Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan Proposition 84, Round 2 Implementation Grant Proposal

March 29, 2013

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INTRODUCTION

The Upper Mokelumne River Watershed Authority (UMWRA), the approved Regional Water Management Group (RWMG) for the Mokelumne/Amador/Calaveras (MAC) Integrated Regional Water Management (IRWM) Planning Region, is submitting this Proposal for the Proposition (Prop) 84, Round 2 IRWM Implementation Grant Program to request $2,128,537 to implement three projects:

- Amador Water Agency's (AWA's) Lake Camanche Lateral Replacement Project – Phase 2
- Calaveras County's Ponderosa Way Restoration Project – Phase 1
- East Bay Municipal Utility District's (EBMUD's) Camanche Area Regional Water Supply Project (CARWSP) – Phase 1

These projects were identified by the MAC Region as projects that are both ready for implementation and or vital to meeting the Region's goals and objectives (as identified in the adopted 2013 MAC IRWM Plan Update).

The following sections of this Work Plan describe the projects included in this Proposal, the goals and objectives of the MAC IRWM Plan, the purpose and need for the projects within context of those goals and objectives, and other pertinent information related to the formation and implementation of the Proposal.

Project List

Table 3-1 provides a brief description of each project included in this Proposal, the current status of the projects in terms of percent completion of design, and the associated implementing agencies.

Table 3-1: Project Summaries

Project	Abstract	Current Status (% Completion of Design)	Implementing Agency
Lake Camanche Lateral Replacement Project – Phase 2	Phase 2 of the Lateral Replacement Project consists of replacing 200 of the polyethylene service laterals in the Lake Camanche Water Improvement District No. 7 (WID#7) water system to reduce water system losses and prevent leakage and failures which can cause significant damage to surrounding infrastructure, private property, and environmental resources.	5%	Amador Water Agency
Camanche Area Regional Water Supply Project – Phase 1	Phase 1 will install a 12-inch diameter pipeline from the Mokelumne Aqueduct to a new 0.5 million gallon per day (mgd) regional surface water treatment plant, as well as an 8-inch diameter treated water pipeline to deliver treated water to Camanche South and North Shores. The project will also include an intertie to Lake Camanche Village to allow for implementation of Phase 2 which consists of a WTP expansion and delivery of treated water to Lake Camanche Village. Finally, Phase 1 of CARWSP includes the Vintage Home Fixture Retrofit consisting of replacement of high water use toilets and showerheads with water conserving fixtures in the Camanche South and North Shore Recreation Areas and Lake Camanche Village.	90% - Pipelines 30% - WTP	East Bay Municipal Utility District
Ponderosa Way Restoration Project – Phase 1	In order to control soil erosion and siltation from Ponderosa Way into Alabama Gulch, Dutchman Gulch and the Mokelumne River, the road will be restored and a heavy duty gate near Highway 26 will be installed to control traffic during winter months. Phase 1 of the project will also allow for watershed access to CAL FIRE and BLM for fire prevention and suppression and to the general public for recreation.	100%	Calaveras County

Goals and Objectives

This Proposal includes a suite of three projects selected for implementation in the MAC Region with the overall goals of reducing water losses, improving water supply reliability, improving the quality of potable water delivered in the region, and addressing critical water issues faced by two disadvantaged communities (DACs). The projects included in this Proposal are:

- Lake Camanche Lateral Replacement Project – Phase 2
- Camanche Area Regional Water Supply Project – Phase 1
- Ponderosa Way Restoration Project – Phase 1

Together, they will address the full lifecycle of water resources management to address the critical water supply and water quality needs of the MAC IRWM Region by achieving the following vision and theme of this Proposal:

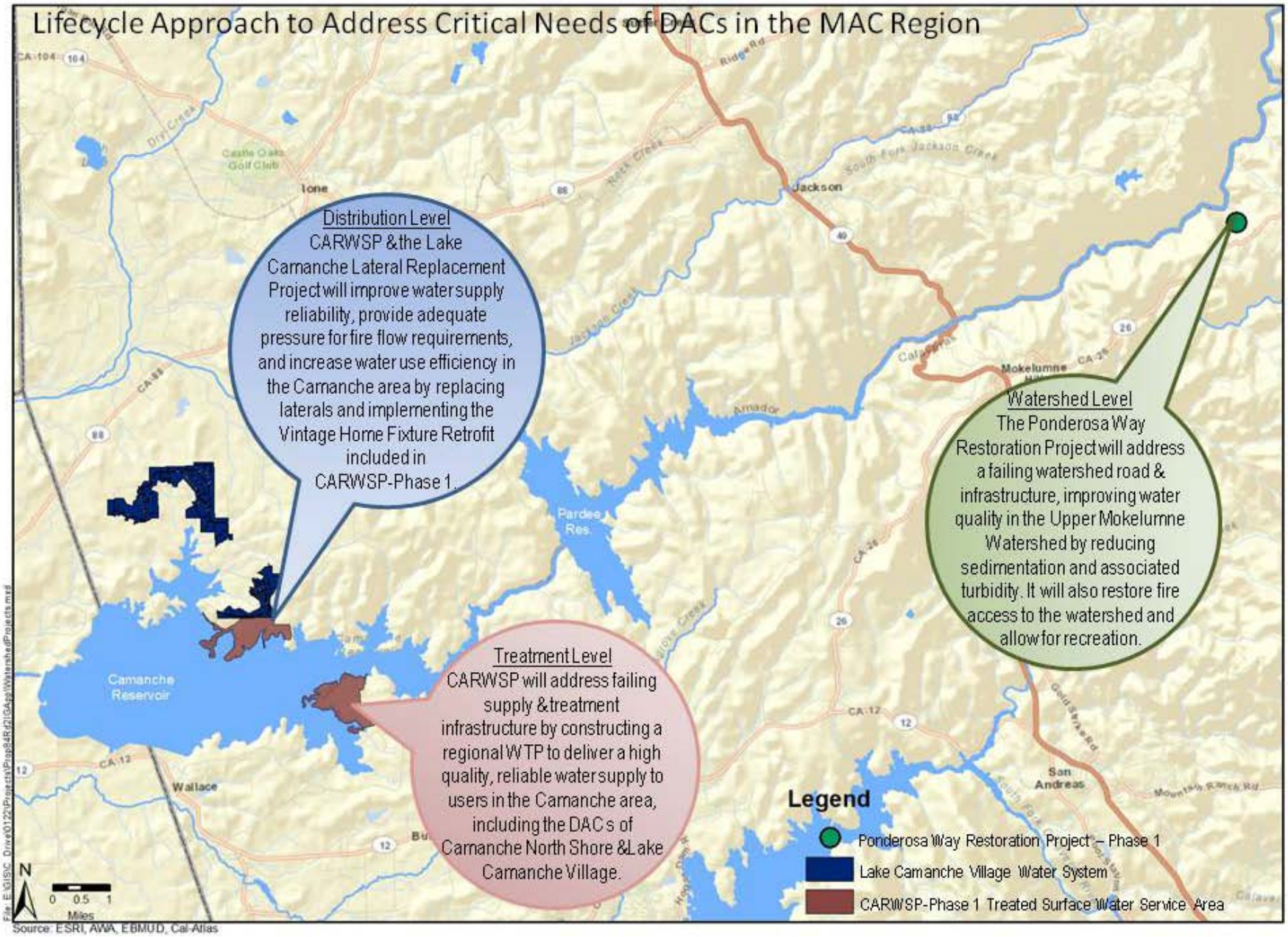
Address critical water supply and quality needs of disadvantaged communities in the Mokelumne-Amador-Calaveras IRWM Region while maximizing water supply reliability and public benefit.

The critical water supply and water quality needs of DACs in the region are threefold:

1. Maximize existing resources by addressing aging infrastructure and water system integrity
2. Secure reliable and high quality supplies
3. Protect the local environment and water quality while preserving recreation and public access

It should be noted that the specific benefits identified for each project can be realized independently. However, failure to implement any of the proposed projects would prevent the holistic, watershed-based improvements intended to be generated by this proposal.

The MAC IRWM region recognizes the benefit of an integrated, holistic approach to addressing water management challenges. As such, this proposal implements a lifecycle approach to addressing critical needs of DACs, correcting issues at all levels of water resource management, from the watershed to the treatment plant to the distribution system, and ultimately at the tap. Because this proposal is focused on meeting the needs of disadvantaged communities, the projects included herein reflect the most cost-effective alternatives to provide meaningful benefits to local disadvantaged communities, as discussed below.


Lifecycle Approach to Address Critical Needs of DACs in the MAC Region
Distribution Level
CARWSP &the Lake Camanche Lateral Replacement Project will improve water supply reliability, provide adequate pressure for fire flow requirements, and increase water use efficiency in the Camanche area by replacing laterals and implementing the Vintage Home Fixture Retrofit included in CARWSP-Phase 1.
Watershed Level
The Ponderosa Way Restoration Project will address a failing watershed road & infrastructure, improving water quality in the Upper Mokelumne Watershed by reducing sedimentation and associated turbidity. It will also restore fire access to the watershed and allow for recreation.
Treatment Level
CARWSP will address failing supply &treatment infrastructure by constructing a regional WTP to deliver a high quality, reliable water supply to users in the Camanche area, including the DACs of Camanche North Shore &Lake Camanche Village.
Legend
Ponderosa Way Restoration Project – Phase 1
Lake Camanche Village Water System
CARWSP-Phase 1 Treated Surface Water Service Area
Camanche Reservoir
Pardee Res.
Amador
Jackson
Ione
Wallace
San Andreas
Mokelumne
N
0 0.5 1
Miles
Source: ESRI, AWA, EBMUD, Cal-Atlas

Proposal Objective 1: Maximize existing resources by addressing aging infrastructure and water system integrity

All three projects work together to address this need from the watershed to the end user, as follows.

- **At the watershed level**, the Ponderosa Way Restoration Project will address failing watershed road and infrastructure that are significantly impacting water resources. Currently, Ponderosa Way is severely eroding, and is a major source of sediment loading to the Mokelumne River. The Proposal will address "infrastructure" needs at the watershed level by restoring Ponderosa Way to control erosion and protect and improve water quality.
- **At the treatment plant level**, the CARWSP project will address failing supply and treatment infrastructure, replacing failing groundwater wells currently in use in the CANS and CASS areas and upgrading the failing South Shore treatment plant.
- **At the distribution system level**, the CARWSP Project will provide emergency storage to meet critical supply shortages and assist in providing adequate pressure for fire flow requirements. The Lake Camanche Lateral Replacement Project, Phase 2 will extend a critical local program to replace aging distribution system infrastructure in the DAC of Lake Camanche Village. The local community cannot afford to replace these leaky laterals which waste water and threaten system integrity, reliability, and quality. This program represents a means to enhance water system efficiency, maximizing existing water resources, maintaining reliability, and improving quality for a disadvantaged community.

Proposal Objective 2: Secure reliable and high quality supplies

The projects were selected for their ability to address reliability and quality issues from the source to the tap.

- **At the watershed level**, the Ponderosa Way Restoration Project addresses a critical water quality issue: sedimentation and associated turbidity. The Upper Mokelumne River Watershed Assessment and Planning Project, completed in 2007, identified turbidity as exceeding the associated water quality benchmark. Management measure F.1 recommends implementing road maintenance to improve water quality in the watershed.
- **At the treatment level,** the CARWSP project will treat and distribute high quality surface water supplies from the Mokelumne Aqueduct in lieu of groundwater supplies which exhibit water quality problems including high iron and manganese concentrations, bacterial contamination, and hydrogen sulfide contamination.
- **At the distribution level,** the CARWSP project will assist in providing high quality and reliable supplies to the CANS, CASS, and Lake Camanche Village areas by distributing treated supplies to the CANS and CASS areas and implementing emergency storage for AWA which will also assist in correcting distribution system pressure inadequacies.

Proposal Objective 3: Protect the local environment and water quality while preserving recreation and public access

- **At the watershed level**, the Ponderosa Way Restoration Project will correct severe erosion issues along the Mokelumne River, significantly reducing sediment loading to the river and improving water quality for environmental resources. In addition, the project will enable more than 17 miles of trails to be implemented and will provide recreational opportunities and no-cost water access that is currently unreachable. Additionally, the Vintage Home Fixture Retrofit, a component of the CARWSP - Phase 1 project, will reduce water demands, leaving additional supplies in the River, benefitting the watershed.
- **At the treatment level**, the CARWSP project is expected to reduce water treatment-related waste discharges by centralizing treatment, improving treatment efficiency, and utilizing a higher quality source water. Currently, wellhead treatment is implemented to address specific water quality issues, resulting in a number of waste streams that will be significantly reduced and more effectively treated through implementation of a centralized water treatment plant, protecting the local environment.
- **At the distribution level,** the Lake Camanche Lateral Replacement Project, Phase 2 minimizes potential impacts to environmental resources by seeking to maintain existing infrastructure, preventing the need to implement new water lines which may disturb sensitive areas. Similarly, the CARWSP project will minimize potential disruption to environmental resources at the distribution level by providing AWA emergency supply through the intertie without the immediate need for additional infrastructure.

The following table demonstrates the integration of the proposed Projects in achieving the proposal vision.

Table 3-2: Projects Address Critical DAC Needs from the Watershed to the Tap

Project	Maximize Resources / Address Aging Infrastructure			Secure Reliable and High Quality Supplies			Protect the Environment / Preserve Public Access		
	Watershed	Treatment	Distribution	Watershed	Treatment	Distribution	Watershed	Treatment	Distribution
Lake Camanche Lateral Replacement Project – Phase 2		●	●		●	●			●
Camanche Area Regional Water Supply Project – Phase 1		●			●		●	●	
Ponderosa Way Restoration Project – Phase 1	●			●			●		

Purpose and Need

The purpose of this Proposal is to obtain funding to address critical water supply and quality needs of disadvantaged communities in the Mokelumne-Amador-Calaveras IRWM Region while maximizing water supply reliability and public benefit through implementation of the three proposed projects.

There is a great need for these projects. Water infrastructure in AWA's Lake Camanche Village EBMUD's Camanche service area is aged and deteriorating, contributing to significant water losses, poor water supply reliability, and deteriorating water quality. Groundwater in the region is unreliable and exhibits significant supply and quality issues, which will be addressed through implementation of the regional Camanche Area Regional Water Supply Project. Of equal importance, dramatic erosion and siltation from Ponderosa Way directly into the Mokelumne River has contributed to sediment loading and potential water quality impacts while affect access to the River for recreation and to the watershed for fire protection. There is a significant need for the grant funding provided by the Proposition 84 Implementation Grant Program in that these projects (two of which serve DACs) could not otherwise be implemented as the local communities cannot sustain the rate increase that would be required to otherwise fund these projects.

Implementation of these three projects will help the MAC Region meet Goals within each of its four identified Policies (*MAC IRWMP Update*, January 2013, pages 3-3 to 3-4). Additionally, two of the three projects (the Lake Camanche Lateral Replacement Project – Phase 2 and CARWSP – Phase 1) contained herein will directly benefit the DACs of Lake

Camanche Village and Camanche North Shore, improving local water supply reliability and quality.

Goals and objectives for water resources management were developed and documented in Section 3 of the adopted 2013 *Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan Update* (MAC Plan Update). These goals and objectives were originally developed through a series of workshops conducted to outline, develop, and formalize the goals and to create measurable objectives to provide a basis for decision-making. Considered in the development of the regional priorities were identification of regional needs and issues, Statewide Priorities, and consideration of State Program Preferences. Based on these regional needs, issues and priorities, four overarching policies were developed. For each policy, multiple goals and objectives were established. The MAC goals (i.e. intended outcomes) and objectives (i.e. actions to achieve the goals) associated with each of the four policies include:

- **Policy 1: Maintain and Improve Water Quality**
    - *Goal:* Reduce sources of contaminants.
        - *Objectives*:
            - Reduce abandoned mine flows and sediments.
            - Reduce leakage from septic systems.
            - Increase bulky waste pickup programs, avoid illegal dumping, and increase collection of illegally dumped trash.
            - Identify informal recreation and camping sites with recurring waste issues and initiate remedial actions.
            - Manage fire fuels to reduce wildfire impacts.
            - Increase public awareness of how contaminated water resources affect quality of life.
            - Track increase of small county-monitored water systems.
    - *Goal: Manage stormwater flows and transport of sediment and contaminants.*
        - *Objectives:*
            - Reduce stormwater runoff from peak storm events.
            - Promote development of community-based flood protection strategies.
            - Reduce water quality impacts from vehicle uses and road maintenance practices.
            - Minimize water quality impacts from livestock grazing.
- **Policy 2: Improve Water Supply Reliability and Ensure Long-term Balance of Supply and Demand**
    - *Goal: Ensure sufficient firm yield water supply.*
        - *Objectives:*
            - Promote comprehensive water supply planning including climate change.
            - Encourage diverse water supply portfolios to meet agency demands.

- Plan and develop water supply projects that optimize water right entitlements and county of origin protections.
- Ensure that demand projections are supportable and realistic.
- Balance long-term regional supply and demand in water supply plans.

- *Goal: Maintain and improve water infrastructure reliability.*
  - *Objectives:*
    - Implement leak detection and repair and replacement programs.
    - Develop regional water treatment and transmission projects.
    - Construct water system interties where appropriate.

- *Goal: Promote water conservation, recycling and reuse for urban and agricultural uses.*
  - *Objectives:*
    - Establish and implement water conservation programs based on best management practices.
    - Maximize use of recycled water from wastewater treatment plants.
    - Move toward a reduction in demands through water-neutral development.

- *Goal: Develop appropriate drought mitigation measures.*
  - *Objectives:*
    - Promote preparation and adoption of drought contingency plans.

