



CABY INTEGRATED REGIONAL WATER MANAGEMENT PLAN  
PROPOSITION 84, ROUND 2 IMPLEMENTATION GRANT



# 1 CAMPTONVILLE WATER SYSTEM IMPROVEMENT PROJECT

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<b>GENERAL INFORMATION</b>	
<b>Project Title</b>	<b>Camptonville Water System Improvement Project</b>
<b>Abstract</b>	The project will solve critical water quality and supply needs for the Camptonville DAC. The project includes the retrofit of an existing water treatment plant, the construction of a new water storage tank, and the development and institution of significantly improved operational procedures. The project will enable the treatment plant to meet water quality standards, improve storage capacity, evaluate and modify water infrastructure to improve system efficiency, increase knowledge of the ground water system, manage creek flows to benefit the ecosystem, and optimize efficient use, conservation and recycling of water resources through customer outreach and education.
<b>Organization</b>	Camptonville Community Services District (CCSD)
<b>Partner Organizations</b>	Camptonville Community Partnership, Sierra Native Alliance
<b>Disadvantaged Community</b>	Yes
<b>Grant Funds Requested</b>	\$789,340
<b>Non-State Match</b>	\$107,964 (12% of total and DAC waiver applied for)
<b>Total Budget</b>	\$897,304
<b>Watershed</b>	Yuba River
<b>County</b>	Yuba County
<b>Status of Project Design</b>	Project Design has been developed to 30% level
<b>Titles of Plans and Specifications submitted in hard copy format</b>	<ul style="list-style-type: none"> <li>• 30% Design for Camptonville Water System Improvement Project by Sauers Engineering, March 2013 (Sauers, 2013)</li> <li>• Public Health Compliance Evaluation by Sauers Engineering, March 2013 (Sauers, 2013)</li> <li>• Geology and Well Investigation Report by Plumas Geohydrology, dated March 2013 (Plumas, 2013)</li> <li>• Camptonville Water System Evaluation and Improvement Study by GEI Consultants, December 2012 (GEI, 2012)</li> </ul>

<p><b>Status of CEQA, NEPA, and other environmental laws</b></p>	<p>CEQA and other environmental documentation will be completed as part of the project as is allowed for Disadvantaged Communities.</p>
<p><b>Work that will be completed prior to October, 2013 (assumed contract date)</b></p>	<ul style="list-style-type: none"> <li>• 30% design documentation including preliminary site survey, site plan, process schematic, tank design and outline specifications (Sauers, 2013)</li> <li>• Public Health Compliance Evaluation of the existing facility (Sauers, 2013)</li> <li>• Ground Water Analysis of local groundwater basins. (Plumas, 2013)</li> </ul>
<p><b>Procedures for coordination with partner agencies and organizations</b></p>	<p>The CCSD/CCP Project Manager will serve as single point of contact for all participants, will track action items and progress and will issue monthly and quarterly progress and status reports. Currently active members of the project team will meet monthly to discuss progress, discuss current issues and plan coming activities. Reports and memoranda will be issued to all participants via email.</p>
<p><b>Description of synergies or linkages between other CABY IRWMP projects</b></p>	<p>This project is part of a larger initiative across the region that seeks to elevate DAC projects to “ready to proceed” status, with particular attention on projects that provide models or materials that could be exported to other DACs in the region - aiding in their efforts to develop ready to proceed projects that directly address local needs such as improvements to aging infrastructure. The aggregate conservation represented by this and most of the other projects in this package will serve not only to reduce local costs and increase efficiencies, but also contribute to a cumulative increase in water quality and conservation and in available water to serve natural and man-made systems.</p> <p>This project also supports the following CABY linkages and synergies objectives, articulated in the Introduction to the Proposal: selection of projects at multiple elevations: developing a mix of localized projects that address clear single-location needs with projects that have a regional impact; inclusion of pilot, demonstration or model projects whose benefits can then be expanded through implementation of similar projects across the region; siting of projects across all of the primary CABY watersheds; including projects that directly address the resiliency of natural and infrastructure systems; inclusion of projects which result in direct water conservation and/or use efficiencies; creation of implementation actions/projects that represent adaptive management options in response to climate change; pairing projects that create synergies of impact internally and between projects; balancing infrastructure and natural resource projects within each implementation package; and creating a balance of project sponsors across all stakeholder groups, including DAC, governmental agencies and non-profit organizations. The project will also collaborate with three other CABY projects in this proposal to train and employ Native Youth from the Native Youth Conservation Corps.</p>

<b>Status of acquisition of land or rights of way if applicable</b>	No land purchase or easements are necessary. All work takes place on CCSD property or within existing easements.
<b>If project is part of a multi-phased project, describe how the project can operate as a stand-alone project</b>	The project proposed herein encompasses a portion of the work recommended in the 30% Conceptual Design drawings and specifications. Due to budgetary limitations, check structure maintenance, development of new well sites and distribution system improvements shown on the 30% design drawings are <u>not</u> included in this proposal. Work tasks were selected for this proposal based on eligibility and can be constructed and placed into operation without the other improvements indicated in the overall improvement project. We are currently developing a USDA Rural Development grant application package, to fund additional parts of the overall project.
<b>SPECIFIC GOALS AND OBJECTIVES OF THE PROJECT</b>	
<b>CABY Goals and Primary Issues</b>	<b>Measurable Objectives</b>
<b>Ensure adequate and reliable supply that can be adapted to climate change and can meet the needs of the region: Conservation, Aging Infrastructure, Water Storage</b>	<ul style="list-style-type: none"> <li>• Limit the diversion of surface water from Campbell’s Gulch to 10,000,000 gallons (30.7 acre-feet) annually</li> <li>• Limit the amount of unaccounted for water to less than 10% of the total annual amount of water produced;</li> <li>• Achieve complete storage tank recovery of 100,000 gallons in one 24-hour period following a “maximum daily demand” event</li> <li>• Achieve a 10% reduction of annual man-hours compared to previous years operations</li> <li>• Zero purchase of outside treated water supply</li> <li>• Consistent compliance with Chlorine contact requirements</li> <li>• Availability of 120,000 gallons excess fire reserve</li> <li>• Availability of Maximum Daily Demand (MDD) of 100,000 gallons</li> <li>• Reduction over time of Average Daily Demand (ADD)</li> </ul>
<b>Ensure sufficient water quality to support healthy ecosystems and dependent organisms: Runoff</b>	<ul style="list-style-type: none"> <li>• Zero discharge of chlorinated water into Campbell’s Gulch</li> <li>• Reduced operating costs in dollars per annum for treatment cost</li> </ul>
<b>Preserve and restore watershed health; Fire and Fuels</b>	<ul style="list-style-type: none"> <li>• Two acres of treated land in compliance with PRC 4291 standards</li> </ul>
<b>Maintain and enhance functioning landscapes that provide sustainable services for humans: Disadvantaged</b>	<ul style="list-style-type: none"> <li>• Project score above average of project scores in the CABY group</li> <li>• Number of DAC projects funded</li> <li>• Amount of DAC funded compared to total funds approaching 30%</li> </ul>

<b>Communities</b>	
<b>Overarching Objective: Where possible, Outreach and Education will be integrated in all CABY projects</b>	<ul style="list-style-type: none"> <li>• Reduced average daily demand through customer education</li> </ul>
<b>Overarching Objective: Share useable data and information across the region</b>	<ul style="list-style-type: none"> <li>• Regular data updates to CABY website and state and all other relevant databases and agencies.</li> </ul>
<b>Overarching Objective: All planning in region to be coordinated to ensure communication and shared solutions.</b>	<ul style="list-style-type: none"> <li>• Regular communication with CABY partners to share project progress, lessons learned and applicability of project as a model to other partners in region.</li> </ul>

## PURPOSE AND NEED OF THE PROJECT

The Camptonville Water System serves the community of Camptonville, a historic foothills community with a population of 188 and a mean household income of \$27,031. Camptonville is a DWR Disadvantaged Community (DAC) (CCSD, 2013). The Camptonville Water System currently does not meet State CRC Title 22 water treatment standards, due to a combination of operational and structural deficiencies (Sauers, 2013).

