is a result of the inventory methodology attributing regional transportation emissions to where they occur, subsequently affecting the unincorporated area the most, as the majority of road miles in Napa are in the unincorporated area (NCTPA 2009).

To meet the requirements of AB 1493, in 2004 CARB proposed amendments to the California Code of Regulations (CCR) adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments were made to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961). Adoption of Section 1961.1 (13 CCR 1961.1) requires automobile manufacturers to meet fleet-average GHG emissions limits for all vehicles beginning with the 2009 model year.

Beginning in December 2004, the legislation was challenged by a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers. The parties involved entered a May 19, 2009 agreement to resolve issues. On June 30, 2009 the EPA resolved the challenge by granting California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sports utility vehicles.

Assembly Bill 32 (2006), California Global Warming Solutions Act

In September 2006, the governor signed AB 32 (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, which enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 requires the reduction of statewide GHG emissions to 1990 levels by 2020. This equates to an approximately 15 percent reduction compared to existing (2006) statewide GHG emission levels or a 30 percent reduction from projected 2020 “business as usual” emission levels.

AB 32 Climate Change Scoping Plan

In December 2008, CARB adopted its *Climate Change Scoping Plan*, which contains the main strategies California will implement to achieve reduction of approximately 169 MMT of CO₂e, or approximately 30 percent from the state's projected 2020 emission level of 596 MMT of CO₂e under a business-as-usual scenario. The *Scoping Plan* also includes CARB-recommended GHG reductions 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 CO₂e);
- The Low-Carbon Fuel Standard (estimated reductions of 15.0 MMT CO₂e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (estimated reductions of 26.3 MMT CO₂e); and
- A renewable portfolio standard for electricity production (estimated reductions of 21.3 MMT CO₂e).

CARB has not yet determined what amount of GHG reductions it recommends from local government operations.

Senate Bills 1078 and 107 and Executive Order S-14-08

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which seeks a Renewable Energy Standard of 33 percent renewable power by 2020.

Executive Order S-1-07

Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which proclaimed the transportation sector as the main source of GHG emissions in California. The executive order proclaims the transportation sector accounts for over 40 percent of statewide GHG emissions.

The executive order also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020.

Local Greenhouse Gas Regulations

Bay Area Air Quality Management District Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

In 2010 (and revised in 2011), the BAAQMD issued an update to its 1999 CEQA Guidelines. This is an advisory document that provides lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. The Guidelines contain the following applicable components:

- Specific procedures and modeling protocols for quantifying and analyzing GHG impacts;
- Methods available to mitigate GHG impacts; and
- Information for use in GHG assessments and environmental documents.

The BAAQMD Guidelines also include screening criteria and thresholds for determining whether a project may have a significant adverse GHG impact. As noted in the Air Quality section, the GHG operational thresholds are no longer recommended for use by the BAAQMD. However, they are provided here for reference as there was no previous standard for GHG in the 1999 BAAQMD Guidelines. The thresholds for projects are:

- Compliance with a Qualified GHG Reduction Strategy; or
- 1,100 metric tons (MT) of CO₂ equivalent (CO₂e) per year or 4.6 MT CO₂e per service population (residents plus employees) per year for projects other than stationary sources; and
- 10,000 MT of CO₂e per year for stationary sources.

The BAAQMD has not adopted a threshold for construction-related GHG emissions, but it does suggest determining whether construction GHG emissions would impede meeting AB 32 GHG reduction goals.

Draft Napa Countywide Community Climate Action Framework (December 2009)

The Draft Napa Countywide Community Climate Action Framework (Framework) provides 53 countywide actions to achieve the target of reducing emissions by 30 percent by 2020. The countywide actions fall into six major goals:

- Expand transportation and mobility options;
- Improve buildings and energy efficiencies;
- Reduce consumption and solid waste;
- Conserve agriculture, natural resources and urban forests;
- Increase community engagement; and
- Improve local government operations.

The majority of action items included in the Framework is not applicable to the Project. However, ACTION AN2.2: Develop and enhance recycled water service and infrastructure to serve all areas of Napa County, is applicable.

Napa County Revised Climate Action Plan (October 2011 – not yet adopted)

Napa County has prepared a Revised Climate Action Plan (CAP) (2011) for unincorporated areas of the County. However, the CAP will not become effective until it is adopted by the Board of Supervisors¹¹. The CAP provides a baseline inventory of GHG emissions from all sources in unincorporated Napa County and strategies for reducing those emissions to 1990 levels by 2020 consistent with AB 32. In addition to reducing Napa County's GHG emissions consistent with State policy, the revised plan is intended to accomplish the following: reduce uncertainties and risks for individual projects being reviewed pursuant to CEQA; give project applicants the information and the flexibility they need to meet plan requirements by selecting emission reduction strategies that are consistent with their objectives and lower in cost than other possible strategies; and lay the foundation for a local offset program so that any resulting habitat restoration, land conservation, and energy efficiencies would accrue to Napa County rather than elsewhere. The CAP includes 29 GHG reduction measures (in the areas of energy efficiency, water, waste, renewable energy, and transportation) as well as a GHG reduction measure to be applied at the project level for new discretionary development and vineyard conversions.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The two criteria listed above under VII. Greenhouse Gas Emissions were used to determine the extent of potential impact the Project may have on greenhouse gas emissions in the Air Basin. While they are CEQA criteria, they are also used in this document to assess potential adverse effects under NEPA.

VII. a) Generation of Greenhouse Gas Emissions – Less than Significant

Construction activities that would result in GHG emissions include exhaust emissions from haul trucks, worker commute vehicles, and off-road heavy duty equipment. GHG emissions were estimated using RoadMod Version 6.3-2, as recommended by the BAAQMD¹². Project inputs and assumptions used to calculate GHG emissions are provided in Appendix B. The total Project construction-period CO₂ emissions for all three phases are conservatively estimated to be 1,124 metric tons (MT) of CO₂. Phase 1 construction would occur in 2013 for a duration of eight months, and Phase 2 and 3 construction is not yet scheduled, but are assumed to require the same construction duration (eight months each). The RoadMod emissions calculator assumes that construction would occur over the entire eight month period; given the rate of pipeline construction, this is a conservative estimate. Therefore, assuming one phase is constructed per calendar year, an average of 375 MT of CO₂ per year would be emitted during construction.

The BAAQMD and the EPA have not adopted a threshold for construction-related GHG emissions. However, the BAAQMD does suggest determining if construction GHG emissions would impede meeting AB 32 GHG reduction goals. The BAAQMD Guidelines includes an operational threshold for GHG of 1,100 MT per year (although as of April 2012 it is not recommended for use as noted in further detail in

¹¹ At a January 18, 2012 public hearing, the Napa County Planning Commission decided whether to forward the revised draft plan to the Board of Supervisors for adoption.

¹² BAAQMD Guidelines list road or levee construction, pipeline installation, and transmission lines as examples of linear projects.

the Air Quality section); the EPA does not have an operational threshold for projects. Given the Project's construction-related GHG emissions are below the BAAQMD operational threshold of significance and construction would be temporary, GHG emissions during construction of the Project would not be a considerable contribution to the cumulative GHG impact (see Appendix B which provides detail for RoadMod inputs and estimates). Impacts would be less than significant.

Operationally, the energy demand and GHG emissions for the recycled water distribution system would be the same or less than the energy used before implementation of the Project. The SCADA system improvements at the Joint Treatment Plant would increase existing system and pumping efficiency, thereby reducing energy use. No other permanent sources of energy use, and therefore GHG emissions, are included as part of the Project. No operational impact from GHG generation would occur.

VII. b) Conflict with an Applicable Plan, Policy, or Regulation – No Impact

The Draft Napa Countywide Community Climate Action Framework provides 53 countywide actions to achieve the target of reducing emissions by 30 percent by 2020. One action item, AN2.2: Develop and enhance recycled water service and infrastructure to serve all areas of Napa County, is applicable to the Project. The Project would be consistent with AN2.2 because it enhances the County's recycled water service and infrastructure.

The Town of Yountville General Plan was adopted in 1996 and does not include policies related to GHG emissions. However, the following policy is relevant to the Project:

A.9.a, Objective 1: Protect and improve air quality.

As discussed in Section III, Air Quality, the Project is consistent with BAAQMD and EPA air pollution standards. The Project is therefore consistent with Policy A.9.a, Objective 1, because the Project complies with BAAQMD and EPA air pollution standards and the BAAQMD basic construction mitigation measures, which are designed to protect air quality.

The following Napa County General Plan policies are also relevant to the Project:

Policy CON-75:	The County shall work to implement all applicable local, state and federal air pollution standards, including those related to reductions in GHG emissions.
Policy CON-85:	The County shall utilize construction emission control measures required by CARB or BAAQMD that are appropriate for the specifics of the project (e.g., length of time of construction and distance from sensitive receptors). These measures shall be made conditions of approval and/or adopted as mitigation to ensure implementation.

As discussed in Section III, Air Quality, the Project is consistent with BAAQMD and EPA air pollution standards. The Project also includes Project Measure 1, Basic Air Quality Measures, which are the construction emission control measures recommended by BAAQMD for all projects. Therefore, the Project is consistent with applicable plans, policies and regulations. No impact would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
VIII. Hazards and Hazardous Materials				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) 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?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼- mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			✓	
e) 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?				✓
f) 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?				✓
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
h) 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?				✓

AFFECTED ENVIRONMENT

Hazardous Waste Sites

The Hazardous Waste and Substances Sites List (Cortese List) is a planning document used to comply with the CEQA requirements for providing information about the location of hazardous materials release sites. A search of the Cortese List (EDR 2011) was completed to identify any known hazardous release sites located on or adjacent to the Project. The records search revealed the presence of five sites within

1/8-mile of the proposed pipeline alignments that are included on the Cortese List. The five Cortese list sites are described in Table VIII-1. (Facilities that are permitted to use or store hazardous materials but have not had a documented release are not included in the table.)

TABLE VIII-1
Sites Listed on Cortese List

Site	Address	Approximate Distance from Pipeline Alignment ¹	Regulatory List	Environmental Case Summary
Foote Property	6110 Silverado Trail	835 feet east of Phase 3 Silverado Trail pipeline stub out.	LUST ²	This facility had a leaking diesel tank reported in November 1991. The case was closed on February 25, 1992 indicating that cleanup has been completed and residual contamination, if any, is low.
Palm Vineyard	6200 Washington St	750 feet north of Phase 1 Washington St. pipeline alignment.	LUST	This facility had a leaking diesel tank reported in February 1998. The case was closed on June 18, 1999, indicating that cleanup has been completed and residual contamination, if any, is low.
Veterans Home of California – Yountville	100 California Drive	910 feet north of Phase 3 pipeline segment extending from the RWPS.	LUST	LUST cleanup site. Case closed. No further detail is available for this case.
Rinehart Oil Tanker Spill	Highway 29	615 feet north of Phase 1 Washington St. pipeline alignment	Other Cleanup Site.	A oil tanker spill occurred in July 1998. 1,900 cubic yards of soil was excavated and disposed. The case was closed and a No Further Action Letter was issued on 1/27/2003, indicating that cleanup has been completed and residual contamination, if any, is low.
Private Residence	No address (mapped at California Drive and Solano Avenue on Geotracker website).	885 feet northwest of Phase 1 Washington St. pipeline alignment.	LUST	This facility had a leaking diesel tank. 200 gallons of contaminated water was removed from the tank pit on March 28, 1998. The case was closed on March 21, 2003, indicating that cleanup has been completed and residual contamination, if any, is low.

Source: EDR 2011; SWRCB 2011.

Notes: 1. Distance determined using Geotracker mapped location of environmental cases, with exception of Veterans Home of California, which was mapped based on site address.

2. Leaking Underground Storage Tank

Naturally Occurring Asbestos

Naturally occurring asbestos is usually encountered in areas known as ultramafic rock units. Ultramafic rock units are not known to be present in the Project area (Wagner 2010).

Schools

The nearest public school to the Project site is Yountville Elementary School, located approximately 0.5 mile northeast of the Phase 1 Washington Street pipeline. Yountville Children's Center, a private preschool, is located at the same address as Yountville Elementary School.

Airports

The nearest airport is a private heliport, River Meadow Farm Heliport, located 5.25 miles northwest of the Phase 3 Silverado Trail pipeline.

Wildland Fire Risk

The Project area is not mapped as a "very high" fire hazard severity zone by the California Department of Forestry and Fire Protection (CALFIRE) (CALFIRE 2008). It is also not mapped as a "community at risk" for wildland urban interface fire threat (ABAG 2003).

REGULATORY SETTING

Hazardous Materials/Wastes

Hazardous substances that have been released to the environment (e.g., due to spills or leaking underground storage tanks) have the potential to adversely affect the public or environment if they are encountered unexpectedly during the construction phase of the project or during operations over the lifetime of the project. The U.S. Environmental Protection Agency (EPA) defines a "hazardous" waste as one "which because of its quantity, concentrations, or physiochemical or infectious properties, may either increase mortality or produce irreversible or incapacitating 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."

At the federal level, the storage and handling of hazardous substances is regulated under the Resource Conservation and Recovery Act (RCRA), which follows hazardous substances from "cradle to grave" and regulates hazardous waste generators, transporters, and treatment, storage, and disposal facilities. California has been authorized by the EPA to administer its own RCRA program. The California Department of Toxic Substances Control (DTSC) is responsible for implementing RCRA, and for implementing and enforcing California's Hazardous Waste Control Law. The California Hazardous Waste Control Law and its associated regulations are similar to RCRA but regulate a larger number of chemicals because they define hazardous waste more broadly. Hazardous wastes regulated by California, but not by the EPA, are called non-RCRA hazardous wastes.

The cleanup of sites contaminated by releases of hazardous substances is regulated primarily by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, which was amended by the Superfund Amendment and Reauthorization Act of 1986 (SARA), and by similar state laws. Known hazardous waste release sites are subject to oversight by federal, state, and/or local agencies.

The State's Hazardous Waste and Substances Sites List (Cortese List) identifies sites with leaking underground fuel tanks, hazardous waste facilities subject to corrective actions, solid waste disposal facilities from which there is a known migration of hazardous waste, and other sites where environmental releases have occurred. Pursuant to Government Code Section 65962.5, before a local agency accepts an application as complete for any development project, the applicant must certify whether or not the project site is on the Cortese list.

Certain chemicals that could be released to the environment and might affect surrounding communities are regulated by California's Accidental Release Prevention Law. This State law and similar federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) allow local

oversight of both the State and federal programs. The State and federal laws are similar in their requirements; however, the California threshold planning quantities for regulated substances are lower than the federal values.

Construction Hazards

Hazards associated with construction activities can affect the safety of both workers and the general public. The safety of workers is regulated by the California Department of Industrial Relations, which receives its authority from Title 8 of the California Code of Regulations. These regulations also indirectly protect the general public by requiring construction managers to post warning signs, to limit public access to construction areas, and to obtain permits for work considered to present a significant risk of injury (e.g., excavations greater than 5 feet into which a person is required to descend).

Where excavations or other activities would occur in public rights-of-way, an encroachment permit may be required from the appropriate agency. This permit is designed to protect the public by providing a system of notification to providers of emergency or other important services of road closures. Compliance with these requirements minimizes the safety and health hazards associated with construction activities.

Fire Hazards

CALFIRE has mapped areas in Napa County with the potential for large wildland fires. CALFIRE classifies the fire potential for wildlands based on three factors: fuel load, climate, and topography. CALFIRE also administers the “State Responsibility Areas (SRA) Fire Safe Regulations” that constitute the basic wildland fire protection standards for land within SRAs. SRA is a legal term defining the area where the State has financial responsibility for wildland fire protection. Incorporated cities and federal ownership are not included. The prevention and suppression of fires in all areas that are not State responsibility areas are primarily the responsibility of local or federal agencies.

The California Public Resources Code, beginning with Section 4427, includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestor on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The eight criteria listed above under Section VIII Hazards and Hazardous Materials were used to determine the extent of potential impact the Project may have related to hazards and hazardous materials. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

VIII. a & b) Hazardous Materials – Less than Significant

The Project consists of equipment upgrades at the JTP and the installation of new pipelines to deliver recycled water for vineyard irrigation. Construction would require the use of materials such as fuels, lubricants, and solvents. Numerous laws and regulations ensure the safe transportation, use, storage and disposal of these materials including the federal Resource Conservation and Recovery Act and Hazardous Materials Transportation Act and California’s Hazardous Waste Control Law. Contractors would be required to comply with existing and future hazardous materials laws and regulations for the transport, use and disposal of hazardous materials. Therefore, the potential to create a significant hazard to the public or the environment during construction activities would be less than significant.

Operation of the equipment upgrades at the JTP and operation of the new pipeline via delivery, storage and application of recycled water for irrigation would not involve the transportation, use or disposal of a

new source of hazardous materials. Therefore, no impact from hazardous materials would occur from Project operation.

VIII. c) Emit Hazardous Materials within One-quarter Mile of a School – No Impact

No schools are located within 0.25 mile of the Project site; the nearest schools, Yountville Elementary School and Yountville Children's Center (both located at the same address), are located 0.50 mile north of the closest pipeline segment (Phase 1 Washington Street pipeline) (Napa County 2008). Therefore, no impact to schools would occur.

VIII. d) Included on a List of Hazardous Materials Sites – Less than Significant

A search of the Cortese List was completed to determine if any known hazardous waste facilities exist on or adjacent to the Project site. No environmental cases were recorded for the JTP or the, the proposed pipeline alignments. Four former leaking underground storage tank (LUST) sites and one cleanup site were identified within 1/8-mile of the Project. The environmental cases are summarized in Table VIII-1.

The potential for the LUST and environmental cleanup sites to affect the Project site is low. The reporting agency has determined no further action is necessary for these sites. Additionally, the distance is great enough so as not to create a potential health or environmental risk during pipeline construction activities. The LUST sites and the environmental cleanup site would not create a significant hazard, and therefore, impacts would be less than significant.

VIII. e & f) Safety Hazard for People Residing or Working within Two Miles of an Airport – No Impact

The Project is not located within an airport land use plan area, within two miles of a public airport, or within the vicinity of a private air strip. Therefore, no impact would occur.

VIII. g) Impair or Interfere with an Adopted Emergency Response/Evacuation Plan – Less than Significant

During construction, the presence of construction vehicles and equipment on local roadways as well as construction vehicles accessing the site via Highway 29 and Silverado Trail would temporarily increase traffic in the Project area. Project construction may require temporary, partial public road closures during pipeline installation. Temporary road closures would be for limited periods of time, but could potentially delay access of emergency vehicles to or through the Project area, including residences and businesses during road closures. Project Measure 2: Traffic Control Plan, presented the Project Description, would include provisions to provide access for emergency vehicles during construction, including detour routes to be used in order to maintain emergency access.

Following construction, operation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, because no above ground structures are included, except the 12- to 24-foot tall antenna at the JTP. No operational impact would occur.

VIII. h) Exposure to Wildland Fires – No Impact

The Project is not located in, or near, land mapped as a "very high" fire hazard severity zone by CALFIRE, or as a "community at risk" for wildland urban interface fire threat mapped by ABAG (CALFIRE 2008; ABAG 2003). Therefore, no impact from wildland fires would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
IX. Hydrology and Water Quality				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?		✓		
b) 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)?			✓	
c) 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?			✓	
d) 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?			✓	
e) 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?		✓		
f) Otherwise substantially degrade water quality?		✓		
g) 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?				✓
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				✓
i) 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?			✓	
j) Inundation by seiche, tsunami, or mudflow?			✓	

AFFECTED ENVIRONMENT

The Project would be located in the Napa Valley east of the Town. The Project would be located on both the west and east side of the Napa River. Streams in the Project area include Hinman Creek at the Joint Treatment Plant, Hopper Creek on Land Lane, Chase Creek at Silverado Trail, and the Napa River. Hinman Creek is a tributary to Hopper Creek, Hopper Creek is a tributary to Dry Creek, and Dry Creek is a tributary to the Napa River. The Napa River ultimately drains to San Pablo Bay. Currently, the Napa River and its tributaries have been listed under Section 303(d) as water quality impaired for nutrients, pathogens, and sedimentation/siltation (USEPA 2010). Total Maximum Daily Loads (TMDLs) have been completed for Napa River pathogens and sediment, and a TMDL for Napa River nutrients is in development.

The Project area is located within the North Napa Valley Groundwater Basin. This basin has an estimated usable storage volume of approximately 190,000 acre-feet (ac-ft) and a safe yield of 22,500 ac-ft annually (Napa County 2007). Water-level data collected indicates that significant drawdowns have not occurred within the groundwater basin (Napa County 2007).

As shown in Appendix E, FEMA Flood Hazard Maps, the majority of the Project area is located within a 100-year flood zone. The Project area is also located within the inundation zone of several nearby dams, including Rector Dam, Conn Dam, and Bell Canyon Dam.

REGULATORY SETTING

Federal Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 and 1987, collectively known as the Clean Water Act (33 United States Code [USC] §1251 et seq.), establish the principal federal statutes for water quality protection. The Clean Water Act (CWA) was established with the intent “to restore and maintain the chemical, physical, and biological integrity of the nation’s water, to achieve a level of water quality which provides for recreation in and on the water, and for the propagation of fish and wildlife.” Section 303(d) of the CWA requires states to identify waters where the permit standards, any other enforceable limits, or adopted water quality standards are still not attained. Lists of prioritized impaired water bodies are known as the “303(d)” lists and must be submitted to the EPA every two years. Section 303 also establishes the TMDL Program, which determines the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and provides an allocation of that amount to the pollutant’s sources. Section 402 of the CWA requires permits for discharges into water bodies such that the permitted discharge does not cause a violation of federal and State water quality standards. National Pollutant Discharge Elimination System (NPDES) permits define quantitative and/or qualitative pollutant limitations for the permitted source, and control measures that must be implemented to achieve the pollutant limitations. Pollution control measures are often referred to as Best Management Practices, or BMPs.

Federal Emergency Management Agency

The Federal Emergency Management Authority (FEMA) prepares maps of flood zones. Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community’s Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. The FIRM indicates zones for the 100-year flood; within the 100-year flood zone, FEMA provides base flood elevations (BFE) derived from detailed analyses at selected intervals within these zones.

Non-Degradation Policy

In 1968, the SWRCB adopted Resolution 68-16, “Statement of Policy with Respect to Maintaining High Quality of Waters in California State,” establishing a non-degradation policy for the protection of water

quality. Under this policy, whenever the existing quality of water exceeds the quality necessary to maintain present and potential beneficial uses of the water, existing water quality must be maintained. This policy pertains to both surface waters and the groundwater of the State.

California Porter-Cologne Water Quality Act

The California Porter-Cologne Water Quality Control Act established the SWRCB and the nine Regional Water Quality Control Boards (Regional Boards). In California, the discharge permitting provisions of the Clean Water Act have been delegated by the EPA to the State and Regional Boards. The Regional Boards are responsible for the protection of beneficial uses of water resources within their respective regions. The Porter-Cologne Act has led to development of water quality objectives to protect aquatic life from adverse impacts of numerous water quality constituents. The Project lies within the jurisdiction of the San Francisco Bay Regional Board, which uses planning, permitting, and enforcement authorities to meet this responsibility, and has adopted a Water Quality Control Plan for the San Francisco Bay Basin to implement plans, policies, and provisions for water quality management in the area.

Construction Storm Water Program

Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ). Construction activity subject to this permit includes linear pipeline projects and the associated construction activities. The Construction General Permit requires qualified personnel to assess the risk level of the project based on sediment transport and receiving water risks and prepare a Storm Water Pollution Prevention Plan (SWPPP) that meets the risk level requirements. The SWPPP must address pollutant sources, non-storm water discharges, best management practices, and other requirements specified in the Order, and must be implemented by qualified personnel.

California Recycled Water Policy

The SWRCB developed the Recycled Water Policy to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), in a manner that implements state and federal water quality laws. The State Water Board expects to develop additional policies to encourage the use of stormwater, encourage water conservation, encourage the conjunctive use of surface and groundwater, and improve the use of local water supplies.

