

***CALAVERAS COUNTY
WATER DISTRICT***

Proposition 50 Grant Application

**West Point/Bummerville Water Use Efficiency
Grant Application**

**Downtown West Point Water Distribution System
Improvements and Bummerville Treated Water
Storage Tank Replacement**

Calaveras County, California



Leaking Tanks, Bummerville Treated Water Supply

January 11, 2005

Prepared for
**Water Use Efficiency Program
2004 Grant Proposal Solicitation
Office of Water Use Efficiency
California Department of Water Resources**

Submitted by
**Calaveras County Water District
PO Box 846
San Andreas, CA 95249-0846**



**CALAVERAS
COUNTY
WATER
DISTRICT**

BUSINESS OFFICE

423 EAST ST. CHARLES STREET
POST OFFICE BOX 846
SAN ANDREAS, CALIFORNIA 95249
(209) 754-3543
FAX (209) 754-1069

January 11, 2005

California Department of Water Resources
Office of Water Use Efficiency
1416 Ninth Street, Room 338
PO Box 942836
Sacramento, CA 95814
Attn: Debra Gonzales

Re: West Point/Bummerville Proposition 50 Water Use Efficiency Project

Ms. Gonzales:

Calaveras County Water District (CCWD) is submitting the enclosed Proposition 50 Water Use Efficiency grant application for the small, rural Calaveras County communities of West Point and Bummerville. The project provides water conservation of treated drinking water, which is currently leaking from the communities' water storage and distribution systems. The November 15, 2004 Grant Application Package for the 2004 Water Use Efficiency Program includes as eligible projects the replacement of leaking distribution system components and leaking storage tanks. The requested funding for the storage tanks would not be used to increase capacity.

The existing facilities were primarily constructed before 1960 and many system components are inadequate, resulting in significant water loss. Several changes have been made to the systems, including abandoning the Wilseyville water treatment plant and establishing an upgraded West Point Water Treatment Plant as the regional plant to serve West Point, Bummerville and Wilseyville. As provided in the application, the two components of the project provide savings of 32.1 acre-feet per year of treated drinking water. The most significant water saving is from improvement of the Downtown West Point Distribution System.

West Point/Bummerville is a Disadvantaged Community with an annual median household income of \$25,417, less than 80 percent of the state wide annual median income (eighty percent of the statewide annual median income for 2002 is \$38,000). A cost share is not required. The source of information documenting project geographic scope and annual median income for the project area is provided in the application.

The requested funding for the two construction projects is presented below:

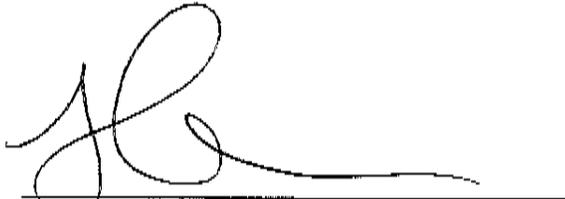
Project	Cost
Downtown West Point Distribution System Improvements*	\$ 1,860,000
Bummerville Treated Water Storage Tank Replacement*	\$ 431,000
Total: \$ 2,291,000	

This grant application is based on data developed for the November 2004 Final Feasibility Report, West Point/Wilseyville/Bummerville Water System Improvement which was funded by the Department of Water Resources (DWR)

Questions regarding this application should be directed to Larry Diamond; Larry can be reached at (209) 754-3543, extension 20 or via email at larryd@ccwd.org

Sincerely,

CALAVERAS COUNTY WATER DISTRICT



L. Allen Turner
General Manager/Chief Counsel

Attachments

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
 West Point Water Distribution System Improvements
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Executive Summary

The purpose of these projects are to conserve water by rehabilitating two components of the existing treated water facilities serving the Calaveras County communities of West Point and Bummerville. The water system itself is in poor condition and leaking.

The West Point/Bummerville area has a median household income (MHI) of \$25,417. A local cost share is not required based on guidelines currently set out by the grant; MHI in the West Point Bummerville area is less than the \$38,000 (80 percent of the statewide annual MHI for 2002). Development of a cost share analysis for the West Point project should not be necessary.

The two projects being proposed are:

- The Downtown West Point Distribution System project, which has the highest water loss and most severe fire risk.
- The Bummerville Treated Water Tank Replacement Project. The project will replace two dilapidated redwood water tanks with a new 50,000 gallon metal storage tank. The project will replace existing capacity but not provide any additional storage.

The two projects will provide 32.1 acre feet per year of new water to the Bay Delta system for the next 50 years (1,605 acre feet of water).

As indicated in the 2004 PSP, the 2000 Record of Decision (ROD) defines the Water Use Efficiency Program as a program that will benefit local water users, districts, regions and the State. The proposed projects do this by:

- Reducing existing water losses
- Achieving multiple benefits by making water available for instream flow and by improving downstream water quality.
- Preserving local water supply (especially in low water years) and is consistent with CCWDs Urban Water Management Plan.

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APPENDIX A: Project Information Form

Applying for:

Urban Agricultural

1. (Section A) **Urban or Agricultural Water Use Efficiency Implementation Project**

- (a) implementation of Urban Best Management Practice, # _____
- (b) implementation of Agricultural Efficient Water Management Practice, # _____
- (c) implementation of other projects to meet California Bay-Delta Program objectives, Targeted Benefit # or Quantifiable Objective #, if applicable

- (d) Specify other: _____

2. (Section B) **Urban or Agricultural Research and Development; Feasibility Studies, Pilot, or Demonstration Projects; Training, Education or Public Information; Technical Assistance**

- (e) research and development, feasibility studies, pilot, or demonstration projects
- (f) training, education or public information programs with statewide application
- (g) technical assistance
- (h) other

3. Principal applicant (Organization or affiliation):

Calaveras County Water District

4. Project Title:

West Point/Bummerville Proposition 50 Water Use Efficiency Project

5. Person authorized to sign and submit proposal and contract:

Name, title	L. Allen Turner General Manager/Chief Counsel
Mailing address	PO Box 846 San Andreas CA 95214
Telephone	(209) 754-3543
Fax	(209) 754-1064

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
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6. Contact person (if different):

	E-mail	alant@ccwd.org
	Name, title.	Larry Diamond
	Mailing address	PO Box 846
		San Andreas CA 95249
	Telephone	(209) 754-3543
	Fax.	(209) 754-1069
	E-mail	larryd@ccwd.org

7. Grant funds requested (dollar amount): **\$2,291,000**
(from Table C-1, column VI)

8. Applicant funds pledged (dollar amount): \$0

9. Total project costs (dollar amount): **\$2,291,000**
(from Table C-1, column IV, row n)

10. Percent of State share requested (%): **100 percent**
(from Table C-1)

11. Percent of local share as match (%): **0 percent**
(from Table C-1)

12. Is your project locally cost effective?
Locally cost effective means that the benefits to an entity (in dollar terms) of implementing a program exceed the costs of that program within the boundaries of that entity.

(a) yes

(b) no

(If yes, provide information that the project in addition to Bay-Delta benefit meets one of the following conditions: broad transferable benefits, overcome implementation barriers, or accelerate implementation.)

11. Is your project required by regulation, law or contract?
 If no, your project is eligible.

(a) yes

(b) no

If yes, your project may be eligible only if there will be accelerated implementation to fulfill a future requirement and is not currently required.

Provide a description of the regulation, law or contract and an explanation of why the project is not currently required.

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12. Duration of project (month/year to month/year): 12/01/05 to 12/31/07
13. State Assembly District where the project is to be conducted: Fourth
14. State Senate District where the project is to be conducted: First
15. Congressional district(s) where the project is to be conducted: Fourth
16. County where the project is to be conducted: Calaveras
17. Location of project (longitude and latitude)
Lat 38° 23' 56" , -120° 31' 37"
Long 38.399 , -120.527
18. How many service connections in your service area (urban)? 540
19. How many acre-feet of water per year does your agency serve? 217
20. Type of applicant (select one):
- (a) City
 - (b) County
 - (c) City and County
 - (d) Joint Powers Authority
 - (e) Public Water District
 - (f) Tribe
 - (g) Non Profit Organization
 - (h) University, College
 - (i) State Agency
 - (j) Federal Agency
 - (k) Other
 - (i) Investor-Owned Utility
 - (ii) Incorporated Mutual Water Co.

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(iii) Specify _____

21. Is applicant a disadvantaged community? If 'yes' include annual median household income.

(Provide supporting documentation.)

(a) yes, \$25,417 annual median household income

(b) no

2004 Water Use Efficiency Proposal Solicitation Package
APPENDIX B: Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

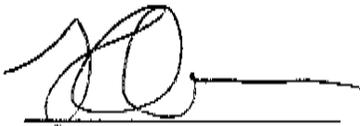
The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

There is no pending litigation that may impact the financial condition of the applicant or its ability to complete the proposed project;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant;

The applicant will comply with all terms and conditions identified in this PSP if selected for funding; and

The applicant has legal authority to enter into a contract with the State.


Signature

L. Allen Turner
General Manager/Chief Counsel
Name and title

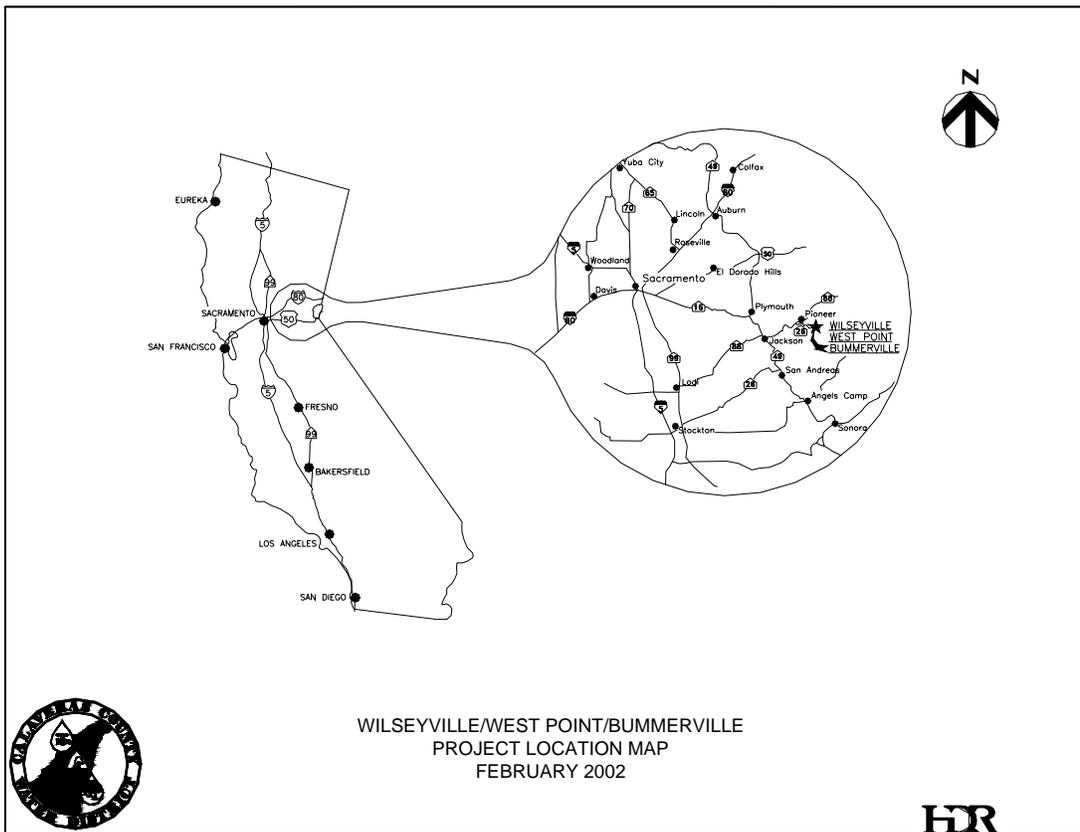
1/10/05
Date

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Statement of Work, Section 1: Relevance and Importance