**The purpose of this project is threefold: to ensure the reliable production of safe drinking water; to improve the water storage capabilities of the water system; and to conserve water and protect the watershed.**

Without this project the system will continue to needlessly draw up to 3,000,000 gallons per year from our surface water source and return about the same amount of water, now treated with chlorine, to the same watershed; the system will continue to produce water that no one is able to say if it meets drinking water standards or not; and the community will inevitably continue to suffer the risk of inadequate drinking water in drought conditions and to suffer the risk of no reserve fire water supply in normal conditions. This project will:

### **1. Ensure reliable production of safe drinking water by addressing current problems:**

- The existing water treatment plant lacks basic process instrumentation and control devices needed for water treatment operators to produce water in accordance with state and federal standards. These needed devices are non-existent, consequently there is no available data that operators or regulators can use to determine compliance.
- The existing slow-sand filter is not large enough to meet the maximum daily demand without exceeding design flow limits.
- Existing treated water storage tank is not large enough to fulfil proper chlorination “contact time”

when subjected to periodic but radical volume drawdowns caused by high consumer demand, undetected leaks or drought conditions.

- 2. Improve water storage capabilities:** The service area's maximum daily demand (MDD) for treated water is about 100,000 gallons. The service area's needed fire flow (NFF) is about 120,000 gallons. The "average" day minimum tank volume needed to provide minimum "contact time" is about 60% of tank volume or 40,000 gallons, assuming average temperature, pH and flow conditions. The existing 64,000 gallon treated water storage tank cannot supply the maximum daily demand. It also cannot supply the needed fire flow and, as can be seen above, a mere 25% of the maximum daily demand can easily drop tank volume below the minimum volume needed to properly chlorinate the water. In drought conditions, when the surface water source supply diminishes historically to a flow of 10 gallons per minute (the equivalent of one garden hose opened wide) the existing tank cannot provide adequate supply or water quality to the community.
- 3. Conserve Water and Protect the Watershed:** The existing plant lacks a device that measures flow into the distribution system. Water flowing into the tank is measured, but the flow out of the tank is not. In addition, treatment facility produces water 24 hours a day. Unconsumed *treated water* is returned to the same surface water source the water was originally diverted from. These three basic system deficiencies result in a host of consequences:
- System leaks are undetectable. The difference in volume between water measured at customer meters versus water flowing out of the tank is the only measureable way to detect a system leak.
  - It is virtually impossible to determine which portion of plant production goes to waste, to leaks or to customers.
  - The full-time production of water is for the most part in excess of customer demands. While the diverted source water flow can be reduced in times of low demand, operators do so at risk to water quality - the tank level can drop below the minimum volume needed to provide minimum contact time for proper chlorination. This means that operators must divert water from the source, needed or not, 24 hours a day. This also means the plant produces treated water 24 hours day, and any unconsumed, treated water therefore goes to waste - the chlorinated water is returned via tank overflow to Cambell's Gulch, the surface water source for the plant.

These three issues point to two overarching needs: physical process controls are needed to **measure plant flows** (and to gauge the effectiveness of any conservation efforts); and physical process controls are needed to **eliminate the needless diversion** of surface waters from the watershed.

## DESCRIPTION OF THE PROJECT

The proposed Camptonville Water System Improvement Project includes the retrofit of an existing water treatment plant, the construction of a new treated water storage tank, the development of improved operational procedures, the development and distribution of consumer-level water conservation educational materials, and a fuels treatment project.

The current Water System, built in 1992, includes surface water (Campbell's Gulch) and ground water (well) sources which feed a 1,000 square foot slow-sand filter and water treatment system, with 64,000 gallons of treated storage for a 72 meter distribution system with an estimated maximum daily demand (MDD) of 100,000 gallons and an ISO fire flow of 120,000 gallons. Original water system design drawings by Walters Engineering are available in the references (Walters, 1992). A complete description and evaluation of the Camptonville Water System is available in the references (GEI, 2012). A "Public Health Compliance Evaluation" is available in the references (Sauers, 2013).