The Policy provides direction to Regional Water Boards, proponents of recycled water projects, and the public regarding criteria used by the State Water Board and the Regional Water Boards in permitting in a manner that fully implements state and federal water quality laws and regulations. When used in compliance with this Policy, Title 22 and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to potable water for such approved uses.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The eight criteria listed above under IX Hydrology and Water Quality were used to determine the extent of potential impact the Project may have on hydrology and water quality in the Project area. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

IX. a & f) Violate Water Quality Standards or Degrade Water Quality – Less than Significant with Mitigation

A pipeline would be installed under the Chase Creek as part of Phase 3 construction. The pipeline would be constructed using trenchless construction methods (either horizontal directional drilling or jack and

bore). Installation of the pipeline undercrossing using trenchless methods would not alter the course of Chase Creek, nor would it affect water quality in the channel. However, the use of trenchless construction methods, especially horizontal directional drilling, requires the use of a drilling slurry containing bentonite (a fine clay material used as a lubricant), and drilling near the ground surface or close to the bed of Chase Creek could introduce the potential for frac-out (where the bentonite surfaces in the stream bed). Although the bentonite is non-toxic, it can increase turbidity and suspended sediments in the surface water. The potential for impact from frac-out of drilling fluids into Chase Creek is considered significant.

During Phase 2 of the Project, a new 8-inch diameter recycled water pipeline would be installed beneath Hopper Creek and Beard Ditch on Land Lane by open trenching across the creek channel during the dry season. A pipeline would be installed across Hinman Creek as part of Phase 3. Construction in these locations would be completed when there is no water in the channel. Open trenching would temporarily impact the banks of Hopper Creek and Hinman Creek and could result in erosion or siltation if not properly controlled and restored following construction. The potential water quality impact from construction across Hopper Creek and Hinman Creek is considered significant.

During construction, dewatering of the construction work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. The discharge of construction dewatering could result in a source of sediment-laden water to local water ways if not properly controlled. The impact from construction dewatering is considered significant.

The remainder of pipelines would be installed within roadways, vineyard service roads, and across wetlands and drainages ditches during the dry season. Open trenching and construction staging would temporarily disturb these areas which could result in erosion if not properly controlled. Construction could also be a source of chemical contamination from use of alkaline construction materials (concrete, mortar, hydrated lime) and hazardous or toxic materials such as fuels and herbicides/pesticides. The impact from pipeline construction and staging areas is considered significant and would require mitigation to reduce impacts to less-than-significant levels.

Mitigation Measure HYD– 1: Storm Water Pollution Prevention Plan

The Town shall obtain coverage under SWRCB Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. The City shall submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the State Water Resources Control Board. The SWPPP shall address pollutant sources, non-storm water discharges resulting from construction dewatering, best management practices, and other requirements specified in the Order. The BMPs shall include any measures included in the erosion and sediment control plans developed for the Project to minimize disturbance after grading or construction. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment. The Town shall ensure that a Qualified SWPPP Practitioner oversees implementation of the SWPPP, including visual inspections, sampling and analysis, and ensuring overall compliance.

Mitigation Measure HYD– 2: Construction Dewatering

If construction dewatering is required, the Town shall evaluate reasonable options for dewatering management. The following management options shall be considered:

- Reuse the water on-site for dust control, compaction, or irrigation.
- Retain the water on-site in a grassy or porous area to allow infiltration/evaporation.
- Discharge (by permit) to a sanitary sewer or surface water (this option may require a temporary method to filter sediment-laden water prior to discharge).

If discharging to the sanitary sewer, the Town shall issue a one-time discharge permit or other type of approval requiring, as necessary, measures for characterizing the discharge and ensuring

filtering methods and monitoring to verify that the discharge is compliant with the Town's local wastewater discharge requirements.

If discharging to a local surface water or storm drain, the discharge shall be managed as a non-storm water discharge and control measures shall be included in the SWPPP prepared under Order No. 2009-0009-DWQ. The Town shall characterize the groundwater prior to discharge and implement control measures, such as settling and/or filtration to ensure that excessive sediment is not discharged, and manage discharge rates to prevent erosion downstream.

Mitigation Measure HYD-3: Frac-Out and Undercrossing Contingency Plan

If drilling mud is needed during construction, the Town shall develop and follow procedures to prevent the mix used during drilling from being discharged into Chase Creek when installing pipelines using trenchless construction methods. The plan shall address how the contractor would manage pressures and the volume of lubricant used to prevent frac-out.

The plan shall also address procedures to follow in the event a frac-out occurs. Drilling activities shall be visually monitored for any sign of lubricant frac-out and should frac-out occur, the contractor shall complete the following:

- Stop pumping lubrication.
- Locate the point and cause of the frac-out.
- Contain the spill to the maximum extent possible.
- Clean up the spill to the maximum extent possible.
- Wait at least two hours before pumping lubrication near the frac-out point to allow the ground to seal.
- Reduce pumping pressure and volume in the area of the frac-out.
- Notify all designated authorities that a frac-out occurred, including but not limited to the California Department of Fish and Game.

Mitigation Measure BIO-3: Avoid or Restore Jurisdictional Wetlands and Waters Temporarily Affected by Construction

(Described in the Biological Resources Section)

Implementation of Mitigation Measure HYD-1 would reduce the impact from overall pipeline construction (including staging) to less-than-significant levels by requiring compliance with Order No. 2009-0009-DWQ, which would include erosion prevention measures and waste management practices to reduce soil loss and water pollution. Implementation of Mitigation Measure HYD-2 would reduce the impact from construction dewatering to a less-than-significant level by requiring evaluation of options for dewatering management that would prevent discharge to a surface water or storm drain, including reuse of the water on-site and discharge to a sanitary sewer. If discharge to a surface water is necessary, Mitigation Measure HYD-2 would require compliance with Order No. 2009-0009-DWQ, which would include sediment and flow controls to prevent excessive erosion, sedimentation, and flooding downstream.

Implementation of Mitigation Measure HYD-3 would reduce the impact from potential frac-out of drilling fluids into Chase Creek to a less-than-significant level by requiring preparation and implementation of a Frac-Out and Undercrossing Contingency Plan. The Plan would identify the measures necessary to reduce the potential for frac-out and would provide procedures to follow in the event frac-out occurs to minimize impacts.

Implementation of Mitigation Measure BIO-3 (in Section IV, Biological Resources) would require the restoration of Hinman and Hooper Creeks following installation of the pipeline. Restoration activities

would protect water quality by requiring stabilization and restoration of channel banks following construction.

Operations

Discharges from the JTP are regulated under NPDES Permit No. CA 0038121 (Order No. R2-2010-0072), certified on May 18, 2010. The previous NPDES permit, under Order No. R2-2004-0017 required the installation of a diffuser for the JTP's Napa River discharge outfall (Provision 7). In 2005, the Town applied for re-issuance of the permit in order to eliminate the diffuser requirement from its permit conditions, and instead, upgrade the JTP facilities to produce Title 22 tertiary recycled water and reduce discharges to the Napa River (Town of Yountville 2005). In May 2010 the RWQCB re-issued the NPDES permit to the Town, requiring the Town to increase the amount of effluent that is recycled and minimize discharges to the Napa River by December 2013, and construct a SCADA system by December 2015. On September 7, 2010, the Town Council approved a five-year Capital Improvement Program, which included upgrades to the treatment plant and control system and an expanded water recycling system.

The average discharge rate at the JTP from 2007 to 2010 was 0.383 MGD, and the maximum daily effluent flow recorded during this period was in February 2009 at 1.76 MGD (Winzler & Kelly 2011). The JTP can accept up to 2.8 MGD through its primary system during peak wet weather conditions (RWQCB 2010). Flows in excess of the JTP's secondary treatment capacity are stored in a 3.5 million gallon pond for later treatment. Wastewater treatment processes at the JTP include grit removal, primary clarification, first stage trickling filtration, intermediate clarification, second stage trickling filtration, aerated solids contact, final sedimentation, disinfection (chlorination), and dechlorination (sulfur dioxide). The treated wastewater flows to an effluent storage pond for discharge to the Napa River or for recycling and reuse (RWQCB 2010). On an average yearly basis, approximately 22 percent of the average annual recycled water volume is discharged to the Napa River during the winter months/wet season (October 1 through May 15) within the permitted requirement for dilution ratio between treated effluent flow and river flow (Winzler & Kelly 2011).

The use of recycled water would be performed in accordance with Master Reclamation Permit (General Order 96-011) under which the Town operates its recycled water program. The use of recycled water would be in compliance with the most current California Code Title 22 Regulations, the RWQCB Order 96-011 General Water Reuse Requirements for Municipal Wastewater and Water Agencies, and other state and federal water quality laws and regulations. In 2011, the Town submitted an Engineering Report to the California Department of Public Health for certification that tertiary treated water meets the minimum criteria for disinfected tertiary recycled water as defined in Title 22. Tertiary treated water meeting this criteria would allow for reuse of the water for any application permitted under Title 22. Therefore, the use of recycled water would not violate water quality standards or waste discharge requirements, and will benefit overall water quality by reducing direct discharges of recycled water to the Napa River. The operational impact would be less than significant.

IX. b) Substantially Deplete Groundwater Supplies or Interfere with Groundwater Recharge – Less than Significant

During construction, dewatering of the construction work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. Dewatering would involve pumping groundwater out of the trench. No substantial lowering of the local groundwater table would occur from such temporary dewatering. The impact from construction dewatering is considered less than significant.

Following construction, the Project would supply additional recycled water for agricultural irrigation, which would reduce existing agricultural demands on groundwater. By doing so, the Project would have an overall beneficial effect on groundwater levels in the region.

IX. c) Alter Drainage Patterns Resulting in Erosion or Siltation – Less than Significant

Installation of the pipeline beneath Chase Creek would utilize trenchless methods (either horizontal directional drilling or jack and bore). Installation of the pipeline undercrossings using trenchless methods would not alter the course of waterways; therefore, the impact from crossings of Chase Creek is considered less than significant.

The remainder of the pipelines would be installed within roadways, vineyard service roads, and drainages and wetlands during the dry season and would be repaired generally to pre-construction conditions. Construction of these pipelines would not result in a substantial change to drainage patterns, therefore, the impact is considered less than significant.

IX. d) Substantially Increase Runoff Resulting in Flooding – Less than Significant

Installation of the pipelines beneath Chase Creek as part of Phase 3 would utilize trenchless methods, which would not alter the course of this waterway. During construction, dewatering of the work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. Construction beneath Chase Creek, including discharge of groundwater dewatering, would not result in flooding on- or off-site as discharge from trench dewatering would be limited and quantities would be small. The impact is considered less than significant.

The remainder of the pipelines would be installed within roadways, vineyard service roads, and drainages and wetlands during the dry season and would be repaired generally to pre-construction conditions. Therefore, construction of these pipelines would not result in a change to drainage patterns, and would not result in flooding on- or off-site.

Following construction, normal operation of the Project would not increase runoff resulting in flooding. The Project would not result in new impervious surfaces or other drainage pattern alterations that would substantially increase the rate or amount of surface runoff. There would be no impact from operations of the Project.

IX. e) Exceed the Capacity of the Existing Storm Drain System or Provide Sources of Polluted Runoff – Less than Significant with Mitigation

During construction, dewatering of the construction work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. Discharge of construction dewatering would not be expected to exceed the capacity of existing stormwater drainage systems. However, construction dewatering could result in a source of sediment-laden water to local water ways if not properly controlled. The impact from construction dewatering is considered significant.

Following construction, normal operation of the Project would not contribute runoff water. The Project would not result in new impervious surfaces or other drainage pattern alterations that would substantially increase the rate or amount of surface runoff. The operation-related impact is considered less than significant.

Mitigation Measure HYD-2: Construction Dewatering

Implementation of Mitigation Measure HYD-2 would reduce the impact from construction dewatering to a less-than-significant level by requiring compliance with Order No. 2009-0009-DWQ, including sediment and flow controls to prevent excessive erosion, sedimentation, and flooding downstream.

IX. g & h) Place Housing and Structures within a 100-Year Flood Zone – No Impact

As shown in Appendix E, FEMA Flood Hazard Maps, the majority of the Project area is located within a 100-year flood zone, including the new recycled water pipelines along Land Lane and within the vineyard access roads. The JTP and Silverado Trail are located outside the 100-year flood zone. Although the

pipelines would be located in the 100-year flood zone, the Project would not impede or redirect flood flows because the pipelines would be buried. No impact to flood flows would occur.

IX. i) Flooding from a Levee or Dam Failure – Less than Significant

The Project area is located within the inundation zone of several nearby dams, including Rector Dam, Conn Dam, and Bell Canyon Dam (ABAG 1995). The Project however would not include above ground structures that would be at risk from flooding in the event of a dam failure. The impact is considered less than significant.

IX. j) Inundation by Seiche, Tsunami, or Mudflow – Less than Significant

The hills located between the Napa River and Silverado Trail are mapped as an area likely to produce debris flows or mudslides (USGS 1997). Project pipelines would be constructed around the hills and would not cross debris flow areas. Therefore, construction would not trigger debris flows. Following construction, the pipelines would be located underground and would not be at risk from mudflow inundation. The impact from mudflows is considered less than significant.

Potential inundation by tsunami and seiche is considered low given the Project area is not exposed to an open ocean, bay, or large reservoir. No impact from tsunami or seiche would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
X. Land Use and Planning				
Would the project:				
a) Physically divide an established community?				✓
b) 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?				✓
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

AFFECTED ENVIRONMENT

The Project would be located in both the Town and in Napa County. The Joint Treatment Plant is located at 7501 Solano Avenue west of State Highway 29 at the southwest end of the Town limits. Except for the Vintner Golf Course and the JTP site, the Project is generally located to the east of the JTP. The Project extends easterly across State Highway 29 to the irrigation storage ponds located at Beringer vineyard. The south end of the Project terminates at the irrigation storage ponds located near the Chimney Rock winery on Silverado Trail, and the north limit is at the irrigation storage ponds at Beringer vineyard west of the Napa River. The new pipelines would primarily be installed in existing vineyard service roads or other previously-disturbed areas, and has been designed to avoid disturbance to existing grapevines and limit disturbance to jurisdictional wetlands and waters.

The Town of Yountville General Plan land use designation and zoning for the JTP site is Public Facilities (Town of Yountville 1994; 2010). The Napa County General Plan land use designation for the land encompassing the recycled water pipeline alignment within Napa County is Agricultural Resource, and the zoning is Agricultural Preserve (Napa County 2008; 2011). The Agricultural Preserve zoning classification is for land where agriculture should continue to be the predominant land use, where uses incompatible to agriculture should be precluded, and where the development of urban-type uses would be detrimental to the continuance of agriculture and the maintenance of open space (Napa County 2007).

REGULATORY SETTING

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan exists for the Town or Napa County (Town of Yountville 1994).

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The three criteria above listed above under Land Use and Planning were used to determine the extent of potential land use and planning impacts from the Project. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

X. a) Physically Divide an Established Community – No Impact

The Project would not physically divide an established community, because no above-ground structures, except for an antenna at the JTP, are proposed. No impact would occur.

X. b) Conflict with Applicable Land Use Plans, Policies or Regulations – No Impact

The Town of Yountville General Plan land use designation and zoning for the JTP site is Public Facilities (Town of Yountville 1994; 2010). Washington Street is a roadway and thus does not have a land use or zoning designation. The equipment upgrades and Phase 3 pipeline at the JTP and the Phase 1 pipeline along Washington Street would not result in a change in land use patterns or conflict with existing general plan designation and zoning.

The Town's General Plan includes policies to protect the Town's character by undergrounding utilities, to manage and conserve the Town's water supply, and to provide adequate wastewater treatment. The Project would be consistent with the Town of Yountville General Plan policies because the recycled water pipelines would be buried underground, the Town would expand its distribution capacity for recycled water for irrigation purposes, and would maintain and upgrade equipment at the existing wastewater facilities. The Project would contribute to the objective to properly manage and conserve the Town's water supply by reducing the amount of surface and groundwater used for irrigation purposes.

The County's general plan land use designation for the recycled water pipeline alignment within Napa County is Agricultural Resource, and the zoning is Agricultural Preserve (Napa County 2008; 2011). The new recycled water piping and valving would be buried underground and would be used to distribute recycled water for agricultural irrigation. Therefore, the new pipelines would not result in a change in land use patterns and is considered a compatible use with agriculture.

Napa County's General Plan includes policies to maintain the County's character, and protect agricultural land uses, water supply, and Napa River water quality by undergrounding utilities, limiting expansion of public utilities to serve demonstrated public need, encouraging the use of recycled water for irrigation, reduce pollution to the Napa River and conserve water. The Project is consistent with the Napa County General Plan policies because the recycled water pipelines would be buried underground adjacent to roadways; be consistent with agriculture land use and zoning; provide treated wastewater as recycled water for agricultural irrigation; reduce discharges to the Napa River; and reduce the use of surface and groundwater through the promotion and distribution of recycled water. The Project is sized to meet the current recycled water distribution needs, and is necessary to comply with existing permits with the goal of reducing discharges to the Napa River.

The Project would be consistent with both Town and Napa County land use policies and general plans. No impact would occur.

X. c) Conflict with any Applicable Habitat Conservation Plan – No Impact

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan exists for the Town or Napa County (Town of Yountville 1994; Napa County 2007; USFWS 2011). Therefore, no impact would occur.

Consistency with the Town of Yountville and Napa County policies relative to habitat conservation is evaluated in Section IV, Biology, Impact IV.e. and no impacts were identified.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XI. Mineral Resources				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

AFFECTED ENVIRONMENT

There are no significant mineral resources within the Town limits (Town of Yountville 1994). There are five existing quarries in Napa County, three of which are active, and one of which is considered a significant mining operation (Napa County 2007). None of these quarries are located within the Project area. In 1986, the California Geologic Survey produced Special Report 146, which classified land in the San Francisco-Monterey Bay Region into mineral resource zones. The Project area is not mapped as a mineral resource zone.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The two criteria listed above were used to determine the extent of potential impact the Project may have on the mineral resources. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

XI. a & b) Result in the Loss of Availability of a Known Mineral Resource of Value to the Region or Delineated by a General Plan, Specific Plan or other Land Use Plan – No Impact

The Project site would not be located in a designated mineral resource zone, and no mineral deposits of regional or statewide significance are known to occur in the Project vicinity. Therefore, no impact on the availability of mineral resources would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XII. Noise				
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?			✓	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓

AFFECTED ENVIRONMENT

The Project would be located within the Town and in adjacent areas of unincorporated Napa County. As such, the Project would be subject to the noise regulations of both jurisdictions.

The Project would traverse mostly agricultural areas of the Town and unincorporated Napa County. The JTP is surrounded by Vinter's Golf Club, a private golf course. The recycled water line would be installed within existing roadways exiting the JTP, then cross under State Highway 29. East of State Highway 29, the pipeline would also primarily be in public and vineyard roads with little or no residential or commercial development (e.g., lodging, dining establishments), with the exception of those described below. Predominant sources of noise within the Project area include vehicular traffic on State Highway 29, Silverado Trail, and other public roadways. Vineyard tending and harvest operations are seasonally based sources of noise, as well.

Sensitive land uses are generally defined as locations where people reside or where the presence of noise could adversely affect the use of the land. With the Napa Valley being a tourist destination, the Town has a number of dining and lodging establishments which would be noise-sensitive. A mobile home park is located approximately 380 feet north of Land Lane, which is near the Project area. St. Joan of Arc Catholic Church is also located along the pipeline route at the corner of Washington Street and Land Lane. Veterans Home is located west of the JTP, outside the Project area. Development along Silverado Trail is sporadic and dominated by wineries, with an occasional single-family residence.

Noise Terminology

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). Below are brief definitions of these measurements and other terminology used in this assessment.

- **Sound:** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise:** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Ambient Noise:** The composite of noise from all sources near and far in a given environment exclusive of particular noise sources to be measured.
- **Decibel (dB):** A “unitless” measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA):** An overall frequency-weighted sound level in decibels, which approximates the frequency response of the human ear.
- **Equivalent Sound Level (L_{eq}):** The average of sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
- **Exceedance Sound Level (L_{xx}):** The sound level exceeded xx percent of the time during a sound level measurement period. For example, L_{90} is the sound level exceeded 90 percent of the time and L_{10} is the sound level exceeded 10 percent of the time.
- **Maximum and Minimum Sound Levels (L_{max} and L_{min}):** The maximum or minimum sound level measured during a measurement period.
- **Day-Night Level (L_{dn}):** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 pm to 7:00 am.
- **Community Noise Equivalent Level (CNEL):** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 pm to 10:00 pm and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 pm to 7:00 am.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and an increase of 10 dB is perceived as doubling the sound level.

REGULATORY SETTING

Federal

The Federal Transit Administration *Transit Noise and Vibration Impact Assessment (2006)* provides guidance to assess noise and vibration impacts during construction. The guidelines are deemed appropriate for this assessment because construction equipment and activities used for road construction are similar to those that would be used for the Project. The guidance provides general noise significance criteria for construction. The threshold for one-hour L_{eq} for residential uses is 90 dBA during the day and 80 dBA during the night.

Town of Yountville

Municipal Code Table 8-04-1 provides noise standards by a classification of [receiving] land use and cumulative number of minutes of exposure in any given hour. Based on this table, the commercial land use (Vinter's Golf Club) within the bounds of the Town along the pipeline on Solano Avenue, the Veterans Home to the south of the JTP, as well as Saint Joan of Arc church at the corner of Washington Street and Land Lane, and the residential land uses in the vicinity of Land Lane and Washington Street generally would be subject to the noise standards presented below in Table XII-1. However, because Municipal Code Section 8.04.040 (F)(10) exempts Town, State, federal, and public utility projects, this public utility Project proposed by the Town would be exempt from these standards.

TABLE XII-1
Town of Yountville Noise Level Standards, dBA

Cumulative number of minutes in any hour	<u>Day</u> 8:00 a.m. to 9:00 p.m.	<u>Night</u> 9:00 p.m. to 8:00 a.m.
Hospital, Library, Religious Institution, Residential, or School Uses		
30	55	50
15	60	55
5	65	60
1	70	65
0	75	70
Commercial Uses		
30	65	60
15	70	65
5	75	70
1	80	75
0	85	80

Source: Town of Yountville Municipal Code, Section 8.04.026, Table 8-04-1. Napa County

Within the Project area outside the Town and within unincorporated areas of Napa County, the Project traverses predominantly agricultural areas (i.e., vineyards). There are few single-family residences along the pipeline routes. Interior noise standards presented in the Napa County Code apply only to residential land uses and are applied to a cumulative period of five minutes within any hour (Section 8.16.060):

- 10 p.m. – 7 a.m.: 55 dBA
- 7 a.m. – 10 p.m.: 60 dBA

County Code Section 8.16.070 presents exterior noise standards; no such standards are given for agricultural land uses. County Code Section 8.16.090 (D)(3) exempts construction activities from the County's exterior noise standards.

Noise Control Act of 1972

The Noise Control Act of 1972 established a national policy to promote an environment for Americans free from noise that jeopardizes their health and welfare. The EPA coordinates federal noise control activities through its Office of Noise Abatement and Control.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The six criteria listed above under XII Noise were used to determine the extent of potential noise impact the Project may have on the Project area. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

XII. a & d) Exposure to Noise in Excess of Established Standards – Less than Significant with Mitigation

Project construction, including activities at staging areas, would involve the use of equipment and generation of traffic, resulting in temporary noise impacts. Noise impacts resulting from construction depend on the noise generated by various pieces of equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. A list of construction equipment that could be used on this Project is presented below in Table XII-2, below. Noise reference levels for the listed equipment range up to 98 dBA. These noise levels would exceed noise standards and affect sensitive receptors in the vicinity of construction.

TABLE XII-2
Typical Construction Equipment Noise Levels at 50 feet

Equipment	(dBA)	Equipment	(dBA)
Air Compressor	81	Backhoe	80
Compactor	82	Concrete Mixer	85
Concrete Pump	82	Crane, mobile	83
Dozer	85	Excavator	81
Generator	81	Grader	85
Impact Wrench	85	Jack hammer	88
Loader	85	Paver	89
Pneumatic tool	85	Pump	76
Roller/sheep's foot	74	Saw	76
Scarifier	83	Scraper	89
Truck	88	Welder	74
Rock drill/drilling rig	98		

Source: FTA, 2006, Table 12-1

Noise from construction activity typically attenuates (decreases) at a rate of 6 dBA per doubling of distance (EPA 1974). Additional attenuation of approximately 1 to 2 dBA per doubling of distance also occurs where the ground is acoustically absorptive (i.e. vegetation cover). As illustrated in Table XII-3, assuming a nominal worst-case construction noise level between 85 and 98 dBA at 50 feet for several pieces of equipment operating simultaneously, construction noise can be expected to be as high as the following levels at various distances from the construction activity.