The following items are attached:

1. Analysis of the "Need for Project" which includes:
 - a. Need for project.
 - b. Project objective, including replacement of failing or leaking water systems or components in order to conserve water and improve the overall reliability and efficiency of the system.
 - c. Summary of project features.
 - d. Critical water issues and impact of project.
2. Location map for proposed project.
3. Figure presenting West Point, Wilseyville and Bummerville water supply system.
4. Figure presenting West Point water distribution system improvements.
5. Figure presenting Bummerville Storage Tank and Treated Water distribution system improvements. Note: Bummerville distribution system improvements are not included in this grant application.
6. Cover letter to DWR presenting CCWD's Urban Water Management Plan (UWMP), which was adopted on August 29, 2002 by CCWD Resolution 2002-71. Also provided is DWR's October 9, 2002 approval of CCWD's UWMP. The UWMP contains all the standard sections.



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Need for Project, Nature, Scope, and Objectives of Project

The purpose of this project is to conserve water by rehabilitating the existing treated water system facilities serving the communities of West Point and Bummerville. This water system is currently deficient due to failing and leaking components, and components that are unable to meet fire flow requirements.

In the fall of 1946 Calaveras County Water District (CCWD) was organized under the laws of the State of California as a public agency for the purpose of developing and administering the water resources in the County. CCWD filed for the development of the water resources within the County on March 24, 1947. This filing was for the use of the Middle and South Forks of the Mokelumne River, the Calaveras River, and the North Fork of the Stanislaus River. The filing initiated the preserving of the water rights and resources of Calaveras County. Calaveras County, being a "County of Origin" with respect to water rights in California, enjoys certain protections regarding the use of water originating in the County.

CCWD owns and operates the domestic water system in West Point, Wilseyville, Bummerville and part of Sandy Gulch. Population growth in the service area has generally averaged less than one percent annually over the last 15 years. The existing water system serves approximately 520 customers with a population of 1,298. The current facilities include two raw water reservoirs (Wilson Lake and the Regulating Reservoir); two raw water diversion facilities, (Bear Creek gravity supply and Middle Fork Mokelumne pumped supply); one water treatment plant (West Point); two treated water pump stations (Bummerville and Upper Wilseyville); and the associated distribution and storage systems. Figure D-1 provides an illustration of the water system and the interconnection of the water supply and distribution between the three communities. Also shown in bold are the two components of the proposed replacement project: Downtown West Point Distribution System and the Bummerville Treated Water Storage Tank.

CCWD receives its water West Point/Bummerville entitlement from two main sources of water (1) the Bear Creek diversion and (2) pumped water from the Mokelumne River. Both sources are generally of good quality and are easily treated to potable standards. Water rights are derived from agreements for diversion of flow from Bear Creek and from the Middle Fork of the Mokelumne River for diversion of up to 1,930 acre feet annually. Water rights for Bear Creek are described in Permit Number 15452, issued September 7, 1967. Mokelumne River water rights are provided under a purchase agreement (CCWD Resolution 91-17) between CCWD and Calaveras Public Utilities District (CPUD). At full build-out of the service area, the water use would not reach half of this total entitlement (1,930 acre-feet). Conveyance, storage and distribution of the water continue to be greater issues than the entitlements to the water.

CCWD's West Point Water Treatment Plant (WTP) was recently upgraded to a capacity of one million gallons per day (mgd). This capacity is close to the projected average daily demands through the year 2020, given the current modest growth rate of approximately 1% annually. Currently, neither of the raw water conveyance facilities from Bear Creek or the Mokelumne River can reliably deliver the necessary water supply for the WTP. This is due to severely leaking pipes and sections of undersized pumps and pipe.

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Treated water storage and distribution are inadequate in this system. Treated storage is currently provided by a 500,000 gallon clear well at the WTP which serves West Point and Wilseyville and 50,000 gallons of storage from two wooden tanks which serve Bummerville. The Bummerville storage quantity is grossly inadequate to meet fire flow demands, and each tank has leaking and structural integrity problems and is in need of replacement. The proposed project will replace the leaking tanks, but will not increase storage volume. Fire flow will be enhanced by replacement booster pumps capable of delivering greater fire flow from the treatment plant.

The treated water distribution pipelines are deficient due to age and inadequate fire flow capacity throughout the West Point and Bummerville areas.

Project Objectives

1. Replace failing or leaking water system components in order to conserve water and increase the overall reliability and efficiency of the system;
2. Site, replace and construct the proposed facilities so that environmental impacts are minimized to the extent feasible.

Summary of Project Features

Table 1. Project Features Summary.

Project Component	Features	Detailed Description
Downtown West Point Distribution System	Replace undersized and deteriorating pipelines to meet current fire protection standards and to eliminate water loss	7,000 feet - 6-inch pipe 2,000 feet - 8-inch pipe 600 feet - 10-inch pipe 5,800 feet - 12-inch pipe
Bummerville Storage Tanks Replacement	Replace deteriorating storage tanks to eliminate water loss	50,000 gal tank at Bummerville, with 3,150 feet of 6-inch fill line and booster pump

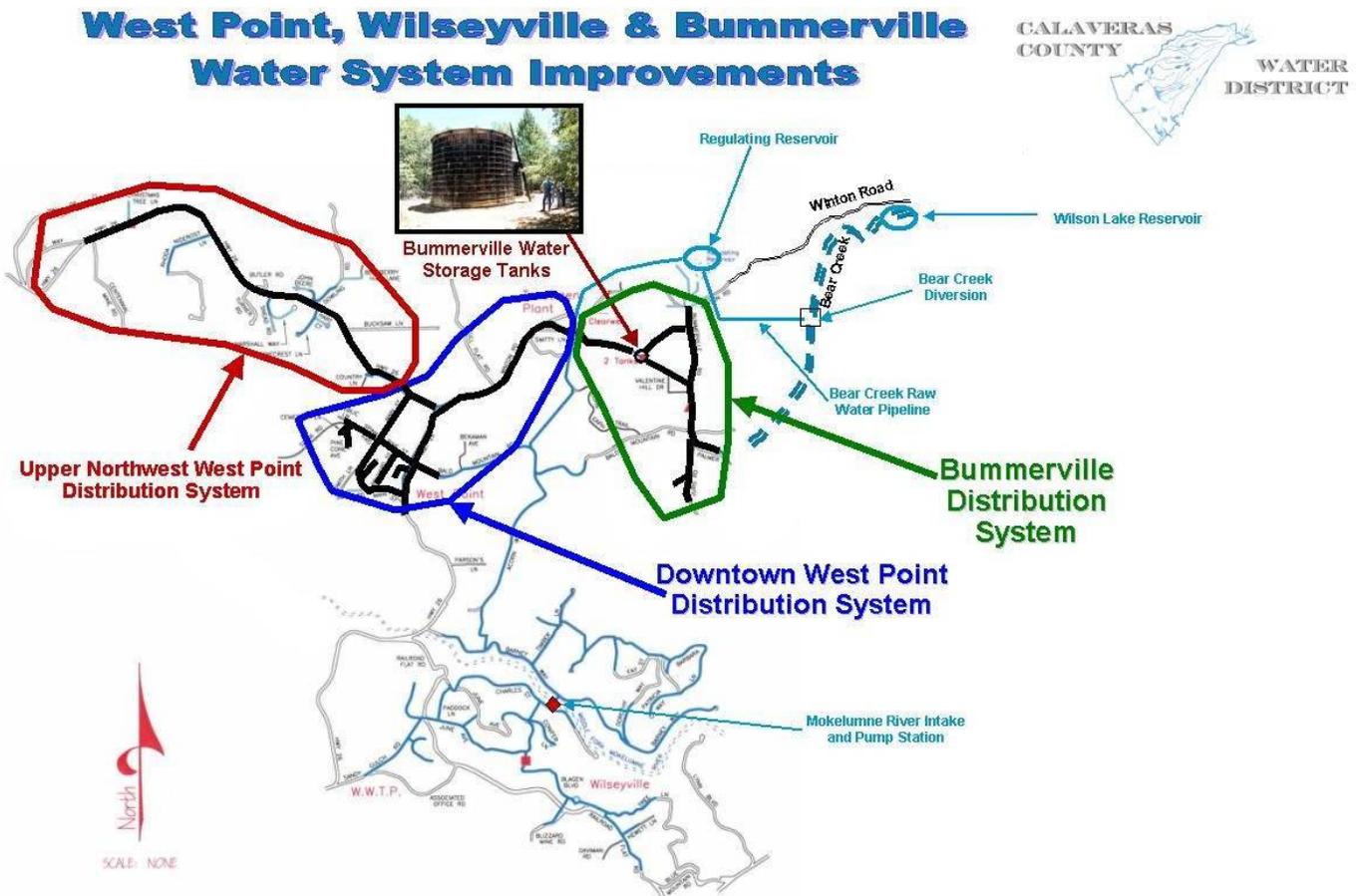
Critical Water Issues and Impact of Projects

Critical local water issues include adequate supply of water for fire protection and a continuous reliable potable water supply. Local fires have caused significant damage within the local communities due to inadequate distribution facilities. The project features will enhance the fire protection for the area. Conservation of water is an important local, regional, CalFed Bay-Delta, state and federal issue addressed by this project. Replacement of old, leaking raw water conveyance and distribution facilities will significantly improve the efficiency and level of conservation within the project area.

