

ATTACHMENT 3 - WORK PLAN

I. INTRODUCTION

A. Goals and Objectives

Project A Goal: Detect and repair leaks to promote water conservation, secure water supply security for four DAC communities, and reduce pumping costs and creating a sustainable water supply.

Objectives:

1. Purchase leak detection equipment
2. Train staff in Burney, Fall River Mills and Bieber, CA water districts in equipment operation and maintenance.
3. Prioritize leaks for repair in short term.
4. For the long term, greater water conservation and reduced pumping costs by 15% to allow recover cost/pay back investments and sustain operations and maintenance.

Project B Goal: Increase water storage capability and ensure adequate water supply and pressure for the DAC of McArthur, CA.

Objectives:

1. Purchase new water tank and deliver to project site.
2. Install new water tank with booster pumps, and generator.
3. Install telemetry to enable monitoring/operating of wells and tanks remotely, reducing the need to pump water during the high demand periods.
4. Maintain water level in tank to at least half full to ensure adequate water pressure and supply for the safety of the community.

Project C Goal: Extend the life of the current water tank, increasing the water supply and reliability for the DAC of Bieber, CA.

Objectives:

1. Award project to winning bid.
2. Refurbish existing water tower and all appurtenances.
3. Put in place safety measures

B. Purpose and Need

During the preparation of the Upper Pit River IRWMP, several communities, the Pit River Tribe, and service or irrigation districts identified concerns about old, outdated, and/or poor-quality water infrastructure. This includes pipes, tanks, wells, diversion structures, wastewater service lines, wastewater treatment facilities, and underground mainlines. Poor or failing water infrastructure results in public health and safety concerns, substantial water loss, increased annual maintenance costs, and inadequate fire-fighting capabilities.

By way of example, the FRVCSD began as municipal service provided by the Red River Lumber Company. The water system was purchased by a private citizen in 1904 and operated

unchanged until the Pacific Gas and Electric Company began to develop the Pit River for electricity. After the construction of the Pit River Powerhouse #1 in the early 1920s, a pipe was installed from the intake structure to deliver water to a sump and storage system of four redwood water tanks throughout town.

The Fall River Fire Department had a parallel system, with bigger pipes and higher pressure. In subsequent years, the lines from the private water company and the fire districts were combined under the umbrella of the current CSD. Therefore, the FRVCSD has a mixture of lines of different sizes and materials. This fact, as well as the age of the system, results in system losses of up to 48%; a loss of 23,169,413 gallons is estimated for the 12 months between November 2011 and October 2012.

Many of the lines are more than 60 years old (normal life expectancy is 40 years). There is one 2-man crew that is almost 100% dedicated to fixing leaks in Fall River Mills. In addition, many of the valves do not work, so water cannot be shut off to work on the leaks, causing widespread and relatively frequent water outages.

The FRVCSD serves nearly 500 connections in Fall River Mills, Sierra Center and McArthur. Burney Water District (BWD) serves approximately 1,500 connections and Lassen County Water Works (LCWW) District #1 serves 300 connections in Bieber. Replacing water lines would substantially conserve water and lower the cost of service for all of these agencies; however, replacing water lines is costly. While grants are urgently needed to replace failing infrastructure, it's imperative that these communities first be able to identify and prioritize the leaking and failing portions of their system. This project will do that. In addition, the entities are committing funds toward completing the mapping of their systems, as well as repairs to leaks found in the system.

Burney Water District staff has identified the need for water-use efficiency measures to assure adequate water supply into the future, especially in times of drought and anticipating future demand. While some of the water supply system has been replaced by newer PVC pipes, much of the system has older, rusting, and crumbling iron pipes. Further, several large water meters serving the system are in need of calibration, which the District lacks the equipment to conduct.

As for the Bieber water tank, the exterior coating is failing overall; the exterior coating system was last renovated in the 1979 and is flaking and blistering. Other external features also need repair and replacement. The tank bowl itself exhibits slight chalking, mild blistering and areas of heavy mildew. The interior epoxy coating system on the roof plates and the area above the high water level is in good to fair condition with some early corrosion visible at the area of the sidewalls and roof connections. The interior epoxy coating system on the tank sidewalls is in fair condition with some large areas of flash rusting above the high water level. Tank sidewalls, roof and catwalk: The exterior coating system on the tank sidewalls and roof is in poor condition and appearance.

County general plans identify Burney and Fall River Mills/McArthur as communities where future development should be focused. These communities will likely require a greater investment in infrastructure expansion to make them suitable for increased development.