TABLE XII-3
Construction Noise Levels per Doubling Distance

dBA	Distance from Construction Activity (feet)
85-98	50
77-90	100
69-82	200
61-74	400
53-66	800
46-58	1,600

Under the Town of Yountville Municipal Code, potentially sensitive receptors along the Project pipeline alignments would include the commercial establishments along Solano Avenue, including Vinter's Golf Club, and the Saint Joan of Arc Catholic Church at Washington Street and Land Lane. The church buildings are located approximately 40 feet from the Phase 2 pipeline route and the sending/receiving pit for the Solano Avenue/Highway 29 trenchless undercrossing (Phase 3), and 50 feet from the Phase 1 Washington Street pipeline route. The Phase 3 pipeline extending from the JTP is adjacent to the golf course fairway and driving range. The driving range is also immediately adjacent to the sending/receiving pit for the Solano Avenue/Highway 29 trenchless undercrossing.

Sensitive receptors within the vicinity of the pipelines include residences 380 feet north of Land Lane and 425 feet from the pipeline from Land Lane along Washington Street.

Given the close proximity to the pipeline alignments, construction noise could affect sensitive receptors. Because pipeline construction would move at a rate of 315 LF/day or 235 LF/day, the total amount of time that a particular sensitive receptor would experience construction noise levels would be one to two weeks. The following mitigation measure is required to reduce construction noise impacts to less-than-significant levels for residences and other noise sensitive uses in the Project area.

Mitigation Measure NOI-1: Noise Reduction Measures

During Project construction, the Town and its contractor(s) shall implement the following measures such that noise from construction does not exceed 70 dBA at noise-sensitive uses during daytime hours.

- Construction work shall occur between 8 a.m. and 6 p.m. daily for all areas of the Project, and work shall not occur within 400 feet of Saint Joan of Arc Catholic Church during church services.
- If noise levels exceed 70 dBA at the Saint Joan of Arc Church during installation of the pipeline under Highway 29, then the contractor shall erect a temporary 12-foot high sound barrier around the sending/receiving pit to reduce the noise levels at the church to adjacent to the Saint Joan of Arc Church and adjacent to the Golf Course. The barrier shall remain in place for the duration of pipeline installation.
- Use quietest available equipment and electrically-powered equipment, rather than internal combustion engines where feasible.
- Equipment and on-site trucks used for Project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds,

wherever feasible). All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and resulting lower noise levels.

- Impact tools (e.g., jack hammers, pavement breakers) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. An exhaust muffler on the compressed-air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, which could achieve a reduction of 5 dBA.
- A preconstruction meeting shall be held between the job inspectors and the contractor/on-site project manager to confirm that noise mitigation and practices are completed prior to commencement of construction (including construction hours, neighborhood notification, etc.).
- An on-site complaint and enforcement manager shall be posted to respond to and track any noise complaints. The manager shall be responsible for responding to any complaints regarding construction noise and for coordinating with the adjacent land uses. The manager shall determine the cause of any complaints and coordinate with the construction team to implement effective measures (considered technically and economically feasible) warranted to correct the problem. The telephone number of the on-site complaint and enforcement manager shall be posted at the construction site and provided to neighbors in a notification letter. The manager shall be trained to use a sound level meter and should be available during all construction hours to respond to complaints.

The above mitigation requires the construction contractor to employ noise-reducing construction practices and construction work hours to reduce construction noise impacts to sensitive receptors adjacent to the construction area. With implementation of this mitigation measure, the potential impacts attributable to construction noise would be reduced to a less-than-significant level.

XII. b) Exposure to Ground-borne Vibration or Noise – Less than Significant

The Town of Yountville Municipal Code Section 17.100.020 (B)(4) prohibits perceptible vibrations off any development site. Depending on the particular zoning district, the Napa County Code generally prohibits vibration to the extent that no unreasonable annoyance or injury would result to persons residing in the vicinity. Within the unincorporated area of Napa County, the Project would be located in an Agricultural Preserve zone, portions of Phases 2 and 3 pipelines in an Agricultural Watershed zone. The County Code does not provide guidance for vibration impacts in these zones.

With the exception of Saint Joan of Arc Church, there are no sensitive receptors (i.e., residences) bordering the Project pipeline alignments subject to ground-borne vibration. Construction activities could create minor amounts of ground-borne vibration from pavement removal, backfill compactions, and trenchless construction methods but is unlikely to be perceptible to those within the building. In addition, construction would not be allowed to occur within 400 feet of the church during services, as noted under XIIa. Therefore the impact is considered less than significant. General pipeline construction would move at a rate of 315 linear feet per day. Construction rates would minimize the ground-borne vibration because construction would be in one location for a short time period and the effect would be temporary and minor and, therefore, considered less than significant.

XII. c) Substantial Permanent Increase in Ambient Noise – Less than Significant

Operation and maintenance of the Project would not substantially increase ambient noise levels. Operation of upgraded equipment at the JTP, including the operation of new pumps, could result in a minor noise changes in ambient noise levels within the existing facilities, but no increase in noise levels outside the facilities. Unanticipated emergency pipeline repairs may be required. Such repairs are of short

duration and typically are exempt from local ordinance. The impact from Project operations on ambient noise levels would be less than significant.

XII. e & f) Exposure of People Residing or Working near an Airport or Private Airstrip to Excessive Noise Levels – No Impact

The Project area is not located within an airport land use plan, within two miles of a public airport, or within the vicinity of an active private airstrip. The closest airport is a private located 5.25 miles northwest of the Phase 3 Silverado Trail. No impact would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XIII. Population and Housing				
Would the project:				
a) 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)?				✓
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

AFFECTED ENVIRONMENT

The Project would be located in the western and southern portions of the Town and adjacent areas of unincorporated Napa County. The population of the Town was estimated to be 2,997 in 2011 (California Department of Finance 2011a). The estimated total population of Napa County in 2011 was 137,732 in July, 2011 (California Department of Finance 2011b).

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The three criteria listed above were used to determine the extent of potential impact the Project may have on population and housing. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

XIII. a, b & c) Induce Substantial Population Growth or Displace Housing and People – No Impact

The purpose of the Project is to allow the Town to comply with its water reuse permit requirements, and to expand and improve delivery of recycled water for irrigation in existing agricultural operations. The Project would not induce growth within the Town or Napa County beyond planned levels or in areas not planned for development by land use agencies as the expanded use of recycled water provides the Town the ability to meet Regional Board requirements. It does not involve the construction of new homes or businesses and does not involve the extension of roads. The expansion of the recycle water delivery system would serve existing agricultural operations and would replace the use of other water sources. It would not result in an expansion of vineyard operations. Construction workers would likely be drawn from the construction employment labor force already residing in the region and from local construction firms. Construction workers would relocate their place of residence as a consequence of working on the Project. That Project would not affect existing residential areas causing the displacement of housing or persons. Therefore, the Project would have no impact on population and housing.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XIV. Public Services				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:				
Fire protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

AFFECTED ENVIRONMENT

Fire protection and emergency medical services for the Town is provided through a contract for services with the Napa County Fire Department, who in turn is under contract with The California Department of Forestry (CAL FIRE). The fire protection contract funds two fire captains and eleven fire apparatus engineers that staff Yountville Fire Station. The current fire protection contract is effective from July 1, 2010 to June 30, 2012, with automatic renewal for an additional year at the end of each fiscal year, unless the contract is terminated by either party. The Napa County Fire Department also provides fire protection services to unincorporated areas within the County, which includes the majority of the Project area (Town of Yountville Fire & Emergency Services Website).

The Town has contracted with the Napa County Sheriff's Office to provide police protection services. Currently, police protection services include three dedicated personnel, one sergeant and two patrol deputies, at the Yountville station, which is one of five sub-regional police stations. These three dedicated positions are supported by the full resources of the Napa County Sheriff's Office and Town staff. The Yountville Station service area includes the entire Project area (Napa County 2007).

The Town has one public school, Yountville Elementary School, and is served by the Napa Valley Unified School District. Middle school and high school students are bused to schools in Napa.

Parks and public facilities in the vicinity of Phase 1 and 3 pipelines within Town limits include Veterans Memorial Park. Other public facilities in the Town include the Town Hall, several parks, the Yountville Community Center and Library, and Yountville Community Pool. The dominant land use in the Project area within Napa County is agriculture, as such, there are few public facilities located within the unincorporated Project area.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The criteria listed above under XIV Public Services above were used to determine the extent of potential impact the Project may have on public services. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

XIV. a) Result in Substantial Adverse Effects of New or Physically Altered Government Facilities – No Impact

The Project consists of equipment upgrades and other system improvements at the existing JTP and the installation of approximately four miles of pipeline for the purpose of delivering recycled water to existing irrigation storage ponds within geographic proximity of the treatment facility. The Project would increase the delivery rate of recycled water to existing customers and provide recycled water to new customers with existing storage ponds, in order to achieve a water balance, decrease discharges to the Napa River, and decrease the use of river water and groundwater for irrigation purposes. The Project would not increase the amount of recycled water produced by the Town.

Additional recycled water pipelines, equipment upgrades at the JTP, and an expanded and improved recycled water delivery system would not increase the need for fire or police protection, or any other public services. As described in Section XIII Population and Housing, the Project would not induce population growth and thus would not increase the demand for schools, parks or other facilities. The Project would not affect service ratios, or response times or any other performance objectives for any public services that would require the provision of new or physically altered government facilities. Therefore, the Project would have no impact on public services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XV. Recreation				
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				✓

AFFECTED ENVIRONMENT

The Project would be located adjacent to the Vintner's Golf Club and Veterans Memorial Park. Vintner's Golf Club surrounds the Joint Treatment Plant, which is located between the 1st, 2nd, 3rd and 4th Hole fairways and the driving range. Pipelines would be located in the JTP access road and Solano Avenue. A pipeline would be installed adjacent to Veterans Memorial Park in Washington Street.

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The two criteria listed above were used to determine the extent of potential impact the Project may have on recreation facilities in the Project area. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

XV. a & b) Increase the Use of Existing Neighborhood and Regional Parks or Other Recreational Facilities Such that Substantial Physical Deterioration of the Facility Would Occur or be Accelerated – No Impact

The purpose of the Project is to allow the Town to comply with its water use permit requirements and to expand and improve delivery of recycled water for (i.e., irrigation) in existing agricultural operations and recreational facilities (e.g., Veterans Memorial Park). The Project would neither increase the use of existing parks nor require construction or expansion of existing recreational facilities. No impact to recreation would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XVI. Transportation and Traffic				
Would the project:				
a) 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?			✓	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			✓	
c) 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?				✓
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e) Result in inadequate emergency access?			✓	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓	

AFFECTED ENVIRONMENT

Vehicular Access

Access to Project construction areas would be provided on public and private roads. Project construction would result in temporary increases in traffic along area roadways, including State Highway 29, California Drive, Solano Avenue, Washington Street, Land Lane, and Silverado Trail. The private roads to be used for Project construction access would be vineyard roads.

State Highway 29 in the Project area is a four-lane divided highway with controlled access. Highway 29 intersects with California Drive in a diamond interchange immediately north of the Project.

California Drive is a two-lane roadway providing access from Highway 29 to the local roadway network in Yountville. It is classified as a “local/other” roadway by the County, although it functions as a primary access point to the main commercial area of the Town to the east and the California Veterans Home, Vintners Golf Club, the JTP, and commercial uses to the west.

Solano Avenue is a two-lane roadway providing frontage access along the west side of Highway 29 from California Drive to points south. Traffic accessing the JTP and western portion of the Project area would likely do so via Highway 29, California Drive, and Solano Avenue.

Washington Street is a two-lane roadway providing north-south access within the “downtown” commercial and most residential areas in the Town [to the east of Highway 29]. Washington Street effectively serves as the Town’s “Main Street”. South of Land Lane, it provides frontage access along the east side of Highway 29.

Land Lane is a small one-lane paved roadway primarily providing access to vineyards. It extends east approximately 0.2 mile, where it terminates at a private gate restricting access further east.

Silverado Trail is a two-lane roadway along the eastern edge of the Napa Valley floor. It is well-traveled, providing an alternate north-south route from the City of Napa through the Napa Valley. Silverado Trail is also a popular tourism route, as it provides primary access to many wineries through Napa Valley. During grape harvest season, Silverado Trail sees increased truck and farm machinery traffic.

Level of Service Definitions and Standards

Level of Service (LOS) is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. LOS is designated by letters “A” through “F” – with “A” being best and “F” being worst.

Town of Yountville

The Town’s General Plan (Town of Yountville 1994) and Municipal Ordinance were reviewed for guidance and significance criteria for a project’s impact to its public roadway system. The General Plan Section B.3.b describes the Town’s traffic patterns and congestion issues. It references LOSs established in a traffic circulation analysis conducted for the Town in 1989. This was based on Institute of Transportation Engineers (ITE) guidance for traffic circulation.

Napa County

Traffic and transportation planning in unincorporated areas of Napa County is guided by the County General Plan (Napa County 2008), which includes overall goals for traffic and transportation. As noted above, it defines and classifies the types of roadways within the County and assigns LOS standards to each. General Plan Policy CIR-16 presents the County’s LOS standards for roadways and intersections, as follows:

- LOS D or better on all county arterial roadways, *except* where maintaining LOS D would require the installation of more travel lanes than are shown on the County’s current Circulation map.
- LOS D or better at all signalized intersections, *except* where the existing LOS is E or F and it is not feasible to increase intersection capacity without acquiring substantial additional right-of-way. The LOS standard for unsignalized intersections is evaluated on a case by case basis.

LOS volume thresholds for Project roadways are provided in Table XVI-1. The thresholds are differentiated between daily and peak-hour thresholds.

TABLE XVI-1**Level of Service Volume Thresholds on Project Roadways**

Roadway Segment	Daily Volume Threshold					Peak-Hour Volume Threshold				
	LOS A	LOS B	LOS C	LOS D	LOS E	LOS A	LOS B	LOS C	LOS D	LOS E
Solano Avenue	1,067	3,049	9,100	14,600	15,600	70	180	870	1,390	1,480
Silverado Trail	2,600	5,300	8,600	13,800	22,300	260	530	860	1,380	2,230
Highway 29	17,500	28,600	40,800	52,400	58,300	1,750	2,860	4,080	5,240	5,830

Source: Napa County Baseline Data Report, Chapter 11, Transportation and Circulation, Tables 11-1 and 11-2 (2005).

Existing Levels of Service

Existing LOSs for Napa County roadways were evaluated as part of the environmental impact analysis conducted for the Napa County General Plan in 2007 (Napa County 2007). To assess current conditions (for the General Plan analysis), the County roadway system was divided into 46 roadway segments representative of the overall network. Existing (2003) and future (2030) weekday peak hour roadway conditions were estimated for each roadway segment. In addition, LOS volume thresholds were established for each type of roadway (i.e., arterial, collector, etc.). The existing (baseline) and projected LOS conditions in the project area are provided in Table XVI-2. It should be noted that Land Lane was not included in that analysis and, therefore, was not classified other than being a "Local/Other" roadway.

TABLE XVI-2**LEVEL OF SERVICE CONDITIONS ON PROJECT ROADWAYS**

Roadway Segment	Roadway Classification	Existing (2003) Conditions	Projected (2030) Conditions	Extent of Survey
Solano Avenue	Two-lane Collector	Not rated	Not rated	Not rated
Silverado Trail	Two-lane Arterial Roadway	LOS C	LOS F	Between Sage Canyon Road & Yountville Cross Road*
Highway 29	Four-lane Arterial Roadway	LOS C	LOS C	Between California Drive & Oak Knoll Avenue

Source: Napa County Baseline Data Report, Chapter 11, Transportation and Circulation (2005).

Notes:

- * The segment of Silverado Trail affected by the Project was not analyzed for the General Plan; therefore, the Sage Canyon Road-to-Yountville Cross Road – the next segment north – is presented here for comparison.

Alternative Transportation Modes

Napa Valley VINE provides fixed-route bus transit service primarily along the State Highway 29 corridor from Vallejo in the south to Calistoga in the north. The Yountville area is served by one pair of local service routes (10N/10S) and another pair of express service routes (29N/29S) – both pairs being northbound/southbound on Highway 29. The local Yountville Trolley operates within the Town itself and connects with the other local VINE routes and larger VINE system.

As it is a tourist destination, the Town and the larger Napa Valley provide opportunity for bicycling. In response, Napa County designated a number of its roadways as bicycle routes. In the Yountville area,

Silverado Trail, Yountville Cross Road, and Solano Avenue [south of the Town limit] have Class 2 bicycle lanes. Class 2 provides a striped lane for one-way bike travel on a street or highway.

Outside of its commercial core, roadways in the Town and surrounding unincorporated Napa County do not provide dedicated sidewalks or other walkways for pedestrian passage. This is the case for roadways which would be affected by the Project (see above).

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The two criteria presented above under XVI Transportation and Traffic were used to determine the extent of potential impact the Project may have on transportation and traffic in the Project area. While they are CEQA criteria, they are also used in this document to assess adverse environmental effects under NEPA.

Estimated Additional Traffic Generated by Construction Activities

Impacts to area roadways are evaluated based upon the estimated additional traffic during Project construction relative to the existing roadway volumes. It is estimated that Phase 1 construction activities would occur over an eight-month period extending from April to November, 2013. Phase 1 would be constructed near Veterans Memorial Park and within private vineyard roads as shown on Figure 3 in the Project Description. At the start and end of the construction period, heavy equipment would be delivered to/from the construction site. These would be activities limited to a few scheduled events. The equipment would be stored within designated staging areas (e.g., JTP, public rights-of-way, and vineyard roads) over the duration of the construction period. The majority of construction-related traffic would consist of daily employee trips (assuming an 8 person construction crew) and periodic truck trips for material delivery and off-haul of material from removal activities. During Phase 1 construction, it is estimated that 1,235 cubic yards of soil would be removed from the Project site. Assuming a haul truck capacity of 8 cubic yards for excavated materials, the Project would generate 155 construction-related round trips for excavation throughout the period of construction. These trips would occur over the course of 28 weeks, five days a week, for an estimated daily peak two round trips per day. Based on these assumptions, the maximum number of Project construction trips expected to occur on any day during construction is 10 including worker trips, excavation materials hauling, and materials delivery.

Phases 2 and 3 would occur in a similar time period in future years. Phase 2 would be constructed along Land Lane as shown on Figure 4 in the Project Description. Access to the construction area would be via Highway 29. Phase 3 would be constructed along the shoulder of Silverado Trail, and at the JTP as illustrated on Figure 5 in the Project Description. During Phase 2 construction, it is estimated that 1,165 cubic yards of soil would be removed from the Project site. Assuming a haul truck capacity of 8 cubic yards for excavated materials, the Project would generate 146 construction-related round trips for excavation throughout the period of construction. These trips would occur over the course of 28 weeks, five days a week, for an estimated daily peak of approximately three round trips. Based on these assumptions, the maximum number of Project construction trips expected to occur on any day during Phase 2 construction is 10 including worker trips, excavation materials hauling, and materials delivery.

During Phase 3 construction, it is estimated that 1,110 cubic yards of soil would be removed from the Project site. Assuming a haul truck capacity of 8 cubic yards for excavated materials, the Project would generate 139 construction-related round trips for excavation throughout the period of construction. These trips would occur over the course of 28 weeks, five days a week, for an estimated daily peak of approximately three round trips. Based on these assumptions, the maximum number of Project construction trips expected to occur on any day during Phase 3 construction is nine.

To minimize potential traffic circulation impacts attributable to Project construction, Project Measure 2: Traffic Control Plan, described in the Project Description section, provides the means by which these impacts could be reduced to a less-than-significant level. This measure requires developing a traffic control plan to minimize the impacts of construction traffic on Project area roadways and at key intersections during construction. The traffic control plan would include using flag control during work

hours when equipment or materials are delivered to the work area, establishing detour routes to be used in order to maintain access during various phases of the project's construction, and restricting all construction traffic to normal daytime business hours, unless the Town identifies a need for off-hours routing to avoid impacts on peak-hour commute traffic.

XVI. a & b) Conflict with an Applicable Plan, Ordinance, Policy, or Program (e.g., Congestion Management Program) Establishing Measures of Effectiveness for the Performance of the Circulation System – Less than Significant

The addition of a small number of temporary vehicle trips during this period would not cause violation of the performance standards set forth in the general plans. However, the periodic presence of larger haul trucks and equipment could divert drivers attention from the road and potentially cause temporary and/or random degradation of LOS as motorists reduce speed. With Project Measure 2: Traffic Control Plan, incorporated into this Project, this potential impact is considered less than significant.

Operation of the Project would require several monthly trips to the JTP and occasional visits to various pipeline locations for repair and maintenance. However, the amount of new trips would not result in substantial volume increases because maintenance workers would access the JTP from Highway 29 and the number of trips required for maintenance purposes would be low. LOS levels would be unchanged. Therefore, the impact would be less than significant for the operation of all phases of the Project.

XVI. c) Result in a Change in Air Traffic Patterns – No Impact

The Project does not involve operations of any public or private airport. The Project does not involve permanent above-ground structures, or construction equipment that would be tall enough, to cause a conflict with air traffic patterns. Therefore, the Project would have no impact on air traffic patterns.

XVI. d & f) Result in Substantially Increased Hazards Due to a Design Feature or Incompatible Use, or Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of Such Facilities – Less than Significant

Construction traffic can create travel hazards due to lane closures, slow and oversized vehicles, transport of oversized construction equipment, construction vehicle parking, and the presence of workers. Construction of Phase 1 would not require roadway closures, although construction vehicles would be present on local roadways. Construction of Phase 2 would require partial closure of Land Lane. Portions of Silverado Trail would require lane closures during pipeline installation in Phase 3. Silverado Trail through the Project area is an existing Class II Bike Lane and part of the existing Primary Bikeway Network as identified in the Napa County Transportation & Planning Agency's Napa Countywide Bicycle Plan (NCTPA 2012). The Primary Bikeway Network, as defined in the Draft Napa Countywide Bicycle Plan Update Overview, consists of a selection of existing and proposed Class I, Class II, and Class III bikeways that provide inter-city and inter-county routes along with connections to other transportation modes, major destinations, jobs, neighborhoods, recreation, and local bicycle networks. The bicycle lane is striped and signed on the shoulders of both sides of Silverado Trail in the Project area. Construction of Phase 3 would require partial lane closures along the west side of Silverado Trail and would temporarily affect bicycle access on the roadway. Bicycle access would not be affected during Project operations, because the pipeline would be buried. The Project would not inhibit implementation of the Napa County Transportation & Planning Agency's Countywide Bicycle Plan, nor would the short-term construction impacts be in conflict with the Plan's objectives for the bicycle route. No designated pedestrian facilities or bus stops would be impacted by Project construction.

As required in Project Measure 2, the Town would require the contractor to develop a Traffic Control Plan as part of the Project. The plan would detail access to each portion of the Project area, including those properties and paths that may experience temporary delay. Should entire roadways need to be closed during construction, detour routes would be established with coordination and approval from the Town for

Town-maintained roadways and from Napa County for County-maintained roadways. The Traffic Control Plan would be implemented during construction to minimize delay and inconvenience during construction, including potential impacts to bicycle riders. Therefore, the impact during construction would be less than significant.

The Project would not construct above-ground structures in area roadways. Therefore, once constructed, the Project would not impact the operation of area roadways and associated bicycle and pedestrian facilities.

XVI. e) Result in Inadequate Emergency Access – Less than Significant

Emergency access in the area could also be affected during Project construction; specifically, temporary lane closures and construction-related traffic could delay or obstruct the movement of emergency vehicles. Construction of the Phase 3 pipeline along Solano Avenue would pass in front of the Napa County Fire Department's Yountville Fire Station. This impact is considered less than significant with implementation of Project Measure 2: Traffic Control Plan, which would require the contractor to develop a plan to minimize the impacts of construction traffic on Project area roadways and at key intersections. The Traffic Control Plan would detail access to each portion of the Project area, including those properties and paths that may experience temporary disruption of emergency access, and assign detour routes and measures to be used to maintain emergency access during various phases of Project construction. This would include consulting with the Napa County Fire Department to provide notification in advance of the timing, location, and duration of construction activities. The impact on emergency access would be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than- Significant Impact	No Impact
XVII. Utilities and Service Systems				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
c) 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?				✓
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				✓
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

AFFECTED ENVIRONMENT

The JTP is owned and operated by the Town and treats domestic wastewater from the Town and the Veterans Home of California. The JTP is designed to treat an average dry weather flow of 0.55 MGD, and has hydraulic capacity to handle a peak flow of 2.0 MGD. Tertiary treatment is provided at the JTP for flows up to 1.0 MGD but when flows exceed 1.0 MGD, the tertiary treatment facilities are bypassed and secondary treatment is provided until the total flow received at the JTP falls back below 1.0 MGD. This typically occurs during storm events in winter months. Flows in excess of the JTP's secondary treatment capacity are stored in a 3.5 million gallon pond for later treatment. The treated wastewater flows to an effluent storage pond for discharge to the Napa River or for recycling and reuse for restricted access golf course irrigation and drip irrigation of vineyards (RWQCB 2010). In 2011, the Town submitted an Engineering Report to the California Department of Public Health for certification that tertiary treated water meets the minimum criteria for disinfected tertiary recycled water as defined in Title 22. Tertiary treated water meeting this criterion allows for reuse of the water for any application permitted under Title 22.