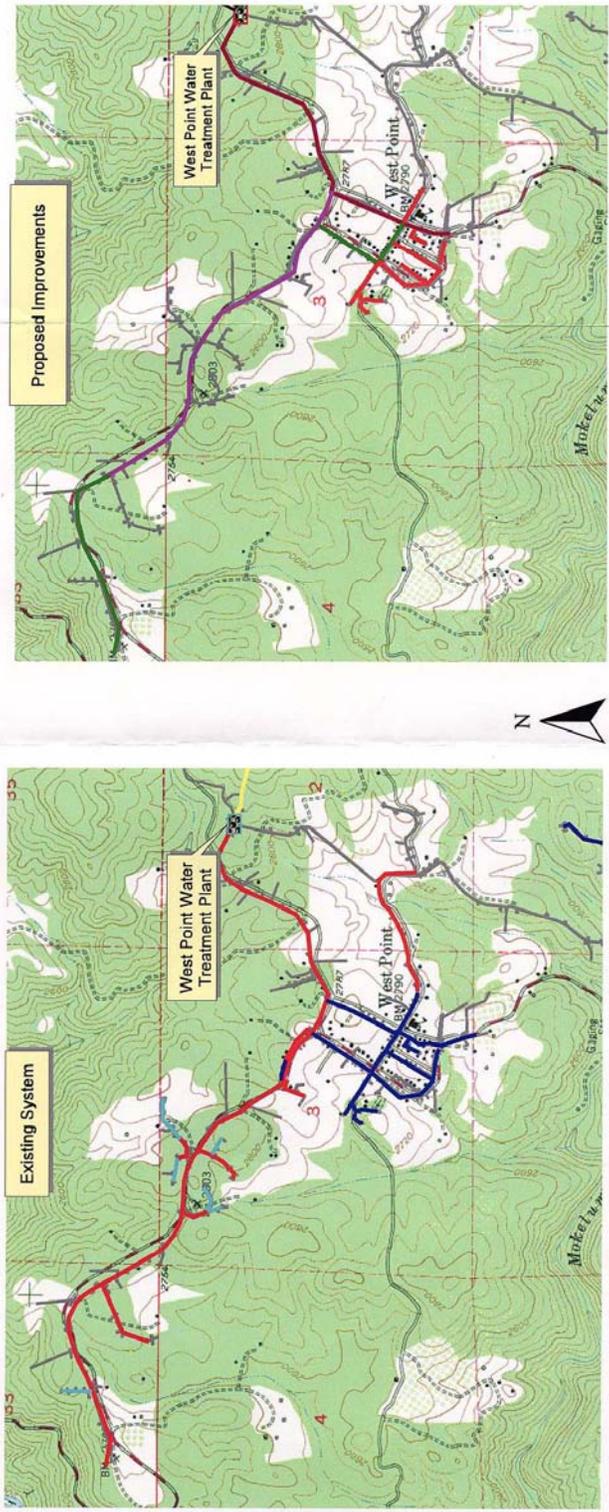
The goals of this project are consistent with local water management plans (West Point/Wilseyville Domestic Water Master Plan, Charpier, Martin and Associates 1996 and Calaveras County Water Master Plan, Borcalli and Associates 1996) calling for infrastructure rehabilitation and increased fire

Calaveras County Water District
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protection. The conservation aspects of this project will meet the goals of local, regional, CalFed Bay-Delta, state and federal management plans.



West Point Distribution System Improvements



- 1-inch existing pipe
- 2-inch existing pipe
- 3-inch existing pipe
- 4-inch existing pipe
- 6-inch existing pipe

- 6-inch new pipe.shp
- 8-inch new pipe
- 10-inch new pipe
- 12-inch new pipe.shp



Figure A-3

Bummerville Storage Tank & Treated Water Distribution Improvements

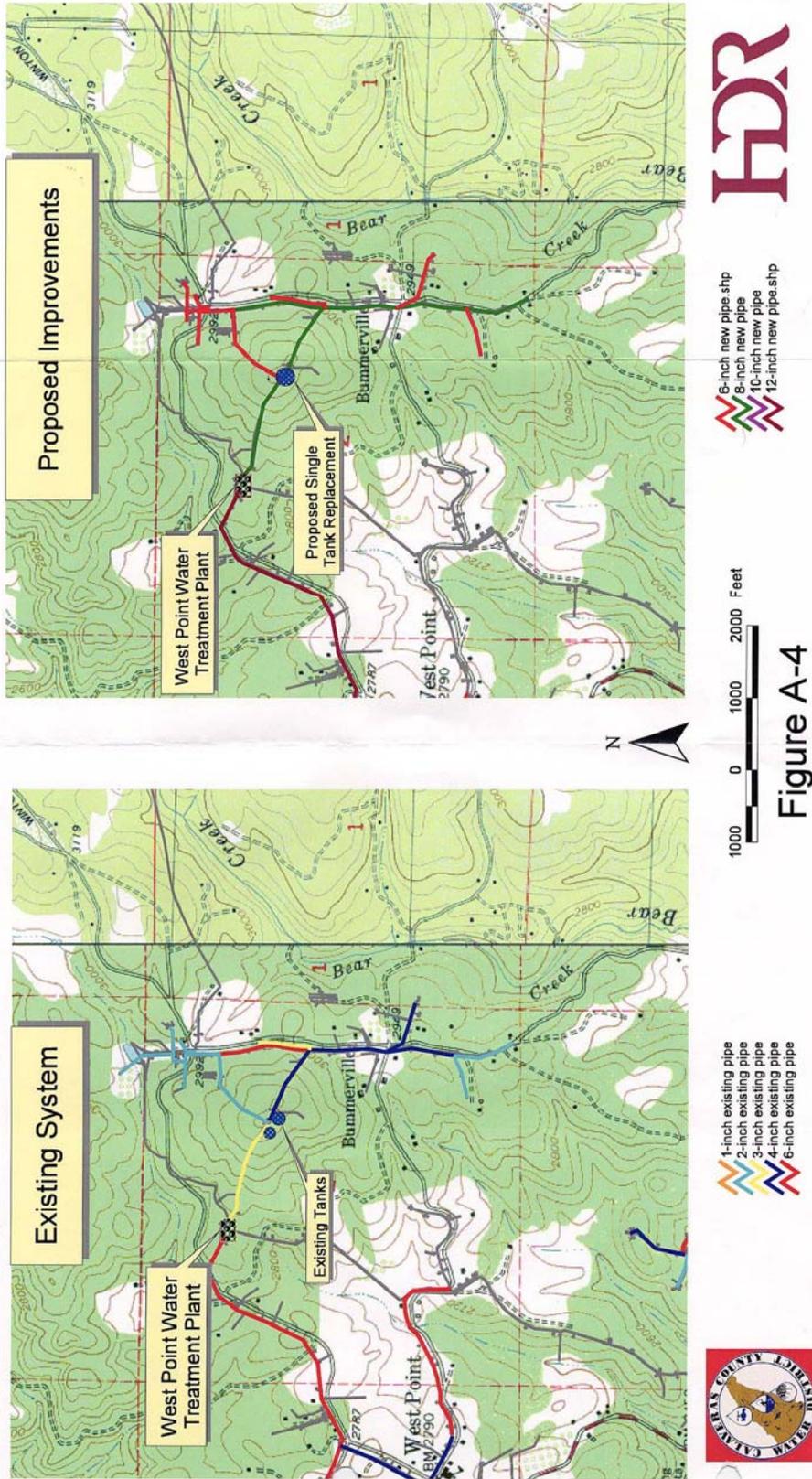


Figure A-4

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

**CALAVERAS
COUNTY**



DIRECTORS

CHARLES HEBRARD/District 1
San Andreas/Mokelumne Hill
LEROY FONCECA/District 2
West Point/Mountain Ranch
BERTHA UNDERHILL/District 3
Camp Connell/Arnold/Forest Meadows
DON DEEM/District 4
Angels Camp/Vallecito/Murphys
JEFF DAVIDSON/District 5
Valley Springs/Copperopolis
JOHN W. STEWART, P.E.
General Manager

**WATER
DISTRICT**

BUSINESS OFFICE

423 EAST ST. CHARLES STREET
POST OFFICE BOX 846
SAN ANDREAS, CALIFORNIA 95249
(209) 754-3543
FAX (209) 754-1069.

October 8, 2002

Department of Water Resources
3251 S Street
Sacramento, CA 95861

Attention: Ms. Kim Rosmaier

Re: Urban Water Management Plan

Dear Ms. Rosmaier:

The Calaveras County Water District is pleased to submit three (3) copies of its Urban Water Management Plan (UWMP).

This UWMP was presented to the CCWD's Board of Directors on August 29, 2002. The Board held a Public Hearing that was properly noticed; and, following the Hearing, the UWMP was adopted by resolution. The documentation of the Board's actions are included in Appendix 2.

CCWD is committed to make this Plan an integral part of its water management planning and strategy efforts as the County continues to grow and develop. If you have any questions regarding the details of this Plan, please do not hesitate to contact me at (209) 754-3543 Extension 46 or Kristin Coon at (209) 754-3543 Extension 29.

Sincerely,

CALAVERAS COUNTY WATER DISTRICT


Steve Hutchings, P.E.
Acting District Engineer

SH:va
Enclosures

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
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RESOLUTION NO. 2002- 71

WHEREAS, CALAVERAS COUNTY WATER DISTRICT has prepared a Draft Urban Water Management Plan (UWMP); and

WHEREAS, said UWMP has been available to the public for review and comments, and a public hearing has been held.

NOW, THEREFORE, BE IT RESOLVED, the Board of Directors hereby accepts all revisions and comments as presented and directs the same be included in the UWMP.

BE IT FURTHER RESOLVED, the Board of Directors hereby adopts the UWMP as presented, incorporating said approved revisions and comments.

PASSED AND ADOPTED this 29th day of August, 2002, by the following vote:

AYES: Directors Davidson, Underhill, Fonceca and Deem

NOES: None

ABSTAIN: None

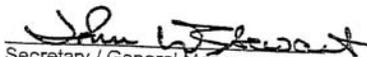
ABSENT: Director Hebrard

CALAVERAS COUNTY WATER DISTRICT



President

ATTEST:



Secretary / General Manager

Kristin Coon

From: Rosmaier, Kim [krosmaie@water.ca.gov]
Sent: Wednesday, October 09, 2002 2:34 PM
To: Prillwitz, Marsha; Smith, Greg; Colvin, Judith
Cc: steveh@ccwd.org; WEC-Kristin Coon
Subject: Calaveras County uwmp

I have received and reviewed the final Calaveras County Water District urban water management plan. It is COMPLETE and fulfills the uwmp requirement for grant eligibility.

Kim

Kim Rosmaier
California Dept of Water Resources
3251 S Street
Sacramento CA 95816

phone: 916.227.7584
fax: 916.227.7600
email: krosmaie@water.ca.gov

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West Point/Bummerville Proposition 50 Water Use Efficiency Project
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Statement of Work, Section 2: Technical, Scientific Merit

The following items are attached:

1. Certification statement from Karl Brustad, California civil engineer. Brustad is responsible for the technical planning design of the project.
2. Project work schedule (see Appendix D).
3. Project modeling document providing a work plan for the four phases of the proposed downtown West Point treated water system improvements. The system has water loss of 25 percent in addition to the health and welfare issues related to the need for increased fire flow (see Appendix E).
4. Preliminary designs are provided for both the West Point downtown system and the Bummerville Treated Water Storage Tank (see Appendix G).
5. Preliminary Specifications table of contents (see Appendix K).
6. Environmental documentation:
 - a. Plan for CEQA compliance.
 - b. Environmental permits.
 - c. Initial study and environmental impact checklist (see Appendix H).
 - d. Answer to questions identified in the environmental checklist (See Appendix I).
 - e. Permit, easement, licenses, acquisition and certification.