- **Policy 3: Practice Resource Stewardship**

  - *Goal: Protect, conserve, enhance, and restore the region's natural resources.*
    - *Objectives:*
      - Integrate natural resource conservation into water resource planning projects and programs.
      - Promote water resource projects that achieve an equitable balance between conflicting interests while minimizing harm to natural resources and incorporating natural resource protection, mitigation, and restoration.
      - Identify opportunities to protect, enhance or restore aquatic and terrestrial habitats in the Mokelumne and Calaveras river watersheds.

  - *Goal: Maintain or improve watershed ecosystem health and function.*
    - *Objectives:*
      - Avoid, minimize or mitigate adverse effects on or improve or restore watershed and ecological processes, systems, structures, and resources when implementing projects.

  - *Goal: Minimize adverse effects cultural resources.*
    - *Objectives:*

- Avoid, minimize or mitigate adverse effects on cultural resources when implementing projects.

- *Goal: Identify opportunities for public access, open spaces, and other appropriate recreational benefits and avoid harm to existing or planned recreational uses.*
  - *Objectives:*
    - Promote inclusion of public access, non-motorized trails, open space and other suitable and feasible recreational features in new and existing water resource projects and associated lands while avoiding harm to existing or planned recreational uses.

- **Policy 4: Focus on Areas of Common Ground and Avoid Prolonged Conflict**

  - *Goal: Prioritize projects that have the best likelihood of being completed in the planning horizon.*
    - *Objectives:*
      - Identify high controversy projects and work towards common ground solutions.

Goals Achieved: Lake Camanche Lateral Replacement Project – Phase 2

The Lake Camanche Lateral Replacement Project – Phase 2 will rehabilitate existing polyethylene service laterals in the Lake Camanche Village by replacing approximately one-third of the service laterals in the system with copper piping. The current system experiences significant water losses and laterals have been known to fail, causing damage to surrounding infrastructure. The degrading water supply laterals impact water supply reliability for the DAC of Lake Camanche Village which consists of approximately 733 connections served by AWA. This project meets all of the MAC Region's goals in Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand including helping to ensure sufficient firm yield water supply for AWA's service area, specifically the DAC of Lake Camanche Village, maintain and improve water infrastructure reliability, promoting water conservation and developing drought mitigation measures by reducing leakage and water losses in the water system. This project is supported by the entities within the region, is a high priority for AWA, and has no related conflict, therefore, contributing to Policy 4: Focus on Areas of Common Ground and Avoid Prolonged Conflict.

Goals Achieved: Camanche Area Regional Water Supply Project – Phase 1

CARWSP will ultimately address the needs of three separate water system purveyors: EBMUD, AWA, and CCWD. The project will be completed in three phases with the first phase delivering treated surface water to EBMUD, the second to AWA, and the third to CCWD. Implementing a new 0.5 mgd surface water treatment plant and the pipelines required to convey raw water to the plant and treated water to customers will help address all of the goals identified under Policy 2 for the EBMUD service areas of Camanche North Shore and Camanche South Shore Recreation Areas including ensure sufficient firm yield water supply and maintain and improve water infrastructure reliability. Additionally, Phase

1 also includes the Vintage Home Fixture Retrofit component for the Recreation Areas and Lake Camanche Village which contributes to the promote water conservation and develop appropriate drought mitigation measures goals under Policy 2. The Project will minimize adverse affects on cultural resources (goal identified under Policy 3) as demonstrated by completion of the Mitigated Negative Declaration completed in 2003. Lastly, the three partner agencies focused on areas of common ground (Policy 4) to develop a solution through coordination and collaboration to maximize benefits to the partner agencies and address critical water supply needs for Camanche North Shore and Lake Camanche Village, two DACs located in the MAC Region.

Goals Achieved: Ponderosa Way Restoration Project – Phase 1

Phase 1 of the Ponderosa Way Restoration Project contributes to all of the goals under Policy 3: Practice Resource Stewardship. By reducing erosion and siltation into the Mokelumne River, the Ponderosa Way Restoration Project will help the Region protect, conserve, enhance, and restore the region's natural resources, maintain or improve watershed ecosystem health and function, and minimize adverse effects to cultural resources. Restoration of Ponderosa Way will allow public access for recreation in the Mokelumne Canyon and on the river directly addressing the identification of opportunities for public access, the last goal under Policy 3. Phase 1 of the Project will help manage stormwater flows and transport of sediment and contaminants, a goal identified under Policy 1: Maintain and Improve Water Quality, by implementing soil and erosion control measures, installing culverts, creating retaining walls and other restoration measures to reduce siltation and erosion of Dutchman Gulch, Alabama Gulch, and the Mokelumne River. Lastly, the project has significant support by participants in the MAC IRWM planning process achieving Policy 4: Focus on Areas of Common Ground and Avoid Prolonged Conflict.

The implementation of this Proposal will contribute to fulfilling multiple goals and objectives included in the 2013 MAC Plan Update. The policies and goals that each project contributes to are summarized in Table 3-3.

Table 3-3: Projects Contributions to Fulfilling Plan Goals & Objectives

Policies & Goals	Projects		
	Lake Camanche Lateral Replacement Project – Phase 2	CARWSP – Phase 1	Ponderosa Way Restoration Project – Phase 1
Policy 1: Maintain and Improve Water Quality	--	--	--
Reduce Sources of Contaminants			
Manage Stormwater flows and transport of sediment and contaminants.			✓
Policy 2: Improve Water Supply Reliability and Ensure Long-Term Balance of Supply and Demand	--	--	--
Ensure sufficient firm yield water supply.	✓	✓	
Maintain and improve water infrastructure reliability.	✓	✓	
Promote water conservation, recycling and reuse for urban and agricultural uses.	✓	✓	
Develop appropriate drought mitigation measures.	✓	✓	
Policy 3: Practice Resource Stewardship	--	--	--
Protect, conserve, enhance, and restore the region's natural resources.			✓
Maintain or improve watershed ecosystem health and function.			✓
Minimize adverse effects cultural resources.	✓	✓	✓
Identify opportunities for public access, open spaces, and other appropriate recreational benefits and avoid harm to existing or planned recreational uses.			✓
Policy 4: Focus on Areas of Common Ground and Avoid Prolonged Conflict	--	--	--
Prioritize projects that have the best likelihood of being completed in the planning horizon.	✓	✓	✓

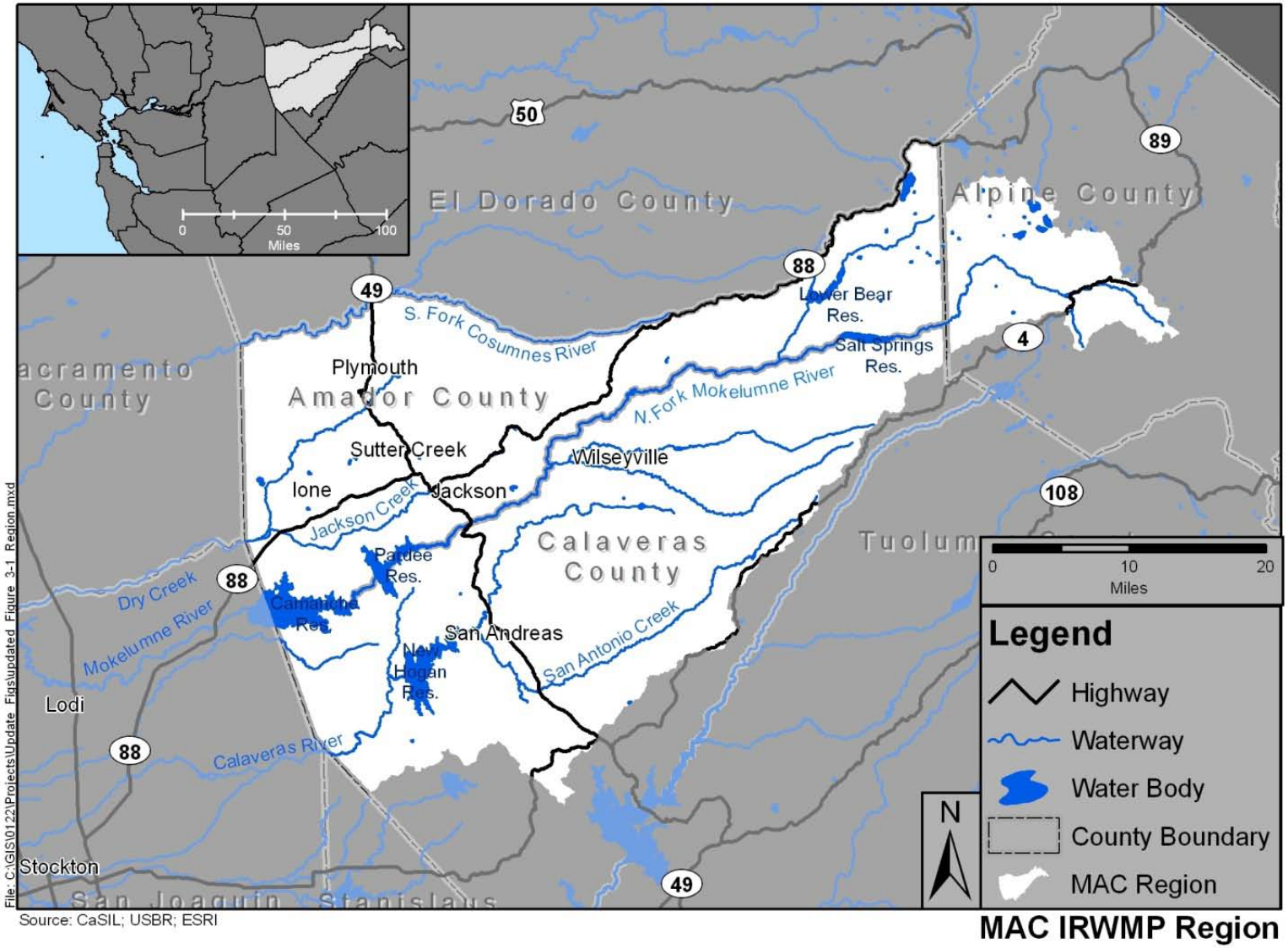
Integrated Elements of Projects

While the three projects included in this Proposal can each be implemented independently of each other, together they address critical water supply and quality needs of disadvantaged communities in the MAC Region while maximizing water supply reliability and public benefit. The projects contained herein represent a portfolio of projects that incrementally improve water reliability, reduce water waste in the Region, and improve water quality in the Mokelumne River. They synergistically address these issues with a holistic, watershed approach by addressing the major issues of aging infrastructure, poor potable water quality and water supply reliability for DACs, and impacts to the environment and the Mokelumne River along Ponderosa Way at the watershed, distribution, and treatment levels, as previously described.

Regional Map

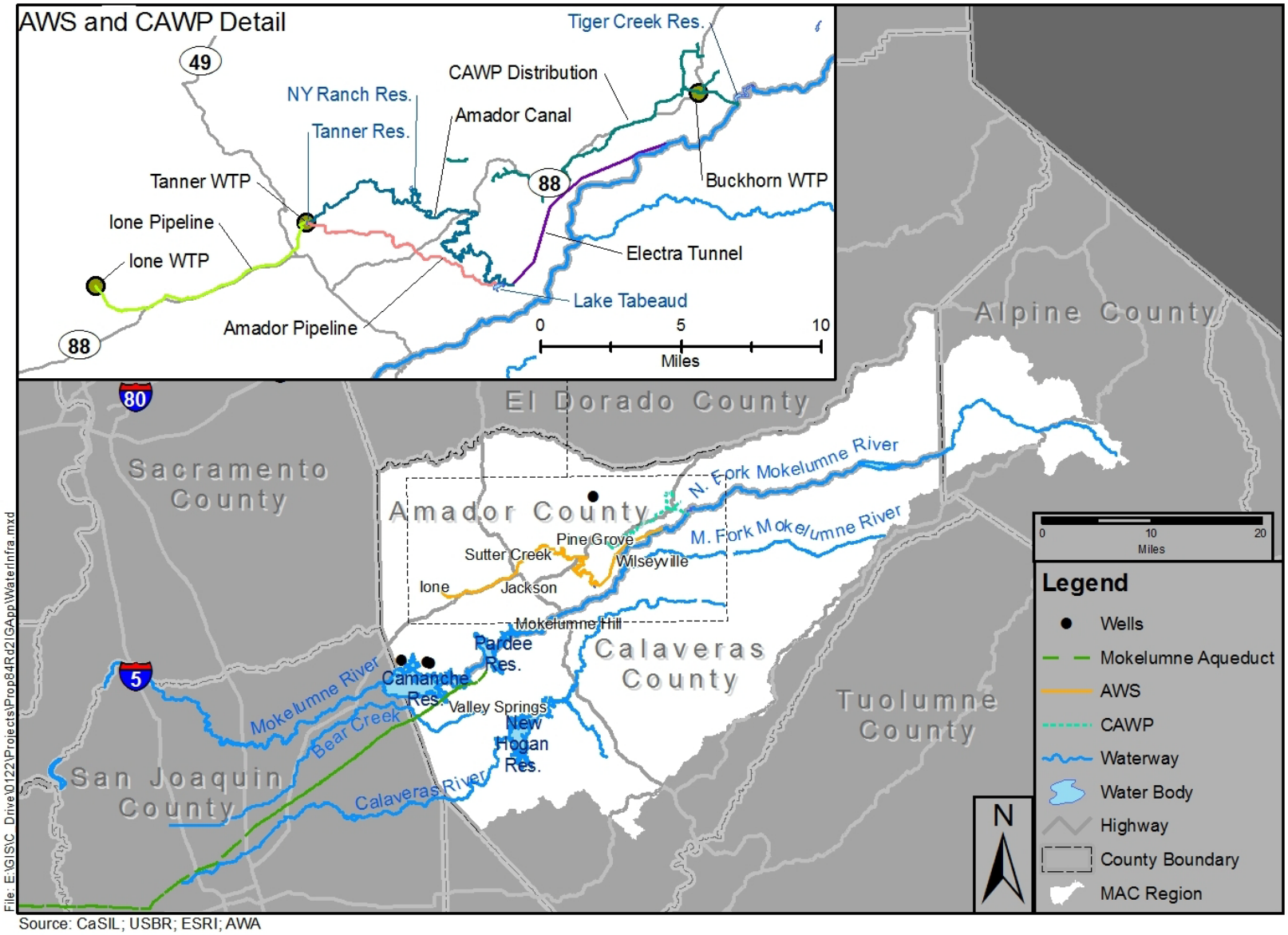
The MAC IRWM Region became a DWR-approved region during the 2009 Region Acceptance Process. The three projects included in this Proposal are entirely within the MAC Region's boundaries. The Region incorporates all of Amador County and sizeable portions of Calaveras and Alpine Counties. Included within the Region's boundary are cities, water and irrigation districts, watershed management areas, portions of groundwater basins, disadvantaged communities, and large tracts of federally-owned lands. Figure 3-1 shows the MAC IRWM region and Figure 3-2 shows water-related infrastructure in the region.

Figure 3-1: MAC IRWMP Region



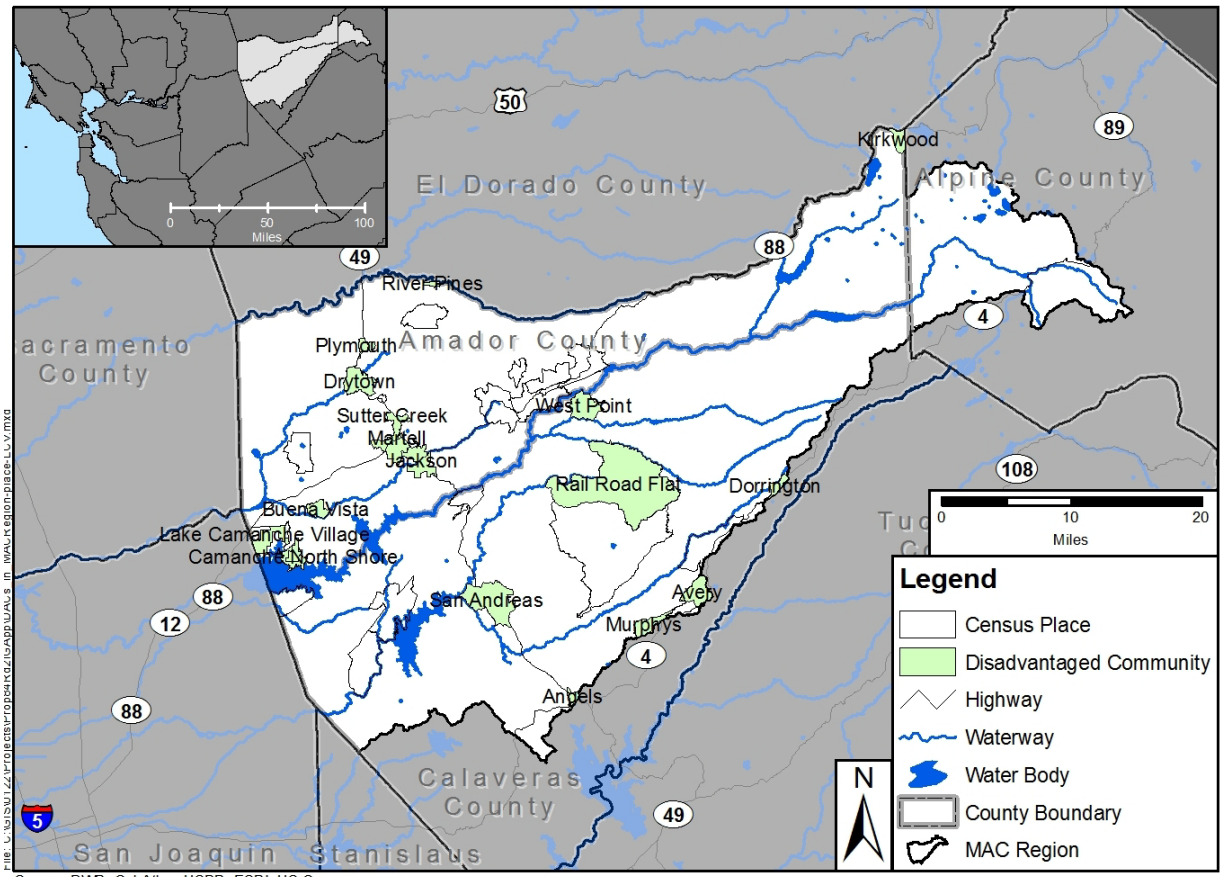
MAC IRWMP Region

Figure 3-2: MAC Region Infrastructure



The MAC IRWM region is home to approximately 84,000 people and contains several Disadvantaged Communities (DACs). The U.S. Census Bureau's American Community Survey (ACS) includes MHI data compiled for the 5-year period from 2006 to 2010. A community with an MHI of $48,706 or less is considered a DAC. Based on the ACS census place data, as shown in Figure 3-3, the cities or communities of Jackson, Plymouth, Sutter Creek, Drytown, Sutter Creek, Martell, Buena Vista, Camanche North Shore, West Point, Rail Road Flat, San Andreas, and Dorrington, are DACs. In 2010, AWA performed a survey of Lake Camanche Village and determined that it is a DAC as well.