The nearest solid waste disposal facility to the Project area is the Clover Flat Landfill located at 4380 Silverado Trail, just south of Calistoga. The Clover Flat Landfill is permitted to receive up to 600 tons of waste daily and has an ultimate permitted volumetric capacity of 5,100,000 cubic yards. This facility has a remaining capacity of 2,599,500 cubic yards (CalRecycle 2011). This facility is permitted through 2021, although it will likely be able to operate for at least 10 years beyond that date (Napa County 2009).

DISCUSSION / ENVIRONMENTAL CONSEQUENCES

The seven criteria listed above under XVII Utilities and Service Systems were used to determine the extent of potential impact the Project may have on utilities and service systems. While they are CEQA criteria, they are also used in this document to assess potential adverse environmental effects under NEPA.

XVII. a & e) Exceed Applicable Wastewater Treatment Requirements or Wastewater Treatment Capacity – No Impact

Tertiary treatment of wastewater is provided at the JTP for flows up to 1.0 MGD but when flows exceed 1.0 MGD, the tertiary treatment facilities are bypassed and secondary treatment is provided until the total flow received at the Plant falls back below 1.0 MGD. Treated effluent from the JTP meets the minimum standards for Disinfected Secondary – 2.2 Recycled Water as defined in Title 22 of the California Code of Regulations. The purpose of the Project is to allow the Town to comply with the provision C.4 of Order No. R2-2010-0082. It is Phase IIa of the recycled water system upgrades required by this Order.

The Project would increase the wastewater treatment storage capacity of the recycled water system, but would not change the systems' wastewater treatment capacity. The Project is designed to balance the supply and demand of recycled water, based on current average yearly production. If recycled water is not available, recycled water customers would continue to use other sources of water for irrigation purposes, similar to pre-project conditions. The Project would not cause an exceedance of wastewater treatment requirements. No impact would occur.

XVII. b) Require Construction or Expansion of New Water or Wastewater Treatment Facilities – No Impact

The Project would expand the Town's existing recycled water distribution system to reduce discharge to the Napa River and to expand operational flexibility and reliability in accordance with provision C.4 of Order No. R2-2010-0082. The objective of the Project is to provide tertiary (and sometimes secondary) treated recycled water to existing and new customers. The capacity of the wastewater treatment plant would not change as a result of the Project; therefore, no impact would occur.

XVII. c) Require Construction or Expansion of New Storm Water Drainage Facilities – No Impact

The Project would not require the construction or expansion of new storm drainage facilities. The Project improvements at the JTP would occur at the existing facility and would not affect storm water drainage. The recycled water pipelines would be buried underground, and the ground surface would be restored to pre-Project conditions at the conclusion of construction. No new impervious surfaces would be constructed as part of the Project, and no long-term alterations to existing drainage conditions would occur that would require construction or expansion of storm water drainage facilities. No impact would occur.

XVII. d) Have Sufficient Water Supplies to Serve the Project – No Impact

The Project would not require delivery of potable water supply, and is not a water supply project. The Project would provide tertiary and secondary treated recycled water for existing agricultural use to reduce recycled water discharge to the Napa River. The Project is designed to achieve a water balance between the supply and demand of recycled water by increasing storage capacity and providing the infrastructure

to distribute recycled water to existing storage irrigation storage ponds. Currently, Tier 2 users utilize Napa River water and groundwater to fill their irrigation storage ponds. With implementation of the Project, recycled water would be distributed to Tier 2 irrigation storage ponds when available, thereby reducing the use of groundwater for irrigation uses. When tertiary treated water is not available, due to the JTP capacity for treating flows, secondary treated water would still be available for agricultural irrigation. If no recycled water is available (tertiary or secondary), Tier 2 users would continue to be able to obtain groundwater or Napa River water, similar to pre-Project conditions. In either scenario, Tier 2 users would continue to have adequate supply of irrigation water and no new entitlements or resources would be required. No impact would occur.

The pipeline along Silverado Trail would serve to deliver water to future Tier 3 customers if and when they are identified. Because Tier 3 customers have not been identified, there are no effects associated with Tier 3 users at this time. In the event that Tier 3 customers are identified, the Town would assess the impacts to water balance and sufficiency of water supplies. No impact would occur.

XVII. f & g) Have Sufficient Landfill Capacity and Comply with Statutes Related to Solid Waste – Less than Significant

During construction, there would be a temporary increase in solid waste disposal needs associated with construction wastes. Construction wastes for the Project may include excess pavement, concrete, and soil associated with pipeline installation. During Project operation, additional solid waste would be generated from occasional pipeline maintenance and repair. The closest solid waste disposal facility to the Project area is Clover Flat Landfill, which has sufficient capacity to accommodate the Project's solid waste. The impact would be less than significant.

THIS PAGE LEFT INTENTIONALLY BLANK

4. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
Would the project:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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)?			✓	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

4. a & c) Degrade the Quality of the Environment - Less than Significant with Mitigation.

With implementation of the project measures and the recommended mitigation measures, the Project does not have the potential to degrade the quality of the environment, including fish or wildlife species or their habitat, plant or animal communities, or important examples of the major periods of California history or prehistory.

As described in Section IV of this Initial Study, any potential environmental impacts from the proposed Project would be mitigated to less-than-significant levels. The Town would be responsible for ensuring standard mitigation measures and additional recommended mitigation measures for impacts in the areas of air quality, biological resources, cultural resources, greenhouse gases, hydrology, and noise are properly implemented. With these measures in place, the potential for project-related activities to degrade the quality of the environment would be reduced to less-than-significant levels.

4. b) Cumulative Impacts - Less than Significant

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. This Joint EA/ IS-Proposed MND utilizes the "plan" approach, per CEQA

Guidelines Section 15130(d), to determine if the Project as a whole makes a considerable contribution to a significant cumulative impact. Cumulative impacts have been identified using the summary of projections contained in the Napa County General Plan (2008) and the Yountville General Plan (Town of Yountville 1994).

The Napa County General Plan EIR (2007) identified significant and cumulatively considerable impacts related to growth of population and housing, transportation and circulation, biological resources, noise, air quality, geology and soils, hydrology/water quality, cultural and paleontological resources, public services and utilities. Each of these cumulative impacts is summarized in more detail below.

Population/Housing/Employment Impacts

A significant, unavoidable and cumulatively considerable population/housing/employment impact was identified in the Napa County General Plan EIR and the Yountville General Plan (Town of Yountville 1994) related to growth in employment, population and housing units that is substantially greater than regional projections. The Project would not contribute to the growth of employment, population and housing units beyond regional projections identified in the Napa County General Plan EIR. The Project would temporarily increase employment opportunities during construction of the Project, but construction workers are expected to derive from the existing employee pool in the region. Following construction, operation of the JTP and recycled water distribution system would not require additional employees. The Project does not include the development of new facilities or housing, and does not provide recycled water infrastructure beyond what is required to balance the existing supply and demand of recycled water. Therefore, the Project would not contribute to this cumulative impact.

Transportation and Circulation Impacts

A significant, unavoidable and cumulatively considerable transportation impact was identified in the Napa County General Plan EIR and the Yountville General Plan (Town of Yountville 1994) related to significant increases in traffic and congestion in relation to existing traffic load and capacity of the street system within the County and adjacent jurisdictions, including roadway segments within the Town. The Project would not contribute to congestion identified in the Napa County General Plan EIR. The Project would include temporary, construction-related trips; however, the project would not increase traffic during project operations. . Operation of the Project would require several monthly trips to the JTP and occasional trip to pipeline locations for maintenance and repair. However, the amount of new trips would not result in substantial volume increases as maintenance traffic would occur along roadways not currently affected by traffic and operational trips would be limited in number.. The Project would not cause a permanent increase in traffic levels. Therefore, the Project as a whole would not contribute to this cumulative impact.

Biological Resources Impacts

A significant, unavoidable and cumulatively considerable biological resources impact was identified in the Napa County General Plan EIR related to loss of sensitive biotic communities and oak woodland as a result of urban, rural and vineyard development in Napa County. Sensitive biotic communities include riparian woodland and forest, coniferous forest and wetlands; these biotic communities found near the Project site.

The Project is mostly located in existing vineyard service roads, or other public roadways. The Project would not impact biological resources present near the Napa River where sensitive biologic communities are present. No impacts would occur.

The pipeline route would cross vineyard drainage ditches identified as freshwater marsh habitat and seasonal wetlands as discussed in the Biological Resources section. The pipeline would cross seasonal wetlands and drainages during the dry season. Impacts to these features would be temporary and mitigated through Mitigation Measure BIO-2: Avoid or Restore Jurisdictional Wetlands and Waters

Temporarily Affected by Construction. With the implementation of Mitigation Measure BIO-2, Project impacts would be fully mitigated and therefore, the Project would not contribute to this cumulative impact.

Noise Impacts

A significant, unavoidable and cumulatively considerable noise impact was identified in the Napa County General Plan EIR related to traffic-related noise along local and regional roadways and highways, including Highway 29 within and adjacent to the Town of Yountville. Although the Project would include temporary, construction-related vehicle trips, which would generate traffic-related noise, this noise generation would occur sporadically during the construction period, and would not contribute to the ongoing noise impact described in the Napa County General Plan. Operation of the Project would require several monthly trips to the JTP. However, the amount of new trips would not result in substantial increases in daily trips and therefore would not cause a permanent increase in traffic-related noise. Therefore, the Project as a whole would not contribute to this cumulative impact.

Air Quality Impacts

Significant, unavoidable and cumulatively considerable air quality impacts were identified in the Napa County General Plan EIR due to land use and growth that could conflict with existing regional standards to achieve attainment of ambient air quality standards for ozone and particulate matter.

Significant and unavoidable impacts were also identified related to land use and growth contributing to an increase in GHG emissions from vehicle transportation, wood burning devices, building energy use and possibly agricultural operations.

The Project would not contribute to construction or operation phase air pollutant emissions, GHG emissions, or toxic air contaminant impacts as discussed in the Air Quality section. Project construction air quality and GHG emissions would be within thresholds identified by the BAAQMD and EPA, and therefore are considered less than significant. The Project would not increase population or long-term vehicle miles traveled or otherwise create new sources of emissions. The Project energy demand and GHG emissions for the Joint Treatment Plant's recycled water distribution system would be the same or less than the energy used before implementation of the Project. The use of recycled water at Tier 2 irrigation storage ponds would result in less pumping of river water and groundwater, which would reduce electricity usage and GHG emissions. Therefore, the Project would not contribute to these cumulative impacts.

Geology and Soils Impacts

A significant, unavoidable and cumulatively considerable was identified in the Napa County General Plan EIR related to impacts from severe seismic ground shaking and increasing population in a seismically active area. The Project is a recycled water, and it would not increase population and would not construct new housing. The Project would be designed to meet current seismic standards in conformance with applicable building codes, agency seismic design standards, and engineering standards of practice. With implementation of these design measures, the pipeline is expected to withstand seismic damage and ground shaking. The Project would not construct housing or new facilities which could result in an increase in population. Therefore, the Project would not contribute to these cumulative impacts.

Hydrology/Water Quality Impacts

A significant, unavoidable and cumulatively considerable hydrology/water quality impact was identified in the Napa County General Plan EIR related to increased demand on groundwater supplies, leading to groundwater decline and overdraft, which could contribute to cumulative water supply conditions. The Project is a recycled water use project and it would not contribute to cumulative water supply conditions. The Project would reduce the use of groundwater for irrigation uses by providing recycled water for irrigation (when available) to users who currently use for irrigation all or part of the time. The Project

would not require the use of groundwater supplies. Therefore, the Project would not contribute to this cumulative impact.

Cultural and Paleontological Resources Impacts

A significant, unavoidable and cumulatively considerable cultural and paleontological resources impact was identified in the Napa County General Plan EIR related to the disturbance of cultural and paleontological resources (i.e. prehistoric sites, historic structures, and isolated artifacts and features) and human remains. The Project would not contribute to cumulative impacts from the disturbance of cultural and paleontological resources. Potential Project impacts to cultural and paleontological resources would be fully mitigated by the measures described in the Cultural Resources section which provide the standard procedures for handling cultural and paleontological resources if they are encountered. Therefore, the Project would not contribute to this cumulative impact.

Public Services and Utilities

A significant, unavoidable and cumulatively considerable public services and utilities impact was identified in the Napa County General Plan EIR related to increased demand for additional sources of potable and irrigation water as well as additional or expanded treatment and distribution facilities to meet projected demands under the General Plan. The Project would not contribute to cumulative public services and utilities conditions. The Project would reduce the use of groundwater and river water for irrigation uses by providing recycled water for irrigation (when available) to users who currently use groundwater and River water for irrigation all or part of the time. The Project would provide the infrastructure to distribute the current volume of recycled water produced annually. The Project would not increase the production of recycled water beyond the amounts identified in the General Plan. The Project serves to distribute the current amounts of recycled water produced by the Town to existing irrigation users. The Project would not increase population, and does not include the development of new housing or facilities such that expanded water and wastewater treatment would be required. Therefore, the Project would not contribute to this cumulative impact.

No other significant cumulative impacts were identified in the Napa County General Plan EIR. Therefore, the Project as a whole would not contribute to any significant cumulative impacts.

5. OTHER REQUIRED ANALYSES

ENVIRONMENTAL JUSTICE

Executive Order 12898 (EO 12898) requires federal agencies to identify and address adverse human health or environmental effects of federal programs, policies, and activities on minority and low-income populations. Enacted in 1994, EO 12898 directs each Federal agency to make environmental justice part of its mission. Federal agencies must identify and address the human health or environmental effects of its actions on minority and low-income populations through this EO.

Criteria used for determining the significance of socioeconomic and environmental justice impacts are based on based on EO 12898 and CEQ's NEPA regulations. Because CEQA does not identify social and economic effects as significant, NEPA regulations were used to determine potential effects. Impacts were considered significant if the proposed Project would:

- Change local employment opportunities; or
- Disproportionately affect minority communities or low-income communities.

Change Local Employment Opportunities – No Impact

The proposed Project would affect temporary, short-term employment during construction through the employment of construction workers. Once installed, operation of the Project would not generate new permanent jobs. Neither construction nor operation of the Project would have a potential employment impact on the labor market. Additionally, neither construction nor operation of the Project would involve the displacement of existing employment-generating businesses or the establishment of new employment-generating businesses. No impact would occur.

Expenditures by Project-related employees would be limited to the period of short-term construction. Thus, induced employment generated by the Project, including the handling of consumer goods and services provided, and would likely have little measurable effect on the local economy. Furthermore, due to the large size of the surrounding urban community, consumer goods and services are readily available in a number of places outside of the Project area; therefore, the Project is expected to have a less-than-significant socioeconomic effect on employment. No mitigation is required.

Disproportionately Affect Minority or Low-Income Communities - Less than Significant

The EPA's guidelines for incorporating environmental justice concerns into NEPA analyses identify an area with a minority population as one where the minority population constitutes more than 50% of the area's total population, or is "meaningfully greater" than the percentage in the surrounding region. A minority is defined as referring to the following population groups: American Indian/Alaskan Native, Asian or Pacific Islander, Black (non-Hispanic), and Hispanic (U.S. EPA 1998). The EPA identifies an area as low-income if the low-income population is more than 50% of the area's total population, or is "meaningfully greater" than the percentage of low-income residents in the surrounding region. Low-income refers to households with an income below the federal poverty level (U.S. EPA 1998). As guided by the above criteria, this section uses demographic.

The demographic characteristics of Napa County from the 2010 Census indicate a predominantly White population (71.5%) (U.S. Census Bureau 2010). According to the 2010 census data for the three census tracts encompassing the Project area (Napa County census tracts 2012, 2013, and 2014.01), Whites comprise 80-90% of the population in the Project area. This indicates that the Project would not result in disproportionate impacts to any minority or low-income portion of the community. The Project would not

exclude, deny, or subject persons to discrimination as any environmental effects would not be located in a high minority or low-income census tract area. No impact would occur.

INDIAN TRUST ASSETS

Indian trust assets (ITAs) are legal interests in assets held in trust by the federal government for Indian tribes or individual Indians. The trust relationship usually stems from a treaty, executive order, or act of Congress. ITAs are anything that holds monetary value, which can include real property, physical assets, or intangible property rights. Examples of trust assets are lands, minerals, hunting and fishing rights, and water rights.

NEPA requires the evaluation of potential impacts to ITAs. The Project does not have a potential to affect Indian Trust Assets. The nearest ITA is Middletown Rancheria approximately 27 miles NW of the Project location (Rivera 2011).

ENERGY RESOURCES

Construction of the Project would require the use of fuels for a variety of construction activities, including excavation, grading, and vehicle travel to and from the Project area which would result in a temporary increase in energy use. Energy used in construction has not been estimated, however, measures have been adopted as part of the Project that would promote efficiency. Project Measure 1, Basic Air Quality Measures, requires the contractor to maintain construction equipment per manufacturers' specifications and specifies actions to limit vehicle idling time. Given the temporary nature of construction activities, construction is not expected to cause wasteful use of fuel or encourage use of large amounts of energy resources. Therefore, energy use during Project construction would be less than significant.

Following construction, the equipment upgrades at the JTP, including the RWPS and SCADA system, would increase the efficiency and therefore reduce overall energy use for the recycled water distribution system. The SCADA improvements would automate the recycled water distribution system, and vehicle trips and energy use required for manual operation of the system would be reduced. The addition of the Phase 2 pipeline would reduce friction losses in the system and would enable the Town to supply additional recycled water to the furthest location while using less energy due to decreased friction losses in the pipeline. Operation of the Project also has the potential to reduce current energy use from the pumping of groundwater for irrigation. The recycled water would replace groundwater and River water used for irrigation for all or part of the year, thereby reducing groundwater pumping. The resulting net energy demand would be equal to or less than the existing conditions. Therefore, energy use during Project operation would be less than significant.

UNAVOIDABLE ADVERSE IMPACTS

CEQA requires that lead agencies disclose any unavoidable Project-related impacts. Implementation of the Project would not result in any unavoidable adverse impacts on the physical, biological, or social and economic environment.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Under NEPA, federal lead agencies must disclose any commitments of resources associated with the Project that may be irreversible or irretrievable. Implementation of the Project would require irretrievable commitment of fuels, petroleum, and electricity to support the construction, operation, and maintenance of the Project.

SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

The irretrievable commitment of fuels, petroleum, and electricity to support the construction, operation, and maintenance of the Project would be substantially off-set by the long-term gains of increasing the reliability and quality of the recycled water supply, maximizing water reuse alternatives, and reducing effluent discharges into the Napa River. The new pipelines would primarily be installed in existing vineyard service roads or other previously-disturbed areas to limit disturbance to existing vineyard grapevines and jurisdictional wetlands and waters. The equipment upgrades at the JTP would not result in the loss or conversion of resources as the improvements would occur at the existing site that would not require new construction.

GROWTH-INDUCING IMPACTS

A project may be growth-inducing if it directly or indirectly fosters economic or population growth or the construction of additional housing, removes obstacles to population growth or taxes community services to the extent that the construction of new facilities would be necessary, or encourages or facilitates other activities that cause significant environmental effects.

As noted in Section XIII, Population and Housing, the purpose of the Project is to allow the Town to comply with its NPDES permit requirements and to expand and improve delivery of recycled water for beneficial reuse in existing agricultural operations and recreational facilities. The intent is not to open up currently undeveloped areas to future residential and commercial development.

The Project would affect temporary, short-term employment during construction through the employment of construction workers. Construction workers would likely be drawn from the construction employment labor force already residing in the region and from local construction firms. It is not likely that construction workers would relocate their place of residence as a consequence of working on the Project.

Once installed, operation of the Project is not anticipated to generate new permanent jobs. Operation of the Project would not result in new infrastructure beyond the Project's recycled water pipelines. No additional expansion of infrastructure and utilities would be required. Neither construction nor operation of the Project would have a potential employment impact on the labor market.

For these reasons, it is not anticipated that the proposed Project would have substantial growth-inducing effects.

CUMULATIVE EFFECTS

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Projects cumulative effects are addressed in Section VI Mandatory Findings of Significance. It is concluded that the Project would have no cumulative effects.

THIS PAGE LEFT INTENTIONALLY BLANK

6. CONSULTATION AND COORDINATION

SUMMARY OF PUBLIC INVOLVEMENT

The Town will conduct public outreach on the Project during the CEQA process. Public Notices and copies of the EA/IS/Proposed MND will be sent to agencies, organizations and individuals. Public meetings will be held during Town Council consideration of the EA and IS/Proposed MND. The EA/IS/Proposed MND will be posted on Reclamation's website and will be available for review for 30 days.

EA AND IS/PROPOSED MND DOCUMENT DISTRIBUTION

The Draft EA/IS/Proposed MND was submitted to the State Clearinghouse (15 copies) on June 12, 2012. The public review for the document is from June 12, 2012 to July 24, 2012 and oral comments will be received at the August 7 2012 Town Council meeting.

FINAL MND/NOD

The Town consider adoption of the MND and approve the Project at the August 7, 2012 Town Council meeting. The Notice of the Determination for project approval would be filed with the County Clerk and State Clearinghouse within five days.

PUBLIC MEETINGS

On August 26, 2011 the Town conducted a workshop with existing and potential recycled water users. At the workshop, the Town provided an overview of the recycled water program including drivers for the program and current customers, recycled water quality and allowable uses and the proposed expansion project including the need for storage and benefits of offsetting groundwater use.

On March 23, 2012, the Town conducted a second workshop describing alternatives, financing methods and potential costs share. The Town provided an overview of the background and purpose of the recycled water system, the recommended project scope and benefits, existing rate structure, and proposed rate structure. The existing and potential customers seemed agreeable to the project.

A public meeting will be held on August 7, 2012 at which time the Town Council will consider the EA/IS/Proposed MND. The public has an opportunity provide oral comments to the Council during the meeting.

COMPLIANCE WITH FEDERAL STATUTES AND REGULATIONS

This section describes the status of compliance with the relevant federal laws, executive orders and policies, and the consultation that has occurred to date or will occur in the near future. Most of these regulations involve ongoing compliance, which would occur in coordination with preparation of the EA & IS/Proposed MND.

Federal Endangered Species Act

Pursuant to the Federal Endangered Species Act (FESA), U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) have authority over projects that may result in take of a federally listed species. Funder FESA, the definition of "take" is to "Harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." USFWS has also

interpreted the definition of “harm” to include significant habitat modification that could result in take. If there is a likelihood that a project would result in take of a federally listed species, either an incidental take permit, under Section 10(a) of FESA, or a federal interagency consultation, under Section 7 of FESA, is required.

A list of threatened and endangered species in the project area was obtained from the FWS (See Appendix C). Reclamation requested concurrence from FWS on June 11, 2012 that the proposed action is not likely to adversely affect the federally-listed threatened red-legged frog.

Clean Water Act

The Clean Water Act (CWA) is the primary surface water protection legislation throughout the country. The CWA aims to restore and maintain the chemical, physical, and biological integrity of surface waters to support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.” The U.S. Environmental Protection Agency is the Federal agency with primary authority for implementing regulations adopted pursuant to the CWA, and has delegated the authority to implement and oversee most of the programs authorized or adopted for CWA compliance to U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Boards (RWQCB).

NPDES General Permit for Stormwater Discharges Associated with Construction Activity from the State Water Resources Control Board

Under the CWA Section 402, stormwater discharges from construction activities that disturb one or more acres, or smaller sites that are part of a larger common plan of development, are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater program. Prior to discharging stormwater, construction operators must obtain coverage under an NPDES permit, which, in California, is administered by the State Water Resources Control Board (SWRCB). Because the Project will disturb one or more acre, the Town will obtain the necessary permit from SWRCB prior to beginning any project-related work.