The Upper Pit River IRWMP was developed to promote voluntary integrated regional water management to ensure better water quality, sustainable water uses, including reliable water supplies, and enhanced environmental stewardship. By developing and adopting an IRWMP, the watershed was able to identify its greatest water management needs, coordinate that management, and develop projects to address identified issues.

Goal 5 of the IRWMMP was to: Improve Efficiency and Reliability of Community Water Supply and Other Water-Related Infrastructure. In keeping with California's 20x2020 water efficiency goals, stakeholders identified means of improving water supply efficiency through several objectives; those relevant to this application are listed below.

IRWMP Objectives

- a.* Conduct at least two water-supply infrastructure projects that could include: leak detection and repair; distributions system pipeline replacement; creation of supply redundancy; water tank storage repair/replacement; and meter calibration, repair, and replacement that help improve the integrity of local water supply.
- b.* Increase conservation education via water bills and other outreach throughout the watershed by designing a series of outreach materials that can be used by all water purveyors.

The purpose of the Proposal is to address the outdated small system infrastructure issues to ensure community quality drinking water. The Projects were identified as some of the most pressing water infrastructure necessities of the region (where capacity existed to prepare this application), and were designed to most efficiently meet water supply needs. Project A will enable each community the ability to detect and repair leaks to increase reliability and water quality. Projects B and C answer the need to modernize antiquated water holding systems that will increase both the reliability of supply and the quality of the water for the community members. Leak detection necessary to repair these antiquated water systems will also aid in drought preparedness, and reduce the potential impacts of climate variability on four disadvantaged communities.

C. Project List

Project	Abstract	Current Status	Implementing Agencies
Project A: Joint Leak Detection & Repair Program	Purchase equipment and train staff to detect leaks in antiquated water lines, and then repair them.	Need assessment and equipment selection 2% complete.	1. Fall River Valley CSD (lead) 2. Burney Water District 3. Lassen County Water Works #1
Project B: McArthur Water Tank	Install water tank with booster pumps, generator and telemetry to provide adequate water reserves and bring pressures to standards. Prepare and distribute quarterly for two years, conservation materials to 480 community households.	Preliminary engineering studies done and selection was made among the three alternatives. 2% complete.	Fall River Valley CSD
Project C: Bieber Water Tank	Refurbish an existing water tower serving the community of Bieber.	Assessment of the tank completed. 3% completed.	Lassen County Water Works #1

D. Integrated Elements of Projects

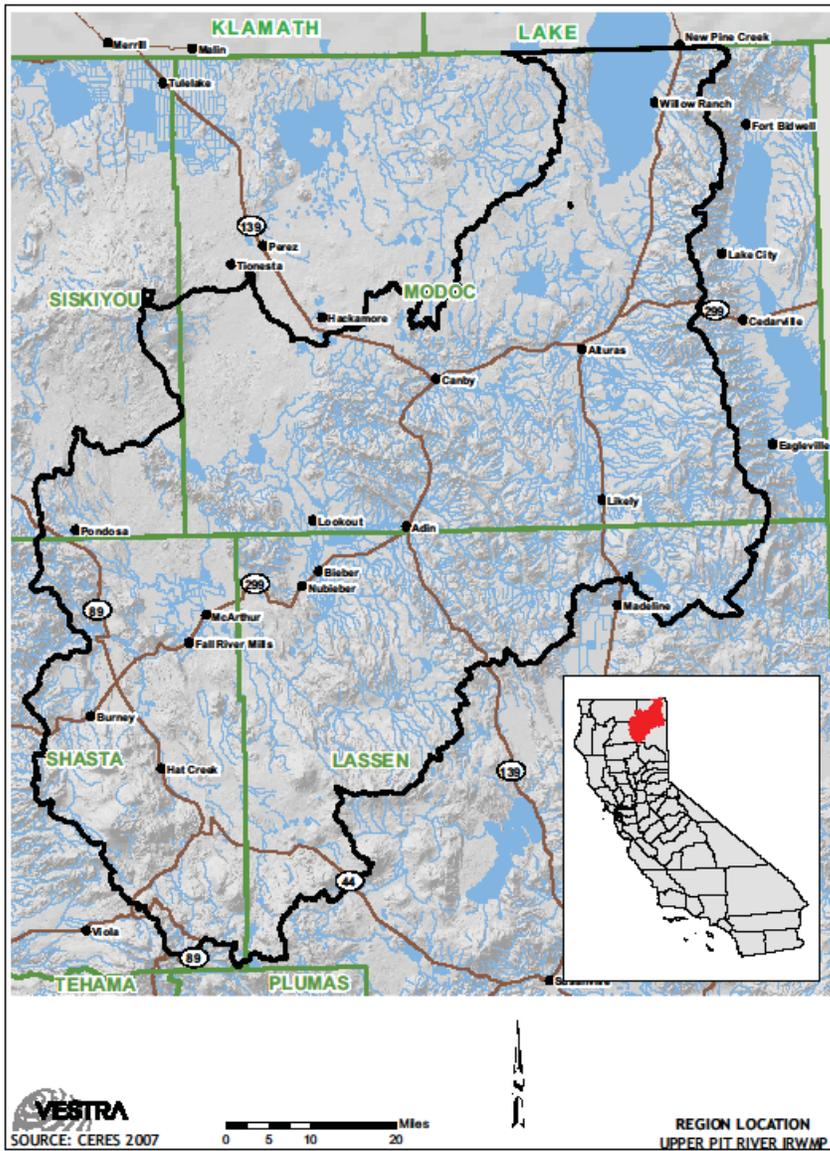
All projects in the Proposal are linked by issue area: they are small system infrastructure-based, projects in disadvantaged communities. The FRVCSD took an early lead in helping the three involved jurisdictions prepare this integrated Proposal. The most directly integrated project is for joint leak-detection, which has not only required close coordination during the project design, but will require cooperation over shared equipment (via an MOU) well into the future. Substantial cost savings will result for all three project sponsors due to this integrated project design.