Figure 3-3: MAC Region DACs - Census Places

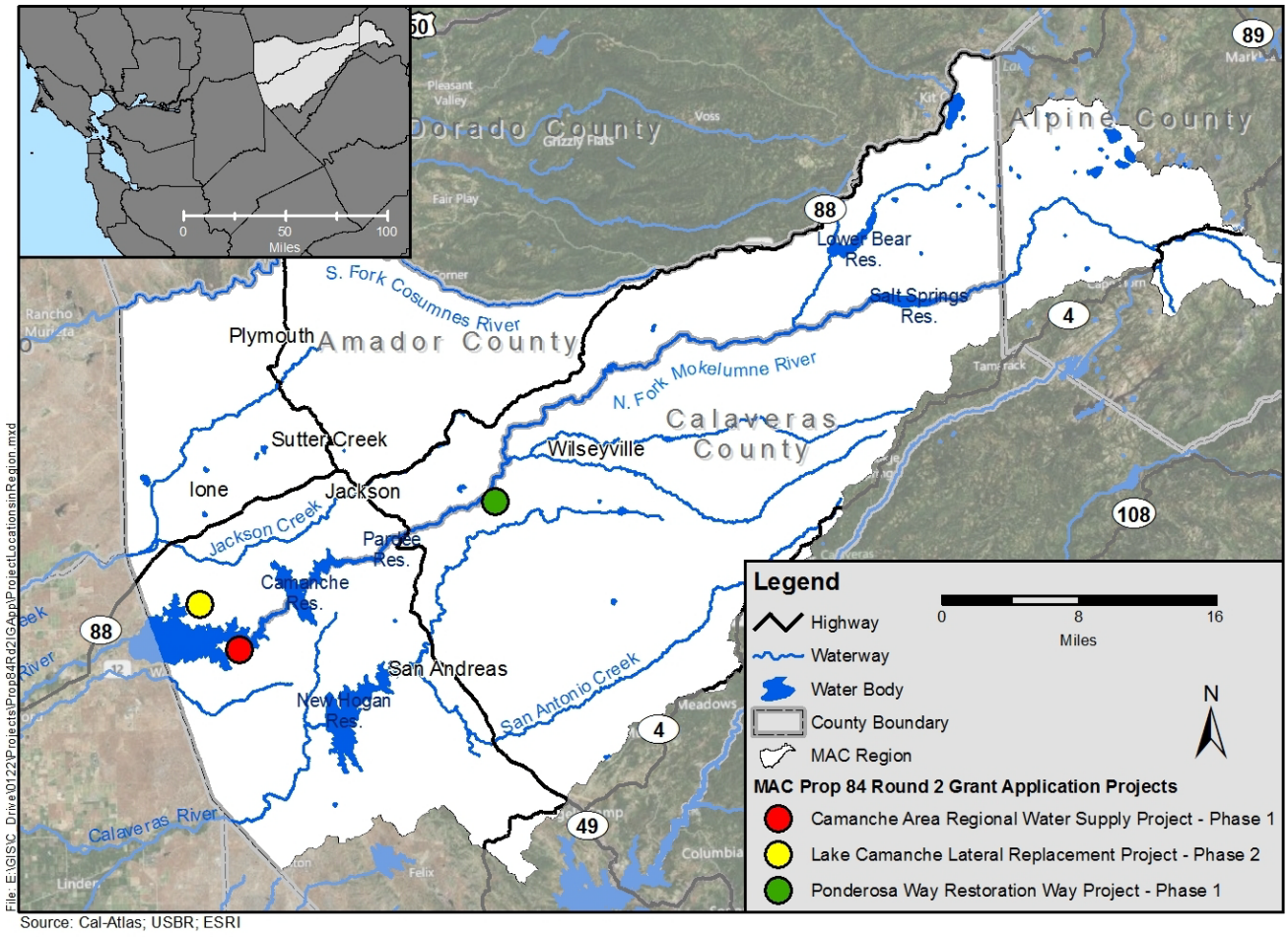


Source: DWR, Cal-Atlas; USBR; ESRI; US Census

Two of the three projects contained in this Proposal will directly address critical water supply and quality needs of two DACs in the MAC Region. The locations of all proposed projects are shown in Figure 3-4; the two projects directly benefiting the DACs are the Lake Camanche Lateral Replacement Project – Phase 2 and CARWSP – Phase 1.

The three project locations are also the approximate locations of associated monitoring activities for the projects (e.g. the location where the Project Performance Monitoring Plan will be implemented). Detailed maps are shown in each project-specific work plan, below.

Figure 3-4: Project Locations



Project Maps

Site maps of each project showing the geographical locations and surrounding work areas are included in the Work Plan Tasks sections for the associated projects.

Completed Work

Work on projects contained in this Proposal is in varying stages of completion. Work on two of the three projects (CARWSP and Ponderosa Restoration Project) has been significantly completed for the phases which are being implemented and funding is being requested. Phase 1 of the Lake Camanche Lateral Replacement Project is currently underway and Phase 2, included in this grant application, is in the pre-design phase. Work that has been completed or is expected to be completed prior to October 1, 2013 (the assumed grant award date) is summarized below for each project.

Lake Camanche Lateral Replacement Project – Phase 2

Prior to October 1, 2013, AWA will have prepared project-specific information for this Proposal leading to a conceptual project design for Phase 2, and will have coordinated with

UMRWA for the purposes of applying for the Prop 84 Round 2 Implementation Grant to construct the project. AWA received a Prop 84 Round 1 implementation grant application to implement Phase 1 of the Lake Camanche Later Replacement Project, which is currently underway, and provides a basis for design and implementation of Phase 2.

Camanche Area Regional Water Supply Project – Phase 1

The 30% project design for the Camanche Regional Water Treatment Plant Project was completed in July of 2001 and consisted of designs for the regional water treatment plant, the raw water pipeline from the Mokelumne Aqueducts to the new water treatment plant, and a cross-Camanche potable water distribution pipeline. A draft Mitigated Negative Declaration (MND) was prepared following the 30% design completion, and the final MND was adopted and submitted to State Clearinghouse in September of 2001. In May of 2003, the *Camanche South and North Shore Water Treatment Plants Evaluation* was completed, comparing alternative treatment plant technologies and pipeline alignments and costs. The 90% design of the pipeline from the Mokelumne Aqueduct to a Water Treatment Plant (WTP) on Camanche South Shore pipeline was completed following the 2003 report. Then in 2012, the three project partners, EBMUD, AWA, and CCWD, undertook the CARWSP feasibility evaluation and conceptual design to define the project, project objectives and operating parameters through completion of the *Camanche Area Regional Water Supply Plan* (RMC, 2013).

Ponderosa Way Restoration Project – Phase 1

Phase 1 of the Ponderosa Way Restoration Project is well developed and some work has been and will be completed prior to October 1, 2013. Approximately 25% of the Ponderosa Way road restoration is complete including:

- Brushed Roadside
- Filled ruts and graded road
- Built catchment at Mokelumne River to de-energize runoff
- Reinforced levee at Alabama Gulch at bottom of Ponderosa Way
- Removed damaged, day-lighted culverts
- Restored inside ditch with blade
- Pre-storm culverts and ditch maintenance
- Applied erosion control- silt fence, straw, stakes

While Calaveras County Public Works has filled ruts, as well as graded and remediated two major sources of erosion in October 2012, the ditch system requires additional culverts, the slides need retaining walls, and the surface needs to be sealed with compacted road base. The locations of the retaining walls have been identified (Figure 3-9), as well as the specific restoration measures to be completed.

Existing Data and Studies

The following is a list of studies and reports that have been completed in support of the projects contained in this proposal. These documents are provided as Appendices to this Attachment.

Studies in support of the Lake Camanche Lateral Replacement Project

- *2008 Urban Drought Assistance Grant Application* – In July of 2008, AWA submitted a grant application to the California Department of Water Resources (DWR) 2008 Urban Drought Assistance Grant Program for the Lake Camanche Lateral Replacement Project. Information compiled for that application was used in support of the information presented in this Proposal. (Appendix 3-1)
- *Water Conservation Plan* (RMC Water & Environment, 2010) – This document summarizes current water conservation programs being implemented by Amador Water Agency (AWA), and outlines a recommended program for demand management measure (DMM) implementation to levels of compliance at stated in the California Urban Water Conservation Council's Memorandum of Understanding. Section 3.2 of the Plan describes DMM 3, system water audits, leak detection and repair, and describes a program recommended for implementation of the DMM. The Lake Camanche Lateral Replacement Project will reduce significant water losses in the system and is consistent with the recommended DMM3 program as described in the Conservation Plan. (Appendix 3-2)
- *Executed Contract with the Department of Water Resources for Implementation of the Lake Camanche Lateral Replacement Project – Phase 1 (2012)* - Phase 1 of the project is currently underway using Proposition 84 Round 1 Implementation grant funding. The project is proceeding on schedule and within budget. (Appendix 3-3)
- *Standard Design and Construction Specifications for Treated Water Systems*, Amador Water Agency (February 2012) – This document summarizes AWA's standard treated water system design specifications. (Appendix 3-4)
- *Notice of Exemption for the Lake Camanche Lateral Replacement Project – Phase 1* (October 2012) – This document summarizes AWA's environmental compliance requirements for the Phase 1 project; Phase 2 requirements are expected to be the same as Phase 1. (Appendix 3-5)

Studies in support of the Camanche Area Regional Water Supply Project

- *Camanche Area Regional Water Supply Plan Feasibility Study and Conceptual Design* (RMC Water and Environment, 2013) – The Camanche Area Regional Water Supply Project (CARWSP) planning process was enabled by a Proposition 84 IRWM planning grant received by the MAC IRWM Region. An evaluation of the feasibility of CARWSP was completed and documented in the *CARWSP Feasibility Study and Conceptual Design,* which identified the areas to be served by the project, determined project phasing, and detailed other parameters for project implementation such as financing, operations and maintenance requirements, and technical information.

- *Camanche South and North Shore Water Treatment Plants Evaluation* was completed, comparing alternative treatment plant technologies and pipeline alignments and costs.
- *Camanche Water Treatment Plant Replacement Project Mitigated Negative Declaration*, State Clearinghouse Number 2001072084 (July 2001 Draft; September 2001 Final) – This MND conducted the environmental impact evaluation of the proposed Camanche Regional Water Treatment Plant project as required under the California Environmental Quality Act (CEQA). Evaluated under this document were the 0.5 MGD filtration plant, the raw water pipeline connecting the Mokelumne Aqueducts to the new Camanche Regional Water Treatment Plant, and a cross-Camanche distribution pipeline. In general, the document determined that all potential environmental impacts could be mitigated, and provided recommended mitigation measures to be implemented at the time of project construction.
- *Camanche Regional Water System Draft Feasibility Study* (KASL, July 1999) – Performed initial evaluation of alternatives for surface water treatment to serve EBMUD's Camanche North and South Shores, AWA's Lake Camanche Village, and CCWD's Wallace and Burson service areas. This study laid the foundation for other studies and project development.
- *30% design documents for the Camanche South Shore Water Treatment and 90% design documents for the associated pipeline*. 30% plans were completed in July of 2001, and 90% (pre-final) design plans were completed in May of 2003 for both the water treatment plant and the pipeline. A revised design for the regional water treatment plant was developed in March 2013 to the 30 percent design level to allow the water treatment plant to be expanded for CARWSP Phases 2 and 3.

Studies in support of the Ponderosa Way Restoration Project

- *Ponderosa Way Restoration Project letter from Jan Bray, Calaveras Area Forester, Tuolumne-Calaveras Unit at the California Department of Forestry and Fire Protection to Calaveras County Public Works, dated October 22, 2012* – the letter summarizes an on-site assessment conducted by Jan Bray, a Professional Engineer and Certified Professional in Soil and Erosion Control, of Ponderosa Way. The letter provides recommendations of improvements including restoration measures and the installation of a gate, included in Phase 1 of the project.
- *Mokelumne River Project FERC Project No. 37, Mokelumne Relicensing Settlement Agreement* (2000) – Appendix A, Section 15, describes what will be the second and third phases of the Ponderosa Way Restoration Project.

Project Timing and Phasing

All of the projects included in the Proposal are phased projects. The phasing of these projects is discussed as follows.

As previously mentioned, the AWA Lake Camanche Lateral Replacement Project – Phase 2, included in this Proposal is the second phase of the overall Lake Camanche Lateral and Tank Replacement Project which will be completed in a total of three phases. Each phase of the

project consists of replacing approximately one third of the laterals in the Lake Camanche Water System, or approximately 200 laterals. Phase 1 is currently under construction via a Proposition 84 Round 1 implementation grant from DWR. Since the project consists of replacing existing, failing laterals, each of the 200 laterals contained within each phase can be replaced independent of the other phases.

The first phase of the Camanche Area Regional Water Supply Project (for which funding is being sought) includes the following components: raw water pipeline from the Mokelumne Aqueduct to a new 0.5 mgd WTP; treated water pipeline from the WTP to Camanche North Shore users as well as a pipeline crossing Lake Camanche to deliver water to Camanche North Shore; a connection to the Lake Camanche Village water system; and the Vintage Home Fixture Retrofit (consisting of toilet and showerhead fixture replacements) in the Camanche North and South Shore service areas and Lake Camanche Village. Phase 1 of the project will create a high quality water supply, eliminating the number of violation notices that occurred at the aging treatment plant located at Camanche South Shore, and providing a better-quality water to local users. Long- term, after subsequent phases of the treatment plant have been constructed, the high-quality treated surface water will be provided to the AWA's Lake Camanche Village service area and the Wallace service area, currently being annexed to CCWD. The three phases included in CARWSP are summarized in Table 3-4. While the Phase 1 project could be a stand-alone project, the three project partners are interested in implementing Phases 2 and 3 to achieve full benefits in Lake Camanche Village and Wallace.

Table 3-4: CARWSP Phases

Phase	Components
1	Aqueduct connection and 12" raw water pipeline to WTP WTP at 0.5 mgd capacity Treated water 8" pipeline (WTP to Camanche North Shore) Lake Camanche Village Intertie Vintage Home Fixture Retrofit (toilet and showerhead replacements in Camanche North and South Shore Recreation Areas and Lake Camanche Village)
2	Expand WTP by 1 mgd Lake Camanche Village pipeline Booster pump station AWA storage tank (500,000 gal) Pressure reducing and sustaining valves (for conjunctive use operations)
3	Expand WTP by 0.7 mgd Treated water 8" pipeline (WTP to park entrance) Treated water (12" and 10") pipeline (park entrance to Wallace) Pump station and standby power CCWD storage tank (600,000 gal) Pressure reducing and sustaining valves (for conjunctive use operations) Vintage Home Fixture Retrofit (Wallace)

The Ponderosa Way Restoration Project will also be implemented in three phases. The three phases that will be implemented for the Ponderosa Way Restoration Project include:

> **Phase 1:** 'Restoration of Ponderosa Way' for which funding is being requested. This phase will correct road erosion and river siltation. It will also restore watershed access to CAL FIRE and BLM for fire prevention and suppression and to the general public for recreation. The return of public access to the river will trigger Phase 2.
>
> **Phase 2:** 'Development of the Ponderosa Way Boat Launch' will open the Ponderosa Whitewater Run, 2.8 miles of class II/III rapids down to the Electra Powerhouse and connecting with the popular 5.8 mile Electra Whitewater Run. Under its license with the Federal Energy Regulatory Commission, PG&E agreed to install, operate and maintain information signage, parking signage, a staff gage, unpaved parking for six vehicles, and a portable toilet during the boating season. (See *Mokelumne River Project, FERC Project No. 137, Mokelumne Relicensing Settlement Agreement, Appendix A, Section 15. Whitewater Boating Access Facility Recommendations, Ponderosa Way run Put-in Facilities).*
>
> **Phase 3:** 'Long-term Maintenance of Ponderosa Way and the Boat Launch' will be a collaborative effort. Under its FERC agreement, PG&E will operate and maintain the facilities at the Boat Launch and will also provide annual funding to BLM for two River Rangers during the whitewater season (See above *Settlement Agreement, Contributions for River Rangers and Recreation Technician*). BLM, the principle owner of the watershed, will manage the canyon. Calaveras County Public Works will maintain the road with support from CAL FIRE and local volunteers.

Phase 1 is independent of phases 2 and 3 in that the benefits of Phase 1 will be achieved without the need for implementation of phases 2 and 3; it will optimize road drainage at Ponderosa Way and minimize the long-term maintenance required. However, the implementation of Phase 1 restores public access to Mokelumne River which triggers the following phases in which PG&E, BLM, and other stakeholders will develop, operate, and maintain the whitewater facilities already financed under FERC Project No. 137 that is up for renewal with PG&E in 2023.