Certification/Engineering Feasibility Statement

I, Karl Brustad, a California registered civil engineer, have reviewed the information presented in support of this application. Based on this information and any other knowledge I have regarding the proposed project, I find that it can be designed, constructed and operated to accomplish the purpose for which it was planned. There is sufficient water supply for the project.

The information I have reviewed to certify this statement included:

- Calaveras County Water District West Point Wilseyville/Bummerville System Improvements Feasibility Report and Preliminary Plans
- West Point/Wilseyville Domestic Water System Master Plan
- Calaveras County Water Master Plan
- Calaveras County Water District Urban Water Management Plan



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California Environmental Quality Act and National Environmental Policy Act

The material presented below was for the total program, not the two projects included in this application.

Plan for CEQA Compliance

Table C-1 lists the environmental documents and permits, and their anticipated schedule for completion. The CEQA document required will be a Mitigated Negative Declaration that will cover all aspects of the entire project. A Program Environmental Impact Report in which general impacts would be discussed with each project requiring its own individual negative declaration was considered, but as most of the impacts of this project can be mitigated to below a level of significance, a Mitigated Negative Declaration for the entire project is recommended. The anticipated completion date for a certified Mitigated Negative Declaration is June 30, 2003.

Environmental Permits

Portions of the proposed project will require environmental permits from the Regional Water Quality Control Board (RWQCB). Permitting agencies will normally not issue permits until the CEQA document is certified. Consultation with the RWQCB is recommended to determine whether a permit would be required under the National Pollution Discharge Elimination System (NPDES) for draining Wilson Lake and the Regulating Reservoir. Should a NPDES permit be required, the anticipated completion date would be the same as for the Water Quality Certifications for those projects.

Consultation with the U. S. Fish and Wildlife Service under Section 7 of the Endangered Species Act may be required should a species that is listed under the Federal Endangered Species Act be encountered in the project area. These consultations are usually initiated by the COE as the Federal liaison between the applicant and the U. S. Fish and Wildlife Service.

Table C-1. Environmental Documents and Permits

AGENCY	PERMIT/DOCUMENT	ANTICIPATED DATE
Calaveras County Water District	Mitigated Negative Declaration	June 30, 2003
Regional Water Quality Control Board	Section 402 NPDES Permit	October 2003/April 2004
U. S. Fish and Wildlife Service	Section 7/10 Endangered Species Act Consultation	April 2004*

* USFWS consultation will only apply if a federally listed endangered species were found. To date none have been encountered by biologists during initial field assessments of all project components.

Initial Study and Environmental Impact Checklist

The following section comes from work prepared for the November 2004 Final Feasibility Report, West/Point/Wilseyville/Bummerville System Improvements.

Environmental Review: Background and Findings

The environmental review and environmental checklist contained in this chapter correspond with the general guidance found in Appendix G of the California Environmental Quality Act (CEQA) Guidelines

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(Guidelines). Several resources were consulted to obtain information to complete the evaluation and checklist, among them the General Plan for Calaveras County, environmental documentation for the West Point Water Treatment Plant improvement project and public databases (a complete list of references is located at the end of this report).

Generally speaking, the maintenance and repair projects proposed in this Feasibility Report would have no impact, or a less than significant impact on most of the topical areas included in the environmental checklist. In some cases, mitigation would be required to reduce potential impacts to less than significant levels. Overall, the project is expected to have beneficial impacts to the rural communities that have inadequate water storage, delivery systems, and fire fighting capabilities. The two topical areas from the checklist that could potentially have the greatest environmental impacts are the areas of biological and cultural resources. The impacts and recommendations for mitigating those impacts are described below.

Biological Resources

The vegetation in the project study area consists mainly of Sierran Mixed Conifer Forest as described by Holland (1986). The Sierran Mixed Conifer Forest occurs from the west side of the Sierra Nevada to the east side further north. This community ranges in elevation from approximately 3000 – 6000 ft in the northern part of the range, and from 5000 – 7000 ft in the southern part of the range. The dominant species is ponderosa pine (*Pinus ponderosa*), with Douglas fir (*Pseudotsuga menziesii*) and black oak (*Quercus kelloggii*) of almost equal importance. The understory is dominated by mountain misery (*Chamaebatia foliolosa*) and Ceanothus spp.

The California Natural Diversity Data Base (CNDDDB) was consulted for known occurrences of any Special Status Species or habitats, and two field surveys were conducted for biological resources, paying special attention to habitat for Special Status Species. Special Status Species are defined as those species that are listed by the Federal government as threatened or endangered under the Federal Endangered Species Act (FESA), or by the State of California as rare, threatened or endangered under the California Endangered Species Act (CESA), or by either the federal or state government(s) as a Species of Special Concern, or a plant species included on the California Native Plant Society (CNPS) 1B list. No records of any Special Status Species were found for the project area, although nesting habitat for both the Northern Goshawk and Sharp-shinned Hawk were indicated for the Devils Nose quadrangle in Calaveras County. No Special Status Species (plant or animal) were found during the field surveys, and it was determined that the project area was unlikely to harbor nesting habitat for these two bird species. The portion of the proposed project that would potentially have the greatest effect on biological resources is the replacement of the pipeline from Bear Creek to the Regulating Reservoir. The proposed pipe replacement follows the same disturbed alignment as the existing pipeline, and the majority of the trees (Douglas Fir and Ponderosa Pine) growing along the pipeline route are under 6" diameter (indicating that they have grown since the pipeline was installed), it was determined that the project would not affect nesting habitat for either bird species. However, it is recommended that any tree removal be conducted outside of the nesting season, in order to eliminate any potential impacts to nesting birds.

Potential habitat does exist in Bear Creek and the Middle Fork of the Mokelumne River for the Foothill Yellow-legged Frog (*Rana boylei*), a Federal Species of Concern and a State Species of Special Concern. In order to eliminate potential impacts to the foothill yellow-legged frog, it is recommended

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that surveys for the frog be conducted by a qualified biologist prior to any construction activities along Bear Creek and the Middle Fork of the Mokelumne River, and that exclusion fencing be installed around the project area near those streams to keep any frogs out of the construction zone. It is also recommended that a biologist familiar with this species be onsite while exclusion fencing is installed.

The biological surveys were conducted in July, after the blooming period for two rare plant species, Stebbin's lomatium (*Lomatium stebbinsi*) and pansy monkeyflower (*Mimulus pulchellus*), which have been documented in the Devils Nose or West Point USGS quadrangles. Stebbin's lomatium is listed on the CNPS 1B list, and is also a Federal Species of Concern. Pansy monkeyflower is listed on the CNPS 1B list, and as such, is considered to be a Special Status Species and subject to consideration under the California Environmental Act (CEQA). It is therefore recommended that focused surveys for these two species be conducted in the project area during their blooming periods (March-May for the Stebbin's lomatium and May-July for the pansy monkeyflower) prior to any construction activities.

Cultural Resources

A review of the available information on Cultural Resources was conducted for the proposed project. The proposed project has a moderate to high potential for prehistoric and/or historic resources. It is recommended that further study be undertaken at specific project sites prior to construction of the project. It is also recommended that a qualified archeologist be consulted regarding Best Management Practices to be followed during the construction phase of the project. These measures will be matured with additional language and incorporated into each repair project's specifications as they are developed. A work plan and cost estimate will be prepared for such mitigation as the situation warrants.

Environmental Checklist

The following environmental checklist required by the grant application process, which summarizes the findings of impacts in the initial research and site reconnaissance work. This checklist is similar to the checklist required in the CEQA process under initial studies.

Permits, Easements, Licenses, Acquisitions and Certifications

CEQA Compliance

Table C-1 of Attachment C-1 lists the environmental documents and permits, and their anticipated schedule for completion. Portions of the proposed project will require environmental permits from the Regional Water Quality Control Board (RWQCB). Permitting agencies will normally not issue permits until the CEQA document is certified.

Other Permits

Permits other than the environmental permits will likely include County Encroachment Permits for work on distribution lines within the county roads right of way, and DOHS approval for Title 22 Standards before bringing the new systems on line. These permits will be obtained during construction and start-up of each project.

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Easements, Licenses, Acquisitions, and Certifications

All work will include replacement of existing facilities in existing District owned land, District easements, and street right of way. It is anticipated that temporary construction easements will be necessary along the cross- country pipeline alignments, which are currently within District easements. The easements are often not large enough to accommodate all construction related activities. The construction easements will be described in the 60% design phase with the acquisition process beginning during that period.

Statement of Work, Section 3: Monitoring and Assessment

This section describes the process for documenting progress on how successful the two project components are in meeting the program goals and objectives. Monitoring, information gathering and processing will be similar for each component in that reductions in water loss will be measured. The following provides an outline of how this process will work for each project component.

Bummerville Tank

The effectiveness of the Bummerville Tank replacement will be measured immediately upon completion of the tank. The new tank should not leak. This will save significant water currently being lost as described in Water Use Efficiency Improvements.

The new tank will be visually monitored weekly as part of the District's routine operation and maintenance plan. Any detection of leaks in the tank will be recorded. Water quality tests will also be taken (monthly or bi-monthly) to monitor the water quality. By replacing the old redwood tanks, the potential for bacteria growth will be decreased. All water quality and leak-monitoring records will be available for review at any time.

Additionally, the water level in the tanks will continue to be monitored using the District's Supervisory Control and Data Acquisition (SCADA) system. The system will be linked to the existing SCADA controls located at the West Point Water Treatment Plant. The water level may be adjusted at anytime using this technology. This system ensures continuous monitoring of the new tank.

Downtown West Point Distribution System

The West Point distribution system is currently in such a condition that the District estimates nearly 25 percent of the treated water conveyed to the system is lost between leaking pipelines and the leaking tanks. The distribution losses are the main component of this water loss. These systems are some of the oldest systems in the area and are entirely sub-standard in terms of capacity to deliver fire flows and overall reliability to serve the community. Replacement of the pipelines will show immediate improvement in water pressure and capacity.

With all services within the distribution systems metered, the success of the improvements can be measured by taking the difference between the metered usage and the supply volume recorded at new mainline flow meters on the supply line from the treatment facility. The new flow meters will send electronic data directly to the SCADA central location at the treatment plant and will provide records of the total flow delivered to the community, along with any instantaneous or peak flow data desired.

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Individual metered flow data collected monthly for billing purposes will be used to determine the total water actually used by the community. The total flow delivered minus the total flow used will indicate the water lost in the system. This result should be an accurate measure of the immediate success (reduction in leakage) and will show long term trends if losses increase over time.

The concepts of monitoring and assessment will be further discussed in the Benefits and Cost Section. Please see pages 27 through 30.

Qualifications of Applicant and Cooperator

This section contains:

1. Resume of Project Manager. The resume of CCWD's project manager, James Cornelius of HDR Engineering Inc., is attached.
2. Role of External Cooperators. CCWD will hire an engineering consulting firm to complete the designs, specifications and environmental documents. Construction management will be performed both in-house and with the assistance of a consulting engineering firm.
3. A brief list of previous water use efficiency projects is attached.
4. The West Point area is a census designated area with a median household income of \$25,417. US Census Bureau fact sheet for West Point is attached.