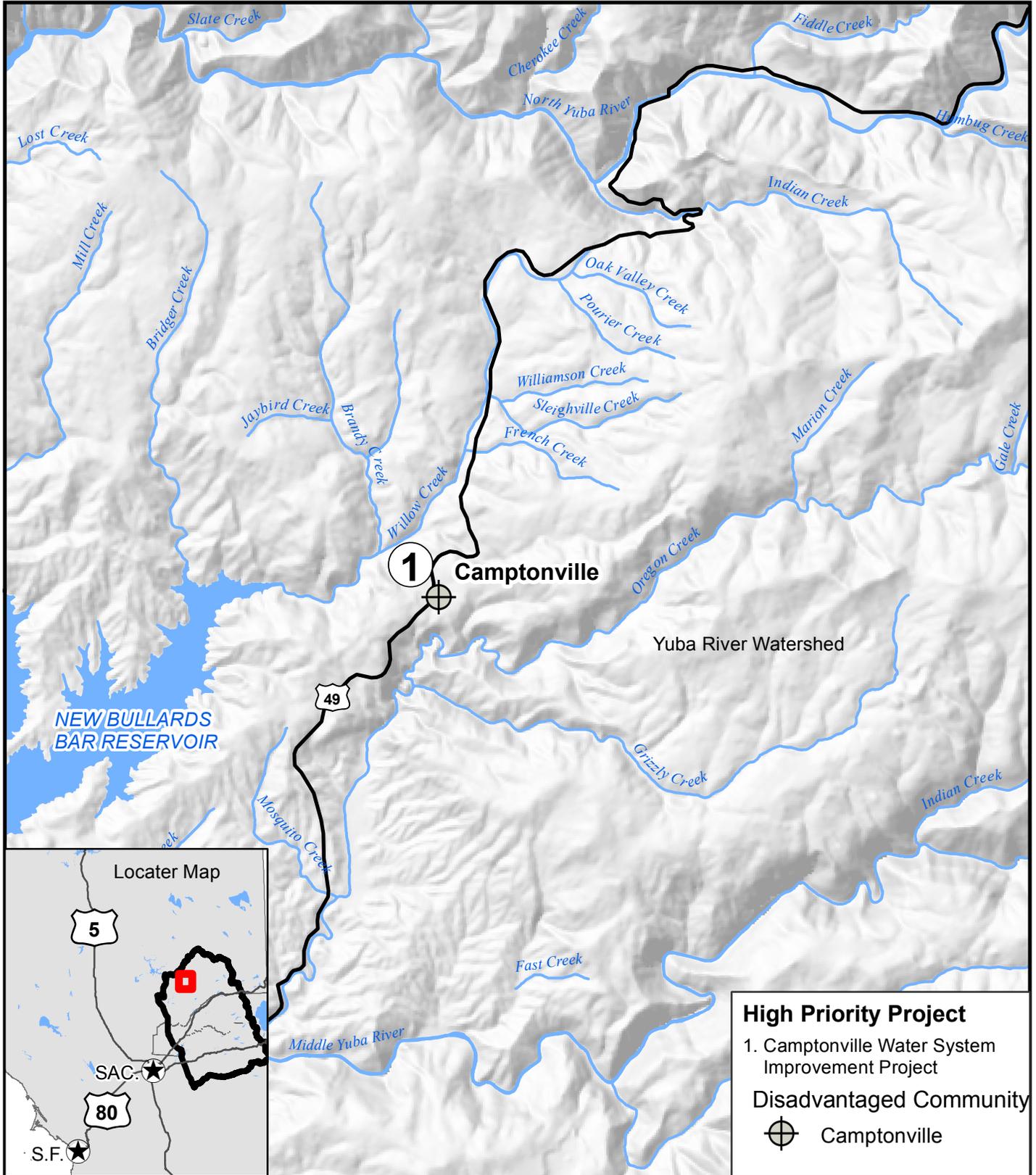
The plant retrofit goal is primarily to provide currently absent process instrumentation, data logging, warning systems and improved flow controls and secondarily to increase the size of the existing slow-sand filter. The slow-sand filter area will be increased from 1000 to 1072 square feet by converting an existing raw water-settling gallery inside the current structure to additional filter, increasing the maximum daily flow from 93,600 gallons to 100,339 gallons per day. New instrumentation and controls include an upstream turbidity meter with automatic flow-shutoff for infrequent high turbidity stream-flows, new float valves to the upstream side of all six filter cells, new flow meters, throttling valves and manometers to the downstream side of all filter cells, and new turbid meters and chlorine residual analyzers within the plant. Devices to record and log plant flows, temperature, ph, turbidity and residual chlorine along with associated online warning systems to alert remote operators of pending emergencies will be provided to facilitate water treatment rules compliance.

A new 220,000-gallon welded steel treated water storage tank will be built to supplement the existing 64,000 tank. The new tank will be built on a concrete foundation with seismic anchors and will include separate inlet and outlet plumbing, NSF approved coatings, interior and exterior ladders with fall protection, sampling port, screened roof vent, roof mounted access hatch, dual shell man-ways, level sensing devices for monitoring tank levels and tank overflow and drain lines. Additionally the existing tank waste line will be abandoned.

Following construction and testing of the completed facility, project engineers will prepare as-built record drawings and a revised operations manual, and will train plant operators for all new installed devices and equipment. Operational procedures developed will include procedures for detecting leaks and excess flows in the distribution system.

The CCSD will promote water conservation by publishing monthly educational materials in the locally distributed newsletter, "The Camptonville Courier." Consumers of the water system will learn where our water comes from, the vulnerabilities posed by that supply, and how best to control use in normal times and in drought times when rationing is in effect.

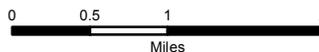
Finally, the project includes a fire-hazard reduction component. The water treatment plant is located on the edge of town, adjacent to and within the steep Sierra Nevada foothill intermountain forest. The lands surrounding all structures at the facility will be treated to Public Resource Code PRC 4291 standards, as prescribed in CalFire's Defensible Space Guidelines.