All three of the projects in the Proposal are part of the region’s draft IRWMP, described as “ready to proceed.” (<http://upperpit.org/the-plan/public-review-draft>). The IRWMP wanted to accommodate the full spectrum of projects to carry out Plan objectives, but distinguished which projects might be of the greatest readiness to go forward for funding. The planning committee made the decision to assign a tier status to each project, using a three-tiered system. The three Projects for the Proposal are considered Tier 1 – ready-to-proceed with sufficient information submitted to complete a Guideline-compliance (A-L) analysis. Specifically:

Tier 1A – All information complete

- CEQA/NEPA planned into project, or not required
- Measurable outcomes identified
- Project work plan and schedule complete
- Budget complete
- Partners confirmed
- Scientific/technical analysis underway – project objectives demonstrably achievable
- DAC determination complete
- Consistency with goals and objectives evaluation complete
- Minimum 25 percent match documented, or DAC exemption from match requirement

E. Regional Map



F. Completed Work

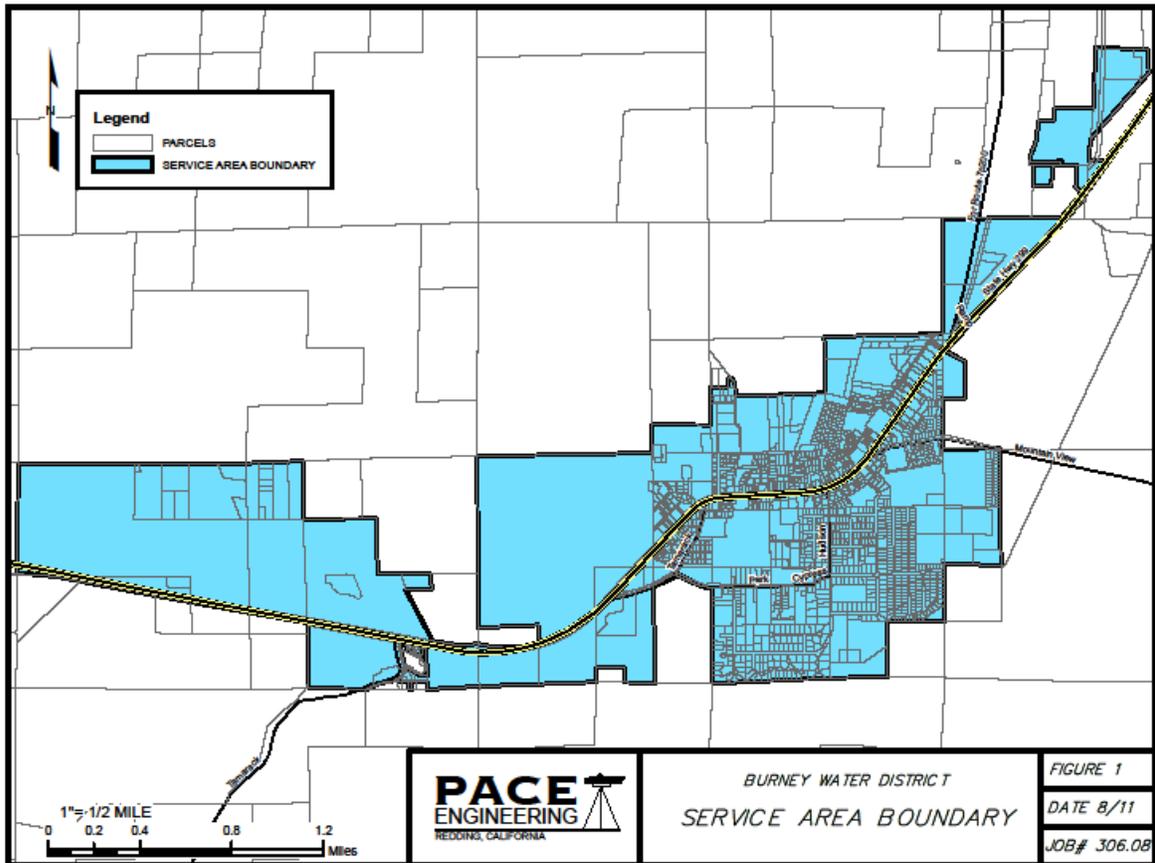
Project	Work Completed
Project A: Joint Leak Detection & Repair Program	<ol style="list-style-type: none">1. Equipment Selection Completed2. Needs established: Fall River Valley CSD has water losses between 17 and 48%. Burney and Bieber have water losses of 12-20%.3. No CEQA/NEPA required
Project B: McArthur Water Tank	<ol style="list-style-type: none">1. An engineering study to identify alternatives2. Selection of the least expensive alternative approved by CSD Board.3. Preliminary approval of land owner.
Project C: Bieber Water Tank	An engineering study identifying the items to be refurbished.