Resume of Project Manager, James Cornelius

Mr. Cornelius has more than 45 years of water and water resources engineering and consulting experience. His experience includes developing and managing grant and loan programs, preparing grant applications, and managing grant-funded projects, water quality planning, watershed management, regulatory compliance (including NPDES permits), drinking water and wastewater facilities planning/design/construction, non-point source and stormwater management, mining waste/solid waste/hazardous waste management, public policy with the California State Water Resources Control Board (SWRCB), and water resources regulatory procedures. He has a comprehensive understanding of the SWRCB/Regional Water Quality Control Board's (RWQCB's) Basin Plans, CALFED's Watershed Management Program, and the California Department of Water Resources' Surface and Groundwater Conjunctive Management Program. He has taught water resources courses as California State University Sacramento, University of California Davis (UCD) Extension, and University of California Los Angeles (UCLA) Extension.

Project experience includes:

Yuba City Water Treatment Plant Expansion to 65 mgd - City of Yuba City, California. Provided grant funding assistance for the \$36 million expansion of the 24 mgd water treatment plant. The water treatment plant will be expanded to 30 mgd on a fast-track schedule by June 2006 during Phase I, and then to 48 mgd (with expansion capability for 65 mgd at total buildout) by June 2010 during Phase II.

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Grant and Loan Program Management - Calaveras County Water District, San Andreas, California. Regulatory Affairs/Grant Consultant for Calaveras County Water District, responsible for preparing grant applications and managing grant-funded water projects, which include the following:

- Water Supply Regional Program (Feasibility studies, preliminary design, and environmental assessment) - California Department of Water Resources Division of Local Assistance. Grant Amount: \$500,000.
- Calaveras River Watershed Management Plan - CalFed. Grant Amount: \$400,000.
- Regional Wastewater System - State Water Resources Control Board (SWRCB) Small Community Grant Program. Grant Amount: \$800,000.
- Water Pipeline Construction Project (largest award in 2002 funding round) - California Department of Water Resources Water Use Efficiency. Grant Amount: \$1,925,000.
- Scope of Work for State Water Resources Control Board (SWRCB) Small Community Grant (August 6, 2004) - SWRCB Small Communities Grant Program. Grant Amount: \$2,600,000.

Grant and Loan Program Management - State Water Resources Control Board (SWRCB), Regulatory Branch, Division of Clean Water Program, California. For over 10 years, served as Assistant Division Chief, Principal Water Resources Control Engineer, Supervising Water Resources Control Engineer, or Senior Water Quality Control Engineer, responsible for managing the surface water and groundwater regulatory and planning programs (including the NPDES program), developing the SWRCB groundwater protection strategy, developing and implementing the California Clean Water Grants Program for the planning/design/ construction of wastewater facilities, and preparing grant applications. While the Chief Engineer, responsible for the final engineering decisions for \$500 million per year in grant-funded wastewater projects. Also chaired Base closure water quality committee addressing water quality issues on military bases.

Sanitary Engineering and Public Health Studies - California Department of Public Health, Berkeley, California. As a staff engineer (Junior Civil Engineer, Assistant Sanitary Engineer, and Associate Sanitary Engineer), conducted sanitary engineering and public health studies relative to drinking water supplies, sewage treatment, water quality protection, solid waste management, and toxic waste.

Solid Waste Disposal Study/Report - California Department of Public Health, Berkeley, California. Served as the "Task Leader" and the principal author of the comprehensive study and report, Solid Waste and Water Quality – A Study of Solid Waste Disposal and Their Effect on Water Quality in the San Francisco Bay-Delta Area.

Expert Witness - California Department of Public Health, Berkeley, California. Served as the state's expert witness for NPDES permit violations relative to wastewater runoff into Lake Tahoe. This included two major court actions.

Water Quality Studies and Regulatory Issues - California Department of Public Health, Berkeley, California. Participated in numerous water quality study and regulatory issues related to Lake Tahoe.

Professional Endeavors

HDR Engineering, Inc., 2004 to Present

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Calaveras County Water District, 1999 to 2004
Tetra Tech EM, Inc., 1997 to 1999
Institute of Environmental Solutions, 1996 to 1997
Dames & Moore, 1996
California State Water Resources Control Board, 1970 to 1995
California Department of Public Health, 1960 to 1969

Professional Affiliations

CALFED Watershed Planning Work Group - Member.
California Department of Health Services Public Policy Committee for Source Water Assessment and Protection Program - Former Member.
Western Governor's Association Mine Waster Task Force - Served for five years.
U.S. Environmental Protection Agency's (USEPA's) "Policy Dialogue Committee on Mining Waste." - Served for three years.
CalEPA Private Site Manager's Program Advisory Committee. Served for two years.
California Hazardous Waste Strike Force - Served for three years.
Western States Water Council's Non-profit Source Technical Conference - Technical Manager, 1989.

Project Reports and Previous Studies

The following reports, which have direct relevance to the proposed water conservation projects, are referenced to demonstrate previous experience:

1. Final Feasibility Report for the West Point, Wilseyville/Bummerville Water System Improvement Program, November 2004

This Feasibility Study Report was funded under the California Safe, Clean, Reliable Water Supply Act (Proposition 204) via Grant Contract F85007, between the Calaveras County Water District (CCWD) and the California Department of Water Resources (DWR). The report provides a detailed analysis of the following components of the total water system:

- Bear Creek diversion and raw water pipeline
- Regulating reservoir remedial improvement
- Wilson Lake embankment review
- Bummerville storage tank
- West Point/Wilseyville storage tanks (West Point Water Treatment Plant clearwell)
- Middle Fork Mokelumne River intake and pump station
- West Point treated water distribution system
- Wilseyville treated water distribution system
- Bummerville treated water distribution system

2. Calaveras County Water District Urban Water Management Plan

The District's Urban Water Management Plan was adopted by CCWD on August 29, 2002 and approved by DWR on October 9, 2002.

3. Calaveras County Water District West Point/Wilseyville Domestic Water Master Plan, September 12, 1996 and Calaveras County Water District West Point/Wilseyville Domestic Water Master Plan Supplement, January 7, 1998

These reports were a significant source of data for the development of the November 2002 Final Draft Feasibility Report for the study area.

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4. Calaveras County Water District's County Water Master Plan (for) Making Effective Use of Supplies, April 1995, Revised January 1996.

This study placed the West Point Water System within the CCWD countywide water program.

5. Limited Scope Sanitary Survey of Bear Creek Watershed for the West Point Water Treatment Plan Improvement Project, November 1999.

This study was required by the California Department of Health Services (DHS), Drinking Water Field Operations Branch, as a condition of DHS funding improvements to the West Point Water Treatment Plant.

6. West Point/Bear Creek Raw Water Pipeline Replacement Project.

This project was funded by a \$1.9m DWR Office of Water Use Efficiency Grant. The installation of the pipeline started in July 2004. As of December 2004 the project was constructed, with the remaining work being restoration of disturbed areas and testing the pipeline.

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West Point CDP, California - Fact Sheet - American FactFinder

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FACT SHEET

West Point CDP, California

Census 2000 Demographic Profile Highlights:

General Characteristics - show more >>

	Number	Percent	U.S.		
Total population	746	100.0	100%	map	brief
Male	342	45.8	49.1%	map	brief
Female	404	54.2	50.9%	map	brief
Median age (years)	44.8	(X)	35.3	map	brief
Under 5 years	43	5.8	6.8%	map	
18 years and over	564	75.6	74.3%		
65 years and over	147	19.7	12.4%	map	brief
One race	708	94.9	97.6%		
White	612	82.0	75.1%	map	brief
Black or African American	9	1.2	12.3%	map	brief
American Indian and Alaska Native	61	8.2	0.9%	map	brief
Asian	5	0.7	3.6%	map	brief
Native Hawaiian and Other Pacific Islander	0	0.0	0.1%	map	brief
Some other race	21	2.8	5.5%	map	
Two or more races	38	5.1	2.4%	map	brief
Hispanic or Latino (of any race)	60	8.0	12.5%	map	brief
Average household size	2.43	(X)	2.59	map	brief
Average family size	2.86	(X)	3.14	map	
Total housing units	345	100.0	100.0%	map	
Occupied housing units	305	88.4	91.0%		brief
Owner-occupied housing units	206	67.5	66.2%	map	
Renter-occupied housing units	99	32.5	33.8%	map	brief
Vacant housing units	40	11.6	9.0%	map	

Social Characteristics - show more >>

	Number	Percent	U.S.		
Population 25 years and over	483	100.0			
High school graduate or higher	296	61.3	80.4%	map	brief
Bachelor's degree or higher	7	1.4	24.4%	map	
Civilian veterans (civilian population 18 years and over)	108	20.5	12.7%	map	brief
Disability status (population 21 to 64 years)	167	43.4	19.2%	map	brief
Foreign born	54	7.6	11.1%	map	brief
Now married (population 15 years and over)	327	60.1	54.4%		brief
Speak a language other than English at home (5 years and over)	97	14.7	17.9%	map	brief

Economic Characteristics - show more >>

	Number	Percent	U.S.		
In labor force (population 16 years and over)	239	44.3	63.9%		brief
Mean travel time to work in minutes (population 16 years and over)	32.6	(X)	25.5	map	brief
Median household income (dollars)	25,417	(X)	41,994	map	
Median family income (dollars)	27,794	(X)	50,046	map	
Per capita income (dollars)	11,439	(X)	21,587	map	
Families below poverty level	53	28.2	9.2%	map	brief
Individuals below poverty level	236	33.9	12.4%	map	

Housing Characteristics - show more >>

	Number	Percent	U.S.		
Single-family owner-occupied homes	162	100.0			brief
Median value (dollars)	98,000	(X)	119,600	map	brief
Median of selected monthly owner costs	(X)	(X)			brief
With a mortgage	792	(X)	1,088	map	
Not mortgaged	317	(X)	295		

(X) Not applicable.

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Outreach, Community Involvement and Acceptance

Since 1999, there have been a series of public meetings and outreach activities in the West Point Area. There has also been a series of projects developed and constructed for the community. There is at least one public meeting for the community annually. If the project is funded, there will be a series of meeting held to inform the public. Examples of meetings held are provided below.

During the course of the modification of the West Point Water Treatment Plant and preliminary plan development for the West Point Water System through a California Safe, Clean and Reliable Water Supply Act Feasibility Study Grant, community informational meetings have been held to update the public on CCWD's progress.

Community Meeting: August 23, 2000

The first community meeting was held on August 23, 2000 at the West Point Community Hall in downtown West Point. CCWD staff and board members presented a history of the water system and an overview of CCWD's accomplishments in West Point in recent years.

Groundbreaking Ceremony: West Point Water Treatment Plant, December 7, 2000

On December 7, 2000 a groundbreaking ceremony was held at the West Point Water Treatment Plant. CCWD board members and staff along with funding agency representatives, dignitaries, media, consultants, contractors and members of the public attended. Again, the long-range water system plans for the West Point/Wilseyville area were presented and discussed.