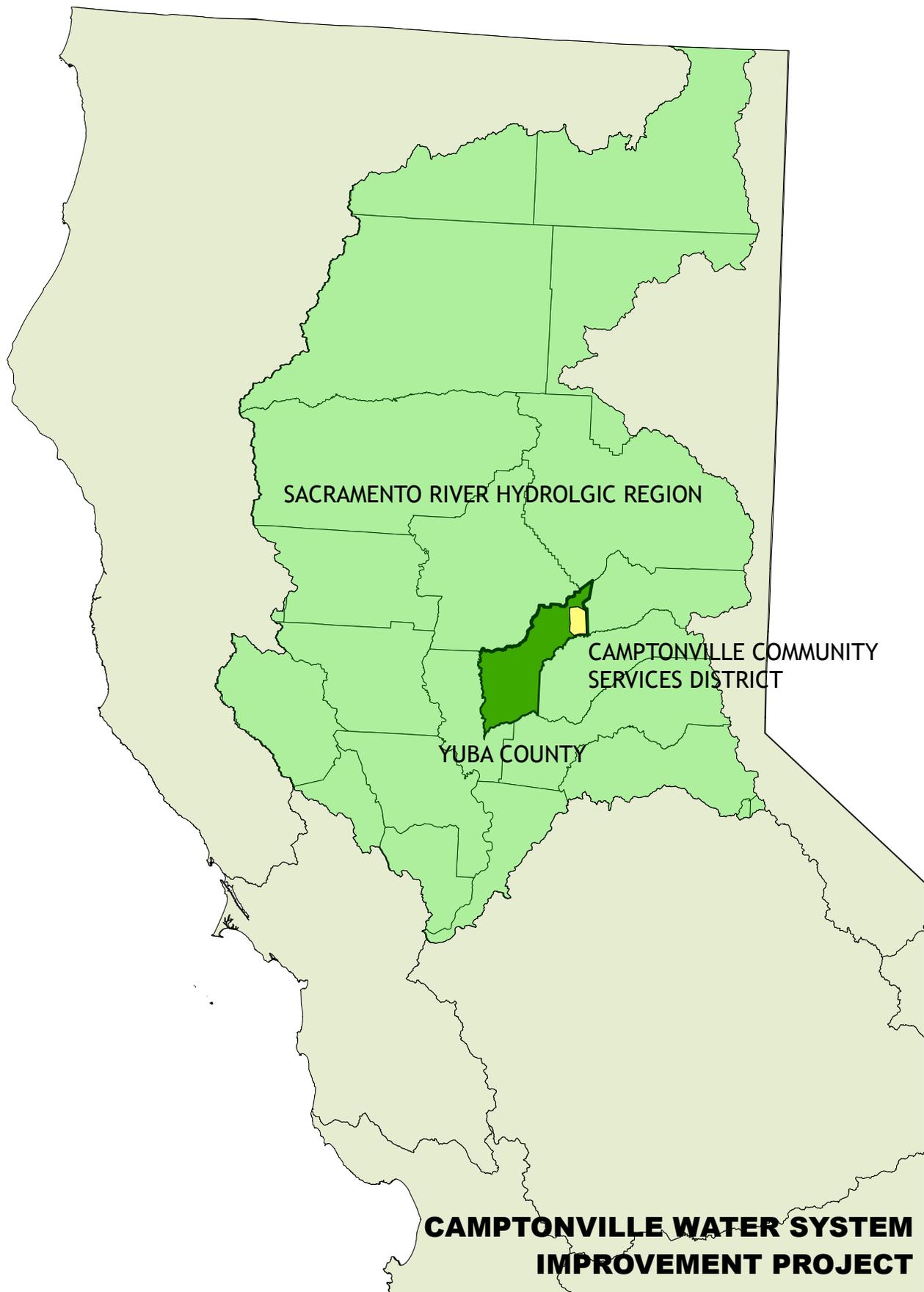


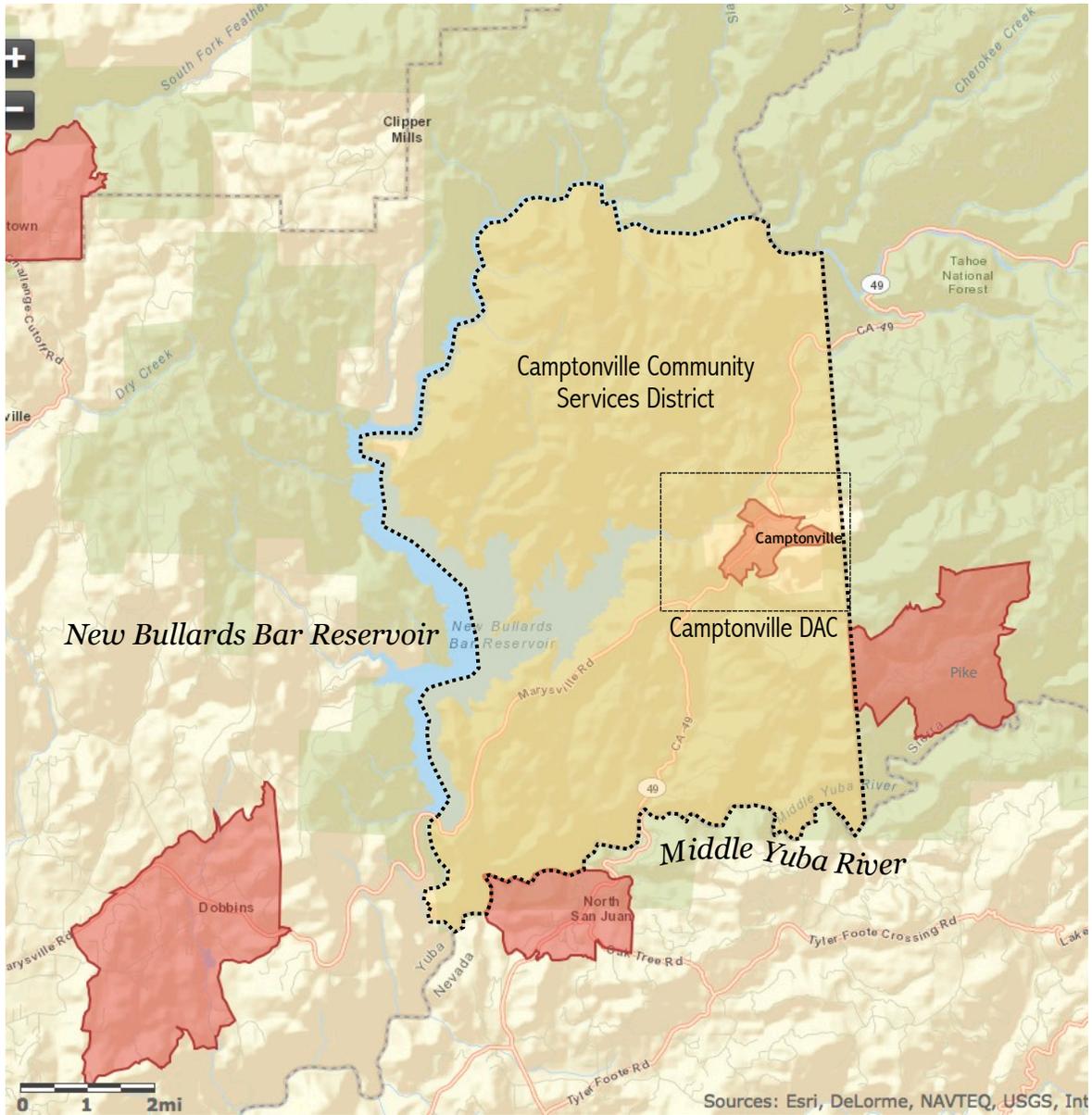
# Camptonville Water System Improvement Project



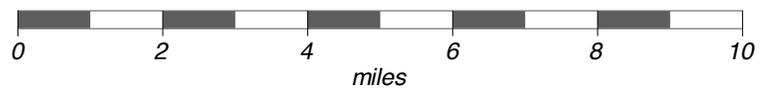
Columns, American, Bear & Yuba River  
Integrated Regional Water Management