Proposition 84 Grant Proposal Implementation

For implementation of this Proposal and to facilitate grant funding management, UMRWA, as the Proposition 84 Implementation Grant Manager, will enter into written agreements with Project Sponsors (AWA, EBMUD, and Calaveras County). These agreements will describe project-level communication and coordination protocols, reporting procedures, and grant

obligations between UMRWA and Project Sponsors (including applicable requirements and standard conditions as specified in the Grant Agreement between DWR and UMRWA). UMRWA and the Project Sponsors will draft a mutually acceptable model agreement which will serve as the basis for the three anticipated individual UMRWA – Project Sponsor agreements. Those agreements will be effective upon approval by the UMRWA Board of Directors and the governing boards of the three Project Sponsors and on execution of the Funding Agreement with DWR. The UMRWA – Project Sponsor agreements are expected to address the following matters.

Communication and Coordination Protocols

1. Designate by name each Project Manager
2. Establish quarterly conference call coordination meeting schedule (Grantee and Project Managers)
3. Prescribe project invoicing and accounting procedures and standards
4. Establish procedures to ensure Project Sponsors timely notify UMRWA Contract Manager when:

   (a) Events or proposed changes could affect the scope, budget, or work performed under the Grant Agreement. [No substantial change in project scope will be undertaken until written notice of the proposed change has been provided to State and State has given written approval for such change.]

   (b) Any public or media event publicizing the accomplishments and/or results of a project and provide the opportunity for attendance and participation by State's representatives. [Grantee must notify State at least fourteen (14) calendar days prior to the event.]

   (c) Completion of work on a project.

   (d) Final inspection of a project by a Registered Civil Engineer, as determined and required by State, and in accordance with Standard Condition D-14, and provide State the opportunity to participate in the inspection. [Grantee must notify State at least fourteen (14) calendar days prior to the final inspection.]

Reporting Procedures

Specify report due dates, format and content requirements, and any other report specifications as required by the UMRWA – DWR grant agreement for the following.

1. Quarterly Reports
2. Project Completion Report
3. Post Performance Report

Project Sponsor Obligations

Specify Project Sponsor obligations and responsibilities to ensure that UMRWA (as Grantee) and individual Project Sponsors comply with the terms and conditions of the UMRWA – DWR grant agreement. These obligations and responsibilities will include the following.

1. Require Project Sponsors, for their respective project or projects, to comply with all applicable terms and conditions of the UMRWA – DWR Grant Agreement.
2. Require Project Sponsors, for work that is subject to the California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA), to fulfill all associated compliance requirements.
3. Require Project Sponsors to: commence and continue operation of their respective projects, and ensure projects to be operated in an efficient and economical manner; ensure all repairs, renewals, and replacements necessary to the efficient operation of the projects are provided; and ensure projects are to be maintained in as good and efficient condition as upon its construction, ordinary and reasonable wear and depreciation excepted.
4. Require Project Sponsors to ensure that all operations and maintenance costs of the facilities and structures are assumed by the Project Sponsors for their respective projects.
5. Require Project Sponsors to be responsible for ensuring any and all permits, licenses, and approvals required for performing their obligations under the UMRWA - DWR Grant Agreement are obtained.
6. Require Project Sponsors to comply with all applicable California Labor Code requirements, including prevailing wage provisions. Project Sponsors must, independently or through a third party, adopt and enforce a Department of Industrial Relations-certified Labor Compliance Program (LCP) which meets the requirements of Labor Code section 1771.5.
7. Require Project Sponsors during construction or implementation of each project to install a sign at a prominent location which includes a statement that the project is financed under California Water Security, Clean Drinking Water, Coastal and Beach Protection Fund of 2002, administered by State of California, Department of Water Resources. Project Sponsor shall notify the UMRWA Grant Manager State as each sign has been erected and provide a site map with the sign location noted and a photograph of each sign.
8. Require Project Sponsors to comply with all applicable laws and regulations regarding securing competitive bids and undertaking competitive negotiations in Grantee's contracts with other entities for acquisition of goods and services and construction of public works with funds provided by State under the Funding Agreement.

Work Plan Tasks

There are three projects included in this Proposition 84 Round 2 Implementation Grant application: the Amador Water Agency (AWA) Lake Camanche Lateral Replacement Project – Phase 2, the Camanche Are Regional Water Supply Project – Phase 1 led by East Bay Municipal Utility District (EBMUD), and the Ponderosa Way Restoration Project – Phase 1 which will be implemented by Calaveras County Public Works Department. Tasks required to implement each project are described in the following sections. These same tasks are reflected under the same project headings in Attachment 4 – Budget and Attachment 5 – Schedule, where the tasks-specific and overall project budgets and schedules are presented.

Lake Camanche Lateral Replacement Project – Phase 2

Lead Agency: Amador Water Agency

Total Cost: $592,001

Grant Request: $592,001

Funding Match: $0 (0%; a funding match waiver is requested)

Detailed Description

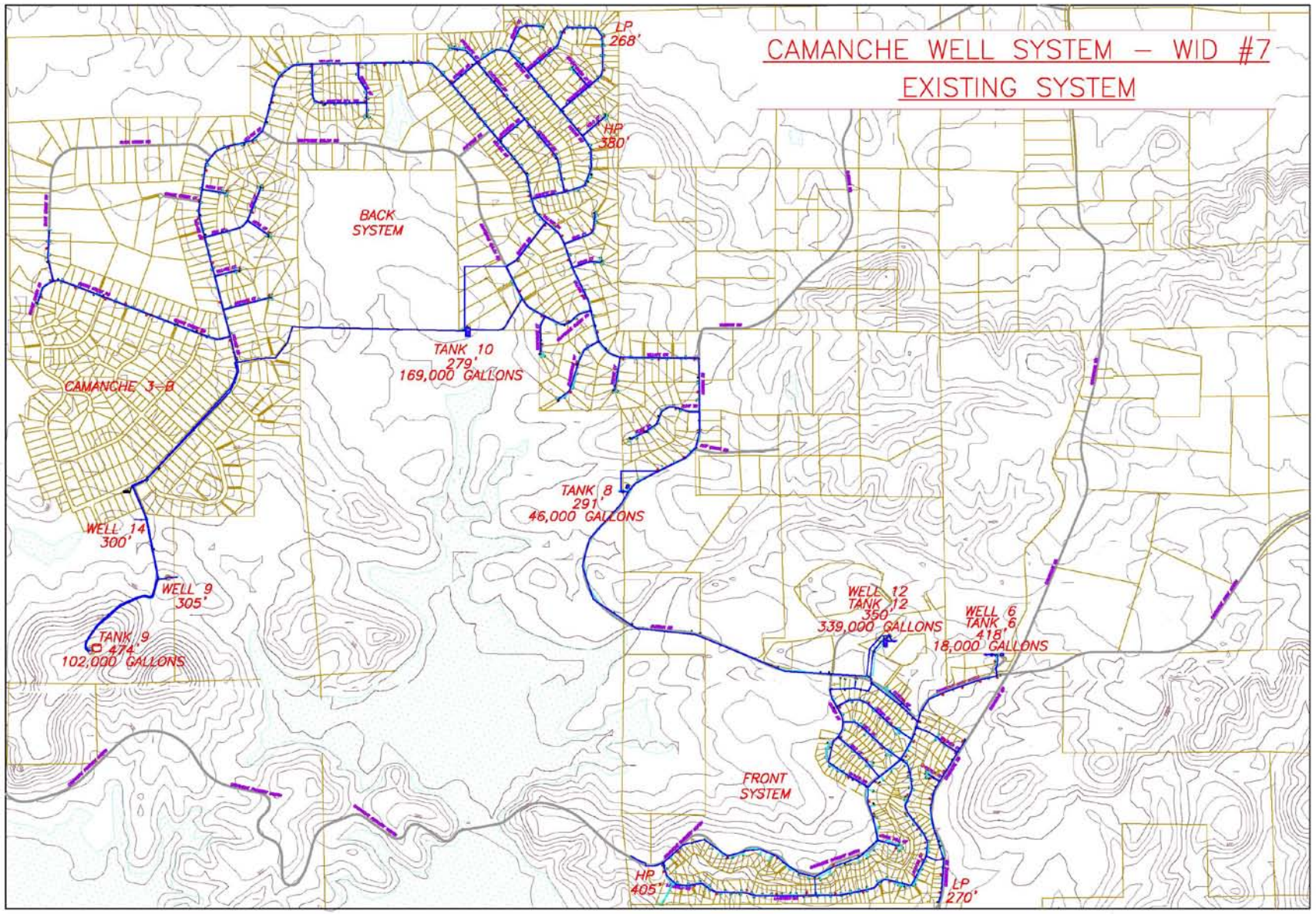
The Amador Water Agency is the main water purveyor in western Amador County with over 6,700 connections in their service area. AWA serves the cities of Amador City, Ione, Jackson, Plymouth, Sutter Creek and portions of unincorporated western Amador County, including the community of Lake Camanche Village. Lake Camanche Village is a major subdivision near the shore of Camanche Reservoir (a recreation and flood control reservoir) consisting of several units in western Amador County and has been identified as a DAC. The Lake Camanche Village Service Area is known as Water Improvement District #7 (WID #7) by AWA and consists of three groundwater wells, storage tanks, hydro-pneumatic tanks, and booster pumps. The AWA WID #7 service area has 733 connections and provides an average of 0.27 MGD of potable water. [Note: WID#7 is sometimes also referred to as CSA#3, which is a Community Service Area established by Amador County when it approved the Lake Camanche Village subdivision. AWA established WID#7 when it took control of the Lake Camanche water system from the county. The area contained within WID#7 and CSA#3 is identical.] Figure 3-5 shows the location of the Lake Camanche Village water system infrastructure.

The service laterals in the Lake Camanche Village distribution system are contributing significantly to water losses in the system. The current polyethylene ("Poly-Tube") laterals were installed in the late 1970s and have become very brittle and subject to severe longitudinal cracking, catastrophically failing at an increasing rate. The failure of the service laterals does not just contribute to significant water losses; the displaced water has also caused considerable infrastructure damage.

The Lake Camanche Lateral Replacement Project is structured into three phases, each consisting of replacing approximately 200 laterals. AWA is currently implementing Phase 1 of the Lake Camanche Lateral Replacement Project which was made possible through the award of Proposition 84 implementation funds from DWR. Phase 1 includes lining the redwood tanks with geomembrane liners to reduce water loss and increases storage capacity and replacing 200 of the existing Poly-Tube service laterals with 3/4-inch copper pipe.

For Phase 2, included in this Proposal, AWA proposes the replacement of 200 additional service laterals in order to reduce the water losses in the distribution system and minimize infrastructure damage from cracked and leaky pipes.

Figure 3-5: Lake Camanche Village Water System Infrastructure



Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions, project status meetings, preparation of quarterly reports, and normal communications between AWA, UMWRA, and consultants and/or contractors. Budget Category (a) (Direct Project Administration) includes Task 1: Administration, Task 2: Labor Compliance Program, and Task 3: Reporting, which are described in more detail as follows.

Task 1: Administration

The Upper Mokelumne River Watershed Authority (UMRWA), the Regional Water Management Group for the MAC Region will be responsible for managing and distributing awarded grant funds to project proponents, including AWA. Any grant money awarded to the Lake Camanche Lateral Replacement Project – Phase 2 will be directed to AWA by UMRWA under an agreement between the two agencies.

Work items to be included under this task include developing the UMRWA and DWR grant agreement, the UMRWA-AWA pass-through agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications between AWA and UMRWA, and Board communications), progress meetings through the duration of the project, documents management and schedule review.

Task 1 Deliverables:

- DWR grant agreement
- UMRWA-AWA grant agreement
- Project start-up coordination meeting
- Monthly invoices
- Reimbursement requests
- Project status updates to Board of Directors

Task 2: Labor Compliance Program

AWA staff will complete the Lake Camanche Lateral Replacement Project – Phase 2. Therefore, a Labor Compliance Program is not required. No work is to be completed under this task.

Task 2 Deliverables:

- None

Task 3: Reporting

No work has been or will be completed under Task 3 for the Lake Camanche Lateral Replacement Project – Phase 2 prior to October 1, 2013. Following execution of the grant agreement, Quarterly Reports will be prepared assessing the progress and accomplishments of the Lake Camanche Lateral Replacement Project – Phase 2. The Quarterly Reports to DWR will likely include the following information.

- Time period covered by the request;
- Description of activities since the previous report;

- Status of the project relative to the progress schedule;
- An estimate of the percentage of work completed;
- Records of expenditures;
- Percentages of State and total funding expended to date; and
- Key issues that need to be resolved.

A Project Completion Report will also be prepared at the end of the project, anticipated to be December 2014. The Project Completion report will include the following:

- An executive summary (two page maximum);
- Records of expenditures;
- A comparison of the projected benefits versus the measured benefits;
- A comparison of the original schedule and the actual schedule;
- A discussion of problems that occurred during construction and how the problems were solved;
- Submittal of any required deliverables that were not previously submitted; and
- A list of required deliverables submitted previously with dates of submittal and DWR acceptance.

AWA will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

Easement acquisitions and/or right-of-ways are not required for the implementation of the Lake Camanche Lateral Replacement Project.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Task 4: Assessment and Evaluation

Planning documents will not be required for the Lake Camanche Lateral Replacement Project as the Project is part of the on-going maintenance and repair of the aging AWA water system.

Task 4 Deliverables:

- None

Task 5: Final Design

After October 1, 2013, AWA will begin completing design of the Lake Camanche Lateral Replacement Project – Phase 2. A project manager, assistant engineer and distribution supervisor will be assigned to the project and collaborate on the design of the Project; 10% design will be completed by the end of October 2013 and final design will be done by January 2014. The 10% design will show laterals to be replaced for Phase 2. The 100%/ final design will be the design package consisting of the signed plans and specifications.

During project development the following methodologies and standards will be used:

- Amador Water Agency Treated Water Standards for Project Specification;
- American Water Works Association (AWWA) materials standards;
- American Society for Testing and Materials (ASTM) standards;
- Amador Water Agency hydraulic modeling standards (H20Net); and
- Others as identified as applicable.

Additionally, during design, AWWA and ASTM Construction Standards, AWA Standard Specifications, and Occupational Safety & Health Administration (OSHA) regulations and industry standard practice will be used as construction standards and health and safety standards.

Task 5 Deliverables:

- 10% Design
- Final (100%) Design Package

Task 6: Environmental Documentation

Environmental documentation for this project is not yet complete. Because the project involves infrastructure replacement and rehabilitation, there will be no significant impacts resulting from the project. Therefore, a Categorical Exemption is anticipated for California Environmental Quality Act (CEQA) compliance (similar to Phase 1 of the Project). The project will be categorically exempt under Class 2, Replacement or Reconstruction, Section (c) for replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. The project manager and executive secretary will complete and file the Notice of Exemption (NOE) with the State Clearinghouse and/or County Clerk after October 1, 2013, upon completion of the 10% design.

Task 6 Deliverables:

- CEQA Notice of Exemption

Task 7: Permitting

Implementation of the Lake Camanche Lateral Replacement Project – Phase 2 will require AWA to acquire an Amador County Encroachment Permit. The necessary forms will be

completed and submitted to Amador County and AWA staff will coordinate, as necessary, to acquire the permit.

Task 7 Deliverables:

- Amador County Encroachment Permit

Budget Category (d): Construction/Implementation

AWA will perform the lateral replacement for the Lake Camanche Lateral Replacement Project – Phase 2 with in-house staff.

Task 8: Construction Contracting

Task 8 is not applicable since all work for the Lake Camanche Lateral Replacement Project – Phase 2 will be completed by AWA staff; no work will be completed.

Task 8 Deliverables:

- None

Task 9: Construction

Task 9 consists of three subtasks required for project construction. Subtask 9.1 consists of pre-construction work items including mobilization and site preparation. Subtask 9.2 consists of the actual project construction, while Subtask 9.3 consists of post-construction tasks including final inspections, performance testing, demobilization and site restoration (if required).

Subtask 9.1: Mobilization and Site Preparation

Staff will mobilize its equipment and crew according to the designated staging plan. Some of the equipment that will be required for construction of the Lake Camanche Lateral Replacement Project – Phase 2 include a crane, back hoe, low bed, crew truck, compactor, saw cutter, suction vacuum, and paver; this equipment will be brought to the site during this subtask.

Subtask 9.2: Project Construction

Under Subtask 9.2, the service laterals will be replaced. This will consist of potholing to definitively locate the service laterals, followed by disconnecting the service lateral to be replaced, locating the existing service saddle, excavating the existing service saddle, and laying and backfilling approximately 200 service laterals. The trenches will then be backfilled and the impacted roadways will be repaved. Primary consideration was given to materials approval under American Water Works Association (AWWA), NSF, and the California Department of Public Health standards and regulations. Secondary consideration was given to AWA standardization of materials, cost of materials, durability, and longevity. Construction shall comply with AWWA Standards, California Department of Public Health Regulations, and Amador Water Agency Design Standards.

Subtask 9.3: Performance Testing and Demobilization

Final lateral inspections will be conducted under this subtask, along with all required performance testing, including pressure testing of the laterals in accordance with Amador Water Agency Standards. Additionally, disinfection and water quality testing will be performed, specifically chlorination and coliform bacteria (Bac-T) testing. Demobilization will also occur under this subtask.

Task 9 Deliverables:

- Interim and final inspection reports
- Pressure and leak testing report

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

No anticipated environmental mitigations or enhancements will be required for Phase 2 of this project (nor was any required for Phase 1, currently underway). Construction will take place in previously disturbed areas and in public streets, and will not disturb more than one acre of soil (and therefore will not require coverage under the State's General Stormwater NPDES permit for construction).