G. Existing Data and Studies

Project	Existing Data & Studies
Project A: Joint Leak Detection & Repair Program	Fall River Valley CSD has water losses between 17 and 48%. Burney and Bieber have water losses of 12-20%.
Project B: McArthur Water Tank	<ol style="list-style-type: none">1. An engineering study by PACE Engineering evaluated project.2. Cost Estimate
Project C: Bieber Water Tank	<ol style="list-style-type: none">1. An inspection report by Utility Service Co., Inc. and OSHA identifying the items to be refurbished.2. Cost Estimate.

H. Project Maps

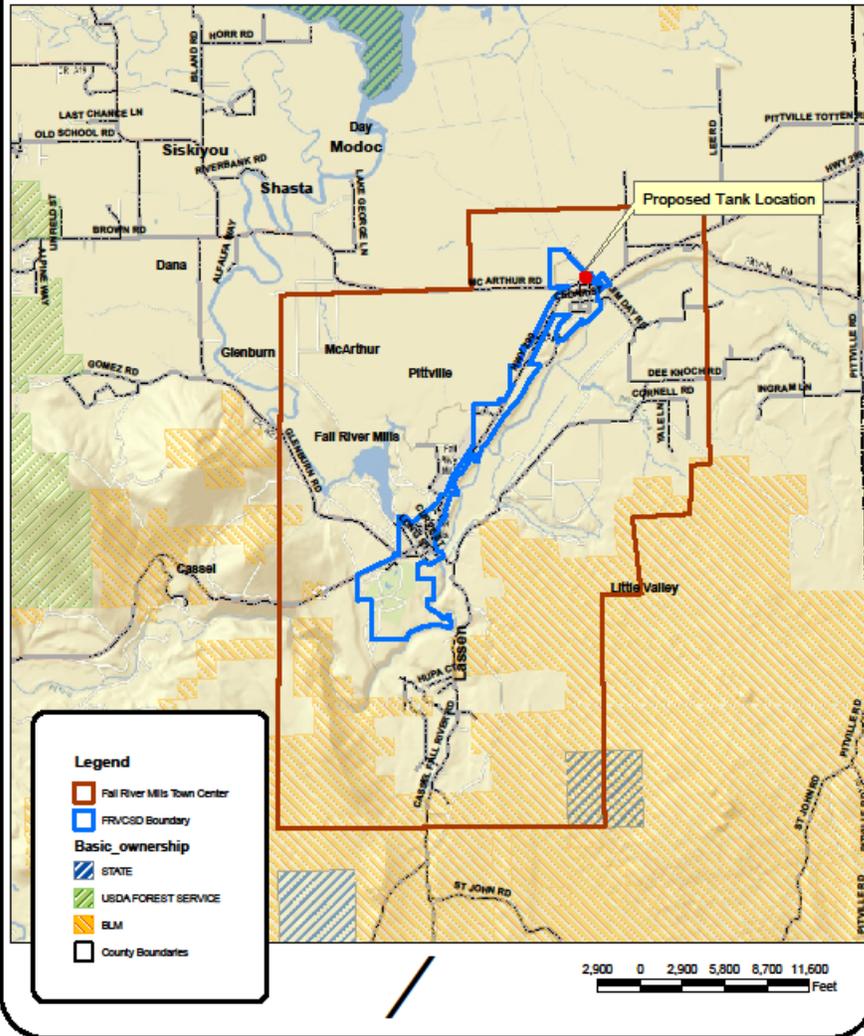
Project A:



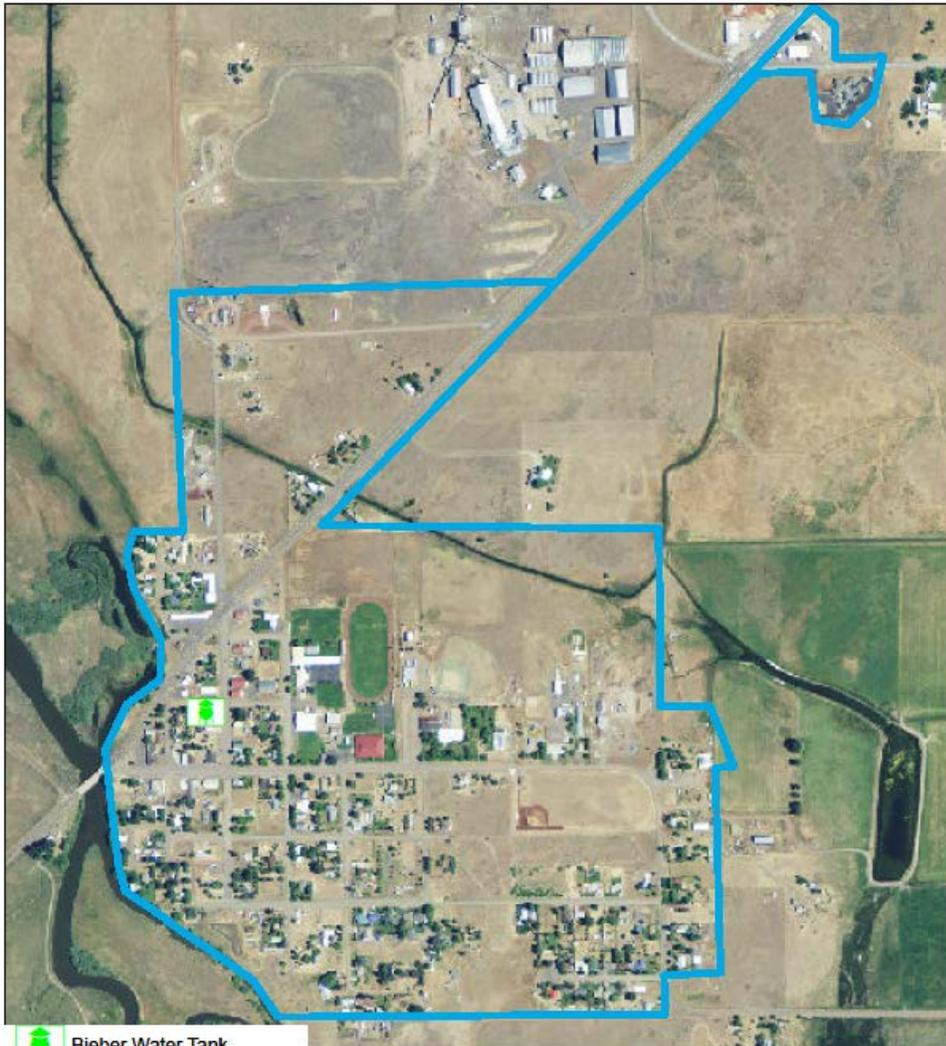
Fall River Valley Community Services District