Section 404 Permit from the U.S. Army Corps of Engineers

Under Section 404 of the CWA, the permanent disposal of dredged or fill material into Waters of the U.S. is regulated by USACE. Waters of the U.S. include territorial seas, tidal waters, and non-tidal waters, including wetlands. A permit from the USACE is required prior to any work being completed within Waters of the U.S.

The Town will obtain the necessary permits from USACE prior to beginning any project-related work in Waters of the U.S., if necessary.

Section 401 Water Quality Certification from the RWQCB for wetland and waters impacts

Under Section 401 of the CWA, states have the right to ensure that the State’s interests are protected on any federally permitted activity occurring in or adjacent to Waters of the State. In California, the RWQCBs are the agencies mandated to ensure protection of the State’s waters. If a project requires an USACE Section 404 permit and has the potential to impact Waters of the State, the local RWQCB will regulate the project and associated activities through a Water Quality Certification determination (Section 401). A permit from the North Coast RWQCB is required prior to any Project work being completed within Waters of the State.

The Town will obtain the necessary permits from RWQCB prior to beginning any project-related work in Waters of the State, if necessary.

Section 10 of the Rivers and Harbors Act of 1899

Under Section 10 of the Rivers and Harbors Act of 1899, the construction of structures in, over, or under, excavation of material from, or deposition of material into “navigable waters” are regulated by USACE.

Navigable waters of the United States are defined as those waters subject to the ebb and flow of the tide shoreward to the mean high-water mark or those that are currently used, have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. A Letter of Permission or permit from the USACE is required prior to any work being completed within navigable waters.

The Town will obtain the necessary permits from USACE prior to beginning any project-related work in navigable waters, if necessary.

Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended in 1992) requires Federal agencies to evaluate the effects of Federal undertakings on historical, archaeological, and cultural resources, and to consult with the Advisory Council on Historic Preservation concerning potential effects of Federal actions on historic properties. Before Federal funds are approved for a particular project or prior to the issuance of any license, the effect of the project on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register shall be evaluated.

To comply with NHPA, notices of public meetings for this project will be sent to the SHPO, which acts as an intermediary for the Advisory Council on Historic Preservation. A copy of this Draft MND will be sent to SHPO, as a unit of the California Department of Parks and Recreation, request its review and soliciting input on the Project.

Based on the findings documented in the cultural resource report, Reclamation (the lead Federal Agency) will likely conclude that no historic properties will be affected by the proposed undertaking (36 CFR Part 800.4(d)(1)). Pursuant to the 36 CFR Part 800 regulations outlining the Section 106 process, Reclamation will entered into consultation with the SHPO on a determination of effect of no historic properties affected. The consultation package will be sent to the California SHPO. The SHPO is afforded 30 days to comment on each determination made by Reclamation.

Native American Consultation

Implementing regulations for Section 106 require that Federal agencies identify potentially affected Indian tribes that might have knowledge of sites of religious and cultural significance in the APE (36 CFR 800.3[f](2)). If any such properties exist, the regulations require that Federal agencies invite Indian tribes to participate in the Section 106 process as consulting parties.

A fax was sent to the State of California Native American Heritage Commission (NAHC) to ask for a review of the Sacred Lands file for information on Native American traditional cultural resources for the proposed APE on June 9, 2011 (Montgomery 2011). A response was received on July 16, 2011 indicating that the commission has no records on file for the APE, but provided a list of six Native American individuals/organizations who may have knowledge of cultural resources within the APE. These individuals and were contacted by letter on July 1, 2011 and a follow-up letter with a corrected APE map was sent on July 9, 2011. A response from Nick Tipon from the Federated Indians of Graton Rancheria was received on July 18, 2011. It stated that the APE lies outside of their recognized traditional territory and had no other comments. On August 22, 2011, Vincent Salsedo, a representative of the Mishewal-Wappo Tribe of Alexander Valley contacted ASC and expressed an interest in the Project. Mr. Salsedo accompanied the archaeologists during a site visit on November 22, 2011 (ASC 2011c) and requested to be kept informed of the survey findings. Mr. Salsedo was provided with the written findings of the survey.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact of Federal programs with respect to the conversion of farmland to nonagricultural uses. It ensures that, to the extent possible, Federal programs are administered to be compatible with state, local, and private programs and policies to protect farmland. The Natural Resources Conservation Service (NRCS) is the agency primarily

responsible for implementing the FPPA. Agricultural resources are addressed in Section 3.2 “Agriculture and Forest Resources”. The Town and Reclamation will submit this EA & IS/Proposed MND to the NRCS for its comment.

Executive Order 11988 (Floodplain Management)

Executive Order 11988—Floodplain Management (May 24, 1977) directs Federal agencies to issue or amend existing regulations and procedures to ensure that the potential effects of any action it may take in a floodplain are evaluated and that its planning programs and budget requests reflect consideration of flood hazards and floodplain management. Guidance for implementation of the Order is provided in the floodplain management guidelines of the U.S. Water Resources Council (40 CFR 6030; February 10, 1978) and in A Unified National Program for Floodplain Management, prepared by the Federal Interagency Floodplain Management Taskforce.

The Town and Reclamation have considered Executive Order 11988 in their development of this EA & IS/Proposed MND and have complied with this order.

Executive Order 11990 (Protection of Wetlands)

The purpose of Executive Order 11990 is to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” To meet these objectives, the Order requires Federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. The Order applies to:

- acquisition, management, and disposition of Federal lands and facilities construction and improvement projects which are undertaken, financed or assisted by Federal agencies; and
- Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

The Town and Reclamation have considered Executive Order 11990 in their development of this EA & IS/Proposed MND and have complied with this order. The Town has taken a number of actions to minimize project effects on wetlands (see Section 3.4, Biological Resources) and will be pursuing a Clean Water Act Section 404 permit from USACE.

Executive Order 12898 (Environmental Justice)

Executive Order 12898, Section 2-2, requires all Federal agencies to conduct programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color or national origin. Section 1-101 requires Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations. This EA & IS/Proposed MND has identified and described the project’s potential to result in disproportionately high and adverse human health or environmental effects on minority and low-income populations (see analysis of Environmental Justice in Chapter 5, Other Required Analysis), as required by this order.

STATE AND LOCAL REQUIREMENTS

Operationally, the Town has coverage for an expanded recycled water project under its Master Reclamation Permit (General Order 96-011). In order to add additional users, the Town will need to update its Engineering Report that is on file with the California Department of Public Health (CDPH) and the RWQCB to add the additional use area(s).

When the recycled water project is completed, a new Notice of Intent would be issued by updating the pages of the existing Recycled Water (RW) Program Manual that are impacted by the improvements to the system, and a new RW Program Manual could be produced.

Other permits and approvals anticipated:

- Napa County: Grading permit; Encroachment Permit; Floodplain Permit.
- San Francisco Bay RWQCB: Amendment to the Town's existing water reuse NPDES permit and compliance with any of the following potentially required permits.
- Streambed Alteration Agreement from the California Department of Fish and Game for stream crossings and riparian impacts, if any;

THIS PAGE LEFT INTENTIONALLY BLANK

7. PREPARERS

The following GHD team members prepared this Joint Environmental Assessment and Initial Study/Proposed Mitigated Negative Declaration.

Preparers:

Carrie Lukacic
Senior Environmental Scientist, GHD

Carol Kielusiak
Senior Environmental Scientist, GHD

David D. Davis, AICP
Senior Planner, GHD

Brian Bacciarini
Senior Environmental Scientist, GHD

Chelsea Phlegar
Planner, GHD

Reviewers:

Ted Whiton
Project Manager, GHD

Kristine Gaspar
Senior Planner, GHD

Graham Wadsworth
Town of Yountville Public Works Director/Town Engineer

Doug Kleinsmith
Natural Resources Specialist, U.S. Bureau of Reclamation

Tony Overly
Archeologist, U.S. Bureau of Reclamation

THIS PAGE LEFT INTENTIONALLY BLANK

8. REFERENCES

- Anthropological Studies Center, Sonoma State University (ASC). 2011a. A Cultural Resources Study for the Yountville Recycled Water Expansion Project. July.
- ASC. 2011b. An Addendum to A Cultural Resources Study of the Yountville Recycled Water Expansion Project. September 20.
- ASC. 2011c. An Additional Addendum to A Cultural Resources Study of the Yountville Recycled Water Expansion Project. December 15.
- Association of Bay Area Governments (ABAG). Earthquake Shaking Scenarios. Accessed online on December 16 at <http://quake.abag.ca.gov/shaking/>
- ABAG. 1995. Dam Failure Inundation Hazard Map for Yountville. Accessed on December 27, 2011 online at <http://www.abag.ca.gov/bayarea/eqmaps/damfailure/dfpickc.html>
- ABAG. 2003. Interactive WUI Fire Threat Map. Accessed December 20, 2011 online at <http://quake.abag.ca.gov/wildfires/>
- Bay Area Air Quality Management District (BAAQMD). 2011a. California Environmental Quality Act, Air Quality Guidelines. May 1.
- BAAQMD. 2011b. Air Quality Standards and Attainment Status. Accessed online on December 15, 2011 at: http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm
- BAAQMD. 2010. Bay Area 2010 Clean Air Plan. September 15.
- Bay Area Air Quality Management District (BAAQMD). 1999. California Environmental Quality Act Guidelines. December.
- California Air Resources Board. 2011. Area Designation Maps / State and National. Accessed on December 15, 2011 at <http://www.arb.ca.gov/desig/adm/adm.htm>.
- California Department of Conservation. 2008. Division of Land Resource Protection. Napa County Williamson Act Lands 2007. October.
- California Department of Conservation. 2011. Division of Land Resource Protection. Napa County Important Farmland 2010. May.
- California Department of Finance. 2011a. 2011 City Population Rankings, California Cities Ranked by 1/1/2011 Total Population. Accessed on December 29, 2011. http://www.dof.ca.gov/research/demographic/reports/estimates/cities_ranked/view.php
- California Department of Finance. 2011b. California County Population Estimates and Components of Change, Revised July 1, 2010 and Preliminary July 1, 2011. Accessed on December 29, 2011. <http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/view.php>
- California Department of Forestry and Fire Protection (CALFIRE). 2008. Napa County, Very High Fire Hazard Severity Zone in Local Responsibility Area. September 28.
- California Department of Transportation. California Scenic Highway Mapping System, Napa County. Accessed December 12, 2011: http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

- California Geological Survey. 2007. Northern California cities and counties affected by SHMP Zones. Accessed online on January 5, 2012 at:
<http://www.conservation.ca.gov/cgs/shzp/Pages/affected.aspx>
- California Regional Water Quality Control Board San Francisco Bay Region (RWQCB). 2010. NPDES Permit No. CA 0038121 Order No. R2-2010-0072. May 18.
- CalRecycle. 2011. Active Landfills Profile for Clover Flat Landfill (28-AA-0002). Accessed on January 6, 2012 at:
<http://www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=28&FACID=28-AA-0002>
- EDR. 2011. Yountville Recycled Water Project. EDR DataMap Area Study. November 30.
- Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment.
- Napa County. 2005. Napa County Baseline Data Report.
- Napa County. 2007. General Plan Draft EIR. February 16.
- Napa County. 2011. Napa County Zoning. May.
- Napa County. 2008. Napa County General Plan. June.
- State Water Resources Control Board. 2011. Geotracker. Accessed on December 20, 2011 at
<https://geotracker.waterboards.ca.gov/>.
- Town of Yountville. 1994 (6th Printing in 2003). Yountville General Plan.
- Town of Yountville. 2005. Plans to Increase Wastewater Recycling and Initiate Zero Discharge, Town of Yountville/Veterans Home of California Joint Wastewater Treatment Plant (NPDES Permit No. CA0038121, Order No. R2-2004-0017). September 28.
- Town of Yountville. 2010. Town of Yountville General Plan Land Use Map & Zoning Districts. June.
- Town of Yountville. n.d. Fire & Emergency Medical Services. Accessed on December 14, 2011 at
<http://www.townofyountville.com/index.aspx?page=228>
- U.S. Environmental Protection Agency (EPA). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.
- EPA. 1998. Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses. Washington, DC: U.S. Government Printing Office.
- EPA. 2006. 40 CFR Parts 51 and 93. PM_{2.5} De Minimis Emission Levels for General Conformity Applicability. Accessed on December 16, 2011 online at:
<http://www.epa.gov/airquality/genconform/documents/Jul06/EPA-HQ-OAR-2004-0491-0026.pdf>
- EPA. 2010. 40 CFR Parts 51, 52, 70, and 71. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.
- EPA. Final California 2010 Integrated Report (303(d) List/305(b) Report).
- EPA. 2011a. General Conformity De Minimis Levels. July 22. Accessed online on December 15, 2011 at:
<http://www.epa.gov/airquality/genconform/deminimis.html>

- EPA. 2011b. General Conformity Frequently Asked Questions. July 22. Accessed online on December 15, 2011 at: <http://www.epa.gov/airquality/genconform/faq.html>
- EPA. 2011c. The Green Book Nonattainment Areas for Criteria Pollutants. August 30. Accessed online on December 15, 2011 at <http://www.epa.gov/oagps001/greenbk/index.html>
- National Resource Conservation Service. 2011. Web Soil Survey for Napa County. Accessed on December 16, 2011 online at: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- Rivera, Patricia L. 2011. Personal Communication between Patricia L. Rivera, Reclamation, to Douglas H. Kleinsmith, Reclamation regarding Yountville Recycling ITA, December 16 forwarded to Chelsea Phlegar, GHD on March 5, 2012.
- United States Geological Survey (USGS). 1997. USGS Open File Report 97-745 E, 1997. Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region.
- USGS. 2006. Liquefaction Susceptibility Map. Based on work by William Lettis & Associates, Inc., USGS Open-File Report 00-444, Knudsen & others, 2000 and USGS Open-File Report 2006-1037, Witter & others.
- USGS. 2011. Seismic Hazard Mapping. Accessed on December 16, 2011 online at <http://geohazards.usgs.gov>
- U.S. Department of the Interior, Bureau of Reclamation 2012. *Reclamation's NEPA Handbook*. February.
- U.S. Forest Service. 2009. National Forests in California. Accessed on December 5, 2011 online at: <http://www.fs.fed.us/r5/forests.shtml>
- U.S. Fish and Wildlife Service. 2011. Habitat Conservation Plans Report - California. January 6. Accessed on January 6, 2012 at http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReportSelect?region=8&type=HCP.
- Valerius, Jane. 2012. Personal communication between Jane Valerius, Biologist, and Carrie Lucacic, GHD, regarding results of plant survey. March 12.
- Wagner, D.L. and Gutierrez, C.I. 2010. Preliminary Geologic Map of the Napa 30' x 60' Quadrangle.
- Watershed Information Center & Conservancy of Napa County (WICC). ND. BC Coniferous Forest (Napa River). Accessed on December 14, 2011 at: http://www.napawatersheds.org/app_folders/view/256
- WICC. ND. BC Oak Woodlands (Napa River). Accessed on December 14, 2011 at: http://www.napawatersheds.org/app_folders/view/256
- WICC. ND. BC Rock Outcrop (Napa River). Accessed on December 14, 2011 at: http://www.napawatersheds.org/app_folders/view/256
- Winzler & Kelly. 2011. Technical Memorandum No. 2: Town of Yountville Recycled Water Expansion Project – Feasibility Study. September 16.

Appendix A

Mitigation, Monitoring and Reporting Plan

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<p>Project Measure 1: Basic Air Quality Measures</p> <p>The Town shall implement the Bay Area Air Quality Management District's Basic Construction Measures, which consist of the following:</p> <ul style="list-style-type: none"> • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered up to two times per day as necessary to reduce dust. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • 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. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • 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 corrective action within 48 hours. The Air District's phone number shall 	Town of Yountville	During construction	Ongoing during construction	Implement BMPs

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
also be visible to ensure compliance with applicable regulations.				
<p>Project Measure 2: Traffic Control Plan</p> <p>The Town shall require the contractor to develop a traffic control plan to minimize the impacts of construction traffic on Project area roadways and at key intersections used during construction. The traffic control plan shall include the following provisions and may include other measures if a further need is identified.</p> <ul style="list-style-type: none"> Location(s) of designated Project construction staging areas. Post warning signage at points where construction traffic will enter or leave Solano Avenue, Land Lane, and Silverado Trail Use flag control during work hours when equipment or materials are delivered to the work area. Detour routes to be used in order to maintain access during various phases of the Project's construction. Restrict all construction traffic to normal daytime business hours, unless the Town identifies a need for off-hours routing to avoid impacts on peak-hour commute traffic. Consult with the Napa County Fire Department and provide notification of the timing, location, and duration of construction in the vicinity of the Yountville fire station. In order to minimize any potential overlap with other construction and roadway improvement project(s), the contractor shall work with the Town and Napa County to identify the routes and intersections that should be avoided, as well as appropriate alternate travel routes or times. The plan shall address routes to minimize construction traffic on State Highway 29 during peak hours. 	Town of Yountville	Prior to Construction	Ongoing during construction	Develop and Implement Traffic Control Plan
Mitigation Measure AES-1: Development of Trenching Techniques to Minimize Tree Loss along Washington	Town of Yountville	Prior to construction	Ongoing during	Develop and implement trenching

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<p>Street</p> <p>The Town shall retain a certified arborist to evaluate Project construction plans and develop special trenching techniques to minimize the potential for tree impacts and tree loss along Washington Street. Construction activities within the dripline of trees adjacent to adjacent to trenches shall be avoided to the extent feasible during construction. Pruning of trees shall be completed by either a certified arborist or by the contractor under supervision of either an International Society of Arboriculture qualified arborist, American Society of Consulting Arborists consulting arborist, or a qualified horticulturalist. If trees are damaged or lost, trees shall be replaced in accordance with Chapter 12.16 of the Town's Municipal Code (Tree Ordinance) in a manner that retains the functionality of visual screening along Washington Street.</p>			construction	techniques to minimize tree damage
<p>Mitigation Measure BIO-1: Avoid Impacts to California Red-legged Frog</p> <p>The Town shall implement the following measures to avoid impacts to California red-legged frogs during construction within 50 feet of the agricultural irrigation ponds:</p> <ol style="list-style-type: none"> Ground disturbing construction activities shall be limited to the dry season period from April 1 through November 1 to avoid potential red-legged frog dispersal events. A qualified biologist shall conduct a pre-construction survey immediately preceding any construction activity within 50 feet of the irrigation ponds. The biologist shall remain on-site during ground disturbing construction within 50 feet of a pond. If a CRLF is encountered during construction, all construction activities in the immediate area shall cease until the animal moves away of its own volition. Construction cannot begin until the CRLF has left the construction area. If CRLF do not leave the site to allow for 	Town of Yountville	Prior to construction	Ongoing during construction	Conduct pre-construction surveys; implement minimization measures as needed.

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<p>construction, the Town shall contact USFWS for direction on how to proceed.</p> <p>d. Prior to the start of construction, a USFWS-approved biologist shall train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices before the start of construction.</p> <p>e. Because dusk and dawn are often the times when CRLF are most actively foraging and dispersing, all construction activities shall cease one-half hour before sunset and shall not begin prior to one-half hour before sunrise. All vehicle parking shall be restricted to previously determined staging areas or existing roads.</p> <p>f. The fueling and maintenance of vehicles and other equipment shall occur at least 20 meters (65 feet) from any riparian habitat or water body.</p>				
<p><i>Mitigation Measure BIO-2: Conduct Preconstruction Nesting Surveys for Nesting Passerines and Raptors</i></p> <p>If construction is scheduled to start between January 31 and October 1, a qualified biologist shall conduct preconstruction nesting surveys within 48 hours of construction for nesting passerines (small songbirds) and raptors. Trees within a 200-foot radius shall be included in the surveys. If active nests are located in the work area, the biologist, in consultation with CDFG, shall establish an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. A minimum of a 50-foot buffer zone shall be placed around passerine nests and 250-foot buffers shall be placed around raptor nests. If a qualified biologist determines that less of a buffer zone is acceptable, the size of the buffer zone may be reduced upon approval by CDFG.</p>	Town of Yountville	Prior to construction	Ongoing during construction	Conduct pre-construction surveys; implement minimization measures as needed.

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<p><i>Mitigation Measure BIO-3: Avoid or Restore Jurisdictional Wetlands and Waters Temporarily Affected by Construction</i></p> <p>The Town shall implement avoidance and minimization measures, including best management practices (BMPs), to protect jurisdictional wetlands and waters during construction. Materials and fluids generated by construction activities shall be placed at least 25 feet away from wetland areas or drainages until they can be disposed of at a permitted site. All wetlands and waters areas located adjacent to the construction zone that could be affected by construction activities shall be temporarily fenced off and designated as environmentally sensitive areas to prevent accidental intrusion by workers and equipment.</p> <p>The Project shall be designed to avoid impacts to SW-1, SW-3, and FWM-2 to the extent feasible. The pipeline shall be designed for installation along the vineyard or roadway edge and outside the vineyard irrigation ditch/seasonal wetland.</p> <p>The following measures shall be implemented where construction impacts to jurisdictional waters and wetlands cannot feasibly be avoided. A wetland and waters restoration plan shall be prepared prior to construction. The restoration shall include, but not be limited to, the following measures:</p> <ul style="list-style-type: none"> • Install pipelines when wetlands are dry. • Restore original contours and drainage patterns, both into and out of the wetland. • Spread a cover of straw, rice straw if available, over disturbed soils and work into soil. • Apply an organically based tackifier on disturbed areas to reduce air and water erosion of soils. • Plants shall be installed, maintained and replaced such that 70 percent of the design plant density is present on the five-year anniversary of plant installation. 	Town of Yountville	During Project Design		Avoid where feasible and restore where impacts occur

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
Mitigation Measure CR-1: Avoid Known Resources To avoid potential impacts to ASC-41-11-02, pipeline trenching shall be rerouted to avoid the resource to leave a 30 foot buffer between the resource and any ground disturbance or equipment use.	Town of Yountville	During Project Design	Ongoing During Construction	Reroute pipeline trenching, create buffer
Mitigation Measure CR-2: Prepare a Cultural Resources Monitoring Plan and Implement a Subsurface Archaeological Inventory Prior to construction, a Cultural Resources Monitoring Plan and a subsurface archaeological inventory shall be completed to identify specific portions of the APE that are likely to be sensitive for containing previously undiscovered buried archaeological deposits. A qualified archaeologist shall prepare the monitoring plan and complete the subsurface archaeological survey. The study shall utilize a variety of archival sources including ethnographic literature, previous archaeological studies with subsurface components within the project vicinity, and geological history and soil survey data for the surrounding area. If sensitive areas are present within the APE, a work plan shall be prepared that defines methods for determining the presence or absence of archaeological deposits within those sensitive areas. The work plan shall consist of an augering program that shall focus on areas identified as potentially culturally sensitive within both the horizontal and vertical APE. Areas identified as culturally sensitive will be those that a) contain a surface archaeological component, such as ASC-41-11-02; b) are identified as a likely location for prehistoric habitation based on ethnographic descriptions of the area and resources present; or c) are identified as areas containing stable landforms with a likelihood of buried deposits due to underlying geologic and soil formation processes. Frequency and spacing of auger holes shall depend on the type of sensitivity identified.	Town of Yountville	Prior to construction	Ongoing During Construction	Complete Cultural Resources Monitoring Plan and subsurface archaeological inventory

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<p><i>Mitigation CR-3 Avoid Significant Resources or Implement Data Recovery Program</i></p> <p>If buried archaeological resources are found during the subsurface archaeological inventory, the archaeologist shall evaluate the resource(s) to determine its significance. For any resource that is determined to be significant, the archaeologist shall assist the Reclamation in assessing the Project's effect on the property. If the effect would be adverse (if the project would alter, directly or indirectly, any of the characteristics of a historic property that qualify it for listing in the National Register) then the Town shall redesign the Project to avoid any adverse effect on the significant resource where feasible. If the adverse effect cannot be avoided, an archaeological data recovery program shall be undertaken. The archaeologist shall prepare a draft data recovery plan that identifies how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The Plan shall identify the scientific/historic research questions applicable to the resource, the data classes the resource is expected to possess, and how the data classes would address the applicable research questions. Data recovery, in general, shall be limited to the portions of the historic property that could be adversely affected by the Project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical.</p> <p>All the above-described procedures shall be completed in consultation with the SHPO and interested parties, including the scope of the resource identification efforts, the evaluation of significance of identified archaeological resources, the assessment of effects, and the development of the data recovery program.</p> <p>To satisfy the requirements of CEQA, any identified resource that does not meet National Register eligibility criteria, shall be</p>	Town of Yountville	Prior to construction	Ongoing During Construction	Evaluate, redesign and avoid significant resources if necessary.