A Monitoring Plan will be prepared for the Lake Camanche Lateral Replacement Project to provide a framework for assessing and evaluating the project performance once it is implemented. The Monitoring Plan will identify the measures that will be used to monitor progress toward achieving the specific project goals of reducing / minimizing water losses within AWA's water system, improving water quality and improving water supply reliability. The Monitoring Plan will also provide tools to monitor and measure project processes and will guide final project performance reporting that will fulfill grant agreement requirements. Attachment 6 of this Proposal consists of Monitoring, Assessment, and Performance Measures for the Lake Camanche Lateral Replacement Project. Project goals, desired outcomes, performance indicators, measurement tools and methods, and targets were developed for this Project. The identified parameters will provide a basis for the Monitoring Plan to be developed during Task 1.

Task 10 Deliverables:

- Project Performance Monitoring Plan

Budget Category (f): Construction Administration

Task 11: Construction Administration

During construction, an AWA staff member will act as construction manager for construction administration tasks for the lateral replacement. Construction Administration work items include:

- Manage construction activities
- Coordinate with property owners and other utilities
- Manage and coordinate all project inquiries

- Serve as primary point of contact for project correspondence
- Maintain detailed project records
- Inspect completed construction

Task 11 Deliverables:

- Communication/correspondence records
- Field logs
- Project records

Budget Category (g): Other Costs

While no work items are included in this budget category, the Amador County Encroachment Permit fee is placed in this category in the budget as directed by Exhibit B of the *Proposal Solicitation Package, Integrated Regional Water Management, Proposition 84 Round 2 Implementation Grant Program, November 2012*.

Budget Category (h): Construction/Implementation Contingency

The Lake Camanche Lateral Replacement Project is a ministerial project for AWA; as such, there is a high degree of confidence in the cost estimate presented herein. As a result, there is no construction/implementation contingency percentage applied to this project.

Camanche Area Regional Water Treatment Project – Phase 1

Lead Agency: East Bay Municipal Utility District

Total Cost: $3,069,640

Grant Request: $1,449,025

Funding Match: $1,552,592 (51%)

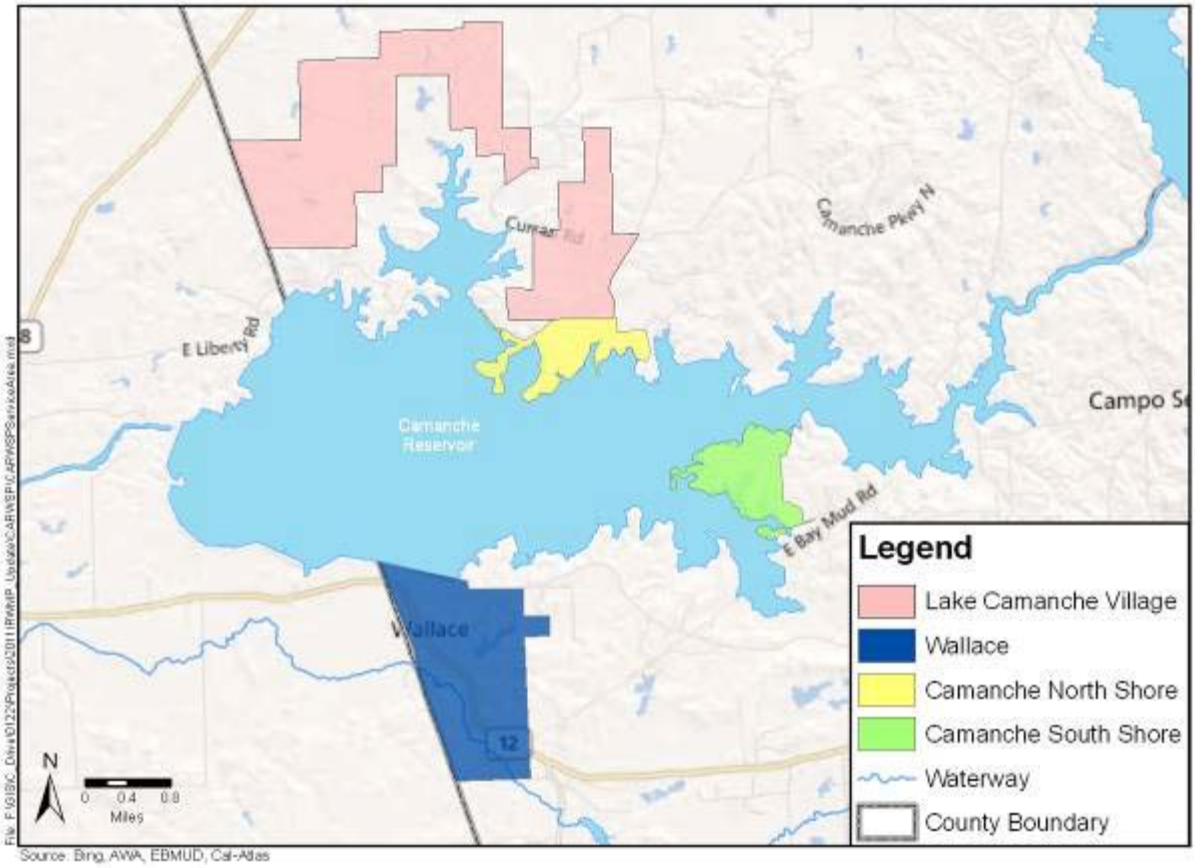
Detailed Description

The Camanche Area Regional Water Supply Project (CARWSP), once fully implemented, will address the water needs of three separate water system purveyors: Amador Water Agency (AWA), Calaveras County Water District (CCWD), and East Bay Municipal Utility District (EBMUD, specifically, the needs of the communities and recreation areas adjacent to EBMUD's Camanche Reservoir). The first phase of CARWSP is included in this Proposal as previously described.

Background

The Camanche Area covers approximately 20-square-miles in the vicinity of Lake Camanche, as shown in Figure 1. The area includes Lake Camanche Village and the Camanche Area North Shore (CANS) Recreation Area in Amador County; and the communities of Wallace, Burson, and the Camanche Area South Shore (CASS) Recreation Area in Calaveras County. The area is predominantly rolling foothill grasslands with blue oaks and Foothill pines; elevations range from about 200 to 700 feet. Lake Camanche Village water supplies are currently provided by AWA, and CANS and CASS water supplies are provided by EBMUD. The community of Wallace is in the process of being annexed to the CCWD water supply system.

Figure 3-6: Camanche Area



The primary water supply source in the Camanche area is groundwater. Groundwater quantity and quality in the Camanche area vary considerably among well sites due to the region's geology and the small and unpredictable yields of groundwater system that typifies this area of the Sierra foothills. Wells serving areas in Amador County north of Lake Camanche are located within the Cosumnes Subbasin portion of the San Joaquin Valley Groundwater Basin, while wells serving areas south of Lake Camanche are located in the Eastern San Joaquin Subbasin. Located on the eastern fringe of the San Joaquin Valley Groundwater Basin, groundwater resources in the Camanche area originate in fractured rock systems typical of the foothills as well as the alluvial systems characteristic of the San Joaquin Valley geology to the west. Over the years, groundwater has proven to be an unreliable and often unsuitable water supply source for the Camanche area. In addition to the highly variable quantities of available groundwater, Camanche area groundwater supplies have exhibited chronic water quality issues. Based on quarterly sampling in monitoring wells north of Lake Camanche in Amador County, groundwater iron concentrations greatly exceed the secondary maximum contaminant level (MCL) of 300 micrograms per liter (µg/L), reaching concentrations as high as 7,052 µg/L. Additionally, total manganese concentrations in monitoring wells are greater than the secondary MCL of

50 µg/L, reaching concentrations as high as 329 µg/L. Groundwater quantity and quality concerns have prompted EBMUD, AWA, and CCWD to partner in the development of a Camanche Area Regional Water Supply Plan (CARWSP) which identifies solutions to correct the critical drinking water quality issues in the Camanche area.

Since the mid-1960s, EBMUD has operated water treatment plants within the lands adjacent to Camanche Reservoir, serving the Camanche South Shore and North Shore Recreation Areas. The WTP at CASS is outdated and in need of upgrades to fully comply with the current Surface Water Treatment Rules for multi-barrier treatment and to eliminate taste and odor concerns currently occurring at the plant. In addition, since Camanche Reservoir is the plant's water source (and since the Reservoir serves as a recreational feature for the local community), there tends to be a high bacteria and turbidity loading in the water supply.

In the late 1990s, representatives from EBMUD, AWA and CCWD (together with local community members) identified a shared need to address the water supply and quantity issues that each agency faced within the Camanche Reservoir area. A partnership with EBMUD, AWA and CCWD was formed, and the concept of developing a regional water treatment plant that would serve the combined localized needs of said agencies was documented. Since that time, work on the regional treatment plant project has included preliminary engineering efforts as well as environmental review. The Camanche Area Regional Water Supply Project (CARWSP) is the result of that ongoing collaborative effort. The need for the project was seen as critical, hence its inclusion in the 2013 MAC Plan Update.

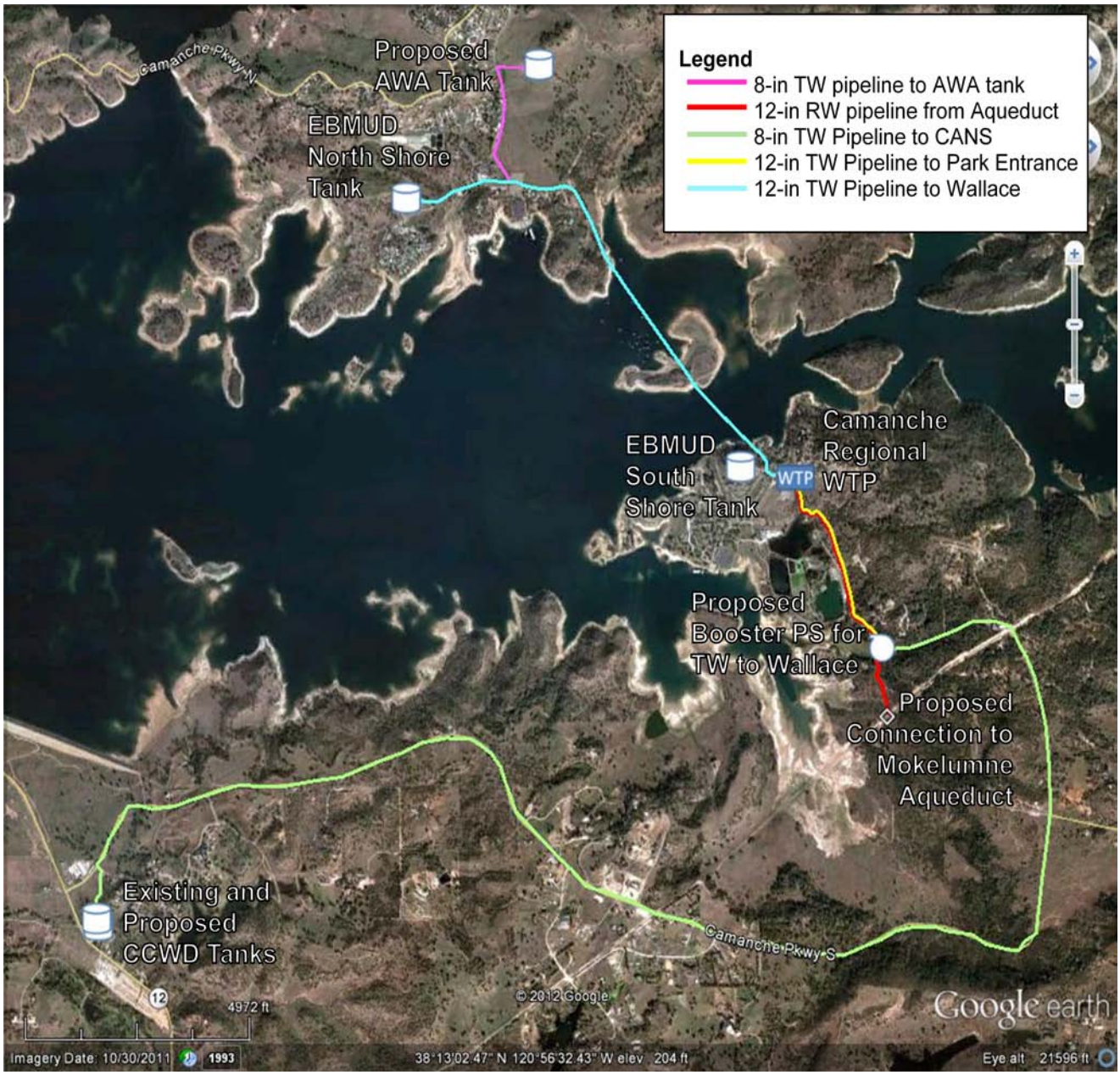
CARWSP Description

CARWSP consists of a regional water treatment plant located at Camanche South Shore (the location of EBMUD's existing and outdated CASS WTP), a raw water pipeline from Mokelumne Aqueduct to the WTP, and treated water pipelines and appurtenances to deliver treated surface water from the WTP to the services areas of Camanche North and South Shores, Lake Camanche Village, and Wallace. The overall layout of CARWSP is shown in Figure 3-7. The components required to fully implement CARWSP include:

- 5,860 LF of 12" raw water pipeline to convey untreated water from the Mokelumne Aqueduct to a new regional WTP located on the same site as the existing EBMUD WTP
- 2.25 mgd regional WTP to treat supplies prior to delivery to the Camanche area
- A 25 hp pump station at the WTP
- 11,700 LF of 8" treated water pipeline crossing reservoir to deliver treated water from the regional WTP to the CANS and Lake Camanche Village areas
- One 500,000 gallon storage tank for Lake Camanche Village to provide for fire flow and pressure regulation
- 3,400 LF of 8" treated water pipeline from CANS tank to new 500,000 gallon AWA tank
- Altitude valve on CASS tank to provide pressure regulation to the CASS system
- Altitude valve on CANS tank to provide pressure regulation to the CANS system
- A pressure reducing valves and a pressure sustaining valves to provide pressure regulation to the Lake Camanche Village system in support of conjunctive use operations

- 4,800 LF of 8" treated water main to convey treated water from the new regional WTP to CASS
- Booster pump station with standby power at park entrance (2 pumps at 20 hp each) to provide pressure needed to deliver supply to Wallace
- 31,500 LF of 10" and 12" treated water main to convey treated water supply from the CASS park entrance to the Wallace area
- 600,000 gallon storage tank in Wallace at elevation suitable for serving most of Wallace area demand, to provide fire flow and emergency supply

Figure 3-7: CARWSP Layout



As previously described, a phased approach is planned for implementation of CARWSP. This proposal included Phase 1, consisting of the following:

- 5,860 LF of 12" raw water pipeline to convey untreated water from the Mokelumne Aqueduct to a new regional WTP located on the same site as the existing EBMUD WTP
- 0.5 mgd regional WTP to treat supplies prior to delivery to the Camanche area
- A 25 hp pump station at the WTP
- 11,700 LF of 8" treated water pipeline crossing reservoir to deliver treated water from the regional WTP to the CANS and ultimately Lake Camanche Village areas
- Connection to the Mokelumne Aqueduct
- Connection / tie-in to Lake Camanche Village Water System

In addition to meeting water demands with the surface WTP, conservation measures will also be implemented to offset potable water supplies in Phase 1. This is referred to as the Vintage Home Fixture Retrofit portion of the project and consists of replacing existing, non-conserving toilets and showerheads with low-flow toilets and showerheads in the Camanche North and South Shore communities, as well as Lake Camanche Village. A total of approximately 55,000 gallons per day (gpd) of water could be conserved. EBMUD estimates 113 homes in Camanche North Shore and 78 homes in Camanche South Shore would benefit from fixture replacement while AWA estimates a total 367 homes benefitting from fixture replacement. The Vintage Home Fixture Retrofit program will be implemented through a rebate and subsidy program.

CARWSP – Phase 1 provides multiple benefits to the area. First, and foremost, the project will ensure water supply reliability and improving potable water quality for Camanche South Shore and a disadvantaged community in the MAC Region, Camanche North Shore.

The following tasks describe the work to be completed to implement CARWSP – Phase 1.

Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions, project status meetings, preparation of quarterly reports, and normal communications between EBMUD, UMWRA, and consultants and/or contractors. Budget Category (a) (Direct Project Administration) includes Task 1: Administration, Task 2: Labor Compliance Program, and Task 3: Reporting, which are described in more detail as follows.

Task 1: Administration

The Upper Mokelumne River Watershed Authority (UMRWA), the Regional Water Management Group for the MAC Region will be responsible for managing and distributing awarded grant funds to project proponents, including EBMUD. Any grant money awarded to the CARWSP – Phase 1 will be directed to EBMUD by UMRWA under an agreement between the two agencies.

Work items to be included under this task include developing the UMRWA and DWR grant agreement, the UMRWA-EBMUD pass-through agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications

between EBMUD and UMRWA, and Board communications), progress meetings through the duration of the project, documents management and schedule review.

Task 1 Deliverables:

- DWR grant agreement
- UMRWA-EBMUD grant agreement
- Project start-up coordination meeting
- Monthly invoices
- Reimbursement requests
- Project status updates to Board of Directors

Task 2: Labor Compliance Program

EBMUD does not currently have a Labor Compliance Program (LCP). After October 1, 2013, but prior to the commencement of any prevailing wage labor, a consultant will be retained to prepare an LCP. Additionally, EBMUD will file annual reports with the Director of the Department of Industrial Relations using the prescribed annual reporting forms.

Task 2 Deliverables:

- Labor Compliance Program
- Annual Report

Task 3: Reporting

No work has been or will be completed under Task 3 for CARWSP – Phase 1 prior to October 1, 2013. Following execution of the grant agreement, Quarterly Reports will be prepared assessing the progress and accomplishments of the project. The Quarterly Reports to DWR will likely include the following information.

- Time period covered by the request;
- Description of activities since the previous report;
- Status of the project relative to the progress schedule;
- An estimate of the percentage of work completed;
- Records of expenditures;
- Percentages of State and total funding expended to date; and
- Key issues that need to be resolved.