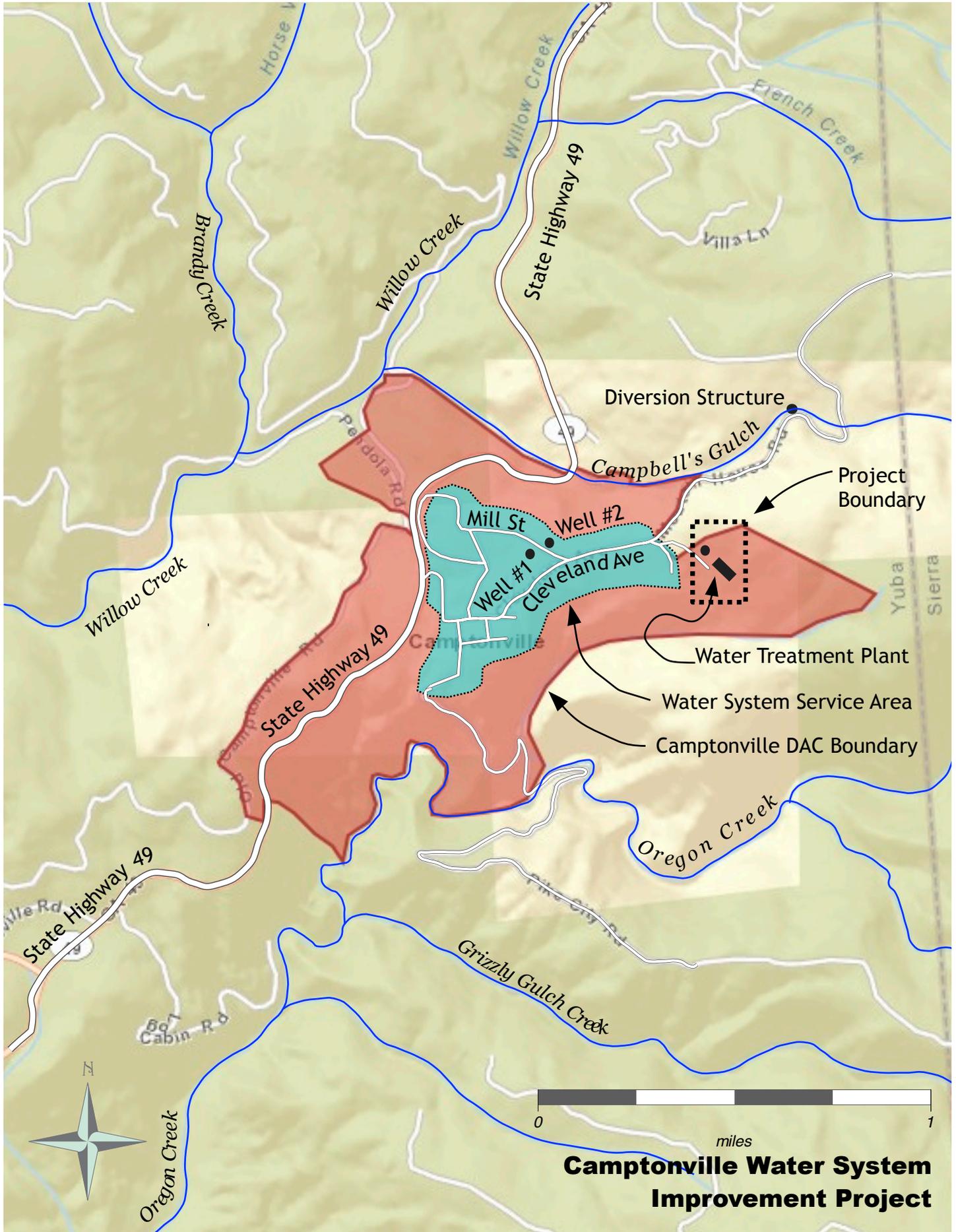


**Camptonville Community Services District**



Map Image from: <http://www.arcgis.com/apps/OnePane/basicviewer/index.html?&extent={%22xmin%22:-15522106.757711068,%22ymin%22:3383875.113067463,%22xmax%22:-11562057.196313709,%22ymax%22:5663533.044643953,%22spatialReference%22:{%22wkid%22:102100}}&appid=c034d1f8f9f34afeb98f20be2a2fb790>

**CAMPTONVILLE WATER SYSTEM  
IMPROVEMENT PROJECT**



### Camptonville Water System Improvement Project

## PROJECT WORK TASKS

The project is organized as follows: The Camptonville Community Services District, CCSD, is the project proponent. CCSD will contract with the following entities:

- **Project Administrator:** Camptonville Community Partnership (CCP), who will provide project administration and project management roles.
- **CCSD/CCP Project Manager:** CCP will hire a Project Manager with experience in managing large scale design and construction projects to serve as overall project coordinator and manager.
- **Project Engineer:** Sauers Engineering, Inc. (SEI), who will serve as Prime Consultant and Project Engineer and who will prepare the CEQA/NEPA documentation and the "Contract Documents" for public bid. Sauers Engineering has provided all engineering services to the Project until now and will provide all water treatment engineering and serve as Prime Consultant. Sauers will sub-contract with Holdredge+Kull (Geotechnical Engineers), Nevada City Engineering (Civil Engineering and Land Surveying), and Plumas Geo-Hydrology (Geo-Hydrologist), ECS Engineering, Inc. (Electrical & Control Systems Engineering), and a Biological Resources and Cultural Resources sub-consultant (entity to be determined) to assist with CEQA/NEPA tasks.
- **Labor Compliance:** a "Labor Compliance" consultant (entity to be determined), who will prepare a Labor Compliance Program for CCSD adoption and who will complete all labor compliance tasks for CCSD.
- **General Contractor:** A general contractor (entity to be determined) will be selected by CCSD via public bid who will provide general contracting and build the project in accordance with the approved contract documents.
- **Project Inspector:** An Independent Testing and Inspection Agency, (entity to be determined), who will provide all required special inspections and materials testing during construction.
- **Legal Counsel:** An attorney-at-law (entity to be determined), who will be retained to represent the District in any actions.

### Budget Category (A) DIRECT PROJECT ADMINISTRATION

#### **TASK 1: DIRECT PROJECT ADMINISTRATION**

##### **Subtask 1.1: Administration and Management**

Overall oversight of the Project will be the responsibility of CCSD. Project Administration and Management of the Project will be delegated to the "Camptonville Community Partnership" (CCP) under contract with CCSD. The goal of this task is to keep the project on time and within budget, keep all participants informed of

project progress and status of deliverables, establish and maintain reliable and accurate billing and recordkeeping, ensure that all requirements of the agreement with the DWR are met, and generally ensure smooth project implementation. The tasks for this budget category will include: development of project policies and procedures, oversight of state public works contracting law compliance, development and completion of contractual paperwork, maintenance and reporting of expense documentation, oversight of project scheduling and contract/agreement compliance, preparation of monthly invoices, and completion of the final invoice. CCP will hire a Project Manager, hereinafter referred to as the CCSD/CCP Project Manager, to assist the Project Administrator with the technical aspects of managing a design and construction project.

**Subtask 1.2: Labor Compliance**

CCSD will retain the services of a Labor Compliance professional services company for developing, implementing, monitoring and reporting on the Labor Compliance Program. The CCSD Board of Directors will adopt and enforce a labor compliance program pursuant to California Labor Code Section 1771.5(b) before contracts for construction are advertised. The CCSD Board of Directors will be responsible for filing required documents with the California Department of Industrial Relations. The CCSD Board of Directors will make a formal agreement to retain the services of an attorney experienced in Public Works law, to represent the District in the event of a dispute. The Labor Compliance consultant will provide a Labor Compliance Program template for adoption, will prepare bid invitation language and contract language for the selected contractors, will prepare materials for the pre-bid conference attendees regarding labor compliance issues, will organize and conduct a labor compliance workshop for selected contractors, and will provide ongoing monitoring, auditing and interviews to ensure labor compliance throughout the construction phase.

**Subtask 1.3: Reporting, Performance Measures and Monitoring Plan**

The CCSD/CCP Project Administrator and Project Manager will perform all activities necessary to support quarterly reporting, monthly invoicing and associated status reports, quarterly status reporting to the Sierra Fund (as project applicant) and the CABY IRWMP-RWMG, and submittal of the final report. "Reporting" activities will include: tracking of the specific status of each project task, documentation of task status in an easy-to-understand and track format, creation of quarterly financial reports for the project (including percent complete of project activities), and preparation of all necessary reports (including the final report) per the format stipulated in the DWR Grant Agreement. "Performance Measures and Monitoring Plan" activities will include: development of the Project Monitoring Plan, which will define all required performance measures, data collection points and techniques and defined reporting formats and procedures, followed by data collection and reporting.

**Subtask 1.4: Coordination with all Project Participants**

The CCSD will establish contracts and/or MOUs with project partners, administrators, managers, and design engineers, which will include reporting protocols for partners to ensure consistent and timely reporting of activities and finances. The CCSD/CCP Project Manager will maintain active communication with partners on this collaborative project using two methods: monthly project partner meetings to ensure smooth coordination and allow for any needed time or activity adjustments; and regular reporting with point-person at each project partner organization or agency using email to ensure that project partners are kept informed about each other's activities, challenges and successes. Quarterly project and financial reports will be circulated to the partners in this collaborative. Additionally, a list of project partners and others interested in receiving regular information about project progress will be maintained and used for distribution of the meeting announcements and emails.