Community Meeting: February 1, 2001

A community meeting was held at the West Point Community Hall on February 1, 2001. The purpose of the meeting was to update the community on the status of the water treatment plant construction and the progress of the supply and distribution systems feasibility study.

Dedication Ceremony: West Point Water Treatment Plant, August 1, 2002

The West Point Water Treatment Plant, a \$1.4 million project funded by a combination of grants and low interest loans from the California Department of Health Services and the US Department of Agriculture, was completed on February 6, 2002.

2003 Community Meeting: West Point

In early 2003, a community meeting was held in the West Point area. Members of the CCWD Board of Directors, staff and consultants presented information on the progress and status of the West Point water system improvement plan with members of the public, including the construction of the Bear Creek Raw Water Pipeline, which has been funded by a \$1.925 million Proposition 13 Urban Water Conservation Capital Outlay Grant through the Department of Water Resources, Office of Water Use Efficiency.

Evidence of Community Support

The attached photographs and newspaper articles demonstrate community support for the much-needed infrastructure rehabilitation projects planned in the West Point area (see Appendix J).

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Innovation

Innovative Technologies to Be Pursued

During the course of final design for the West Point, Wilseyville and Bummerville Distribution Systems innovative construction technologies such as pipe bursting and directional drilling will be evaluated for feasibility and cost effectiveness. Pipe bursting can dramatically reduce costs by eliminating the need for trenching and removing the existing pipe. However, this technology also requires the service mains to be out of commission during construction, which can last a few weeks. The logistics of getting water to all the services during construction may increase the costs for the project beyond CCWD's budget. Directional drilling is another technology that would eliminate the need for trenching and disrupting roadways during construction. Directional drilling is a more expensive technology that is often used when disturbing traffic would cause great inconvenience and cost to the community. In the case of Calaveras County disruption of traffic may be more cost effective than using directional drilling. These are a few examples of new technologies that will be explored further as final design takes place.

Sharing Technologies

Calaveras County Water District is interested in sharing the knowledge they gain during the design and construction of these projects with other similar communities. Calaveras County is just one of many mountain communities with older, leaking systems in need of replacement. During design and construction CCWD plans to document the process and final decisions made. Prior to construction CCWD would like to offer a free workshop to the surrounding communities in order to share the information they have gained. This workshop would include topics such as the development of feasibility of the project (models used, such as EPANET and Cybernet), construction technologies pursued during design, reasoning behind final decisions made and lessons learned during construction. This type of workshop would help other communities with similar systems to determine the process and feasibility of upgrading their system.

Calaveras County Water District is part of an organization of mountain communities known as the Mountain Counties Water Resources Association (MCWRA). This organization meets on the second Friday of every other month and brings together the mountain community water and irrigation districts to discuss important issues relevant to the area. During each meeting a member may make a presentation on a topic of interest to MCWRA. These meetings could be used as a forum for CCWD to share the important information learned during the course of design and construction of this project.

Benefit and Cost

In December 2002 CCWD submitted a Proposition 13 Urban Water Conservation Capital Outlay grant for the West Point/Bummerville Treated Water Conservation Project. The project included four components (see table below regarding Annual Water Savings for Each Component for the four project components). The four projects would have produced a savings of 51.6 acre feet per year of treated drinking water for the 50 year life of the project (a total of 2,683.2 acre feet).

The CCWD projects were not selected for funding. However, the Paradise Irrigation project was funded in the amount of \$1,310,522 for water main replacement. The Paradise Irrigation system had

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estimated first year water savings at 185 acre feet and a benefit to cost ratio of 1.65 based on capital cost and O&M savings.

CCWDs projects have a benefit to cost ratio of 1.03 when a \$320,000 reduction in fire insurance was included. One grant application reviewer recalculated this ratio without fire insurance benefit at 0.07 and essentially killed the project. Another application reviewer provided 0 out of a possible 35 score for Benefit/Cost.

The good news for CCWD is that grant guidelines have changed and locally cost effective projects are at a disadvantage. Since CCWDs project has a Benefit/Cost ratio of less than 0.1, there is a need for state funding to allow this project to move forward in to construction. CCWD now expects that Benefit/Cost ratio will be calculated similarly to that of the Paradise Irrigation District project, using similar standards. For example, Paradise Irrigation District said nothing about what happens to the water that leaks from their mains.

Water Use Efficiency Improvements

Water savings will be realized through pipeline replacement for Downtown West Point and replacement of a leaking tank (Bummerville Tank). The following describes water saving for each project component.

Supply Infrastructure Water Savings

Losses through the distribution system are estimated to be between 22% and 25%. The losses were calculated using over 10 years of CCWD service records. Service records for 2001 were found to be a representative year for water loss within the district. The service records for 2001 indicate that 66.982 million gallons were put into the distribution system and only 51.551 million gallons were recorded as metered water deliveries. The difference between these two is the volume lost in the system (approximately 23%). It is estimated that between 22-25% is lost through leaks in the system. The Public Water System Statistics for the year 2001 is provided as Appendix A.

West Point Water Distribution System

The water system in West Point is over 50 years old, and inadequate in capacity to deliver fire flows. Based on the treated water loss records provided by the District approximately 25% (or 50 acre –feet) of the delivered treated water is lost in the water distribution systems within the service district each year. With the West Point system comprising of approximately 89% of the service district deliveries, this equates to a potential loss of 44.5 acre-feet per year of which 30.5 acre feet per year is from the Downtown West Point System.

Bummerville Treated Water Storage Tank

The proposed Bummerville storage tank is sized at approximately 50,000 gallons and has been sited at the location of the two wooden tanks to be replaced. The existing tanks leak continuously at an estimated rate of 40 to 60 gallons per hour depending on the depth in each tank. This equates to more than one acre-foot of treated water per year.

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Net Water Savings

The annual water savings for each project component were estimated using data provided by the district along with observation made during site visits to the area. Details on the estimation of the annual water savings for each project component can be found in Attachment E-1.

Project performance

Total Annual Water Savings (AF) (1)	51.6
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Annual Water Savings for each Project Component

Project Component	Annual Water Savings (AF)
Downtown West Point Distribution System	30.5
Upper Northwest West Point Distribution System	14
Bummerville Treated Water Storage Tank Replacement	1.6
Bummerville Distribution System Improvements	5.5

The water currently lost due to leaks in the distribution systems and from the leaking tanks is lost to an unusable aquifer. During the development of the Feasibility Study for the district groundwater was explored as an alternative resource. The complete study “Hydrogeologic Evaluation of Ground Water Production Capability in the West Point, Wilseyville and Bummerville area” by Condor Earth Technologies found that wells drilled in the vicinity of West Point, Wilseyville and Bummerville are not likely to provide sufficient long-term water yields to justify use of ground water for more than small water systems. Because the water is lost to an unusable aquifer the project will produce a net water savings by replacing leaking components of the system.

The CALFED Bay-Delta August 28, 2000 Programmatic Record of Decision required that a Drought Contingency Plan be submitted to the Governor by December 2000. The Governor’s Advisory Drought Planning Panel, in their December 2000 report, “Critical Water Shortage Contingency Plan,” expressed concern similar to the condition at West Point and Bummerville. The report states that the Sierra Nevada foothills have hydrogeologic conditions that often result in limited availability of usable groundwater. The West Point/Bummerville Treated Water Conservation Project is consistent with CALFED Program and the Drought Contingency Plan in that it conserves treated surface water. Any lost water due to leaks is lost to an unusable aquifer. The specific wording from pages 4-8 of the Governor’s drought Plan states,

“B. Assistance to Small Water Systems and Homeowners in Rural Counties:

Past droughts have demonstrated that the water users affected the earliest and to the greatest extent by dry conditions are small water systems and individuals relying on marginal groundwater sources. These small water users bore the brunt of the actual public health and safety impacts – lack of water for basic domestic, sanitation, and firefighting purposes – felt during recent droughts. Geographic areas especially affected included the

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Sierra Nevada foothills and North and Central Coast areas, locations where hydrogeologic conditions often result in limited availability of usable groundwater.”

Other Project Benefits

The total project benefits discussed previously do not include any benefits from a reduction in risk of failure. The various project components discussed may threaten the safety, welfare and economy of the service area. These components include the Downtown West Point Distribution System, the Upper Northwest West Point Distribution System, the Bummerville Distribution System and the Bummerville Treated Water Storage Tanks.

The Bummerville treated water storage tanks pose a potential threat to the health and safety of the area. The tanks are currently made of redwood and have a threat of bacteria development through the leaks in the tanks. Treated water storage tanks should be properly sealed in order to assure that sanitary conditions are met.

The Downtown West Point, Upper Northwest West Point and Bummerville distribution systems are currently experiencing up to 25% leakage of treated water. During dry years when water from Bear Creek is not accessible these leaks could endanger the welfare of the community by drastically limiting the volume of water delivered. Implementing the proposed project would alleviate many of the leaking problems.

Another benefit from the distribution system upgrades is the reduction in risk from fire. The current systems are inadequate to deliver fire flows to many portions of Downtown West Point, Upper Northwest West Point and Bummerville. Adequate fire flows are an important issue for the communities. In order to quantify the benefits which may be received from increasing the fire flows the potential reduction in fire insurance rates was explored. However, this does not include benefits from the reduction in risk to the communities' health, safety and economy. Adequate fire flows are important not only to save property, but also to save lives.

Although these benefits are difficult to quantify it is important to note that benefits of the project exist beyond what is shown for the normal Benefit/Cost ratio calculation.

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Appendices

Appendix	Title
A	Discussion of Cost and Benefit Tables
B	Downtown West Point Water Distribution Cost/Benefit Table
C	Bummerville Water Storage Tank Cost/Benefit Table
D	Project Schedule
E	Downtown West Point Distribution Hydraulic Modeling
F	Downtown West Point Distribution Preliminary Design
G	Bummerville Treated Water Storage Tank Preliminary Design
H	Environmental Impact Check List
I	Response to Questions Related Environmental Impact Checklist
J	Photographs and News Clippings Documenting Public Outreach
K	Construction Inspection Plan
L	USGS Qual Maps Providing Location of Water Sources and Conveyance to Water Source for Proposed Project

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Appendix A: Discussion of Cost and Benefit Tables

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project

West Point Water Distribution System Improvements
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Costs for the project were found by totaling the costs for each component of the project. A breakdown of the costs for each component can be found in the table below. The costs for each individual component of the project can be found on the following pages. For details on the cost estimates please see the Feasibility Report prepared for this project (Attachment B-2)

Table 1 – Capital Costs

	Capital Cost Category (a)	Cost (b)	Percent (c)	Dollars (d) (b x c)	Subtotal (e) (b + d)
(a)	Land Purchase/Easement	<i>Not applicable</i>	0.15		
(b)	Planning/Design/Engineering	\$374,000	0.15	\$56,000	\$430,000
(c)	Materials/Installation	\$3,024,000	0.15	\$454,000	\$3,480,000
(d)	Structures	\$179,000	0.15	\$26,900	\$210,000
(e)	Equipment Purchases/Rentals	<i>Not applicable</i>	0.15		
(f)	Environmental Mitigation/Enhancement	\$97,000	0.15	\$14,600	\$112,000
(g)	Construction Administration/Overhead	\$28,000	0.15	\$4,200	\$33,000
(h)	Project Legal/License Fees		0.15		
(i)	Other	\$125,000	0.15	\$18,800	\$144,000
(j)	Total (1) (a ++j)	\$3,830,000	0.15	\$574,500	\$4,410,000
(k)	Capital Recovery Factor 0.0634 (6%; 50 years)	---	---	---	0.0634
(l)	Annual Capital Costs (jxk)	---	---	---	\$280,000

Table 2 – Annual operations and maintenance costs

Administration (a)	Operations (b)	Maintenance (c)	Other (d)	Total (e)
\$70	\$16,250	\$28,000	---	\$44,320

CCWD's Director of Operations estimated annual operations and maintenance costs after the completion of the project. The costs come from the current operations and maintenance budget and can be found in the following table.