A Project Completion Report will also be prepared at the end of the project and will likely include the following:

- An executive summary (two page maximum);
- Records of expenditures;

- A comparison of the projected benefits versus the measured benefits;
- A comparison of the original schedule and the actual schedule;
- A discussion of problems that occurred during construction and how the problems were solved;
- Submittal of any required deliverables that were not previously submitted; and
- A list of required deliverables submitted previously with dates of submittal and DWR acceptance.

EBMUD will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

No land purchases or easements will be required for implementation of the CARWSP – Phase 1. All work will be conducted on EBMUD-owned properties.

EBMUD will grant an easement to Amador Water Agency (approximately 100 feet long by 30 feet wide) to make the emergency water supply connection between the Camanche North Shore Recreation Area water system and the Amador Water Agency water distribution system. There is no cost associated with this work item and therefore no cost included in Budget Category (b) in the budget.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Planning documents have been prepared to demonstrate the viability of the project and are listed below. At this time the project is considered to be at the 30 percent design stage as described below.

Task 4: Assessment and Evaluation

In 1999, the *Camanche Regional Water System Draft Feasibility Study* was prepared (KASL, July 1999). This Feasibility Study described the initial evaluation of alternatives for surface water treatment to serve EBMUD's Camanche North and South Shores, AWA's Lake Camanche Village, and CCWD's Wallace and Burson service areas. This study laid the foundation for other studies and project development. The *Camanche South and North Shore Water Treatment Plants Evaluation* was completed in May of 2003. This document compared alternative treatment plant technologies and pipeline alignments for treated water delivery, and provided engineering-level cost estimates. This document also provided the 10% design for the Camanche Regional Water Treatment Plant project components. Because

these evaluations were prepared prior to September 30, 2008, the associated costs are not included in the budget.

The *Camanche Area Regional Water Supply Plan Feasibility Study and Conceptual Design* (RMC Water and Environment, 2013) was prepared in 2012 and 2013. The CARWSP planning process was enabled by a Proposition 84 IRWM planning grant received by the MAC IRWM Region. An evaluation of the feasibility of CARWSP was completed and documented in the *CARWSP Feasibility Study and Conceptual Design,* which identified the areas to be served by the project, determined project phasing, and detailed other parameters for project implementation such as financing, operations and maintenance requirements, and technical information. This report also developed the Vintage Home Fixture Retrofit component of CARWSP, portions of which are included in this Proposal. This Study was prepared using IRWM grant funding; the costs are shown as Other State Funds in the budget.

30% design plans were completed in July of 2001, and 90% (pre-final) design plans were completed in May of 2003. A revised design for the regional facility was developed in March 2013 to the 30 percent design level to allow the EBMUD portion of the project (Phase 1) to proceed and the WTP facility expanded to the regional water treatment plant in future phases.

No additional evaluations or assessments are required for the project.

Task 4 Deliverables:

- Complete

Task 5: Final Design

This task includes design of the pipeline from the Mokelumne Aqueduct to the WTP and from the WTP to Camanche North Shore, the Mokelumne Aqueduct connection, the Lake Camanche Village Connection, and the WTP. Final design for this project includes preparation of the 100% (final) design drawings as well as project specifications. Final design will be prepared as submittals in a design-build process. EBMUD will serve as the design-build contractor and contract with a design firm to complete final design. It will also award other contractors to complete construction as described in Task 9.

Task 5 Deliverables:

- Final Plans and specifications

Task 6: Environmental Documentation

The draft *Camanche Water Treatment Plant Replacement Project Mitigated Negative Declaration* (MND) was completed in July 2001 and adopted by the EBMUD Board of Directors in September 2001. The California State Clearinghouse Number for the MND is 20011072084. This document evaluated a 0.5 MGD ultrafiltration plant at CASS plus the Mokelumne Aqueduct Supply to CASS WTP pipeline and the proposed cross-Camanche distribution pipeline.

The project environmental documents and mitigation have been reviewed and found to be valid for the proposed project. No additional environmental documentation is required. Because the MND was prepared prior to September 30, 2008, the associated costs are not included in the budget.

Task 6 Deliverables:

- Complete

Task 7: Permitting

No permits have been obtained for the project to date. Prior to construction, all permits necessary for construction and operation will be obtained. These permits include the following:

- Stormwater National Pollutant Discharge Elimination System (NPDES) permit will be obtained in support of construction. A Notice of Intent will be filed to obtain coverage under the State's General Stormwater NPDES permit for construction, and appropriate documentation (Stormwater Pollution Prevention Plan, annual reporting) will be prepared in support of the permit. Coverage under the State's General Construction Stormwater Permit will allow for non-point discharges of stormwater runoff and authorized discharges generated from within the pipeline construction site.
- Air permit from the Amador County Air Pollution Control District (if required). This permit would be for PM10 emissions from generators and/or diesel equipment.
- A Streambed Alteration Agreement from the California Department of Fish and Wildlife may be required and will be obtained prior to project construction.
- A Section 404 Permit from the U.S. Army Corps of Engineers will be acquired as required by the cross-Lake pipeline. A Section 401 Water Quality Certification may also be needed, and if so, will be acquired prior to construction.

Additionally, the final project design will require Federal Energy Regulatory Commission (FERC) review prior to construction. It is assumed that no Calaveras or Amador County encroachment permits will be required as the proposed project is sited entirely on EBMUD-owned property.

Task 7 Deliverables:

- Documents required for compliance with the State General Stormwater Permit for construction (Notice of Intent, Notice of Termination, Stormwater Pollution Prevention Plan, annual reports)
- Air permit
- Streambed Alteration Agreement
- Section 404 and 401 Permits

Budget Category (d): Construction/Implementation

Task 8: Construction Contracting

There are two primary components of CARWSP – Phase 1: (1) the pipelines and connections, and the WTP, and (2) the Vintage Home Fixture Retrofit. The WTP and pipelines will be completed under a design-build contract, as described in Subtask 8.1 and the Vintage Home Fixture Retrofit will be implemented by a consultant and contractor as described in Subtask 8.2.

Subtask 8.1: Design Build Contracting for the Pipelines and WTP

EBMUD staff will serve as the design-build contractor. As described in Task 5, final design will be completed by a design contractor. Construction of the WTP and pipelines will be completed by EBMUD staff and by subcontractors. In particular, specialty construction of the WTP including grading, WTP structure foundation, and WTP structure walls, and installation of the pipelines will be subcontracted. EBMUD staff will perform construction necessary to connect existing facilities. Subtask 8.1 will include EBMUD advertising, reviewing, and selecting bids for the pipelines and specialty construction (a minimum of 3 subcontracts). Additionally, EBMUD will release a Request for Proposals (RFP) for the membrane units; these will be bid separately and selected based on performance specifications and lowest cost.

Subtask 8.2: Vintage Home Fixture Retrofit Contracting

UMRWA will hire a consultant to implement the Vintage Home Fixture Retrofit for Lake Camanche Village and Camanche North Shore.

Task 8 Deliverables:

- Bids for specialty subcontractor for the WTP and pipelines (minimum of 3)
- Purchase request for specialty contractor
- RFP for membrane units
- Evaluation of WTP and pipeline construction bids
- Purchase request for membranes
- Consultant agreement to administer Vintage Home Fixture Retrofit

Task 9: Construction

Construction tasks are divided among construction of the pipelines, the Water Treatment Plant, and the Vintage Home Fixture Retrofit. These subtasks are described in more detail below.

Subtask 9.1: Pipelines Construction

Pipeline design was completed as part of the 2003 plant design and will be used as the basis for construction. A contractor selected during Subtask 8.1 will construct the pipelines. The pipeline connecting the Mokelumne Aqueduct to the WTP will be constructed of 5,860 linear feet of 12-inch diameter high-density polyethylene (HDPE) or polyvinyl chloride (PVC) plastic pipe. Similarly, the pipeline connecting the WTP with the Camanche North

Shore Recreation Area Distribution system will consist of 11,700 linear feet of 8-inch diameter combination of HDPE and PVC plastic pipe. These materials were selected based on prior experience relative to the material's cost, durability, low maintenance, ease of repair and minimal leakage. The pipeline materials and construction will meet American Water Works Association (AWWA) standards and EBMUD construction standards. AWWA standards to be met include the following:

- ANSI/AWWA C906-07 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) Through 63 In. (1,600 mm), for Water Distribution and Transmission
- ANSI/AWWA C900 Polyvinyl Chloride (PVC) Pressure Pipe and Fittings, 4 In. (100 mm) Through 63 In. (1,600 mm), for Water Distribution and Transmission
- ASTM F 714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
- ASTM F905 Standard Practice for Qualification of Polyethylene Saddle-Fused Joints
- ASTM F 1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
- ASTM F 1290 Standard Practice for Electrofusion Joining Polyolefin Pipe and Fittings
- ASTM F 1412 Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
- ASTM F1417 Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
- ASTM F 2164 Standard Practice for Field Leak Detection of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure
- ASTM F2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock
- ASTM D 2239 Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
- ASTM D 2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
- ASTM F 2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
- ASTM D 2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
- ASTM D 2737 Standard Specification for Polyethylene (PE) Plastic Tubing

- ASTM D 2774 Standard Practice for Underground Installation of Thermoplastic Pressure Piping

- ASTM D 3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

- ASTM D 3350-08 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

Pipeline construction using a cut-and-fill construction methodology involves trench excavation, native bedding material placement, pipeline installation, and backfill and compaction activities. Additionally, the pipeline delivering surface water to the WTP will be connected to the Mokelumne Aqueducts as part of the project construction. Final As-Built drawings will be prepared following pipeline installation.

Following pipeline installation and prior to demobilization activities (including any site restoration that may be required as part of the permitting process and mitigation requirements), EBMUD will perform pressure testing and disinfection of the pipelines and make connections to the existing system.

Following pipeline performance testing, the pipeline alignment and staging areas will be restored, the sites re-vegetated after final compaction to 'blend' with the local habitat, and a final site survey conducted. EBMUD will prepare as-built drawings of the final pipeline construction.

Subtask 9.2: Water Treatment Plant Construction

Work items that will be completed to construct the WTP will consist of:

- Grade the site, level and compact pad, and establish drainage
- Install underground piping below the slab area (3/4-inch to 8-inch PVC water, wastewater, electrical, and spares)
- Pour the concrete slab for the WTP building and work deck area
- Construct the WTP building walls including openings (doors, bay doors, etc.)
- Install the wood frame truss, plywood sheath, composition shingle, roof sofit for the roof of the WTP
- Pave the parking area and approach to work deck
- Connect the WTP to existing utilities (piping to water, wastewater, electrical from building stub outs)
- Finish carpentry, paint and trim the interior and exterior of the WTP
- Perform landscaping and complete site drainage
- Purchase and install miscellaneous equipment (pumps, valves, strainers, VFD
- Finish electrical including the lights and outlets, motor terminal connections, VFD wiring, and electrical panel installation/wiring
- Install piping for pumps and membrane skids
- Backwash and finish the water tanks and piping
- Purchase, install, wire and program PLC
- Purchase, install, and calibrate instrumentation (turbidity, Cl2, pH)
- MND mitigation ponds – CASS and CANS

- Purchase and install membranes
- Startup and test new WTP
- Decommission old WTP

Subtask 9.3: Vintage Home Fixture Retrofit Implementation

Two signs will be created and hung in central locations in the communities of Lake Camanche Village and Camanche North and South Shore to inform residents of the Vintage Home Fixture Retrofit Program and available rebates for toilets and showerheads and to provide contact information of the Program Administrator. The consultant will set up and develop the program, which will include the preparation and maintenance of a Microsoft Excel database to track customer participation and progress, creation of marketing pieces to be used for direct mail marketing, and creation of an application form. Homeowners in Lake Camanche Village, Camanche North Shore, and Camanche South Shore that identify the need for replacement water fixtures will complete an application form to allow the consultant to verify eligibility. The homeowner will coordinate purchase and installation of the low-flow showerheads and/or toilets, and upon approval, will obtain up to $25 in reimbursement for the purchase of a qualifying showerhead and up to $225 for the purchase and installation of a qualifying toilet. The consultant will also coordinate periodic inspections to verify that replacements were implemented as represented and qualifying fixtures were purchased and installed. Approximately 558 homes are expected to benefit from the installation of low-flow fixtures. Approximately 10% of the participating homes, or 56 homes, will be inspected as part of the periodic inspection program.

Task 9 Deliverables:

- As-Built drawings
- Pressure/leak detection system analysis report
- Signage for the Vintage Home Fixture Retrofit
- Tracking spreadsheet
- Rebates

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

Based on the July 2001 Initial Study (prepared in support of the September 2001 MND), no mitigations are anticipated beyond standard construction site restoration practices and those mitigation measures identified in the 2001 MND. This task includes all activities anticipated to occur for compliance with permit requirements, such as the use of BMPs as part of the Stormwater Pollution Prevention Plan (SWPPP) implementation, as well as the mitigations identified in the MND.

A Monitoring Plan will be prepared for CARWSP – Phase 1 to provide a framework for assessing and evaluating the project performance once it is implemented. The Monitoring Plan will identify the measures that will be used to monitor progress toward achieving the specific project goals of improving water quality and water supply reliability. The Monitoring Plan will also provide tools to monitor and measure project processes and will

guide final project performance reporting that will fulfill grant agreement requirements. Attachment 6 of this Proposal consists of Monitoring, Assessment, and Performance Measures for CARWSP – Phase 1. Project goals, desired outcomes, performance indicators, measurement tools and methods, and targets were developed for this Project. The identified parameters will provide a basis for the Monitoring Plan to be developed during Task 10.

Task10 Deliverables:

- Preparation of a Project Performance Monitoring Plan

Budget Category (f): Construction Administration

Task 11: Construction Administration

Subtask 11.1: Construction Administration (Pipelines and WTP)

Construction Administration includes construction management services and contracts administration in support of project construction. Construction management for this project will include the following work items:

- Preparation of materials contracts
- Review and approval of materials contracts
- Periodic site inspections
- Maintain detailed project records
- Inspect completed construction

Subtask 11.1 will also include inspection of work to ensure compliance with permits and codes, review of submittals, documentation of materials and equipment, preparation of operation and maintenance manuals for facilities and equipment, preparation of as built drawings for the facilities, compliance monitoring and reports for environmental mitigations.

Subtask 11.2: Construction Administration (Vintage Home Fixture Retrofit)

The contractor chosen to implement the Vintage Home Fixture Retrofit portion of CARWSP – Phase 1 will be managed under Subtask 11.2 by UMRWA.

Task 11 Deliverables:

- Site inspection reports
- Project records
- Correspondence
- Operation and maintenance manual
- Mitigation monitoring reports
- Field logs

Budget Category (g): Other Costs

Other costs associated with the CARWSP – Phase 1 are legal costs associated with agreements between EBMUD, UMRWA, CCWD, and AWA. This includes approximately one week of work time for legal review of documents, communication with legal staff, and legal input on project-related agreements.

Budget Category (h): Construction/ Implementation Contingency

Because the proposed project is being conducted by EBMUD staff on EBMUD property, there is a high degree of certainty associated with the proposed budget. As a result, 10% construction/implementation contingency is proposed for the project.

Ponderosa Way Restoration Project – Phase 1

Lead Agency: Calaveras County Department of Public Works

Total Cost: $185,872

Grant Request: $133,561

Funding Match: $51,612 (42%, excludes $700 in other state funds)

Detailed Description

The Ponderosa Way Restoration Project focuses on the restoration of a segment of Ponderosa Way from Highway 26 to the Main Stem Mokelumne River (Figure 3-8), a distance of 2 miles with an elevation change from 1,900 feet to 800 feet. Ponderosa Way was built in 1934 by Franklin Roosevelt's Civilian Conservation Corps (CCC) to provide transportation for firefighters and provide a 200 foot wide fuel break. The public also used the road to access Mokelumne Canyon and the River for recreation. The road is now 79 years old and its drainage system has degraded causing deep rutting and three slides with gullying on the outside edge. Alabama Gulch, Dutchmans Gulch and the Mokelumne River have severe siltation. The erosion process is further accelerated by 4-wheel drive vehicular traffic during the wet season. With each storm, the drainage system further degrades, the ruts deepen and the gullies grow. During a deluge in January 2011, a blocked culvert forced Alabama Creek over its banks and washed the lower 700 foot segment of the road into the River. Without road restoration, maintenance and traffic control, winter erosion will continue unabated. The purpose of this project is to restore Ponderosa Way to minimize erosion, provide watershed access to the fire service, and river access to the public for recreation.

The Calaveras County Department of Public Works is implementing the Ponderosa Way Restoration Project. Cooperation with multiple entities is required for successful implementation:

- Bureau of Land Management (BLM) – owns and manages most of the Mokelumne Canyon including a quarry at the top of Ponderosa Way (near Highway 26) which will provide the source of decomposed granite (DG) for road fill. BLM is also developing recreation opportunities in the Canyon, including commercial rafting on the Mokelumne River and hiking on the Mokelumne Coast to Crest Trail (MCCT).

- California Department of Forestry and Fire Protection (CAL FIRE), Tuolumne-Calaveras Unit – provides expertise in forestry and erosion control, and bears the primary responsibility for wildland fire prevention and suppression in the Mokelumne Watershed. They also assign the inmate crews for brushing and road maintenance, including Ponderosa Way.

- Pacific Gas and Electric (PG&E) – under the Federal Energy Regulatory Commission (FERC) Agreement P-137, PG&E agreed to develop a boat launch at the bottom of

Ponderosa Way and a portage downstream around the Electra Powerhouse and afterbay dam.

- Calaveras County Parks and Recreation Commission (CPARC) – provides volunteer crews that maintain the drainage system on Ponderosa Way before each storm event. CPARC explores and maps the future alignment of the MCCT and supports the development of private and commercial whitewater boating on the River.