Task	Task Title	Deliverables
<b>1</b>	<b>Direct Project Administration</b>	
1.1	Administration and Management	<ul style="list-style-type: none"> <li>• Project Administration and Management Agreement between CCSD and CCP</li> <li>• Project Manager services agreement</li> <li>• Consulting Engineer services agreement(s)</li> <li>• Labor Compliance consulting services Agreement</li> <li>• Invoices as required</li> <li>• Accessible and Accurate records</li> </ul>
1.2	Labor Compliance	<ul style="list-style-type: none"> <li>• Adherence to Labor Code Compliance through Board policies, administrative regulations and contracting procedures and documents.</li> </ul>
1.3	Reporting, Performance Measures and Monitoring Plan	<ul style="list-style-type: none"> <li>• Monthly Invoices and Reports</li> <li>• Quarterly, Annual and Final Reports to the Sierra Fund and DWR</li> <li>• Reports to CABY</li> <li>• Final Report</li> <li>• Project Monitoring Plan</li> <li>• Collected Data</li> </ul>
1.4	Coordination with partner agencies	<ul style="list-style-type: none"> <li>• Meeting minutes and agendas</li> </ul>

**Budget Category (B)**  
**LAND PURCHASE/EASEMENT**

**TASK 2 LAND PURCHASE/EASEMENT**

No Action Needed: There are no needs for purchased land, and no needs for easements. All work will be performed on CCSD district property or within existing easements.

**Budget Category (C)**  
**PLANNING/ DESIGN/ ENGINEERING/ ENVIRONMENTAL DOCUMENTATION**

**TASK 3: PLANNING/DESIGN/ENGINEERING/ENVIRONMENTAL DOCUMENTATION**

***Subtask 3.1: Pre-Grant Planning And Design***

A preliminary planning and design phase funded by Yuba County Water Agency has been completed. This task included an initial task of developing an RFP (CCSD, 2012) for Professional Engineering, advertising, short-listing potential engineers, interviewing and selecting a Project Engineer. Through this process, Sauers Engineering Inc. has been hired by CCSD as the Project Engineer.

**Subtask 3.1.1: Water System Evaluation:** In December 2012, a report titled “Camptonville Water System Evaluation and Improvement Study” was prepared by GEI Consultants, Inc. of Rancho Cordova, CA. (GEI, 2012). The report establishes regulatory requirements relative to each component of the system, provides an evaluation of each system component and identifies recommended improvements relative to each component. The report focuses on Water Source Supply, Distribution System, Storage, and Treatment.

**Subtask 3.1.2: Public Health Compliance Evaluation Report:** A “Public Health Compliance Evaluation” Report has been prepared by Sauers Engineering, Inc. (Sauers, 2013). This document expands upon the existing Water System Evaluation and upon existing inspection reports from Yuba County Environmental Health. The report provides a summary of regulatory criteria applicable to the system with specific tasks that will address any regulatory compliance concerns.

**Subtask 3.1.3: Conceptual Design (10%):** Work performed as part of the Conceptual Design (10%) included the assembly of the Engineering and Construction portions of the Work Plan, Budget and Schedule as required by the Proposition 84 grant application package. Documents are in conformance with recommendations from the Proposal Solicitation Package (PSP) for the IRWM Grant Program.

**Subtask 3.1.4: Survey Services:** Survey services include a topographic survey for the tank and treatment plant site that can be used for subsequent engineering design tasks. In addition to the topographic survey, a boundary survey has been performed to verify existing boundaries and the extents of land ownership by the District. (Sauers, 2013).

**Subtask 3.1.5: Geology and Well Investigation Report:** A Geology and Well Investigation Report has been prepared (Plumas, 2013) which evaluates local site conditions and provides recommendations for the potential siting of a new well. The results of the report will assist the District with long term water planning strategies in the efforts to become more resistant to conditions which arise during drought years. Although a new well is not included in the current project, a new well is anticipated as part of long term planning strategies. The results of the investigation is included in a Geology and Well Investigation Report (GWIR).

**Subtask 3.1.6: Engineering Design (30%):** 30% design level documents include a description of the proposed project, a preliminary project site plan, conceptual treatment plant drawings, a proposed system process flow diagram, and an outline of the proposed technical specifications. (Sauers 2013).

***Subtask 3.2: Final Design***

The goal of this task is to prepare public-bid-ready construction documents for the project in compliance with

all local, state and federal requirements.

**Subtask 3.2.1: Geotechnical Investigation and Report:** The Project Geotechnical Engineer will prepare a geotechnical report which will provide information required by AWWA D100/D103 for welded steel and bolted steel water storage tanks. Field investigations will include a shallow subsurface investigation to characterize the soil, rock and groundwater conditions encountered at the site to the maximum depths explored. A geotechnical report will be prepared for the tank and treatment plant site. The report will be a design-level geotechnical engineering report that will present findings, conclusions, and recommendations for the tank and treatment plant. The report will include descriptions of site conditions, a summary of the field investigation, laboratory test results, and geotechnical engineering design recommendations for the proposed earthwork and structural improvements. The report will also include a site plan showing the approximate locations of the exploratory trenches, existing structures, and approximate property boundaries. The report appendices will present the exploratory trench logs and laboratory test data.

**Subtask 3.2.2: 60% Design:** The Project Engineer and their sub-consultant team will complete Project plans to a 60% design level and distributed for comment by CCSD. To the extent possible within funding limitations, plans and specifications will bring treatment and storage system into compliance with Title 22 of the California Code of Regulations. 60% Design Tasks will include:

- 60% Tank drawings
- 60% Grading plan, erosion control and storm water management plan
- 60% Process flow diagram
- 60% Valve and piping configuration
- 60% Electrical & controls.

**Subtask 3.2.3: 90% Design:** The Project Engineer and their sub-consultant team will complete Project plans and specifications to a 90% design level and distribute for comment to CCSD, Yuba County Environmental Health, and California Department of Public Health (CDPH). At this stage a draft Engineer's Opinion of Probable Cost will be produced. Tasks in this phase will include:

- 90% Tank drawings
- 90% Grading plan, erosion control and storm water management plan
- 90% Process flow diagram
- 90% Valve and piping configuration
- Draft Technical Specifications
- Engineer's Estimate

**Subtask 3.2.4: Design Review:** CCSD, Yuba County Environmental Health and California Department of Public Health (CDPH) will have opportunities to review and comment on the 90% design plans and specifications.

**Subtask 3.2.5: Final Design (100%):** The Project Engineer and their sub-consultant team will address final comments from interested parties and finalize the technical specifications and contract documents to be ready to bid the project. Project Engineer will assemble Contract Documents with project Technical Specifications as a complete bid package. The Project Engineer will produce the final Engineer's Estimate of costs.

***Subtask 3.3: Environmental Compliance: CEQA/NEPA Documentation***

The Camptonville Community Services District (CCSD), with the assistance of the Project Engineer and their

sub-consultant team, will prepare an environmental initial study and proposed negative declaration following CEQA & NEPA Guidelines.

**Subtask 3.3.1: Special Studies:** As part of the preparation of the environmental documentation, a biological resources assessment and cultural resources assessment will be prepared. The cultural resources assessment will include a tribal consultation. These special studies will identify potential environmental constraints and appropriate mitigations for the site.