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Table 3 - Annual Operations and Maintenance Costs for Project Area

Cost Category	Water delivery for West Point /Wilseyville/ Bummerville	
	current	after project
Labor	\$30,000	\$30,000
Utilities	\$0	\$0
Materials & Supplies	\$7,000	\$7,000
Outside Services	\$5,250	\$5,250
Insurance	\$0	\$0
Vehicles	\$2,000	\$2,000
Office supplies	\$20	\$20
Training/Certification	\$50	\$50
Regulatory fees	\$0	\$0
Total =	\$44,320	\$44,320

Table 4 – Annual Cost

Annual Capital Costs (1) (a)	Annual O&M Costs (2) (b)	Total Annual Costs (c) (a + b)
\$280,000	\$44,320	\$325,000

Costs for each individual project component can be found on the following pages. Information on the development of these cost estimates can be found in Attachment B-2 (Feasibility Report).

Downtown West Point Distribution System Improvements

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Materials/Installation				
Pipeline				
6-inch Pipe	7,000	LF	\$45	\$315,000
8-inch Pipe	2,000	LF	\$55	\$110,000
10-inch Pipe	600	LF	\$70	\$42,000
12-inch Pipe	5,800	LF	\$80	\$464,000
Valves, Installed				-
Along the 6-inch Pipe	23	EA	\$850	\$19,833
Along the 8-inch Pipe	7	EA	\$1,000	\$6,667
Along the 10-inch Pipe	2	EA	\$1,200	\$2,400
Along the 12-inch Pipe	19	EA	\$1,500	\$29,000

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Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Pavement Replacement				
Along the 6-inch Pipe	7,000	LF	\$8	\$56,000
Along the 8-inch Pipe	2,000	LF	\$10	\$20,000
Along the 10-inch Pipe	600	LF	\$10	\$6,000
Along the 12-inch Pipe	5,800	LF	\$12.50	\$72,500
Service Connections	250	EA	\$950.00	<u>\$237,500</u>
		Materials/Installation subtotal =		\$1,381,000
Planning/Design/Engineering	12%	LS		\$166,000
Environmental Mitigation/Enhancement	3%	LS		\$42,000
Other/Environmental Documentation	1	LS	\$25,000	<u>\$25,000</u>
		SUBTOTAL =		\$1,614,000
Contingency Costs	15%	LS		\$242,000
		TOTAL ESTIMATED COST =		\$1,860,000

Bummerville Treated Water Storage Tank Replacement

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Materials/Installation				
6-inch Pipe	1,950	LF	\$50	<u>\$97,500</u>
		Materials/Installation subtotal =		\$98,000
Structures				
Pump Station	1	LS	\$100,000	\$100,000
Steel Tank for Bummerville	50,000	GAL	\$1.38	\$69,000
Removal of existing tanks	1	LS	\$10,000	<u>\$10,000</u>
		Structures subtotal =		\$179,000
Planning/Design/Engineering	8%	LS		\$22,000
Environmental Mitigation/Enhancement	3%	LS		\$8,000
Construction Administration/Overhead	10%	LS		\$28,000
Other/Environmental Documentation	1	LS	\$40,000	<u>\$40,000</u>
		SUBTOTAL =		\$375,000

**Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project**

West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Contingency Costs	15%	LS		\$56,000
TOTAL ESTIMATED COST =				\$431,000

Economic Efficiency

Background

The total project benefits were found by first determining the benefits for each individual project component. The benefits for each project component were then summed to find the overall project benefit. The following pages show how the benefits for each project component were calculated. The table below summarizes the benefits found for each component.

Project Component	Project Benefit (\$)
West Point Distribution System	\$13,170
Bummerville Treated Water Storage Tank Replacement	\$100
Total Project Benefit =	\$335,000

West Point Distribution System Improvements

The benefit from improving the West Point Distribution System is the increased water sales revenue. The same water rates were used as in the Bear Creek Raw Water Pipeline and Diversion analysis. The benefits for the West Point Distribution System Improvements can be found in Table 2.

Table 2. Water Sales Revenue for West Point Distribution System

Parties Purchasing Project Supplies (a)	Amount of water to be Sold (AF) (b)	Projected Selling Price (\$/AF) (c)	Expected Frequency of Sales (%) (d)	Actual Sales Revenue (\$) (e) (b x c x d)	“Option” Fee (\$) (f)	Total Sales Revenue (\$) (g)
Residential and commercial customers in the West Point, Wilseyville and Bummerville areas	44.5	\$370/AF see current rates	0.8	\$13,170	N/A	\$13,170

The total benefits for the West Point Distribution System Improvements component were found to be \$13,170.

Bummerville Treated Water Storage Tank Replacement

The benefit from replacing the Bummerville Treated Water Storage Tanks is the avoided cost of pumping the 1.6 acre-feet from the treatment plant to the tanks. Currently an additional 1.6 acre-feet must be pumped each year to replace the volume lost to leakage. The avoided cost of pumping can be found in the table below.

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Table 4. Avoided costs of current supply sources

Supply Sources (a)	Cost of Water (\$) (b)
Pumping 1.6 AF from the Treatment Plant to the Tanks	\$100

Assumptions for calculating cost of pumping from the Treatment Plant to the Bummerville Tanks:

- TDH = 300 ft.
- Pump Efficiency = 60%
- Cost of power = \$0.12/kW-hr

The total benefits for the Bummerville Storage Tank Replacement component were found to be \$100.

State of California Department of Water Resources The Resources Agency
PUBLIC WATER SYSTEM STATISTICS Calendar Year 2001

Mailing Label

1. General Information Please follow the guidelines on the back of this form.

Contact : Fred Burnett
 Title: O&M Superintendent
 Phone: 209/754-3543
 Fax: 209/754-9620
 E-mail:
 Website:
 Communities served: West Point, Wilseyville
 County: Calaveras
 Population served 1318 permanent

2. Active Service Connections

Customer Class	Recycled Water	Potable Water		Inside City Limits		Outside City Limits	
		Metered	Unmetered	Metered	Unmetered	Metered	Unmetered
Single Family Residential		527					
Multi-family Residential							
Commercial/Institutional							
Industrial							
Landscape Irrigation							
Other							
Agricultural Irrigation							
TOTAL		527					

3. Total Water Into the System - Units of production: acre-feet million gallons hundred cubic feet

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Potable	Wells													
	Surface	3.1	2.829	3.303	3.265	6.326	8.445	9.651	9.633	7.835	5.745	3.538	3.312	66.982
	Total Potable	3.1	2.829	3.303	3.265	6.326	8.445	9.651	9.633	7.835	5.745	3.538	3.312	66.982
Recycled ^{2/}														

1/ Potable wholesale supplier(s): _____ 2/ Recycled wholesale supplier(s): _____
 Level of treatment: _____

4. Metered Water Deliveries - Units of delivery: acre-feet million gallons hundred cubic feet

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
A. Single Family Residential													51.551
B. Multi-family Residential													
C. Commercial/Institutional													
D. Industrial													
E. Landscape Irrigation													
F. Other													
Total Urban Retail (A thru F)													51.551
Agricultural Irrigation													
Wholesale (to other agencies)													

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Appendix B. Downtown West Point Water Distribution Cost/Benefit Table

Applicant: CCWD Downtown West Point Distribution System Project

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY
 Section A projects must complete Life of investment, column VII and Capital Recovery Factor Column VIII. Do not use 0.

Table C-1: Project Costs (Budget) in Dollars

Category (I)	Project Costs \$ (II)	Contingency % (ex. 5 or 10) (III)	Project Cost + Contingency \$ (IV)	Applicant Share \$ (V)	State Share Grant \$ (VI)	Life of investment (years) (VII)	Capital Recovery Factor (VIII)	Annualized Costs \$ (IX)
Administration ¹								
Salaries, wages	\$3,300	10	\$3,300	\$0	\$3,300	0	0.0634	\$209
Fringe benefits	\$3,000	10	\$3,300	\$0	\$3,300	0	0.0634	\$209
Supplies	\$500	10	\$550	\$0	\$550	0	0.0634	\$35
Equipment	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
Consulting services	\$5,000	10	\$5,500	\$0	\$5,500	0	0.0634	\$349
Travel	\$1,200	10	\$1,320	\$0	\$1,320	0	0.0634	\$84
Other	\$3,445	10	\$3,790	\$0	\$3,790	0	0.0634	\$240
(a) Total Administration Costs	\$16,145		\$17,760	\$0	\$17,760			\$1,126
(b) Planning/Design/Engineering	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
Equipment								
(c) Purchases/Rentals/Rebates/Vouchers	\$166,000	10	\$182,600	\$0	\$182,600	10	0.0634	\$11,577
(d) Materials/Installation/Implementation	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
(e) Implementation Verification	\$1,381,000	10	\$1,519,100	\$0	\$1,519,100	0	0.0634	\$96,311
(f) Project Legal/License Fees	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
(g) Structures	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
(h) Land Purchase/Easement	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
Environmental								
(i) Compliance/Mitigation/Enhancement	\$67,000	10	\$73,700	\$0	\$73,700	0	0.0634	\$4,673
(j) Construction	\$64,560	10	\$71,016	\$0	\$71,016	0	0.0634	\$4,502
(k) Other (Specify)	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
(l) Monitoring and Assessment	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
(m) Report Preparation	\$0	10	\$0	\$0	\$0	0	0.0634	\$0
(n) TOTAL	\$1,694,705		\$1,864,176	\$0	\$1,864,176			\$118,189
(o) Cost Share -Percentage				0	100			

1- excludes administration O&M.

CCWD Downtown West Point Distribution System Project

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-2: Annual Operations and Maintenance Costs

Operations (1) (I)	Maintenance (II)	Other (III)	Total (IV) (I + II + III)
\$7,440	\$11,160	\$0	\$18,600

(1) Include annual O & M administration costs here.