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
evaluated to determine if it constitutes either a historical resource or unique archaeological resource pursuant to CEQA Guidelines Section 15064.5. For any identified historical or unique archaeological resource, the archaeologist shall assess whether or not the Project would cause a substantial adverse change in the significance of the resource. If the Project would cause such an adverse change, the Project shall be redesigned to avoid the resource if possible, or a program of data recovery shall be implemented in accordance with standard archaeological methods.				
<p><i>Mitigation Measure CR-4: Treatment of Archaeological Resources Discovered During Construction</i></p> <p>If archaeological materials are encountered during construction activities, the piece of equipment that encounters the materials must be stopped, and the find inspected by a qualified archaeologist to evaluate the materials and recommend appropriate treatment. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.</p> <p>In the case of an unanticipated archaeological discovery, if it is determined that the find is unique under NHPA and/or potentially eligible for listing in the National Register, and the site cannot be avoided, the Town shall develop a research design and excavation plan, prepared by an archaeologist, outlining recovery of the resource, analysis, and reporting of the find. Treatment and resolution may include modifying the Project to allow the materials to be left in place, or undertaking data recovery of the materials in accordance with standard</p>	Town of Yountville	If encountered	Ongoing During Construction	Halt work, and develop and implement research and excavation plan, if necessary

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
archaeological methods; protection and preservation of resources is preferable if feasible. The research design and excavation plan shall be submitted to Reclamation who would notify the SHPO and the Native American representatives. Reclamation shall approve the plan prior to construction being resumed.				
Mitigation Measure CR-5: Protection and Preservation of Paleontological Materials If paleontological resources (e.g., vertebrate bones, teeth, or abundant and well-preserved invertebrates or plants) are encountered during construction, the Town shall halt ground-disturbing work in the vicinity of the find. Work near the find shall not be resumed until a qualified paleontologist has evaluated the materials and offer recommendations for further action, including salvage of any significant paleontological resources.	Town of Yountville	If encountered	Ongoing During Construction	Halt work, notify and evaluate materials, if necessary
Mitigation Measure CR-6: Procedures for Encountering Human Remains If human remains are discovered, potentially damaging activities shall be halted and no further excavation of the remains or nearby area can occur until the Napa County Coroner has made necessary findings as to the origin of the remains, in accordance with the Health and Safety Code 7050.5. The Town shall immediately notify the County Coroner and a professional archaeologist to determine the nature of the remains. If the Coroner determines that the remains are of Native American origin, the Town shall notify the Native American Heritage Commission within 24 hours of identification, as well as the Reclamation representative. Remains shall be treated in accordance with Public Resources Code §5097.9	Town of Yountville	If encountered	Ongoing During Construction	Halt work and notify County Coroner and/or NAHC and USBR if necessary.
Mitigation Measure GEO-1: Geotechnical Study A California registered Geotechnical Engineer shall conduct a design-level geotechnical study for the Project. Borings shall be advanced in select areas of the pipeline route to evaluate	Town of Yountville	During Project Design		

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
areas susceptible to liquefaction and expansiveness and recommendations to repair, stabilize, or avoid such soils shall be provided. Measures may include, but would not be limited to, removal of soils prone to seismically-induced liquefaction or shrinking and swelling, soil stabilization such as lime treatment, use of restrained joint pipes, and other measures. The recommendations made in the geotechnical study shall be incorporated into the final plans and specifications and implemented during construction.				
Mitigation Measure HYD– 1: Storm Water Pollution Prevention Plan The Town shall obtain coverage under SWRCB Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. The City shall submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the State Water Resources Control Board. The SWPPP shall address pollutant sources, non-storm water discharges resulting from construction dewatering, best management practices, and other requirements specified in the Order. The BMPs shall include any measures included in the erosion and sediment control plans developed for the Project to minimize disturbance after grading or construction. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment. The Town shall ensure that a Qualified SWPPP Practitioner oversees implementation of the SWPPP, including visual inspections, sampling and analysis, and ensuring overall compliance.	Town of Yountville	Prior to construction	Ongoing during construction	Develop and implement SWPPP.
Mitigation Measure HYD– 2: Construction Dewatering If construction dewatering is required, the Town shall evaluate reasonable options for dewatering management. The following management options shall be considered:	Town of Yountville	Prior to construction	Ongoing during construction	Evaluate options for dewatering management and select dewatering

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<ul style="list-style-type: none"> Reuse the water on-site for dust control, compaction, or irrigation. Retain the water on-site in a grassy or porous area to allow infiltration/evaporation. Discharge (by permit) to a sanitary sewer or surface water (this option may require a temporary method to filter sediment-laden water prior to discharge). <p>If discharging to the sanitary sewer, the Town shall issue a one-time discharge permit or other type of approval requiring, as necessary, measures for characterizing the discharge and ensuring filtering methods and monitoring to verify that the discharge is compliant with the Town's local wastewater discharge requirements.</p> <p>If discharging to a local surface water or storm drain, the discharge shall be managed as a non-storm water discharge and control measures shall be included in the SWPPP prepared under Order No. 2009-0009-DWQ. The Town shall characterize the groundwater prior to discharge and implement control measures, such as settling and/or filtration to ensure that excessive sediment is not discharged, and manage discharge rates to prevent erosion downstream.</p>				method, if discharging to local surface water or storm drain, obtain coverage under General Permit.
<p>Mitigation Measure HYD-3: Frac-Out and Undercrossing Contingency Plan</p> <p>If drilling mud is needed during construction, the Town shall develop and follow procedures to prevent the mix used during drilling from being discharged into Chase Creek when installing pipelines using trenchless construction methods. The plan shall address how the contractor would manage pressures and the volume of lubricant used to prevent frac-out.</p> <p>The plan shall also address procedures to follow in the event a frac-out occurs. Drilling activities shall be visually monitored for any sign of lubricant frac-out and should frac-out occur, the contractor shall complete the following:</p>	Town of Yountville	Prior to construction	Ongoing during construction	Develop and implement Frac-Out and Undercrossing Contingency Plan

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<ul style="list-style-type: none"> Stop pumping lubrication. Locate the point and cause of the frac-out. Contain the spill to the maximum extent possible. Clean up the spill to the maximum extent possible. Wait at least two hours before pumping lubrication near the frac-out point to allow the ground to seal. Reduce pumping pressure and volume in the area of the frac-out. <p>Notify all designated authorities that a frac-out occurred, including but not limited to the California Department of Fish and Game.</p>				
<p>Mitigation Measure NOI-1: Noise Reduction Measures</p> <p>During Project construction, the Town and its contractor(s) shall implement the following measures such that noise from construction does not exceed 70 dBA at noise-sensitive uses during daytime hours.</p> <ul style="list-style-type: none"> Construction work shall occur between 8 a.m. and 6 p.m. daily for all areas of the Project, and work shall not occur within 400 feet of Saint Joan of Arc Catholic Church during church services. If noise levels exceed 70 dBA at the Saint Joan of Arc Church during installation of the pipeline under Highway 29, then the contractor shall erect a temporary 12-foot high sound barrier around the sending/receiving pit to reduce the noise levels at the church to adjacent to the Saint Joan of Arc Church and adjacent to the Golf Course. The barrier shall remain in place for the duration of pipeline installation. Use quietest available equipment and electrically-powered equipment, rather than internal combustion engines where feasible. Equipment and on-site trucks used for Project 	Town of Yountville	Prior to construction	Ongoing during construction	Hold pre-construction meeting, develop and implement noise reduction measures.

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
<p>construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible). All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and resulting lower noise levels.</p> <ul style="list-style-type: none"> Impact tools (e.g., jack hammers, pavement breakers) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. An exhaust muffler on the compressed-air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, which could achieve a reduction of 5 dBA. A preconstruction meeting shall be held between the job inspectors and the contractor/on-site project manager to confirm that noise mitigation and practices are completed prior to commencement of construction (including construction hours, neighborhood notification, etc.). An on-site complaint and enforcement manager shall be posted to respond to and track any noise complaints. The manager shall be responsible for responding to any complaints regarding construction noise and for coordinating with the adjacent land uses. The manager shall determine the cause of any complaints and coordinate with the construction team to implement effective measures (considered technically and economically feasible) warranted to correct the problem. The telephone number of the on-site complaint and enforcement manager shall be posted at the construction site and provided to neighbors in a notification letter. The manager shall be trained to use a sound level meter and 				

APPENDIX A - MITIGATION, MONITORING AND REPORTING PLAN

Mitigation Measure	Verify Compliance/ Monitoring Responsibility	Timing of Initial Action	Monitoring Frequency and Duration	Action Items
should be available during all construction hours to respond to complaints.				

Appendix B

RoadMod Assumptions & Input

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> Yountville Recycled Water Expansion Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	7.6	28.0	40.8	3.0	2.2	0.7	2.2	2.0	0.1	4,678.9
Grading/Excavation	8.1	33.0	43.6	3.3	2.6	0.7	2.5	2.3	0.1	5,330.1
Drainage/Utilities/Sub-Grade	6.9	26.7	35.9	2.9	2.2	0.7	2.2	2.0	0.1	4,450.2
Paving	5.7	21.1	23.0	1.9	1.9	-	1.8	1.8	-	2,622.2
Maximum (pounds/day)	8.1	33.0	43.6	3.3	2.6	0.7	2.5	2.3	0.1	5,330.1
Total (tons/construction project)	1.9	7.6	10.2	0.8	0.6	0.2	0.6	0.6	0.0	1,238.6

Notes:	Project Start Year ->	2013
	Project Length (months) ->	24
	Total Project Area (acres) ->	7
	Maximum Area Disturbed/Day (acres) ->	0
	Total Soil Imported/Exported (yd ³ /day)->	12

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Yountville Recycled Water Expansion Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	3.4	12.7	18.5	1.3	1.0	0.3	1.0	0.9	0.1	2,126.8
Grading/Excavation	3.7	15.0	19.8	1.5	1.2	0.3	1.1	1.1	0.1	2,422.8
Drainage/Utilities/Sub-Grade	3.2	12.1	16.3	1.3	1.0	0.3	1.0	0.9	0.1	2,022.8
Paving	2.6	9.6	10.4	0.9	0.9	-	0.8	0.8	-	1,191.9
Maximum (kilograms/day)	3.7	15.0	19.8	1.5	1.2	0.3	1.1	1.1	0.1	2,422.8
Total (megagrams/construction project)	1.8	6.9	9.2	0.7	0.6	0.1	0.5	0.5	0.0	1,123.5

Notes:	Project Start Year ->	2013
	Project Length (months) ->	24
	Total Project Area (hectares) ->	3
	Maximum Area Disturbed/Day (hectares) ->	0
	Total Soil Imported/Exported (meters ³ /day)->	9

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

RoadMod Assumptions & Inputs

Construction Start Year: 2013 (source: project description)

Project Type: 2

Project Construction Time: 8 months for each phase = 24 months total (5 days per week, 4 weeks per month, 24 months = 480 days)

Predominant Soil/Site Type: Sand Gravel. The geology map shows the underlying geology in the Project area as consisting of Holocene stream terrace deposits (Qhty), Holocene alluvial fan deposits (Qhf), Holocene alluvium (Qha), and the stream channel deposits of the Napa River.

Project Length: 28,590 LF = 5.41 miles

Total Project Area = 28,590 LF x 10 ft widest construction width (sending/receiving pit) = 6.56 acres

Water Trucks used = Yes

Worker Trips = Estimated Project average of 8 employees for the construction crew (an additional four employees would be needed during trenchless construction, but this would be a very small percentage of the time; 12 employees for entire 480 day duration would not accurately represent the Project).

Construction Periods

User override of construction periods, based on information from Project engineers.

Soil Estimates

Inputs were derived from Table 1 in the project description. The default truck capacity was override. Truck haul capacity is assumed to be 8 CY.

- Soil Imported: 0 CY
- Soil Exported: 5,570 CY total

If the Project were to last 480 days, the average soil exported would be 11.6 CY/day (5,570 CY/480 days = 11.6 CY/day).

Soil Hauling Emissions

Landfill trip assumptions utilize RoadMod defaults and assumptions that on any given day three trips would occur to the nearest landfill, Clover Flat Landfill. The estimate overrides the default assumption and uses 40 miles as the roundtrip driving distance from the farthest (eastern-most) point of the Project area (eastern end of the Phase 2 pipeline) to the end of Clover Flat Road.

Production Rate

- Silverado Trail
 - 235 LF/day, pipeline installation rate (source: project description)
 - 8,100 LF of pipeline to install
 - 235 LF/day * 5 ft construction width = 1,175 sq ft. or 0.03 acre disturbed per day
- Rest of pipeline (Phase 1, Phase 2 and Phase 3 minus Silverado Trail)
 - 315 LF/day, pipeline installation rate (source: project description)

- 20,490 LF of pipeline to install
- $315 \text{ LF/day} * 10 \text{ ft construction width} = 3,150 \text{ sq ft}$ or 0.072 acre disturbed per day

Appendix C-1
Special-Status Wildlife Species List

TABLE 1
Special-Status Wildlife Species List – Yountville Recycled Water Study Region

Species	Status		Habitat Association	Occurrences
	Federal	State		
Invertebrates				
<i>Syncaris pacifica</i> California freshwater shrimp	FE	FE	Endemic to Marin, Napa and Sonoma Counties, found in low elevation, low gradient streams where riparian cover is moderate to heavy.	Suitable habitat present in Napa River. There is one CNDDDB record (occurrence 5) is a population found in 1990 in Huichica Creek (a tributary to Napa River) approximately 10 miles south of the study area. Project activities would not occur within 550 feet of the river. No impact would occur.
Fish				
<i>Oncorhynchus tshawytscha</i> Central Valley spring-run chinook salmon	FT		Requires beds of loose, silt-free, well-oxygenated coarse gravel for spawning. After hatching, juveniles spend at least one summer in the freshwater rearing areas, so the stream must have either perennial flow or cool intermittent pools with subsurface flow, shade, food, and shelter during the dry season.	Central Valley spring-run chinook salmon are known to spawn in the Napa River between Oakville Cross Road and Zinfandel Lane Bridge (approximately 3 miles north of the study area and have been caught elsewhere during yearly monitoring of Napa River salmonids (NCRCD 2010). . No impact would occur.
<i>Oncorhynchus mykiss irideus</i> Steelhead – Central California Coast DPS	FT	--	From Russian River south to Soquel Creek and to, but not including the Pajaro River. Also San Francisco and San Pablo Bays. Requires beds of loose, silt-free, well-oxygenated coarse gravel for spawning. After hatching, juveniles spend at least one summer in the freshwater rearing areas, so the stream must have either perennial flow or cool intermittent pools with subsurface flow, shade, food, and shelter during the dry season.	Suitable habitat present in Napa River. There is one CNDDDB record (occurrence 7) some juveniles found in 2003 in Huichica Creek (a tributary to Napa River) approximately 10 miles south of the study area. . No impact would occur.
<i>Hypomesus transpacificus</i> Delta smelt	FT	--	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 PPT. Most often at salinities < 2 PPT.	No suitable habitat present.

TABLE 1
Special-Status Wildlife Species List – Yountville Recycled Water Study Region

Species	Status		Habitat Association	Occurrences
	Federal	State		
Amphibians				
<i>Rana boylei</i> Foothill yellow-legged frog	--	SC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Suitable habitat present in Napa River. The nearest CNDDDB record (occurrence 119) is for frogs observed in 1956 in Dry Creek, approximately 0.5 miles south of the study area. .No impact would occur.
<i>Rana draytonii</i> California red-legged frog	FT	--	Occurs in a variety of ponds, sloughs, low-gradient streams, and low-salinity lagoons. Adults may forage in, and migrate through, terrestrial grasslands, riparian woodlands, and forests, but require weedy, slow moving or standing water that persists through most of the dry season for successful reproduction. Introduced bullfrogs and predatory fish are implicated in the decline of red-legged frogs throughout their range.	Suitable habitat present in irrigation ponds. The nearest CNDDDB record (occurrence 739) for adult frogs observed in 2003 Oak Moss Creek approximately 8.7 miles east of the study area. Although project construction activities would not affect the ponds, individuals may be present in the area, minimization measures would be needed to protect individuals during construction.
Reptiles				
<i>Emys marmorata</i> Western pond turtle	FUR	SC	Ponds, marshes rivers, streams, and irrigation ditches that have emergent or riparian vegetation and sunny basking sites. Upland nesting habitat consists of friable soil exposed to full sun.	Suitable habitat present in irrigation ponds. The nearest CNDDDB record (occurrence 458) is for turtles observed in Skellenger Creek and Conn Creek approximately 3.6 miles north of the study area. There are several records of pond turtles found in irrigation ponds within a 10 mile radius of the study area. Project construction would not affect the ponds; and therefore no impacts would occur.

TABLE 1
Special-Status Wildlife Species List – Yountville Recycled Water Study Region

Species	Status		Habitat Association	Occurrences
	Federal	State		
Birds				
<i>Elanus leucurus</i> White-tailed kite	--	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands.	Suitable nesting habitat present. The nearest CNDDDB record (occurrence 15) for the white-tailed kite is for a nest observed in 1988 in Napa River Ecological Reserve approximately one mile north of the study area.
<i>Haliaeetus leucocephalus</i> Bald eagle	--	SE	Ocean shore, lake margins and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large old-growth or dominant live tree with open branches, especially ponderosa pine.	No suitable habitat present.
<i>Sternula antillarum browni</i> California least tern	FE	SE	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates, sand beaches, alkali flats, landfills, or pave areas.	No suitable habitat present.
<i>Cypseloides niger</i> Black swift	--	SC	Coastal belt; breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf.	No suitable habitat present.
<i>Progne subis</i> Purple martin	--	SC	Inhabits woodlands, low elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine.	No suitable habitat present.
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	--	SC	Inhabits fresh and salt water marshes of the San Francisco Bay Region. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, and willows for nesting.	Not likely to occur. The study area is nearly 20 miles north of salt marsh habitat.
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	--	SC	Residents of salt marshes along the north side of San Francisco and San Pablo Bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	No suitable habitat present.

TABLE 1
Special-Status Wildlife Species List – Yountville Recycled Water Study Region

Species	Status		Habitat Association	Occurrences
	Federal	State		
<i>Agelaius tricolor</i> Tricolored blackbird	--	SC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Suitable habitat present in the vegetation surrounding the irrigation ponds. The nearest CNDDDB record for this species (occurrence 244) is for a nesting colonies observed in 1993 approximately 13 miles south of the study area in a wetland that formed in a borrow pit near the Hwy 29 bridge where it crosses over the Napa River south of Napa.
Mammals				
<i>Myotis yumanensis</i> Yuma myotis	--	--	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings, or crevices.	No suitable habitat present.
<i>Lasiurus blossevillii</i> Western red bat	--	SC	Roosts primarily in trees, 2 – 40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	No suitable habitat present.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--	SC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	No suitable habitat present.

TABLE 1
Special-Status Wildlife Species List – Yountville Recycled Water Study Region

Species	Status		Habitat Association	Occurrences
	Federal	State		
<i>Antrozous pallidus</i> Pallid bat	--	SC	Roosts in caves, mine tunnels, crevices in rocks, bridges, buildings, and hollowed trees.	Suitable habitat present in the Napa River riparian corridor. There are two CNDDDB records for pallid bat (occurrences 329 and 422) approximately 4.8 miles north of the study area. About a dozen adults were captured and released during a 1998 study near Lake Hennessey. Roosting sites were observed in the same general area in 2007. Mature trees within the study area could provide maternity roosting sites for the pallid bat. No trees would be removed during construction of the Project.
<i>Reithrodontomys raviventris</i> Salt marsh harvest mouse	FE	SE FP	Occur only in the saline emergent wetlands of San Francisco Bay and its tributaries.	No suitable habitat present.
<i>Taxidea taxus</i> American badger	--	SC	Dry open stages of most shrub, forest and herbaceous habitats with friable soils.	No suitable habitat present.

Status Legend

Federal:

FE = Listed as endangered under the Federal Endangered Species Act

FT = Listed as threatened under the Federal Endangered Species Act

FM = Protected under the Federal Marine Mammal Act

State:

SE = Listed as endangered under the California Endangered Species Act

ST = Listed as threatened under the California Endangered Species Act

SC = Species of special concern under the California Endangered Species Act

FP = Fully Protected under the California Endangered Species Act

TABLE 1

Special status plant species with the potential to occur within the project area based on a search of the CNDDDB and the CNPS on-line inventory for the Yountville USGS quadrangle. 2012.

Scientific Name Common Name	Status USFWS/ CDFG/ CNPS list	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Calycadenia micrantha</i> Small-flowered calycadenia	-/-/1B.2	Chaparral, meadows and seeps (volcanic), grassland on roadsides, rocky , talus, scree, and sometimes serpentinite soils in sparsely vegetated areas. Blooms June to September. Annual herb.	Low. There is limited habitat for this species within the project area. This species was not observed during the July 14, 2011 site visit.
<i>Ceanothus purpureus</i> Holly-leaved ceanothus	-/-/1B.2	Chaparral, cismontane woodland on volcanic, rocky soils. Blooms February to June. Perennial evergreen shrub.	None. No species of <i>Ceanothus</i> were noted during survey conducted on July 14, 2011.
<i>Downingia pusilla</i> Dwarf downingia	-/-/2.2	Grassland (mesic), vernal pools. March-May. Annual herb.	Low. Potential habitat for this species occurs as seasonal wetlands within the project area. Impacts to seasonal wetlands would be avoided.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	-/-/1B.2	Chaparral on serpentinite or volcanic soils. June-October. Perennial herb.	None. This species was not observed during the July 14, 2011 survey.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	-/-/1B.2	Chaparral on serpentine soils. Blooms May to July. Annual herb.	None. No habitat in project area-no serpentine soils. Not observed during July survey.
<i>Hesperolinon tehamense</i> Tehama County western flax	-/-/1B.3	Chaparral, cismontane woodland on serpentine soils. Blooms May to July. Annual herb.	None. No habitat in project area – no serpentine soils. Not observed during July survey.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	-/-/1B.2	Chaparral, cismontane woodland, in open to partially shaded grassy slopes on volcanic soils or the periphery of serpentine substrates. March-May. Annual herb.	None. There is limited habitat for this species within the project area and no serpentine soils. The project would avoid these habitats.

TABLE 1

Special status plant species with the potential to occur within the project area based on a search of the CNDDDB and the CNPS on-line inventory for the Yountville USGS quadrangle. 2012.

Scientific Name Common Name	Status USFWS/ CDFG/ CNPS list	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE/CE/1B.1	Meadows and seeps, vernal mesic grasslands and vernal pools. Blooms April to May. Annual herb.	Low. Potential habitat exists in project area but this species was not observed during the July survey when the leaves and fruits would have been identifiable. Impacts to habitat would be avoided
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> Few-flowered navarretia	FE/CT/1B.1	Volcanic ash flow vernal pools. Blooms May to June. Annual herb.	None. No habitat in project area. No species of <i>Navarretia</i> were noted in project area.
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	-/-/1B.3	Chaparral in crevices in rock outcrops and talus slopes. Blooms April to August. Perennial herb.	None. Not observed during July survey. Typical habitat not in project area
<i>Streptanthus hesperidis</i> Green jewel-flower	-/-/1B.2	Openings in chaparral and cismontane woodland on serpentine or rocky soils. Blooms May to July. Annual herb.	None. Not observed during July survey. No serpentine soils in project area.
<i>Trichostema ruygtii</i> Napa bluecurls	-/-/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, grassland, vernal pools. June-October. Annual herb.	None. Not observed during July survey.

Status:

- FE = federally listed Endangered
CE = state listed Endangered
CT = state listed Threatened

CALIFORNIA NATIVE PLANT SOCIETY -

List 1B: Plants rare and endangered in California and elsewhere

List 2: Plants rare and endangered in California but more common elsewhere

Threat Ranks

- 0.1-Seriously threatened in California (high degree/immediacy of threat)
- 0.2-Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3-Not very threatened in California (Low potential. degree/immediacy of threats or no current threats known)

Appendix C-2
Special-Status Plant Species

TABLE 1

Special status plant species with the potential to occur within the project area based on a search of the CNDDDB and the CNPS on-line inventory for the Yountville USGS quadrangle. 2012.