Date: 7/21/2011

Assisted By: DALE KROSCHER



Lassen County Water Works District 1
Bieber Tank Refurbishment
2013

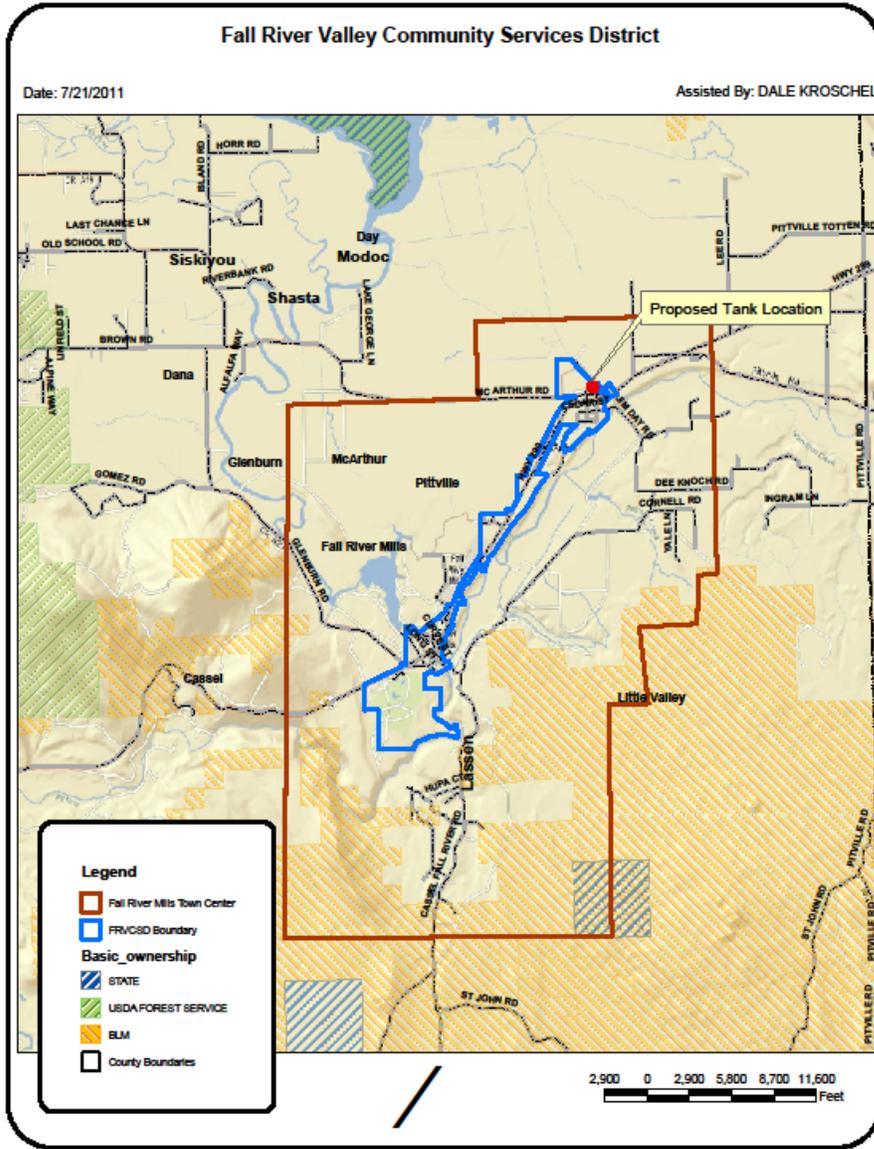


 Bieber Water Tank

 Lassen Co Water Works Dist 1



Project B:



Project C:

Lassen County Water Works District 1 Bieber Tank Refurbishment 2013



-  Bieber Water Tank
-  Lassen Co Water Works Dist 1



I. Project Timing and Phasing

None of these projects are part of a larger project. Each of these projects operates on a standalone basis.

II. PROPOSED WORK

Project A: Joint Leak Detection & Repair Program

Task 1: Administration

1.1 Negotiate and finalize contract with fiscal agent.

1.2 Prepare invoices and draw requests. This task has not been started.

Deliverable: invoices and draw requests

1.3 Create an agreement between the three districts to share the equipment. This agreement includes conditions of sharing the equipment, maintenance of the equipment, insurance, timing or rental, extended rentals, third party rentals not allowed, availability, priority of access, etc. Discussions among the three districts have been started which resulted in the above outline of an agreement.

The three districts are spread out along a 40 mile stretch of CA 299. Fall River Mills (FRVCSO) is in the middle and we expect to have periodic meetings in Fall River Mills with the General Managers of the three districts. The three managers have an existing working relationship and help each other out when needed. An MOU will be created and reviewed by an attorney.

Deliverable: Signed MOU

Task 2: Reporting

Prepare quarterly reports, final report and other reports as required by the Grant Agreement.

The Fall River Valley CSD will be the lead on this task. This task has not been started, other than verifying that the manpower is available to perform the task.

Deliverable: Submission of quarterly, final and post completion reports.

Task 3: Planning

3.1 The Operations Managers have identification of equipment needed to locate leaks. This sub-task (3.1) has been completed as shown in the list of equipment in task 4.

Deliverable: list of equipment

3.2 A bid package must be developed. FRVCSO will take the lead. Bid solicitations will be posted. Bid will be solicited, reviewed and a purchase order will be awarded. For the used backhoe, the Operations Manager will go to auctions and sales and purchase the best value for the funds available. This task cannot start until funding is assured.