- The O.A.R.S. Family of Companies (OARS) – leads the private sector in the development of an eight mile whitewater run on the Mokelumne River from Ponderosa Way down to Middle Bar.

The Ponderosa Way Restoration Project is divided into three phases. **Phase 1, the Restoration of Ponderosa Way,** for which funding is being requested, includes road restoration to minimize erosion and river siltation (Figure 3-9), while opening watershed access to CAL FIRE and BLM for fire prevention and suppression, and to the general public for recreation. The return of public access to the river will trigger Phase 2, the development of river recreation on the Main Stem Mokelumne River to include commercial whitewater boating (Figure 3-10 and Figure 3-11). **Phase 2, the Development of Ponderosa Way Boat Launch,** will open the Ponderosa Whitewater Run, 2.8 miles of class II/III rapids down to the Electra Powerhouse and connecting with the popular 5.8 mile Electra Whitewater Run. As part of FERC Agreement P-137, PG&E agreed to install, operate, and maintain information signage, parking signage, a staff gage, unpaved parking for six vehicles, and a portable toilet during the boating season (See *Mokelumne River Project, FERC Project No. 137, Mokelumne Relicensing Settlement Agreement, Appendix A, Section 15. Whitewater Boating Access Facility Recommendation, Ponderosa Way run Put-in Facilities*). **Phase 3, the Long-term Maintenance of Ponderosa Way and the Boat Launch,** will be a collaborative effort between PG&E, BLM, and Calaveras County Public Works. PG&E will operate and maintain the facilities at the Boat Launch and will also provide $25,000 annually to BLM for two River Rangers during the whitewater season (See Contribution for River Rangers and Recreation Technician in FERC Project No. 137, Mokelumne Relicensing Settlement Agreement).

Phase 1, which will optimize road drainage and minimize long-term maintenance on Ponderosa Way while restoring public access to the Mokelumne River is ready for implementation. Planning, design, environmental documentation, and permitting are already complete. Construction started in October 2012, and is expected to be complete before the wet season of 2014 (approximately May 2014).

Figure 3-8: Ponderosa Way Restoration Project Location

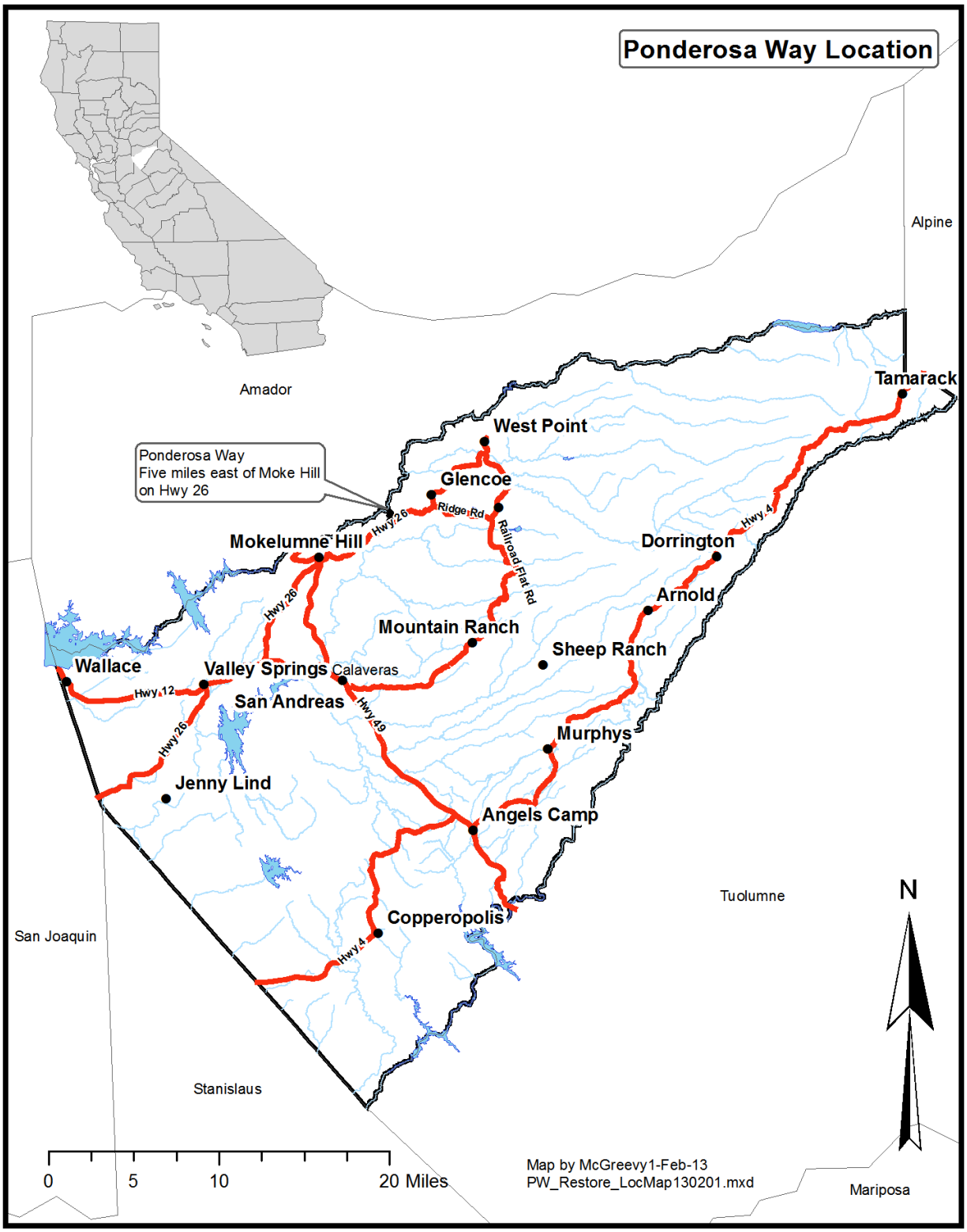


Figure 3-9: Phase 1 of Ponderosa Way Restoration Project

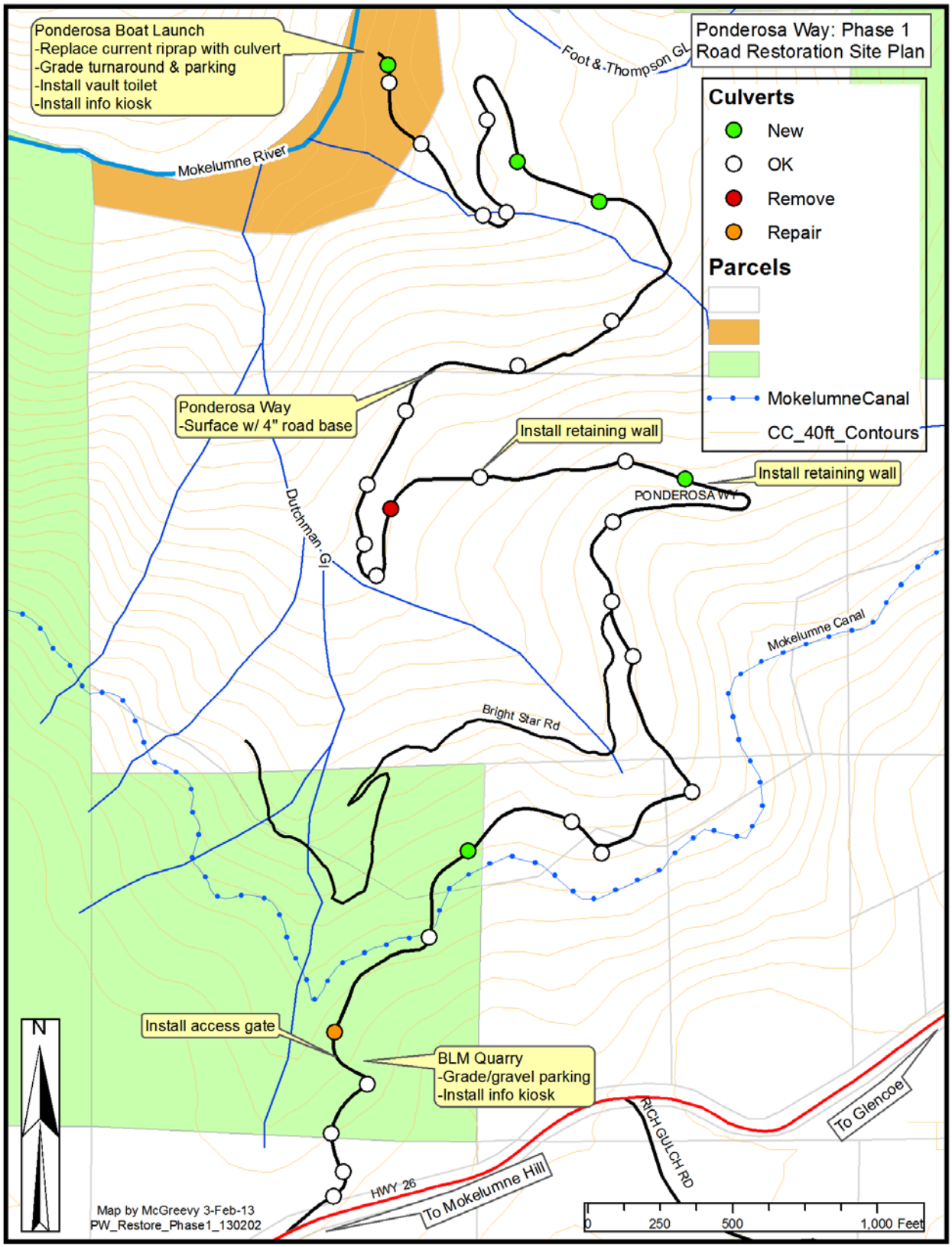


Figure 3-10: Phase 2 of Ponderosa Way Restoration Project

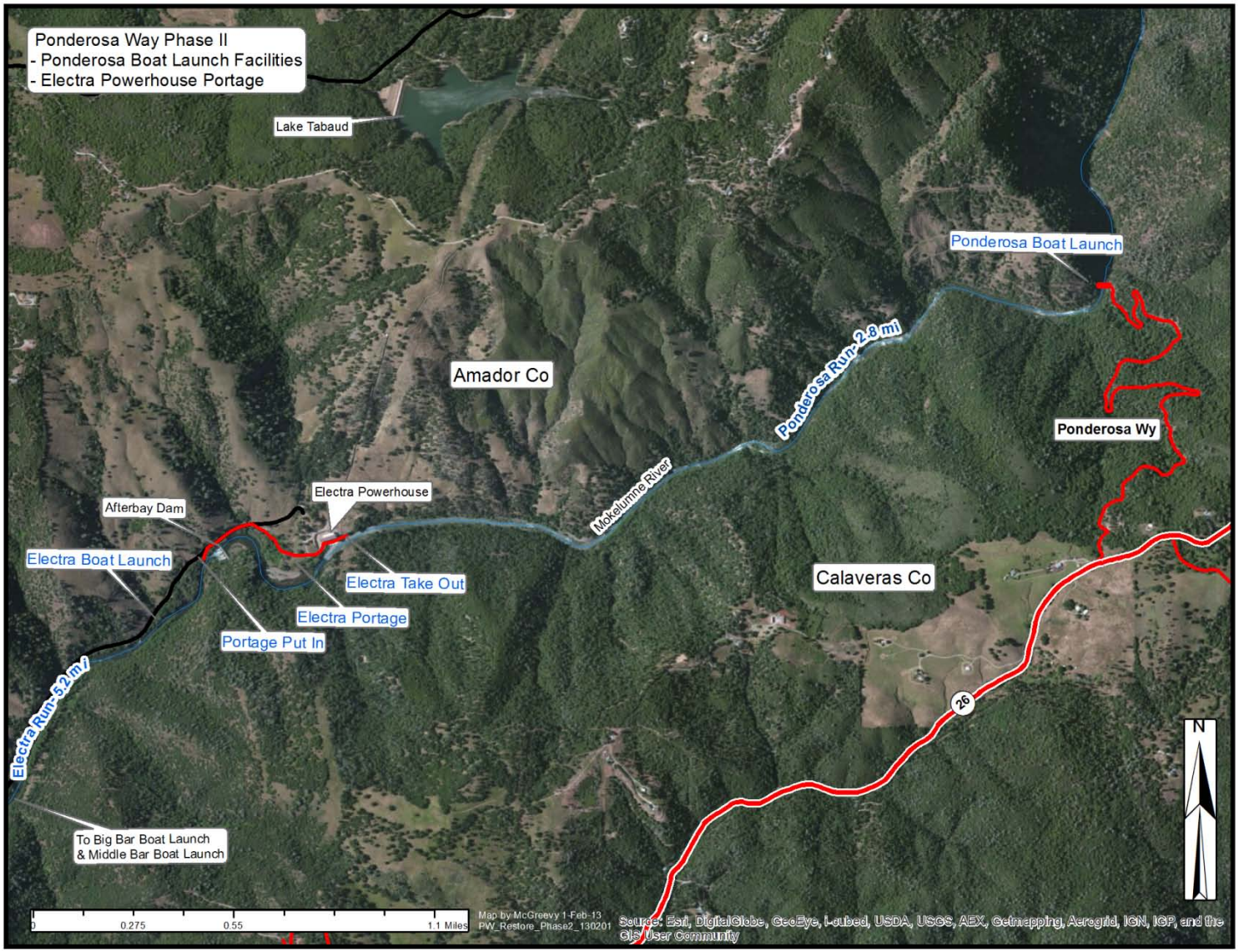
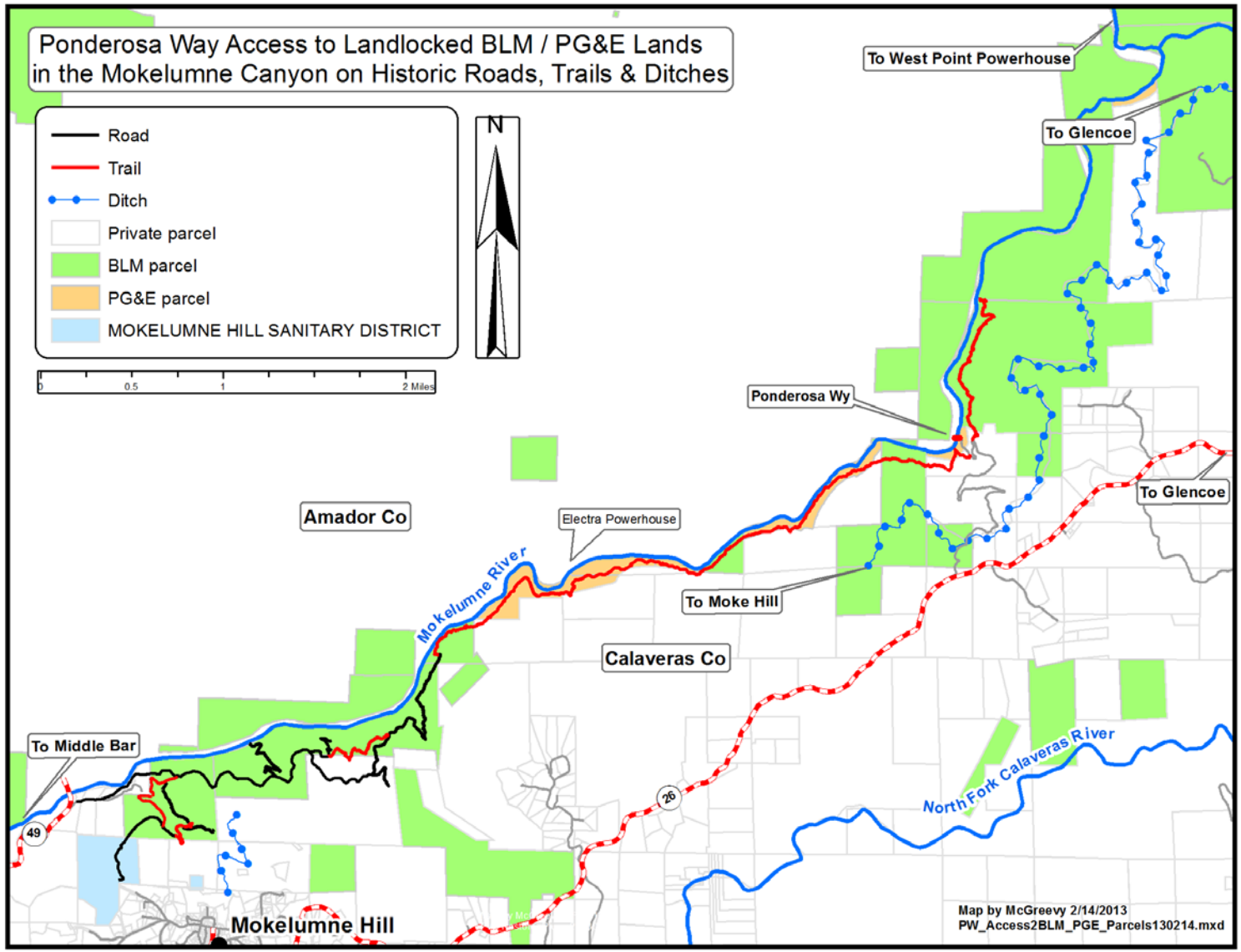


Figure 3-11: Ponderosa Way Access to BLM/PG&E Lands



Purpose and Need

Ponderosa Way is steep with an average grade of 11%. By design, runoff sheets to the inside ditch where it is collected by 30 culverts that drain under the road and discharge the water over the outside bank where it descends to Dutchman Gulch, Alabama Gulch, and the Mokelumne River. While this system functioned well for some 79 years, time has taken its toll on the drainage system as the roadway has rutted while culverts have day-lighted, degraded, corroded, and frequently block with sediment and/or debris from adjoining hillsides. Erosion is minimal on segments with a functional storm drain system. In contrast, segments with damaged or blocked culverts force large volumes of runoff down the road surface at high velocity causing rutting and erosion. The runoff that is eventually collected by a functional culvert is discharged over the outside bank where it sometimes cuts deep gullies into the hillside conveying silt along with stormwater. The erosion process is further accelerated by 4-wheel drive vehicular traffic during the wet season. With each storm, the conditions worsen. In January 2011, a blocked culvert in Alabama Gulch caused a section of Ponderosa Way to wash out near the Mokelumne River. Without road restoration, maintenance and traffic control, winter road erosion and river siltation will continue unabated.