Scientific Name Common Name	Status USFWS/ CDFG/ CNPS list	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Calycadenia micrantha</i> Small-flowered calycadenia	-/-/1B.2	Chaparral, meadows and seeps (volcanic), grassland on roadsides, rocky , talus, scree, and sometimes serpentinite soils in sparsely vegetated areas. Blooms June to September. Annual herb.	Low. There is limited habitat for this species within the project area. This species was not observed during the July 14, 2011 site visit.
<i>Ceanothus purpureus</i> Holly-leaved ceanothus	-/-/1B.2	Chaparral, cismontane woodland on volcanic, rocky soils. Blooms February to June. Perennial evergreen shrub.	None. No species of <i>Ceanothus</i> were noted during survey conducted on July 14, 2011.
<i>Downingia pusilla</i> Dwarf downingia	-/-/2.2	Grassland (mesic), vernal pools. March-May. Annual herb.	Low. Potential habitat for this species occurs as seasonal wetlands within the project area. Impacts to seasonal wetlands would be avoided.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	-/-/1B.2	Chaparral on serpentinite or volcanic soils. June-October. Perennial herb.	None. This species was not observed during the July 14, 2011 survey.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	-/-/1B.2	Chaparral on serpentine soils. Blooms May to July. Annual herb.	None. No habitat in project area-no serpentine soils. Not observed during July survey.
<i>Hesperolinon tehamense</i> Tehama County western flax	-/-/1B.3	Chaparral, cismontane woodland on serpentine soils. Blooms May to July. Annual herb.	None. No habitat in project area – no serpentine soils. Not observed during July survey.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	-/-/1B.2	Chaparral, cismontane woodland, in open to partially shaded grassy slopes on volcanic soils or the periphery of serpentine substrates. March-May. Annual herb.	None. There is limited habitat for this species within the project area and no serpentine soils. The project would avoid these habitats.

TABLE 1

Special status plant species with the potential to occur within the project area based on a search of the CNDDDB and the CNPS on-line inventory for the Yountville USGS quadrangle. 2012.

Scientific Name Common Name	Status USFWS/ CDFG/ CNPS list	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE/CE/1B.1	Meadows and seeps, vernal mesic grasslands and vernal pools. Blooms April to May. Annual herb.	Low. Potential habitat exists in project area but this species was not observed during the July survey when the leaves and fruits would have been identifiable. Impacts to habitat would be avoided
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> Few-flowered navarretia	FE/CT/1B.1	Volcanic ash flow vernal pools. Blooms May to June. Annual herb.	None. No habitat in project area. No species of <i>Navarretia</i> were noted in project area.
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	-/-/1B.3	Chaparral in crevices in rock outcrops and talus slopes. Blooms April to August. Perennial herb.	None. Not observed during July survey. Typical habitat not in project area
<i>Streptanthus hesperidis</i> Green jewel-flower	-/-/1B.2	Openings in chaparral and cismontane woodland on serpentine or rocky soils. Blooms May to July. Annual herb.	None. Not observed during July survey. No serpentine soils in project area.
<i>Trichostema ruygtii</i> Napa bluecurls	-/-/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, grassland, vernal pools. June-October. Annual herb.	None. Not observed during July survey.

Status:

- FE = federally listed Endangered
CE = state listed Endangered
CT = state listed Threatened

CALIFORNIA NATIVE PLANT SOCIETY -

List 1B: Plants rare and endangered in California and elsewhere

List 2: Plants rare and endangered in California but more common elsewhere

Threat Ranks

- 0.1-Seriously threatened in California (high degree/immediacy of threat)
- 0.2-Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3-Not very threatened in California (Low potential. degree/immediacy of threats or no current threats known)

TABLE 2**Plant species observed within the Yountville Recycled Water Project study area, July 14, 2011.**

Scientific Name	Common Name
<i>Acacia</i> spp.	Acacia*
<i>Acmispon brachycarpus</i> (formerly <i>Lotus humistratus</i>)	Hill lotus
<i>Agrostis</i> sp.	Bentgrass
<i>Alisma plantago-aquatica</i>	Water plantain
<i>Amispon americanus</i> (formerly <i>Lotus purshianus</i>)	Spanish clover
<i>Artemisia douglasiana</i>	Mugwort
<i>Arundo donax</i>	Giant reed*
<i>Avena barbata</i>	Slender wild oats*
<i>Avena fatua</i>	Oats*
<i>Baccharis pilularis</i>	Coyote brush
<i>Brassica nigra</i>	Black mustard*
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	Ripgut brome*
<i>Bromus hordeaceus</i>	Soft chess*
<i>Carduus pycnocephalus</i>	Italian thistle*
<i>Cichorium intybus</i>	Chicory*
<i>Conium maculatum</i>	Poison hemlock*
<i>Convolvulus arvensis</i>	Bindweed*
<i>Cressa truxillensis</i>	Alkali weed*
<i>Cynodon dactylon</i>	Bermuda grass*
<i>Cynosurus echinatus</i>	Dogtail grass*
<i>Cyperus eragrostis</i>	Umbrella sedge
<i>Daucus carota</i>	Queen Anne's lace*
<i>Eleocharis macrostachya</i>	Spike rush
<i>Elymus glaucus</i>	Blue wildrye
<i>Epilobium brachycarpum</i>	Willow herb
<i>Epilobium</i> sp.	Willow herb

TABLE 2**Plant species observed within the Yountville Recycled Water Project study area, July 14, 2011.**

Scientific Name	Common Name
<i>Eucalyptus globulus</i>	Blue gum*
<i>Euphorbia</i> sp.	Euphorbia*
<i>Foeniculum vulgare</i>	Fennel*
<i>Fraxinus latifolia</i>	Oregon ash
<i>Helminthotheca echioides</i> (formerly <i>Picris echioides</i>)	Bristly ox-tongue*
<i>Heteromeles arbutifolia</i>	Toyon
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley*
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Hare barley*
<i>Juncus effusus</i>	Soft rush
<i>Juglans hindsii</i>	Northern California black walnut
<i>Lolium multiflorum</i>	Annual ryegrass*
<i>Ludwigia peploides</i>	Water primrose*
<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Mentha spicata</i>	Spearmint
<i>Nerum oleander</i>	Oleanders*
<i>Paspalum dilitatum</i>	Dallis grass*
<i>Phalaris aquatica</i>	Harding grass*
<i>Pinus radiata</i>	Monterey pine*
<i>Plantago lanceolata</i>	English plantain*
<i>Polygonum</i> sp.	Knotweed
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass*
<i>Populus fremontii</i>	Fremont cottonwood
<i>Quercus agrifolia</i>	Coast live oak
<i>Quercus lobata</i>	Valley oak
<i>Raphanus sativus</i>	Wild radish*
<i>Rorripa nasturtium-aquaticum</i>	Water cress
<i>Rubus armeniacus</i> (formerly <i>Rubus discolor</i>)	Himalayan blackberry*
<i>Rubus ursinus</i>	California blackberry

TABLE 2**Plant species observed within the Yountville Recycled Water Project study area, July 14, 2011.**

<i>Scientific Name</i>	Common Name
<i>Rumex crispus</i>	Curly dock*
<i>Salix babylonica</i>	Weeping willow*
<i>Salix laevigata</i>	Red willow
<i>Salix lasiandra</i>	Yellow willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Salix spp.</i>	Willow
<i>Scripus acutus</i>	Bulrush
<i>Spergularia sp.</i>	Spurrey
<i>Symphoricarpos albus ssp. laevigatus</i>	Snowberry
<i>Taeniatherum caput-medusae</i>	Medusahead grass*
<i>Torilis arvensis</i>	Bur chervil*
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Trifolium hirtum</i>	Rose clover*
<i>Trifolium repens</i>	White clover*
<i>Trifolium spp.</i>	Clovers*
<i>Trifolium subterraneum</i>	Subterranean clover*
<i>Typha spp.</i>	Cattails
<i>Umbellulara californica</i>	California bay laurel
<i>Urtica dioica</i>	Stinging nettle
<i>Vitis californica</i>	California grape
<i>Vitis vinifera</i>	Grapes*

Appendix D
Draft Wetlands Delineation

**PRELIMINARY DELINEATION OF WATERS OF THE
UNITED STATES, INCLUDING WETLANDS, FOR THE
TOWN OF YOUNTVILLE RECYCLED WATER PROJECT,
NAPA COUNTY, CALIFORNIA**

PREPARED FOR:

TOWN OF YOUNTVILLE
CONTACT: GRAHAM S. WADSWORTH, P.E.
PUBLIC WORKS DIRECTOR/TOWN ENGINEER
6550 YOUNT STREET
YOUNTVILLE, CA 94599
TEL: 707-948-2628
WWW.TOWNOFYOUNTVILLE.COM

PREPARED BY:

JANE VALERIUS, WETLAND SPECIALIST
JANE VALERIUS ENVIRONMENTAL CONSULTING
2893A SCOTTS RIGHT OF WAY
SEBASTOPOL, CA 95472
TEL: 707-529-2394
EMAIL: JVALERIUS@EARTHLINK.NET

SEPTEMBER 2011

DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA

TABLE OF CONTENTS

	<u>Page</u>
Introduction and Background Information	1
Regulatory Background	2
Description of Site Characteristics	3
General Description	3
Topography	3
Hydrology	3
Soils	4
Vegetation	5
Precipitation and Growing Season	6
Jurisdictional Determination Information	7
Methods	8
Literature Review	8
Field Survey and Map Preparation	8
Results	10
References Cited	11
 <u>Tables:</u>	
Table 1: Summary of Soils Characteristics	4
Table 2: Summary of Potential Jurisdictional Wetlands	10
 <u>Figures (located at end of text)</u>	
Figure 1. Study Area with APNs	
Field Investigation Location Map	
Watershed map on USGS topo	
Maps 1 of and 2 of 2: Delineation of Waters of the United States, including Wetlands	
 <u>Appendices</u>	
Appendix A – Data Sheets	
Appendix B – Soils and WETS	
Appendix C – Assessor Parcel Numbers	

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

INTRODUCTION AND BACKGROUND INFORMATION

This report and attachments presents findings based on a delineation of potential U.S. Army Corps of Engineers (Corps) waters of the U.S., including wetlands, for the Town of Yountville Recycled Water Project. This work was conducted on behalf of the Town of Yountville, who is the project proponent or applicant. The delineation study area is located in Yountville, Napa County (Figure 1).

The delineation study area is located in the southwest-central part of Napa County, generally at the eastern side of Yountville in Napa Valley (Figure 1). The study area is located on the Yountville U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). Parts of the project follow state Highway 29 and Silverado Trail. The approximate centroid of the study area is approximately at 38.401253° north latitude and 122.33935° west longitude.

All maps and appendices referred to in this report are provided at the end of the text. Data sheets are provided in Appendix A. Information on soils and precipitation for the local area is provided in Appendix B. The assessor parcel numbers (APNs) that comprise the study area are provided as Attachment C.

This delineation was conducted according to the 1987 Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers (2006), and U.S. Army Corps of Engineers, San Francisco District (2007) guidelines. The delineation should be considered preliminary until the U.S. Army Corps of Engineers, San Francisco District, issues a jurisdictional determination of the extent of jurisdictional waters, including wetlands, in the project area. A total of 1.8890 acres of wetlands, 0.1440 acres of other waters and 1.2632 acres of navigable waters were mapped for the delineation study area. The total potential jurisdictional area is 3.2962 acres.

The client contact for this report is: Graham S. Wadsworth, P.E.

Public	Works Director/Town Engineer
6550	Yount Street
Yountville,	CA 94599

Phone:	707-948-2628
--------	--------------

FAX:	707-944-9619
------	--------------

Email: www.townofyountville.com

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

REGULATORY BACKGROUND

The U. S. Army Corps of Engineers (Corps) is responsible under Section 404 of the Clean Water Act to regulate the discharge of fill material into waters of the United States. Waters of the United States and their lateral limits are defined in 33 CFR Part 328.3(a) and include streams that are tributaries to navigable waters and their adjacent wetlands. The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the Ordinary High Water Mark (OHWM) (33 CFR Part 328.3(e)) or the limit of adjacent wetlands (33 CFR Part 328.3(b)). Any permanent extension of the limits of an existing water of the United States, whether natural or man-made, results in similar extension of Corps jurisdiction (33 CFR Part 328.5).

Waters of the United States fall into two categories, wetlands and other waters. Wetlands include marshes, meadows, seep areas, flood plains, basins, and other areas experiencing extended seasonal soil saturation. Seasonally or intermittently inundated features such as seasonal pools, ephemeral streams, and tidal marshes are categorized as wetlands if they have hydric soils and support wetland plant communities. Other waters include water bodies and watercourses such as rivers, streams, lakes, springs, ponds, coastal waters, and estuaries. Seasonally inundated water bodies or watercourses that do not exhibit wetland characteristics are classified as other waters.

The Regional Water Quality Control Board (RWQCB) takes jurisdiction over the same areas as the Corps as “waters of the State” and in some cases will expand their jurisdiction beyond the Corps’ boundaries, although typically they will accept the Corps delineation. The main difference for this project is that the RWQCB will take jurisdiction over stream courses from top of bank to top of bank, which is a wider area than the OHWM.

The California Department of Fish and Game (DFG) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify DFG of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will: “substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.” The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. If DFG determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared.

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

DESCRIPTION OF SITE CHARACTERISTICS

General Description

The delineation study area is located in the southwest-central part of Napa County, generally at the eastern side of Yountville in Napa Valley (Figure 1). The study area is located on the Yountville U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). Parts of the project follow state Highway 29 and Silverado Trail.

The study area begins at the western end at the Yountville Wastewater Treatment Plant (WWTP) located at 7501 Solano Avenue. The WWTP is located west of State Highway 29 just south of the California Drive exit. The project extends easterly across State Highway 29, over the Napa River to Silverado Trail. The east end of the project terminates at the wastewater ponds located near the Clos du Val winery on Silverado Trail.

Topography

Most of the delineation study area exists in nearly level to gently sloping alluvial fan, flood plain, and basin landforms, with the remainder in moderately to steep terraces and hillslopes. Slopes range from level to approximately 30 percent. Elevations range from approximately 95 to 1,100 feet above mean sea level.

The study area overall slopes downward in a south-southeasterly direction, although this varies greatly locally. A levee exists along the western side of the Napa River throughout much of the study area.

Hydrology

The study area is in the San Pablo Bay hydrologic unit (HUC No. 180500002) (U.S. Geological Survey 2011). The Napa River flows in a generally southerly direction through the study area. The river is shown as a perennial, blue line stream on the USGS Yountville 7.5-minute quadrangle map. The river flows into the San Pablo Bay via Mare Island Strait roughly 20 miles downstream.

The part of the study area along Silverado Trail drains via ditches to an unnamed, intermittent channel that exists to the east of Silverado Trail. The western part of the study area drains via ditches either to blue line or non-blue line channels that drain to the Napa River. The blue line stream in the vicinity of the Berringer reservoir appears to have been realigned, based on comparison of the USGS quadrangle (published in 1951 and photorevised in 1968) and more recent aerial photographs.

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

Based on sizes of their watersheds and channel characteristics, it appears that all the aforementioned channels would be regarded as Relatively Permanent Waters by the U.S. Army Corps of Engineers, San Francisco District.

Soils

The USDA Soil Conservation Service soil survey map (Lambert and Kashiwagi 1978, Soil Survey Staff 2011) shows that the study area is underlain by a number of soil map units, which formed from alluvial and residual parent materials.

A soil map of the delineation study area and associated hydric soil information are provided in Appendix B. The landform and hydrologic characteristics of the soils are provided in Table 1.

None of the soils have a subsurface restrictive layer capable of causing a shallow perched water table sufficient to influence plant species composition. However, the Clear Lake soil, which is clay to the surface, has slow permeability. This may tend to favor the growth of hydrophytes in local depressional areas.

Table 1. Summary of Characteristics of the Soils in the Delineation Study Area

Soil Map Symbol	Soil Map Unit Name	Landform	Natural Drainage Class	Hydric Status of Primary Component and Inclusions of Map Unit*
104	Bale clay loam, 0 to 2 percent slopes	Alluvial fans and floodplains	Somewhat poor	Primary component: non-hydric Inclusion: hydric (Clear Lake in depressions)
105	Bale clay loam, 2 to 5 percent slopes	Terraces and floodplains	Somewhat poor	Primary component: non-hydric Inclusions: none indicated
109	Boomer gravelly loam, 30 to 50 percent slopes	Hills	Well	Primary component: non-hydric Inclusions: none indicated
116	Clear Lake clay, drained	Alluvial fans	Poor	Primary component: hydric Inclusions: none indicated
118	Cole silt loam, 0 to 2 percent slopes	Alluvial fans and floodplains	Somewhat poor	Primary component: non-hydric Inclusion: hydric (Clear Lake on alluvial fans)
156	Kidd loam, 30 to 75 percent slopes	Hills	Well	Primary component: hydric Inclusions: none indicated
164	Millsholm loam, 15 to 30 percent slopes	Hills	Well	Primary component: hydric Inclusions: none indicated

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

Soil Map Symbol	Soil Map Unit Name	Landform	Natural Drainage Class	Hydric Status of Primary Component and Inclusions of Map Unit*
169	Perkins gravelly loam, 5 to 9 percent slopes	Terraces	Well	Primary component: hydric Inclusions: none indicated
174	Riverwash	Channels and floodplains	Poor (inferred)	Primary component: hydric Inclusions: none indicated
179	Sobrante loam, 30 to 50 percent slopes	Hills	Well	Primary component: hydric Inclusions: none indicated
181	Yolo loam, 0 to 2 percent slopes	Alluvial fans	Well	Primary component: hydric Inclusions: none indicated

Source: Lambert and Kashiwagi 1978, Soil Survey Staff 2011

* "Primary Component" refers to the soil that makes up approximately 85% or more of the map unit. The remaining soils in the map unit are inclusions.

Vegetation

Vegetation communities within the study area include primarily vineyards with drainages or stream courses, seasonal wetlands and freshwater marsh as the main jurisdictional features. Natural communities, mostly within the roadside areas, include non-native grassland and oak woodland with mixed riparian woodland. The drainages within the study area generally lack any riparian tree canopy cover with the exception of the Napa River, Chase Creek and the drainage associated with the WWTP (D-4) (see delineation maps).

There are five drainages labeled as "other waters". These are D-1 to D-4, Chase Creek. The Napa River is a navigable water of the U.S. and the other drainages are tributary to the Napa River. As mentioned in the hydrology section, based on the size of the watersheds and channel characteristics, it appears that all of the channels would be regarded as Relatively Permanent Waters by the U.S. Army Corps of Engineers, San Francisco District

The seasonal wetland and freshwater marsh areas are drainages that are vegetated. There are five seasonal wetland and two freshwater marsh areas mapped for the study area. The seasonal wetland areas are dominated by facultative (FAC) to facultative wetland (FACW) species such as annual ryegrass (*Lolium multiflorum*), Dallisgrass (*Paspalum dilatatum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Bernuda grass (*Cynodon dactylon*), umbrella sedge (*Cyperus eragrostis*), bristly ox-tongue (*Picris echioides*), rabbitsfoot grass (*Polypogon monspeliensis*) and curly dock (*Rumex crispus*).

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

The freshwater marsh areas are areas where the water is more perennial. These areas are dominated by obligate (OBL) and FACW species such as cattails (*Typha* sp.), soft rush (*Juncus effusus*), water cress (*Rorippa nasturtium-aquaticum*), knotweed (*Polygonum* sp.), hyssop loosestrife (*Lythrum hyssopifolium*), and water plantain (*Alisma plantago-aquatica*).

The riparian tree and shrub community associated with the Napa River included coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), willows (*Salix* spp.), Oregon ash (*Fraxinus latifolia*), walnut (*Juglans hindsii*), poison oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos* sp.), toyon (*Heteromeles arbutifolia*), coyote bush (*Baccharis pilularis*), and California blackberry (*Rubus ursinus*). Native herbaceous species included California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), mugwort (*Artemisia douglasiana*) and stinging nettle (*Urtica dioica*). Non-native herbaceous species included poison hemlock (*Conium maculatum*) and giant reed (*Arundo donax*). The non-native Himalayan blackberry (*Rubus discolor*) was also present.

Non-native grassland, which occurs in the understory of the riparian woodland and oak woodland areas and along the roadsides includes annual ryegrass, Harding grass (*Phalaris aquatica*), wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum murinum* ssp. *leporinum*), medusahead grass (*Taeniatherum caput-medusae*), dogtail grass (*Cynosurus echinatus*), English plantain (*Plantago lanceolata*), chicory (*Cichorium intybus*), mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), Queen Anne's lace (*Daucus carota*), fennel (*Foeniculum vulgare*) and bindweed (*Convolvulus arvensis*).

Precipitation and Growing Season

The climate at the delineation study area is characterized by hot, dry summers and cool, moist winters. Based on weather data from the St. Helena National Weather Service WETS station (station CA7943), the mean annual precipitation is 35.20 inches and the growing season at 28° with a probability of 50 percent is 365 days. The WETS tables are provided in Appendix B. (U.S. Department of Agriculture, Natural Resources Conservation Service 2011)

Rainfall in Napa for the July 1, 2010 – June 30, 2011 precipitation year, was 26.72 inches, corresponding to 76 percent of the annual average. An unusual amount (2.26 inches) of late-season rain fell from mid-May through early June 2011 (Weather Underground 2011). Based on the WETS tables, the delineation field survey was conducted during the growing season.

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

Jurisdictional Determination Information

In accordance with Corps, San Francisco District (2007) delineation report guidelines, this section provides selected information intended to assist the Corps in completing the Approved Jurisdictional Determination Form, in particular, Section III, Parts A and B.

Relatively Permanent Water. As discussed above, the delineation study area bisects named and unnamed, perennial and intermittent streams. Based on their watershed sizes and channel characteristics, it is expected that the streams support more than an ephemeral flow as they flow through the study area. Accordingly, the streams probably would be considered to be a Relatively Permanent Water (RPW), as defined by the U.S. Army Corps of Engineers, San Francisco District and Environmental Protection Agency (2007) Jurisdictional Determination Handbook.

Traditional Navigable Water. The nearest Traditional Navigable Water (TNW) to the study area is the Napa River. The Napa River is designated as “navigable” between its mouth and a point sixty feet below the westerly line of Lawrence Street in the City of Napa.

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

METHODS

Literature Review

Prior to the delineation field survey, literature pertinent to identifying potential wetlands and other waters of the United States in the project area was reviewed, including the USGS 7.5 minute topographic quadrangle map for the area, the detailed topographic/aerial photograph base map prepared for the project area, the soil survey report, and the county hydric soils list.

Field Survey and Map Preparation

A formal delineation was conducted by Jane Valerius, botanist and wetland specialist and Joel Butterworth, soil scientist and wetland specialist on July 14, 2011. Areas in which the topography or vegetation suggested that wetlands could exist were sampled using the routine onsite determination method procedures described in the 1987 Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory 1987). The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* U.S. Army Corps of Engineers (2008), U.S. Army Corps of Engineers, San Francisco District (2000) delineation guidelines and the U.S. Army Corps of Engineers San Francisco District November 2007 *Information Requested for Verification of Corps Jurisdiction* guidance was also used as part of the on-site wetlands analysis and report preparation. The wetland indicator status of plants was determined based on Reed (1988).

A soil pit was excavated at each of the ten (10) delineation sample plots (data points) (shown on the attached delineation maps 1 and 2) to a depth of 8 to 19 inches, depending on the depth to the water table and soil density. The data points were established in representative wetlands and adjoining non-wetlands. In most cases an adjoining nonwetland data point was established near the wetland data point to “bracket” the wetland data point, as a means to identify the wetland-nonwetland boundary. Additionally, supplemental observations (not recorded as data points) of vegetation, soil, and hydrologic characteristics were made at numerous other locations to evaluate candidate wetlands and to extrapolate wetland-nonwetland boundaries.

Streams within the project area designated as other waters of the United States have an ordinary high water mark (OHWM) that defines the extent of the Corps’ jurisdiction of that feature. An OHWM refers to “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (33 CFR Section 328.3[e]). The width of the stream was visually estimated and the average width of the OHWM was recorded for areas designated as other waters.

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

Data point locations and the boundaries of the wetlands were mapped using a submeter-accurate GPS receiver (i.e., Trimble GeoXT). The GPS data were downloaded and differentially corrected in the office using the nearest available base-station data using Trimble Pathfinder Office software to generate a geographic information system (GIS) data layer using ESRI ArcView software. The acreage of the jurisdictional area polygons were then calculated using ArcView.