Deliverable: Bid package and purchase orders.

Task 4: Purchase

Purchase orders will be issued and the equipment will be received. No permits nor CEQA are needed for the purchase or use of this equipment. The equipment is solely used to repair existing infrastructure. This task cannot start until funding is assured.

Deliverable: Invoices

Task 5: Training

The leak detection equipment and the line tapping machine will require some training. The manufacturer will provide free training. The cost is for the district operator's time.

This task cannot start until the equipment is purchased.

Deliverable: Photo of training being received and documentation of who attended by name and title.

Task 6: Mapping Updates

Whenever leaks are repaired, maps need to be updated to reflect the leak location and the condition and material of the pipe that failed.

This task can only be performed after the leaks are found and fixed.

Deliverable: Photos of map updates, and date, person involved, and location of the detection analysis.

Task 7: Repairs

Once the leak is detected, the leak must be repaired. Most of the leaks are in Fall River Mills/McArthur, with fewer in Bieber and Burney. This is reflected in the time devoted by each district to repair leaks. All repairs must be done during the frost-free months. This task cannot start until funding is assured. Currently only obvious leaks are repaired. The leak detection equipment will help us locate smaller and less obvious leaks.

Deliverable: a list of leaks repaired with location, date, hours worked and equipment used.

Project B: McArthur Water Tank

Task 1: Administration

1.1 Negotiate and finalize contract with fiscal agent.

1.2 Preparing invoices and draw requests.

Deliverable: invoices and draw requests

1.3 Preparing quarterly reports, final report and other reports as required by the Grant Agreement. Since the project has no partners, other than the funders, no coordination is required and the project can proceed smoothly. This task has not been started, other than verifying that the manpower is available to perform the task.

Deliverable: Submission of quarterly, final and post completion reports.

Task 2: Land Easement

The FRVCSD owns an easement on land owned by the Intermountain Fair, a department of Shasta County. The CSD has a storage building and pressure tanks on that site which regulates the water pressure in the town of McArthur. Discussions with Fair Management and the Fair Board indicate that they would be willing to enlarge the easement that FRVCSD has to accommodate a tank. The next step is to formally apply to the land owner, which is in Shasta County, for an enlargement of the easement. The easement will have to be surveyed, based on the engineer's drawings of the tank. All ancillary equipment (pumps, generator and telemetry) will be housed in the FRVCSD's existing building on the site.

Deliverable: Submission of a recorded easement.

Task 3: Planning

3.1 Preliminary Engineering Report (PER) is required to show the feasibility of the project. This is a requirement of USDA Rural Development, the federal funding partner in this project. USDA will fund this study. This PER will be started when state funding is assured.

Deliverable: Completed PER

3.2 CEQA and NEPA are required for this project, but will most likely be a Negative Declaration as the proposed site of the tank is currently a parking lot and relatively small (65' x 65'). The FRVCSD will be the lead agency for CEQA. The ND will be started when the PER is completed. USDA will do the NEPA based on the CEQA.

Deliverable: CEQA and NEPA Reports

3.3 Final Engineering will be done during the winter of 2013-14. Included in the engineering is all the permitting, construction bid preparation and solicitation, construction supervision and labor compliance monitoring. The FRVCSD is experienced with construction project like these and an excellent working relationship exists between engineers and the FRVCSD.

The California Department of Public Health (CDPH) will issue the final permit.

Deliverable: Copy of an engineering contract.

Task 4: Construction

4.1 The water tank will hold about 350,000 gallons and have a diameter of 40' and be 25' high. It will be made out steel and be painted on the outside. These tanks are standard for the industry. The tank will rest on a concrete slab. The contract will include site prep, footings & slab, tank, paint and piping. A building permit will be issued by Shasta County. CDPH will also approve the plans. After construction the tank is tested, disinfected and prepared to accept potable water. This is done under the supervision of CDPH.

Deliverable: Completed tank and sign off by CDPH.

4.2 Two booster pumps and a generator will be necessary because the tank will be at ground level. The existing pressure sensing apparatus at the site will be used to activate the pumps to keep the water pressure in the McArthur zone within the set parameters. In case of a power failure, the generator will drive the pumps. In normal operations, only one pump will be used, while in cases of extraordinary demand (i.e. fire), both pumps will maintain the pressure required by the fire department.

Deliverable: Completed tank and sign off by CDPH.