While the annual amount of silt discharged into the river is unknown, the following estimates provide insight on the order of magnitude.

- In October 2012, Calaveras County Public Works graded the road and used an estimated 800 tons of decomposed granite to fill the deep ruts implying that this tonnage had eroded into the gulches and river.

- There are three slides on the outside edge of the road. 'Big Slide' has developed into a gully measuring 20 feet wide, 7 feet deep and 140 feet downhill which translates into 622 cubic yards or an estimated 750 tons of eroded soil. 'Little Slide' measures 10 feet wide, 7 feet deep, and 12 feet downhill, which translates to 37 tons of eroded soil. The 'River Slide' discharges directly into the Mokelumne River and it measures 29 feet wide, 8 feet deep, and 22 feet downhill which equates to 246 tons of eroded soil.

While Public Works has filled ruts, graded and remediated two major sources of erosion in October 2012, the ditch system requires additional culverts, the slides need retaining walls, and the surface needs to be sealed with compacted road base. The rains in November and December 2012 and January 2013 have started the rutting process once again. While the volunteer vigilantes, the 'Ditch Detail', can slow this process, they will eventually lose the road to erosion if the Ponderosa Way Restoration Project is not completed.

This story is best told with the following images which demonstrate the problem and list the required restoration techniques.

Ponderosa Way Below Quarry

WP 8

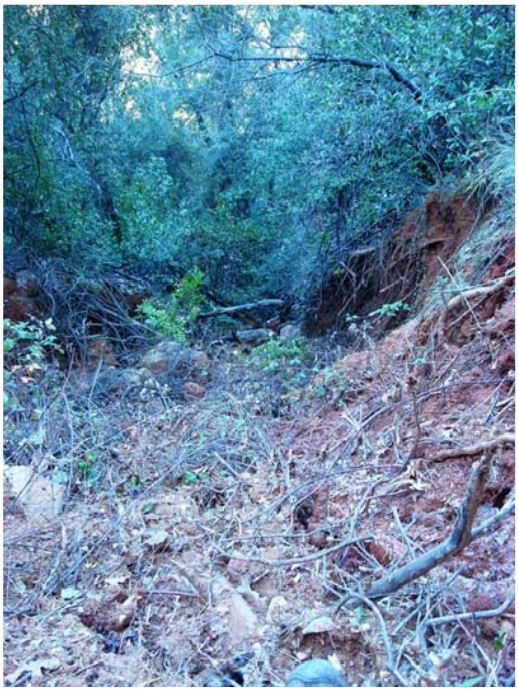
- Culvert exposed & broken
- Remediation
  - Replace inside 20’ of culvert
  - Fill ruts, compact and grade

Ponderosa Way at ‘Big’ Slide

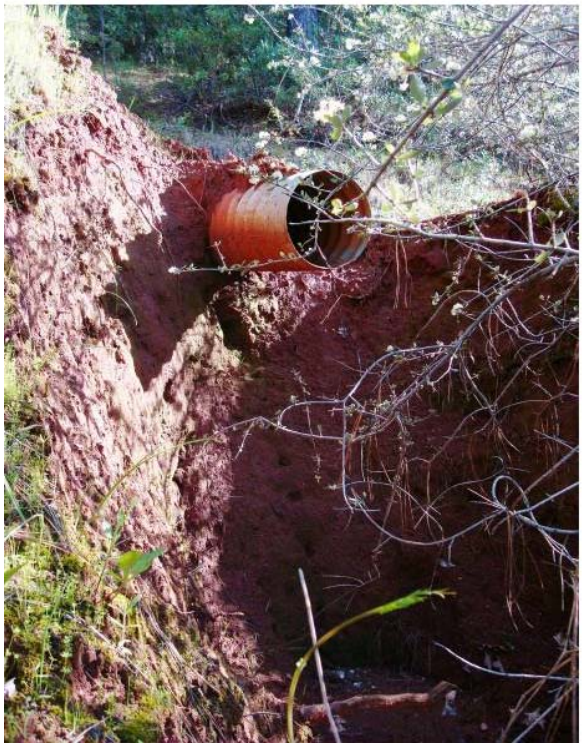
WP 19a

- Outboard slide
- Restoration:
  - Remove culvert
  - Fill slide, compact
  - Rip ruts, fill, grade
  - Install new culvert 20’ downhill

Ponderosa Way–Inside "Big Slide" 120' below road
L: Looking up; R: Looking down



Ponderosa Way- 'Little' Slide

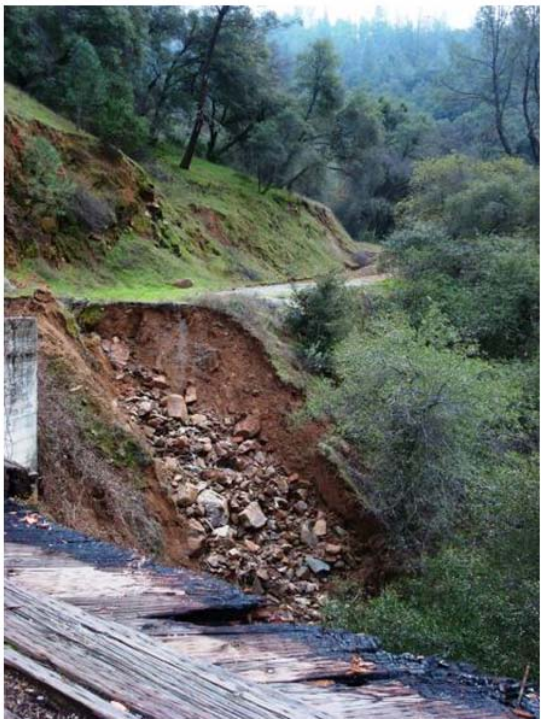


WP 21

- Catchment blocked
- Culvert exposed
- Outside slide
- Restoration:
  - Open catchment
  - Fill slide, compact
  - Rip ruts, fill, grade

Ponderosa Way
Erosion & Slide at River (January 2011)

Discharge at river
Slide and gully eroded ~246 tons of dirt



Ponderosa Way: November Rills after October Grading & Rain

The objectives of the Ponderosa Way Restoration Project – Phase 1 are to:

- Improve water quality in the Main Stem Mokelumne River by minimizing siltation from erosion on Ponderosa Way.
- Reduce the risk of catastrophic fire in the watershed and neighboring communities by providing the fire service with vehicular access on Ponderosa Way to the Mokelumne Canyon for wildfire prevention and suppression.
- Provide access to the river for public recreation and support the tourist industry by creating an opportunity for commercial rafting on the Mokelumne River.

In order to achieve these objectives, the following tasks will be completed to implement the project.

Budget Category (a): Direct Project Administration Costs

Direct project administration includes, but is not limited to, general project management functions, project status meetings, preparation of quarterly reports, and normal communications between Calaveras County, Upper Mokelumne River Watershed Authority (UMWRA), and consultants and/or contractors. Budget Category (a) (Direct Project Administration) includes Task 1: Administration, Task 2: Labor Compliance Program, and Task 3: Reporting, which are described in more detail as follows.

Task 1: Administration

UMRWA, the Regional Water Management Group for the MAC Region will be responsible for managing and distributing awarded grant funds to project proponents such as Calaveras County. Any grant money awarded to the Ponderosa Way Restoration Project will be directed to Calaveras County by UMRWA through an agreement between the two agencies.

Work items to be included under this task include the UMRWA-Calaveras County grant agreement, general project administration tasks (project start-up coordination meeting, reimbursement requests, communications between Calaveras County and UMRWA, and Board communications), documents management and schedule review.

Task 1 Deliverables:

- DWR grant agreement
- UMRWA-Calaveras County grant agreement
- Project start-up coordination meeting agenda and meeting minutes
- Monthly invoices
- Reimbursement requests

Task 2: Labor Compliance Program

While Calaveras County does not currently have a Labor Compliance Program (LCP), all implementation/construction work will be by County Staff and volunteers. Therefore, an LCP is not required and will not be prepared.

Task 2 Deliverables:

- None

Task 3: Reporting

No work has been or will be completed under Task 3 for the Ponderosa Way Restoration Project prior to October 1, 2013. Following execution of the grant agreement, Quarterly Reports will be prepared assessing the progress and accomplishments of the Ponderosa Way Restoration Project. The Quarterly Reports to DWR will likely include the following information.

- Time period covered by the request;
- Description of activities since the previous report;
- Status of the project relative to the progress schedule;
- An estimate of the percentage of work completed;
- Records of expenditures;
- Percentages of State and total funding expended to date; and
- Key issues that need to be resolved.

A Project Completion Report will also be prepared at the end of the project, anticipated to be May 2014. The Project Completion report will include the following:

- An executive summary (two page maximum);
- Records of expenditures;
- A comparison of the projected benefits versus the measured benefits;
- A comparison of the original schedule and the actual schedule;
- A discussion of problems that occurred during construction and how the problems were solved;
- Submittal of any required deliverables that were not previously submitted; and
- A list of required deliverables submitted previously with dates of submittal and DWR acceptance.

Calaveras County will keep all records and documents pertaining to the project for three years after project completion.

Task 3 Deliverables:

- Quarterly Reports
- Project Completion Report

Budget Category (b): Land Purchase/Easement

Easement acquisitions and/or right-of-ways are not required for the implementation of the Ponderosa Way Restoration Project.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Budget Category (c) consists of Tasks 4 through 7 as described below.

Task 4: Assessment and Evaluation

From June to October 2012, an assessment of road conditions was completed and required restoration was identified. Planning documents will not be required for the Ponderosa Way Restoration Project as the Project is a continuation of the on-going restoration of the County transportation system. The project falls within the expertise of the Superintendent for Roads in Public Works. Therefore, no additional work will be completed under Task 4.

Task 4 Deliverables:

- None

Task 5: Final Design

While no formal design for the Ponderosa Way Restoration Project – Phase 1 is required, the work items to remediate the major sources of road erosion before the wet months were identified in October and November 2012. Then, in January and February 2013, the remaining work items needed to restore Ponderosa Way were identified.

Task 5 Deliverables:

- Schedule of work

Task 6: Environmental Documentation

Environmental documentation for this project is not yet complete. Because the project involves site restoration, it is expected that there will be no significant impacts. Therefore, a Categorical Exemption is anticipated for CEQA compliance. The project is expected to be categorically exempt under Class 1 since the project involves restoration of the existing roadway.

Task 6 Deliverables:

- None

Task 7: Permitting

Calaveras County Public works and the California Department of Fish and Wildlife (DFW) have an agreement for routine maintenance of drainage facilities (Notification No. 1600-2008-0058-R2). Under this agreement, Public Works must notify DFW of the project by submitting a short Verification Request Form (VRF) 10 days before the start date. DFW may respond with a Notice of Concurrence, Notice of Concurrence with Conditions, or Notice of Non-Concurrence with comments. County staff will prepare the VRF under Task 7 and submit it to DFW 10 days prior to construction to acquire a Notice of Concurrence. Public

Works will also request a permit to mine 1,000 cubic yards of road fill from the BLM quarry on Ponderosa Way upon project approval.

Task 7 Deliverables:

- Verification Request Form to DFW
- DFW Notice of Concurrence
- Permit from BLM to mine 1,000 cy of road fill from quarry

Budget Category (d): Construction/Implementation

All labor for the Ponderosa Way Restoration Project – Phase 1 will be completed by the County Public Works department staff and volunteers.

Task 8: Construction Contracting

Because work will be completed by County staff and volunteers, no work will be completed under Task 8.

Task 8 Deliverables:

- None

Task 9: Construction

The Construction task includes mobilization and site preparation, the actual project construction, and post-construction items such as final inspections, performance testing, and demobilization. Some of the equipment that will be required for implementation of the Ponderosa Way Restoration Project – Phase 1 includes a back hoe, roller, and grader; this equipment will be brought to the site during mobilization.

Prior to the autumn rains in 2012, Public Works filled deep ruts on Ponderosa Way and graded the road to provide heavy equipment access to the Mokelumne River to repair the major points of erosion in 2011. The levee at Alabama Gulch was fortified and temporary repairs were made to the drainage system. However, fiscal constraints precluded completion of the restoration project.

The final improvements to be implemented after October 1, 2013, the assumed grant award date, include completing the drainage system, installing five new culverts, repairing one, and removing another. Short segments of the road must be graded to the inboard ditch system to minimize rutting and riprap will be installed to control discharge erosion. Retaining walls will be constructed to stop significant gullying in two locations. Compacted road base will be applied to the surface to complete erosion control. Finally, signage will be installed to encourage the public to care for their road, keep the canyon litter free, announce winter closure dates, display maps of canyon trails and whitewater runs, and emphasize safety, specifically no fires and no fire arms.

Future road maintenance of Ponderosa Way will be minimal upon completion of the drainage system restoration and application of compacted road base. However, vigilance will continue with pre-storm inspections and maintenance. Since road damage is largely

caused by vehicular traffic during the wet season, the access gate will be closed for winter according to the schedule used by SPI to manage their road system.

Task 9 Deliverables:

- None

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

No anticipated environmental mitigations or enhancements will be required for this project. Best Management Practices (BMPs) will be implemented during construction, but these are to be completed as part of Task 9.2.

It is possible that the submittal of the Verification Request Form to DFW under Task 7 may trigger construction monitoring by DFW. BLM may also visit the construction site to assure the BMPs are applied to their quarry. Monitoring by DFW and site visits completed by BLM will not require additional work from County staff and, therefore, there are no work items, deliverables, or budget associated with this task.

A Monitoring Plan will be prepared for the Ponderosa Way Restoration Project – Phase 1 to provide a framework for assessing and evaluating the project performance once it is implemented. The Monitoring Plan will identify the measures that will be used to monitor progress toward achieving the specific project goals of improving water quality in the Mokelumne River by minimizing siltation from Ponderosa Way, reducing the risk of catastrophic fire in the watershed, and providing access to the river for public recreation. The Monitoring Plan will also provide tools to monitor and measure project processes and will guide final project performance reporting that will fulfill grant agreement requirements. Attachment 6 of this Proposal consists of Performance Measures for the Ponderosa Way Restoration Project. Project goals, desired outcomes, performance indicators, measurement tools and methods, and targets were developed for this Project. The identified parameters will provide a basis for the Monitoring Plan to be developed during Task 1.

Task 10 Deliverables:

- Project Performance Monitoring Plan

Budget Category (f): Construction Administration

Task 11: Construction Administration

During construction, 52 hours will be spent by the Superintendant for Roads at Calaveras County Public Works Department for construction administration tasks for Ponderosa Way Restoration Project – Phase 1. Construction Administration work items may include, but are not limited to:

- Manage and coordinate project inquiries
- Serve as primary point of contact for project correspondence
- Inspect completed construction

Task 11 Deliverables:

- Project records

Budget Category (g): Other Costs

There are no other costs associated with the Ponderosa Way Restoration Project – Phase 1.

Budget Category (h): Construction/Implementation Contingency

The Ponderosa Way Restoration Project – Phase 1 is a ministerial project for Calaveras County; as such, there is a high degree of confidence in the cost estimate presented herein. As a result, there is no construction/implementation contingency percentage applied to this project.

Appendices

The following Appendices have been provided on the CD included at the end of this proposal.

Appendix	Filename
Appendix 3-1 - 2008 Urban Drought Assistance Grant Application	Att3_IG2_WorkPlan_2of3
Appendix 3-2 - Water Conservation Plan (RMC Water & Environment, 2010)	Att3_IG2_WorkPlan_2of3
Appendix 3-3 - Executed Contract with the Department of Water Resources for Implementation of the Lake Camanche Lateral Replacement Project – Phase 1 (2012)	Att3_IG2_WorkPlan_2of3
Appendix 3-4 - Standard Design and Construction Specifications for Treated Water Systems, Amador Water Agency (February 2012)	Att3_IG2_WorkPlan_2of3
Appendix 3-5 - Notice of Exemption for the Lake Camanche Lateral Replacement Project – Phase 1 (October 2012)	Att3_IG2_WorkPlan_2of3
Appendix 3-6 - Camanche Area Regional Water Supply Plan Feasibility Study and Conceptual Design (RMC Water and Environment, 2013)	Att3_IG2_WorkPlan_2of3
Appendix 3-7 - Camanche South and North Shore Water Treatment Plants Evaluation	Att3_IG2_WorkPlan_2of3
Appendix 3-8 - Camanche Water Treatment Plant Replacement Project Mitigated Negative Declaration, State Clearinghouse Number 2001072084 (July 2001 Draft; September 2001 Final)	Att3_IG2_WorkPlan_2of3
Appendix 3-9 - Camanche Regional Water System Draft Feasibility Study (KASL, July 1999)	Att3_IG2_WorkPlan_2of3
Appendix 3-10 - 30% design documents for the Camanche South Shore Water Treatment and 90% design documents for the associated pipeline.	Att3_IG2_WorkPlan_3of3
Appendix 3-11 - Ponderosa Way Restoration Project letter from Jan Bray, Calaveras Area Forester, Tuolumne-Calaveras Unit at the California Department of Forestry and Fire Protection to Calaveras County Public Works, dated October 22, 2012	Att3_IG2_WorkPlan_3of3
Appendix 3-12 - Mokelumne River Project, FERC Project No. 137, Mokelumne Relicensing Settlement Agreement, Appendix A	Att3_IG2_WorkPlan_3of3