**Subtask 3.3.2: Initial Study/Public Review:** Preliminary documents will be distributed to the State Clearinghouse and responsible agencies which will include DWR and Yuba County. CCSD will conduct and participate in a public hearing, receive oral and written comments, and prepare responses. A final negative declaration, mitigation monitoring plan, and notice of determination will be prepared and the appropriate final documents will be filed with the County Clerk and the State Clearinghouse.

**Subtask 3.4: Permitting:** The California Department of Public Health requires that the Local Primacy Agency (LPA) issue a Water Supply Permit Amendment whenever major changes to the water system take place. Activities which trigger the need for a permit amendment include the addition of a storage reservoir and changes to the water treatment system. Acquisition of the new permit will be a combined effort of Camptonville CSD staff and Sauers Engineering, Inc. Because the project lies completely within the boundaries of a public utility district, a building permit is not required per Government Code Section 53091. A Fish & Game permit 1602 is not required the project does not involve work in the stream channel. A U.S. Army Corp of Engineers (USACOA) Section 404 permit is likewise not anticipated.

Task	Task Title	Deliverables
<b>3</b>	<b>Planning/Design/Engineering/Environmental</b>	
3.1	Pre-Grant Planning and Design	<ul style="list-style-type: none"> <li>• Water System Evaluation (GEI, 2012)</li> <li>• Public Health Compliance Evaluation (Sauers, 2013)</li> <li>• Conceptual Design (10%)</li> <li>• Topographic Survey (Sauers, 2013)</li> <li>• Geology and Well Report (Plumas, 2013)</li> <li>• Preliminary Project Drawings and Design (30%) (Sauers, 2013)</li> </ul>
3.2	Final Design	<ul style="list-style-type: none"> <li>• Geotechnical Report</li> <li>• 60% Design Documents</li> <li>• 90% Plans and Outline Technical Specs</li> <li>• Review Comments from CCSD, Yuba County and/or CDPH</li> <li>• Final Approved Project Plans, Technical Specs</li> <li>• Contract Documents and Engineer's</li> </ul>

		Estimate
3.3	CEQA/NEPA Documentation	<ul style="list-style-type: none"> <li>• Approved and adopted CEQA documentation</li> </ul>
3.4	Permitting	<ul style="list-style-type: none"> <li>• Water Supply Permit Amendment</li> </ul>

<p><b>Budget Category (D)</b>  <b>CONSTRUCTION/IMPLEMENTATION</b></p>
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#### **TASK 4: CONSTRUCTION/IMPLEMENTATION**

The goal of this task is to hire General Contractor and complete construction of all funded improvements

##### ***Subtask 4.1: Pre-Construction Contracting***

CCSD has established procedures and protocols for advertising, opening, and evaluating bids for construction services, as well as for awarding and developing contracts with construction companies. Following bid evaluation, Camptonville CSD Board of Directors will award the Contract to the lowest responsive bidder. Following submittal of performance and payment bonds, and insurance certificates the District will enter into a Contract with the successful bidder.

##### ***Subtask 4.2: Mobilization & Site Preparation***

The General Contractor will establish administrative and overhead project functions at the site. This task will also include initial clearing and grubbing expenses associated with clearing portions of land of vegetation where new facilities will be constructed. Mobilization and site preparation will include creating a construction staging yard, finalizing the construction schedule and work plan and establishing a construction headquarters.

##### ***Subtask 4.3: Construct Water System Improvements***

**Subtask 4.3.1: Construct Treatment Plant Improvements:** The General Contractor will manage the construction of improvements to the existing water treatment plant, in accordance with the approved plans and specifications. The existing structure will essentially remain as-is; all construction is limited to reconfiguring and/or installing new process piping and controls. The existing precast concrete filter cells will be slightly modified to accept new plumbing by coring concrete and grouting fittings for new plumbing. No new structures are planned. The planned improvements include:

- Convert existing raw water settling gallery to additional filter area;
- Add float valves to inlet side of all filters;
- Add flow meters, throttling valves and manometers to downstream side of all filters;
- Add turbidimeters, chlorine residual analyzer and plant automation as required for current surface water treatment rule compliance and standards of care established by CDPH.

**Subtask 4.3.2: Construct Water Storage Reservoir:** The General Contractor will manage the construction of a 220,000 gallon welded steel water storage tank. The tank will comply with American Water Works Association (AWWA) Standard D100 for welded steel water storage tanks and will include appurtenances as

required by Title 22 of the California Code of Regulations. The new storage tank will provide required fire flow storage for the community, and bring the treatment plant into compliance with chlorine contact requirements as defined by Title 22. The tank will include:

- Concrete foundation with seismic anchors
- Separate inlet and outlet plumbing
- NSF approved interior coating system and industrial exterior coating
- Exterior and interior ladders with appropriate fall prevention equipment
- Sample port.
- Screened roof vent
- Roof mounted access hatch
- Dual shell man-ways
- Level sensing devices for monitoring tank levels
- Tank overflow and drain lines

#### ***Subtask 4.4: Fuels Reduction***

The treatment plant sits on a 3.9 acre parcel that abuts wildland. The surrounding lands, and the parcel itself are populated with native oaks, pines, firs and manzanita. This task includes removal of ladder fuels, thinning for forest health and compliance with Public Resource Code 4291 Defensible Space Guidelines for a distance of 100 feet around the plant and tank structures. The task includes CEQA/NEPA compliance factored into task 3.3 above, use of the “firesafe exemption” for PRC 4291 compliance to avoid the cost of a registered professional forester, hiring of a licensed timber operator to supervise crews, and use of the Sierra Native Alliance Native Youth Conservation Corps for hand cutting and piling waste. Native Youth Conservation Corps will cover the piles with plastic and CCSD will dispose of them in the winter.

#### ***Subtask 4.5: Implementation Close-out Activities***

**Subtask 4.5.1: Performance Testing and Demobilization:** Following the completed installation of the new treatment plant equipment, a period of time will pass during which the Project Engineer will monitor system performance prior to putting the system on line. The slow sand filters must ripen and water quality samples taken by the water department staff will determine when the ripening period is complete. Additionally, Project Engineer and Water Dept. staff will test all of the new monitoring equipment to verify that the system operates consistent with the design intent. Once the system has been proven to be in compliance with the Contract Documents, the General Contractor will be released and allowed to demobilize.

**Subtask 4.5.2: As-Built Documentation & Record Drawings:** The Project Engineer will prepare as-built documentation compiled by the contractors, inspectors, project engineers and the project manager. The Project Engineer will compile the data and produce a final set of Record Drawings for the project.

**Subtask 4.5.3: Operations Manual & Operator Training:** The Project Engineer will prepare an updated Operations Manual as part of the updated Water Supply Permit for the system. The new Operations Manual will include catalogue data from all newly installed equipment along with refined operating procedures which reflect the new valve configurations and automated equipment.