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

RESULTS

This section describes the results of the field survey. The preliminary jurisdictional features and data point locations are shown the delineation maps provided as an attachment to this report labeled as Map 1 of 2 and Map 2 of 2. A total of 1.8890 acres of wetlands, 0.1440 acres of other waters and 1.2632 acres of navigable waters were mapped for the delineation study area. The total potential jurisdictional area is 3.2962 acres.

Table 2. Summary of Potential Jurisdictional Wetlands

Habitat	Acres
Wetlands	
SW-1	0.0142
SW-2	0.0278
SW-3	0.5654
SW-4	0.6384
SW-5	0.0223
FWM-1	0.0351
FWM-2	0.5858
Total wetlands	1.8890
Other Waters	
D-1	0.0047
D-2	0.0043
D-3	0.0239
D-4	0.0230
Chase Creek	0.0881
Total other waters	0.1440
Navigable Waters	
Napa River	1.2632
TOTAL WETLANDS AND WATERS	3.2962

**DRAFT DELINEATION OF WATERS OF THE UNITED STATES,
INCLUDING WETLANDS, FOR THE TOWN OF YOUNTVILLE
RECYCLED WATER PROJECT, NAPA COUNTY, CA**

REFERENCES CITED

Lambert, G. and J. Kashiwagi. 1978. Soil Survey of Napa County, California. U.S. Department of Agriculture, Soil Conservation Service in cooperation with the University of California Agricultural Experiment Station. Washington, DC: U.S. Government Printing Office.

Soil Survey Staff. 2011. Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey, Napa County, California. Available online at <http://websoilsurvey.nrcs.usda.gov/> Accessed June 20, 2011.

U.S. Army Corps of Engineers, San Francisco District. 2007. Information requested for verification of Corps jurisdiction. November.

U.S. Army Corps of Engineers and Environmental Protection Agency. 2007. Jurisdictional determination handbook. May.

U.S. Department of Agriculture, Natural Resources Conservation Service. 2011. WETS Table documentation for the St. Helena station, CA7943, California. Available: <http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wetlands/ca/06055.txt>. Accessed: June 20, 2011.

U.S. Geological Survey. 2011. Science in Your Watershed. Hydrologic Unit Codes. Available: <http://water.usgs.gov/wsc/cat/18050002.html#.html>. Accessed: June 20, 2011.

Weather Underground. 2011. Climate history for Napa, CA. Available: <http://www.wunderground.com/history/airport/KAPC/2011/6/21/CustomHistory.html>. Accessed June 21, 2011.



LEGENDS <div><div>Extents of Field Investigation</div><div>Field Data Points</div></div> <div><div>Freshwater Marsh or Seasonal Wetland</div><div>Navigable Waters of the US</div><div>Other Waters of the US</div></div>		ACREAGES <div>D-1 = 0.0047 Ac. D-2 = 0.0043 Ac. D-3 = 0.0239 Ac. D-4 = 0.0223 aC.</div> <div>SW-1 = 0.0142 Ac. SW-2 = 0.0278 Ac. SW-3 = 0.5654 Ac. SW-4 = 0.6384 Ac. SW-5 = 0.0223 Ac.</div> <div>Chase Creek = 0.0881 Ac. Napa River = 2.015 Ac.</div> <div>FWM-1 = 0.0351 Ac. FWM-2 = 0.0870 Ac.</div>	<div>0 200 400 ft</div> <div>1 inch = 400 feet printed at 24x36</div> <div>Sources: ESRI Basemap: Aerial; Napa County GIS: Parcels, City Limits, Roads; Winzler and Kelly GIS: Study Area, RW Pipes, Tiers.</div>	<div> WINZLER & KELLY</div> <div>www.w-and-k.com</div>	<div>Delineation of Waters of the U.S. Including Wetlands Map 1 of 2</div> <div> Town of Yountville</div> <div>Recycled Water Project</div>	<div>© Winzler & Kelly</div> <div>Cartography AF JR</div> <div>Date 3/28/2012</div> <div>Project # 1202711001</div>
---	--	---	---	--	---	---






LEGENDS <div><div>Extends of Field Investigation</div><div>Field Data Points</div></div> <div><div>Freshwater Marsh or Seasonal Wetland</div><div>Navigable Waters of the US</div><div>Other Waters of the US</div></div>		ACREAGES D-1 = 0.0047 Ac. D-2 = 0.0043 Ac. D-3 = 0.0239 Ac. D-4 = 0.0230 aC. SW-1 = 0.0142 Ac. SW-2 = 0.0278 Ac. SW-3 = 0.5654 Ac. SW-4 = 0.6384 Ac. SW-5 = 0.0223 Ac. Chase Creek = 0.0881 Ac. Napa River = 2.015 Ac. FWM-1 = 0.0351 Ac. FWM-2 = 0.0870 Ac.	<div>0 200 400 ft 1 inch = 400 feet printed at 24x36</div> <div></div> <div>Sources: ESRI Basemap: Aerial; Napa County GIS: Parcels, City Limits, Roads; Winzler and Kelly GIS: Study Area, RW Pipes, Tiers.</div>	<div> www.w-and-k.com</div> <div>Cartography AF JR</div>	<div>Date 3/7/2012</div> <div>Project # 1202711001</div>	<div>Delineation of Waters of the U.S. Including Wetlands Map 2 of 2</div> <div> Town of Yountville</div> <div>Recycled Water Project</div>
---	--	--	--	--	--	---

Appendix E
FEMA Flood Hazard Maps

FEMA Flood Hazard Areas

Flood Hazard Areas

-  Zone V- (100 yr. Flood Zone)
-  Zone A- (100 yr. Flood Zone)
-  Zone X500- (500 yr. Flood Zone or other concerns)

 Urbanized Area

Shaded to show topographical relief

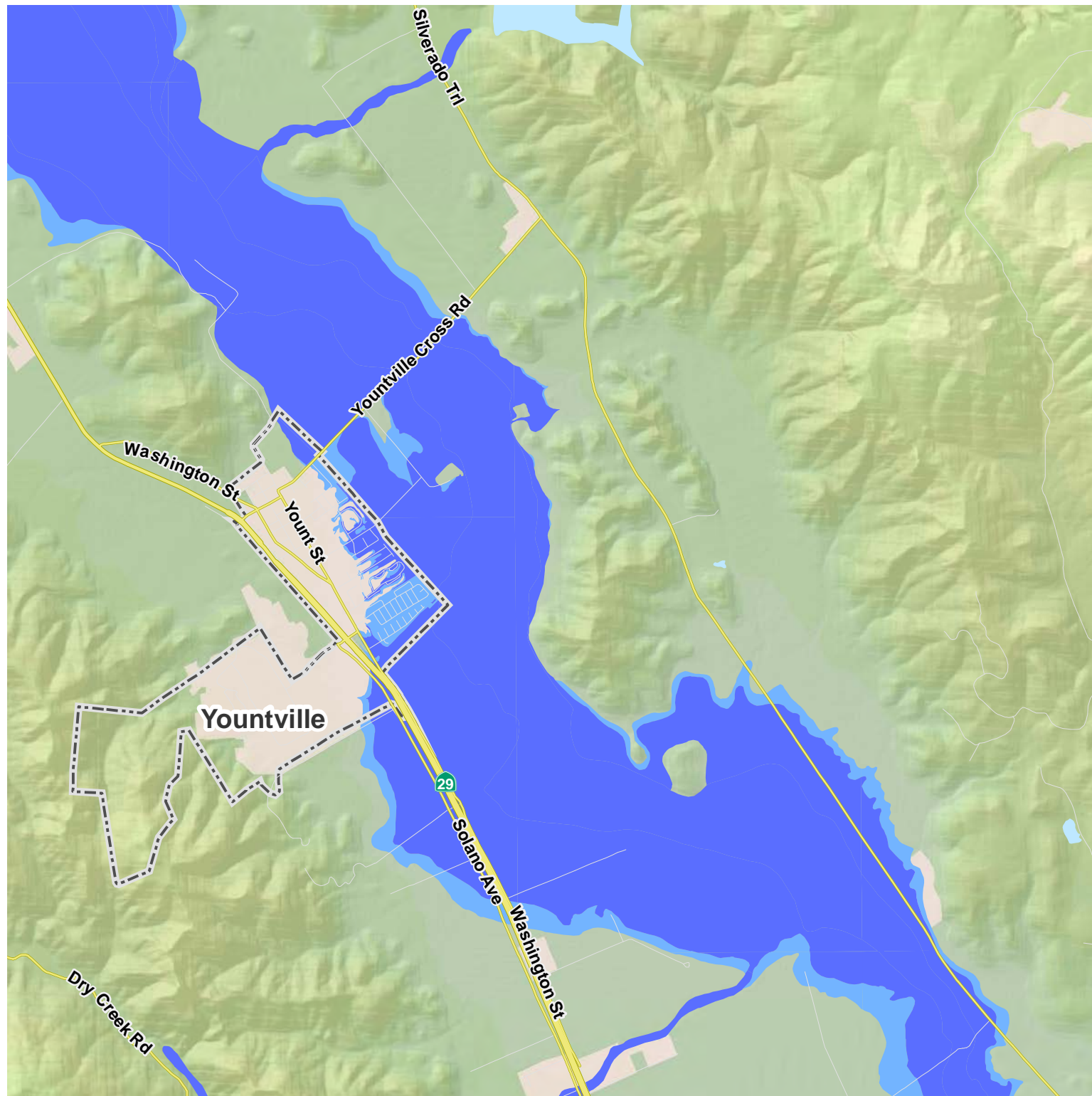
Detailed FEMA Explanation

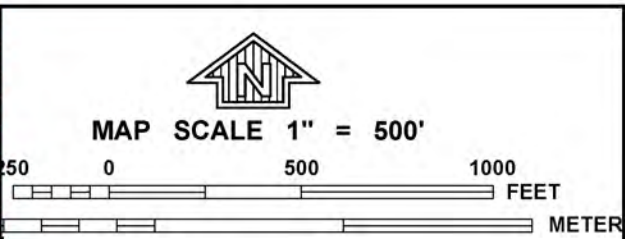
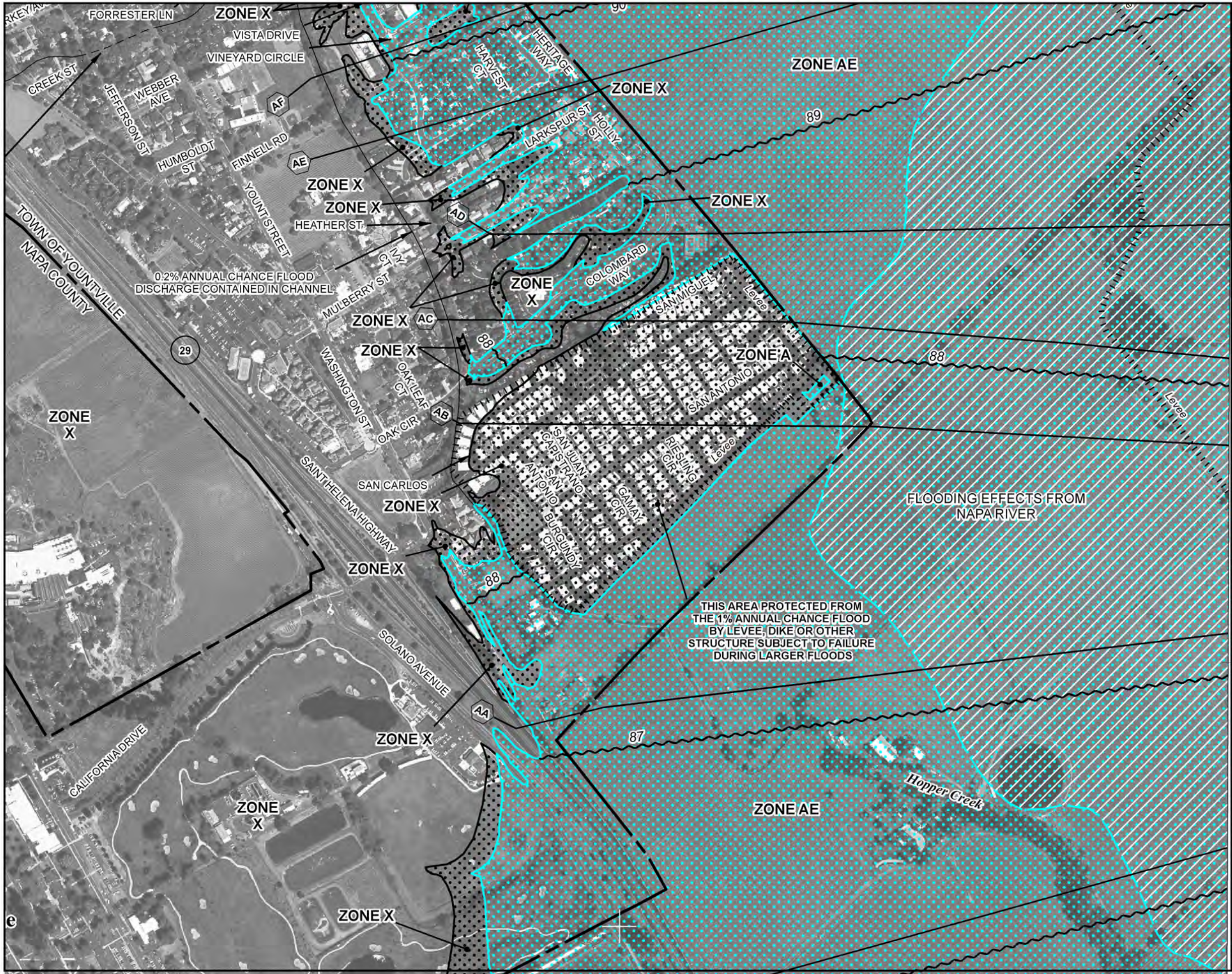
Flood Zone	Description
Zone V	This code identifies an area inundated by 1% annual chance flooding with velocity hazard (wave action).
Zone A	This code identifies an area inundated by 1% annual chance flooding.
Zone X500	This code identifies an area inundated by 0.2% annual chance flooding; an area inundated by 1% annual chance flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile; or an area protected by levees from 1% annual chance flooding.



Scale: 1 inch = 0.67 miles

Sources:
Flood Zones - FEMA Q3 (2003) and DFIRM (2009)
Base Data - TeleAtlas (2008)
The product has been designed to support planning activities.
A more detailed version of this map is available at <http://quake.abag.ca.gov>





NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0413E

FIRM
FLOOD INSURANCE RATE MAP

NAPA COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 413 OF 650
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NAPA COUNTY	060205	0413	E
YOUNTVILLE, TOWN OF	060209	0413	E

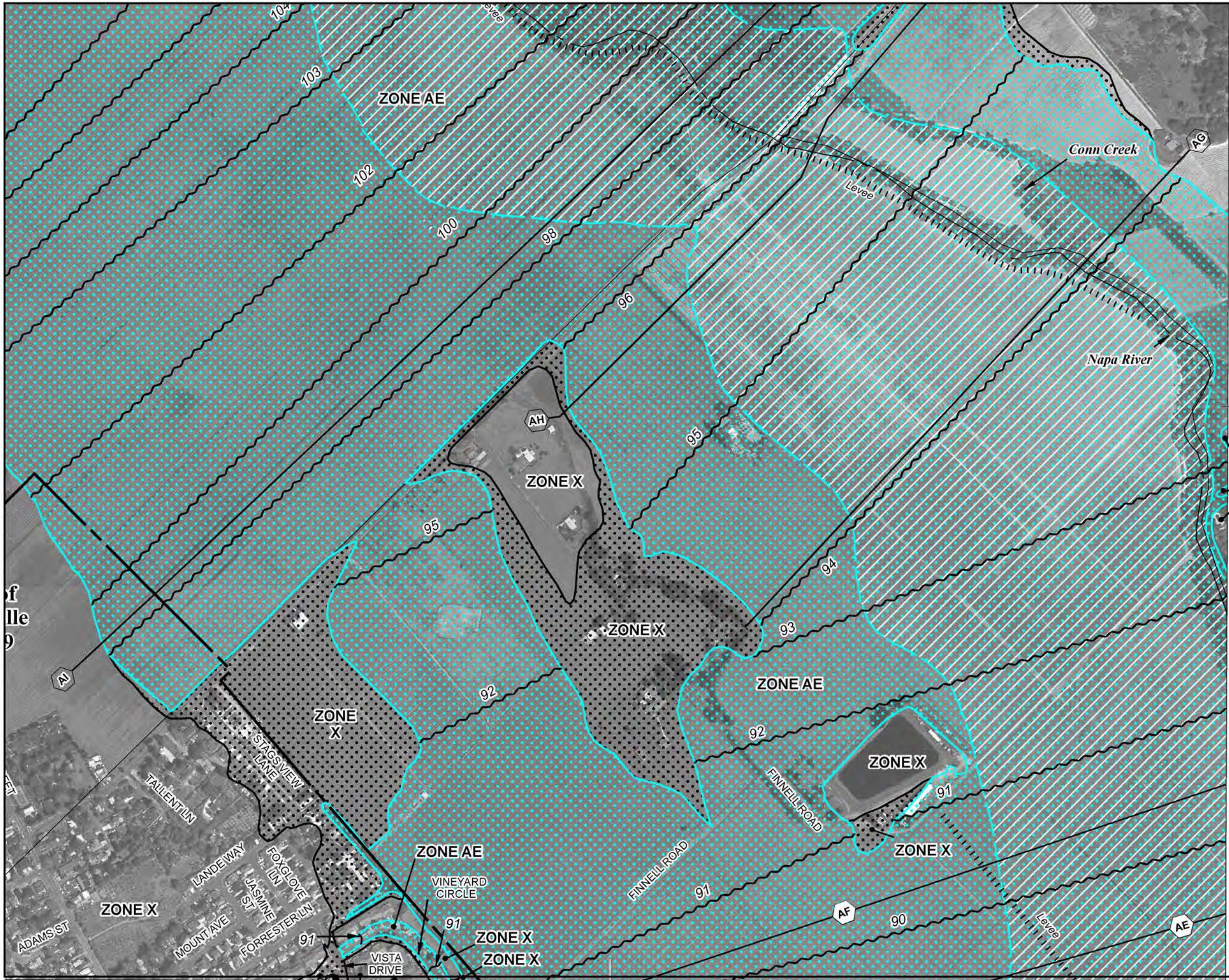
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06055C0413E

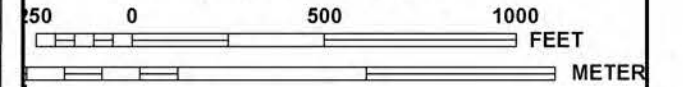
EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'



NFIP

PANEL 0411E

FIRM

FLOOD INSURANCE RATE MAP

NAPA COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 411 OF 650

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NAPA COUNTY	060205	0411	E
YOUNTVILLE, TOWN OF	060209	0411	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

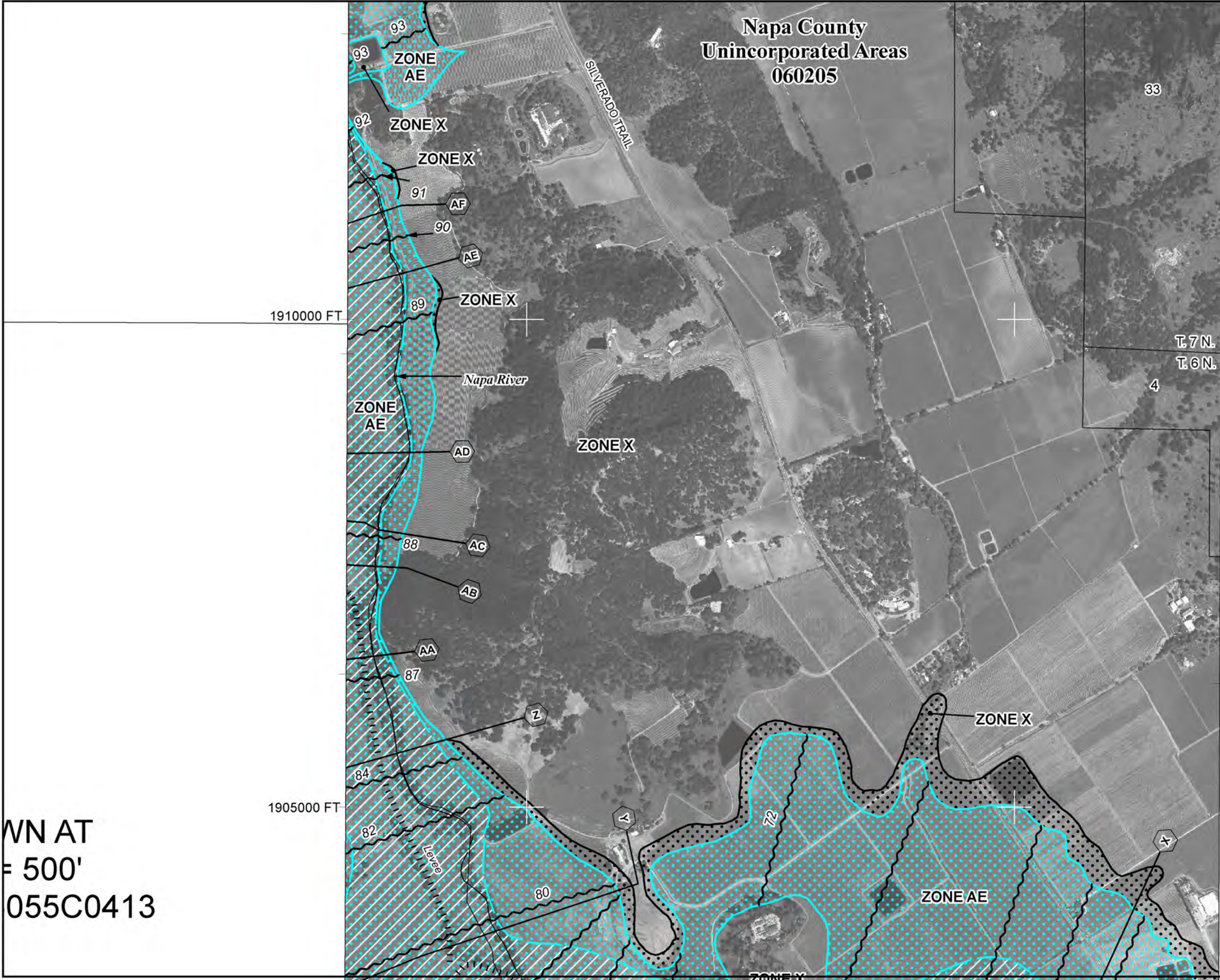



MAP NUMBER
06055C0411E

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

METER

NFIP

PANEL 0415E

FIRM

FLOOD INSURANCE RATE MAP


NAPA COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 415 OF 650
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NAPA COUNTY	060205	0415	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

 **MAP NUMBER**
06055C0415E

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency


This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

WN AT
= 500'
055C0413

Appendix F
Area of Potential Effect Map

J:\12027 - The Town of Yountville\12027-11-001 Recycled Water Expansion Project\08-gis\Maps\Figures\CEQA APE\Archaeology.mxd



<div><div><div></div>Archaeological Area of Potential Effects</div><div><div></div>Parcel Boundary</div></div> <div><div>Construction Area APE</div><div>Pipeline Trenches: Potential Vertical Effects of 6 feet, Potential Horizontal Effects of 4 feet</div><div>Undercrossings: Potential Vertical Effects of maximum 20 feet, Potential Horizontal Effects 20 feet by 20 feet</div><div>Geotechnical Borings (not shown): Potential Vertical effects of 15 feet within APE boundary.</div></div>	<div><div>06001,200 ft</div><div>1 inch equals 1,200 feet printed at 11x17</div><div><div>N</div></div><div>Sources: ESRI Basemap: Aerial; Napa County GIS: Parcels, City Limits, Roads; Winzler and Kelly GIS: Study Area, RW Pipes, Tiers.</div></div>	<table border="1"><tr><td>Cartography AF</td><td>Date 5/10/2012</td><td>Project # 1202711001</td></tr></table>	Cartography AF	Date 5/10/2012	Project # 1202711001	<div><div>Proposed Archaeological APE Map</div><div><div></div><div>Recycled Water Project</div><div>Town of Yountville</div></div></div>
Cartography AF	Date 5/10/2012	Project # 1202711001				