4.3 Homeland Security requires fencing around all facilities.

Deliverable: Fencing

4.4 All new pieces of equipment (tank, pumps, generator) will be electronically connected with the existing equipment (well pumps, pressure tank, existing storage tanks, and pressure valves) for remote monitoring and operation. The current manual system is expensive and unreliable.

Deliverable: Installed telemetry.

4.5 17% Construction contingency is built into the project. If state funding of draws is delayed beyond 30 days, the FRVCSD will require interim financing of the contractors. Interest charged could come from the contingency funds.

Deliverable: none

Task 5: Construction Administration

Construction invoices need to be processed into draw requests. Funding has to be disbursed.

The Operations Manager will be on site, inspecting the project for the FRVCSD. (Funding for inspection required by USDA will be funded through USDA and be performed by the engineer of record.) The General manager will be involved in the overall coordination of the different contracts and funding sources.

Deliverable: Draw requests and periodic reporting as required by the funders.

Task 6: Public Education

The project also includes \$5,000 to fund a public awareness campaign for water conservation. The campaign will both include a newsletter and a web site update. The requested funding is sufficient for two years of quarterly newsletter. Quarterly publication of the newsletter was stopped in 2011 because of the lack of funds, but will be restarted as soon as funding is available and will continue through the construction period, and beyond.

Deliverable: Copies of newsletters.

Project C: Bieber Water Tank Refurbishing

Task 1: Administration

1.1 Negotiate and finalize contract with fiscal agent.

1.2 Preparing invoices and draw requests. This task has not been started.

Deliverable: invoices and draw requests

1.3 Preparing quarterly reports, final report and other reports as required by the Grant Agreement. Since the project has no partners, other than the funders, no coordination is required and the project can proceed smoothly. This task has not been started, other than verifying that the manpower is available to perform the task.

Deliverable: Submission of quarterly, final and post completion reports.

Task 2: Planning

2.1 An inspector has been hired to evaluate the water tower and produce an inspection report (attached). This sub-task (2.1) has been completed.

Deliverable: Inspection Report

2.2 A bid package must be developed. The General manager will take the lead. Bid solicitations will be posted. Bids will be solicited, reviewed and a purchase order will be awarded. This task cannot start until funding is assured.

Deliverable: Bid package and purchase orders.

2.3 A CEQA will have to be created, anticipated to be a Negative Declaration.

Deliverable: CEQA Document.

2.4 This project may require CDPH fees.

Deliverable: Proof of payment.

Task 3: Tank Refurbishing

3.1: Riser, legs and structural members: The exterior coating is failing overall, but has good adhesion. The exterior coating system was last renovated in the 1979 and is flaking and

blistering. The exterior coating system will be properly prepared and over-coated.

3.2: Tank bowl: The coating system on the tank bowl is in fair condition. The exterior coating system on the tank bowl exhibits slight chalking, mild blistering and areas of heavy mildew. The interior epoxy coating system on the roof plates and the area above the high water level is in good to fair condition with some early corrosion visible at the area of the sidewalls and roof connections. The interior epoxy coating system on the tank sidewalls is in fair condition with some large areas of flash rusting above the high water level. The interior epoxy coating system will be removed by blasting to a SP#10 near white and new two-coat epoxy must be applied.

3.3: Tank sidewalls, roof and catwalk: The exterior coating system on the tank sidewalls and roof is in poor condition and appearance. The exterior coating system exhibits flaking, thinning to the primer coat and large areas of graffiti. The exterior coating system will be properly prepared and over-coated.

3.4: Wet Riser & overflow: The interior epoxy coating system on the riser and overflow needs to be replaced. The overflow pipe needs to be extended to 1 ft above the ground and exit over a splash plate.

3.5: Ladder: Install safety cable for the ladder and a lockable door to the ladder.

3.6: Balcony and balcony railing: The balcony and balcony railings are in good condition, but must be recoated. The exterior coating system will be properly prepared and over-coated.

3.7: Riser protective railing must be recoated. The riser will be properly prepared and over-coated.

3.8: Aviation warning light will be installed.

3.9: Riser access hatch (primary & secondary) will be installed and properly coated.

The work will not require a country building permit, but will be inspected by CDPH.

Deliverable: CDPH operations permit.

Task 4: Fencing

Homeland Security requires fencing around all our facilities.

Deliverable: Photo of fencing

Task 5: Construction Contingency

10% Construction contingency is built into the project. If state funding of draws is delayed beyond 30 days, the District will require interim financing of the contractors. Interest charged could come from the contingency funds.

Deliverable: none

Task 6: Additional Electricity

Provide additional electricity during construction, when tank will be empty. And well pumps maintain water pressure.

Deliverable: Electricity bill for the construction period.