Task	Task Title	Deliverables
<b>4</b>	<b>Construction/Implementation</b>	
4.1	Construction Contracting	<ul style="list-style-type: none"> <li>• Advertisement for Bids</li> <li>• Pre-Bid contractors meeting agenda</li> <li>• Bid Evaluation Documentation</li> <li>• Awarded Contract</li> </ul>
4.2	Mobilization and Site Preparation	<ul style="list-style-type: none"> <li>• Cleared and prepared site</li> </ul>
4.3	Construction	<ul style="list-style-type: none"> <li>• Treatment Plant Improvements</li> <li>• Treated Water Storage Tank</li> </ul>
4.4	Fuels Reduction	<ul style="list-style-type: none"> <li>• 2 acres of treated land</li> </ul>
4.5	Implementation Close-out	<ul style="list-style-type: none"> <li>• Water Quality Reports</li> <li>• Project Record Drawings</li> <li>• Updated Operations Manual</li> <li>• Completed Operator Training</li> </ul>

### Budget Category (E)

## ENVIRONMENTAL COMPLIANCE/ MITIGATION/ ENHANCEMENT

### **TASK 5: ENVIRONMENTAL COMPLIANCE**

**5.1: Mitigation Monitoring:** The goal of this task is to fulfill any mitigation obligations identified in Task 3 and include them as part of project implementation. The CCSD/CCP Project Manager, Biological Resources consultant and the Cultural Resources consultant will monitor and ensure compliance with mitigation measures as per the Mitigation Monitoring Plan.

Task	Task Title	Deliverables
<b>5</b>	<b>Environmental Compliance</b>	
5.1	Mitigation Monitoring	<ul style="list-style-type: none"> <li>• Mitigation Monitoring Plan</li> <li>• Completed Mitigation Compliance</li> </ul>

**Budget Category (F)**  
**CONSTRUCTION ADMINISTRATION**

**TASK 6: CONSTRUCTION ADMINISTRATION**

The goal of this task is to ensure complete, correct and implementation of the Project on-time and under budget

***Subtask 6.1: Construction Management***

The CCSD/CCP Project Manager will provide focused project management during the construction phase, including the following tasks:

- Serve as the primary point of contact and coordination between all parties engaged in the project, including the general contractor, CCSD, CCP, the Project Engineers, the Project Grant Administrator and DWR;
- Establish, manage and coordinate the Pre-Construction Contracting task and assist CCSD with bid evaluations, contractor selection and contract development;
- Represent the owner (CCSD) in all day-to-day matters with the General Contractor;
- Ensure CCSD's obligations to General Contractor are fulfilled so as not to delay construction;
- Ensure the all mandated inspection requirements are fulfilled;
- Manage the RFI and Change Order Process;
- Monitor construction and report on status of the work through all phases of construction;
- Plan, facilitate, and prepare minutes for regular Project meetings;
- Preparation of schedule of values for progress payments;
- Review and approve progress payments;
- Monthly financial and progress reporting.

***Subtask 6.2: Construction Engineering***

The Project Engineer will provide engineering support during construction. Anticipated tasks include:

- Responding to construction related technical questions;
- Providing periodic site visits to verify compliance with contract requirements;
- Submittal review;
- Approving reports from Project Inspectors;
- Reviewing periodic pay requests;
- Assisting CCSD with the preparation of change orders and field orders where necessary.

***Subtask 6.3: Construction Inspection***

Project Inspector will verify compliance with approved plans and technical specifications. Due to the nature of the project, it is anticipated that inspection services will be required during critical phases of the project only and are not anticipated to be required on a full time basis.

Task	Task Title	Deliverables
<b>6</b>	<b>Construction Administration</b>	
6.1	Construction Management	<ul style="list-style-type: none"> <li>• Weekly Progress Reports &amp; Meeting minutes</li> <li>• Change Orders</li> </ul>

		<ul style="list-style-type: none"> <li>• Field Orders (Bulletins)</li> <li>• Status of Work Reports</li> </ul>
6.2	Construction Engineering	<ul style="list-style-type: none"> <li>• Records of Project Correspondence</li> <li>• Field Observation and Inspection Reports</li> </ul>
6.3	Construction Inspection	<ul style="list-style-type: none"> <li>• Field Inspection Reports</li> <li>• Testing Reports</li> </ul>

**Budget Category (G)**  
**OTHER COSTS**

**TASK 7: OTHER COSTS**

***Subtask 7.1: Legal Services***

CCSD will retain appropriate legal representation as part of adopting and implementing a Labor Compliance Program.

***Subtask 7.2: Water Efficiency Education***

CCSD will utilize volunteer time to prepare an insert for the already-in-publication “Camptonville Courier”, a monthly newsletter published by and for the citizens of the Camptonville Community. The newsletter is prepared using a combination of volunteer labor and CCSD funding for material and expenses. CCSD will mobilize a volunteer effort to develop educational inserts for the newsletter promoting the Ahwahnee Principals of water use conservation and recycling. The inserts will appear in the newsletter once each month for the entire 16 month period of the project. CCSD will periodically survey customers to monitor behavior change and will periodically monitor meter readings to determine water use changes. All costs will be borne by CCSD.

***Subtask 7.3: Develop and Maintain CABY Project-Specific Webpage***

The goal of this task is to ensure that all CABY members and members of the public have access to updated and thorough information about the implementation and characteristics of the project. CCSD intends to provide this information through the maintenance of a webpage on the CCSD website that can be linked to the CABY website. Project progress reports, status updates, and other similar materials will be posted or linked to this webpage. The webpage will be designed and brought online (activated within the first month after contract agreement). The page will be updated periodically.

***Subtask 7.4: Data Management***

The goal of this task is to ensure that all data gathered and developed as a result of the project is made available to state databases as well as CABY members and the interested public using data management and monitoring deliverables that are consistent with the IRWM Plan Standards and Guidance (as stipulated in the August 2010 IRWM Guidelines, page 20). In this case, the appropriate approach is identified in the CABY Updated Plan, which will direct the IRWMP data collection efforts. Data will be made available to all CABY members and the general public through the existing CABY SWIM Database. Material will be uploaded as it becomes available, however most of the data will be posted upon completion of the primary project

activities. The CABY technical committee will evaluate project-related data to determine its appropriateness for upload to relevant state databases.

**Subtask 7.5: Finance Charges**

CCSD will use matching funds to pay finance charges for short term financing to be provided by the Yuba County Water Agency.

**Subtask 7.6: Post-Project Performance Measures**

CCSD will prepare Annual Reports, beginning after the first year of operation, and will include the following:

- The time period for the report;
- A brief project description;
- A brief discussion of benefits to water quality, water supply and the environment;
- A presentation of pertinent quantitative measurements for the period and an assessment explaining any differences between expected versus actual project benefits.
- A summary of any additional costs or benefits deriving from the project since completion;
- A report on the continued task of meeting performance measurements;
- Any additional relevant information

Task	Task Title	Deliverables
<b>7</b>	<b>Other Costs</b>	
7.1	Legal Services	<ul style="list-style-type: none"> <li>• Agreement for Legal Services</li> </ul>
7.2	Water Efficiency Education	<ul style="list-style-type: none"> <li>• Educational Materials (Newsletter inserts)</li> <li>• Customer Surveys</li> </ul>
7.3	Develop and Maintain CABY specific Webpage	<ul style="list-style-type: none"> <li>• Complete and updated webpage</li> </ul>
7.4	Data Management	<ul style="list-style-type: none"> <li>• Complete and submitted data set</li> </ul>
7.5	Finance Charges	<ul style="list-style-type: none"> <li>• YCWA Invoices and records of payments</li> </ul>
7.6	Post-Project Performance Measures	<ul style="list-style-type: none"> <li>• Annual Report</li> </ul>