Table C-3: Total Annual Project Costs

Annual Project Costs (1) (I)	Annual O&M Costs (2) (II)	Total Annual Project Costs (III) (I + II)
\$118,189	\$18,600	\$136,789

(1) From Table C-1, row (n) column (IX)

(2) From Table C-2, column (IV)

Applicant: **CCWD Downtown West Point Distribution System Project**

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-5 Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)

	Qualitative Description - Required of all applicants ¹			State Why Project Bay Delta benefit is Direct ³ Indirect ⁴ or Both	Quantitative Benefits - where data are available ²
	Description of physical benefits (in-stream flow and timing, water quantity and water quality) for:	Time pattern and Location of Benefit	Project Life: Duration of Benefits		
Bay Delta	Continuous throughout the year	50 years	Directly impacts flow into Bay Delta		Quality 32.1 acre feet of high quality water in to the Bay Delta
Local	Continuous throughout the year	50 years	Directly impacts flow in to the Bay Delta	Not applicable.	Quality 32.1 acre feet of high quality water in to the Bay Delta

¹ The qualitative benefits should be provided in a narrative description. Use additional sheet.

² Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.

³ Indirect benefits are project outcomes that help to reduce dependency on the Bay-Delta system. Indirect benefits may be realized over time.

⁴ The project benefits that can be quantified (i.e. volume of water saved or mass of constituents reduced) should be provided.

Applicant:

CCWD Downtown West Point Distribution System Proje

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-6 Project Annual Local Monetary Benefits

ANNUAL LOCAL BENEFITS	ANNUAL QUANTITY	UNIT OF MEASUREMENT	ANNUAL MONETARY BENEFITS
(a) Avoided Water Supply Costs (Current or Future Source)	30.5	acre feet	\$3,050
(b) Avoided Energy Costs	30.5	acre feet	\$6,100
(c) Avoided Waste Water Treatment Costs	0		\$0
(d) Avoided Labor Costs	0		\$0
(e) Other (describe)	0		\$0
(f) Total [(a) + (b) + (c) + (d) + (e)]			\$9,150

Table C-7 Project Local Monetary Benefits and Project Costs

(a) Total Annual Monetary Benefits [(Table C-6, row (f))	\$9,150
(b) Total Annual Project Costs (Table C-3, column III)	\$136,789

Table C-8 Applicant's Cost Share and Description

Applicant's cost share %: (from Table C-1, row o, column V)	0
Describe how the cost share (based on relative balance between Bay-Delta and Local Benefits) is derived. (See Section A-7 for description.)	
West Point/Bummerville is a "Disadvantaged Community" and is therefore not required to provide a local cost share.	

Calaveras County Water District
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Appendix C. Bummerville Water Storage Tank Cost/Benefit Table

Applicant: CCWD West Point/Bummerville Tank Replacement Project

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY
 Section A projects must complete Life of investment, column VII and Capital Recovery Factor Column VIII. Do not use 0.

Table C-1: Project Costs (Budget) in Dollars

Category	Project Costs \$ (II)	Contingency % (ex. 5 or 10) (III)	Project Cost + Contingency \$ (IV)	Applicant Share \$ (V)	State Share Grant \$ (VI)	Life of investment (years) (VII)	Capital Recovery Factor (VIII)	Annualized Costs \$ (IX)
Administration ¹								
Salaries, wages	\$500	10	\$550	\$0	\$550	50	0.0634	\$35
Fringe benefits	\$500	10	\$550	\$0	\$550	50	0.0634	\$35
Supplies	\$200	10	\$220	\$0	\$220	50	0.0634	\$14
Equipment	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
Consulting services	\$2,000	10	\$2,200	\$0	\$2,200	50	0.0634	\$139
Travel	\$250	10	\$275	\$0	\$275	50	0.0634	\$17
Other	\$300	10	\$330	\$0	\$330	50	0.0634	\$21
(a) Total Administration Costs	\$3,750		\$4,125	\$0	\$4,125			\$262
(b) Planning/Design/Engineering	\$42,000	10	\$46,200	\$0	\$46,200	50	0.0634	\$2,929
Equipment								
(c) Purchases/Rentals/Rebates/Vouchers	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
(d) Materials/Installation/Implementation	\$98,000	10	\$107,800	\$0	\$107,800	50	0.0634	\$6,835
(e) Implementation Verification	\$8,000	10	\$8,800	\$0	\$8,800	50	0.0634	\$558
(f) Project Legal/License Fees	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
(g) Structures	\$20,000	10	\$22,000	\$0	\$22,000	50	0.0634	\$1,395
(h) Land Purchase/Easement	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
Environmental								
(i) Compliance/Mitigation/Enhancement	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
(j) Construction	\$64,560	10	\$71,016	\$0	\$71,016	50	0.0634	\$4,502
(k) Other (Specify)	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
(l) Monitoring and Assessment	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
(m) Report Preparation	\$0	10	\$0	\$0	\$0	50	0.0634	\$0
(n) TOTAL	\$236,310		\$259,941	\$0	\$259,941			\$16,480
(o) Cost Share -Percentage				0	100			

1- excludes administration O&M.

CCWD West Point/Bummerville Tank Replacement Project

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-2: Annual Operations and Maintenance Costs

Operations (1) (I)	Maintenance (II)	Other (III)	Total (IV) (I + II + III)
\$1,725	\$2,590	\$0	\$4,315

(1) Include annual O & M administration costs here.

Table C-3: Total Annual Project Costs

Annual Project Costs (1) (I)	Annual O&M Costs (2) (II)	Total Annual Project Costs (III) (I + II)
\$16,480	\$4,315	\$20,795

(1) From Table C-1, row (n) column (IX)

(2) From Table C-2, column (IV)

Applicant:

CCWD West Point/Bummerville Tank Replacement Project

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-5 Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)

	Qualitative Description - Required of all applicants ¹			State Why Project Bay Delta benefit is Direct ³ Indirect ⁴ or Both	Quantitative Benefits - where data are available ²
	Description of physical benefits (in-stream flow and timing, water quantity and water quality) for:	Time pattern and Location of Benefit	Project Life: Duration of Benefits		
Bay Delta	32.1 acre feet of additional water to flow in to the Bay Delta system annually	50 years	Directly impacts the flow in to the Bay Delta		Quantity 32.1 acre feet of high quality water in to the Bay Delta
Local	Replaces bay delta water with Mokelumne River	50 years		Not applicable.	Quantity 32.1 acre feet of high quality water in to the Bay Delta

¹ The qualitative benefits should be provided in a narrative description. Use additional sheet.

² Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.

³ Indirect benefits are project outcomes that help to reduce dependency on the Bay-Delta system. Indirect benefits may be realized over time.

⁴ The project benefits that can be quantified (i.e. volume of water saved or mass of constituents reduced) should be provided.

Applicant:

CCWD West Point/Bummerville Tank Replacement Proj

THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY

Table C-6 Project Annual Local Monetary Benefits

ANNUAL LOCAL BENEFITS	ANNUAL QUANTITY	UNIT OF MEASUREMENT	ANNUAL MONETARY BENEFITS
(a) Avoided Water Supply Costs (Current or Future Source)	1.6	acre feet	\$160
(b) Avoided Energy Costs	1.6	acre feet	\$320
(c) Avoided Waste Water Treatment Costs	0		\$0
(d) Avoided Labor Costs	0		\$0
(e) Other (describe)	0		\$0
(f) Total [(a) + (b) + (c) + (d) + (e)]			\$480

Table C-7 Project Local Monetary Benefits and Project Costs

(a) Total Annual Monetary Benefits [(Table C-6, row (f))	\$480
(b) Total Annual Project Costs (Table C-3, column III)	\$20,795

Table C-8 Applicant's Cost Share and Description

Applicant's cost share %: (from Table C-1, row o, column V)	0
Describe how the cost share (based on relative balance between Bay-Delta and Local Benefits) is derived. (See Section A-7 for description.)	
Provide Description in a narrative form.	

Calaveras County Water District
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Appendix D. Project Schedule

**Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project**

West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

ID	Task	Start	Finish
1	Application Submittal	1/11/05	1/11/05
2	DWR Makes Funding Decision and Executes Grant Control	1/11/05	12/01/05
3	Environmental Documentation	12/01/05	5/31/05
4	Mitigated Negative Declaration	12/01/05	5/31/05
5	Acquire Permits	5/1/06	8/1/06
6	Downtown West Point Distribution System Permits	5/1/06	8/1/06
7	Bummerville Treated Water Storage Tank Permits	5/1/06	8/1/06
8	Final Design Documents	5/1/06	8/1/06
9	Downtown West Point Distribution System Permits	5/1/06	8/1/06
10	Bummerville Treated Water Storage Tank	5/1/06	8/1/06
11	Acquire Construction Easements	6/1/06	12/1/06
12	Bid Period and Award	1/5/06	3/2/06
13	Downtown West Point Distribution System Award	2/2/06	3/2/06
14	Bummerville Treated Water Storage Tank Award	1/5/06	2/6/06
15	Construction	5/3/06	12/10/07
16	Downtown West Point Distribution System Construction	5/3/06	12/10/07
17	Bummerville Treated Water Storage Tank Construction	7/5/06	10/19/07

Calaveras County Water District
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Appendix E. Downtown West Point Distribution Hydraulic Modeling

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application



ONE COMPANY | *Many Solutions*SM

November 18, 2004
0677918992.004.doc

Larry Diamond
Assistant to the General Manager
Calaveras County Water District
P.O. Box 846
San Andreas, CA 95249

RE: Hydraulic Modeling Documentation
West Point, Wilseyville and Bummerville Water System Improvements
Grant Contract F85007 (West Point Feasibility Study)

Dear Mr. Diamond:

HDR Engineering, Inc. developed the hydraulic modeling documentation report under the West Point, Wilseyville and Bummerville Water System Improvements Grant Contract F85007. The report provides a more detailed analysis of the system hydraulics and includes supporting documentation developed through the hydraulic modeling software to compliment the Final Feasibility Report.

The modeling documentation report provides Calaveras County Water District (CCWD) with a prioritization schedule for the distribution improvements identified in the Final Feasibility Report. This documentation analyzes the benefits of each individual distribution project and prioritizes them based on the benefits received individually and cumulatively. This report allows CCWD to focus on the most critical projects first.

The modeling documentation report also provides CCWD with a detailed analysis of the available fire-flows throughout the systems. This analysis was provided for both existing system conditions and future conditions after the recommended improvements have been installed. CCWD can utilize this information for estimating available fire-flows at any point within the existing distribution system. This has proven to be a beneficial tool when utilized in conjunction with actual fire-flow test results. Not only can it be used to confirm the results of the hydraulic model it can also be utilized to identify problems within the existing system if the actual results are significantly lower than the estimated. This method is frequently utilized on other systems to identify and locate closed valves within the distribution system.

The hydraulic modeling analysis included as a supplement to the Final Feasibility Report is a very useful tool that can be utilized by operations staff for many years to come.

2365 Iron Point Road, Suite 300
Folsom, CA 95630

Phone (916) 817-4700
Fax (916) 817-4747
www.hdrinc.com

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Larry Diamond
November 18, 2004
ModelingCover.doc
Page 2

If you have any questions or desire any further information, please do not hesitate to contact me
at (916) 817-4812.

Sincerely,



Karl Brustad, P.E.
Project Manager

KBB/bac

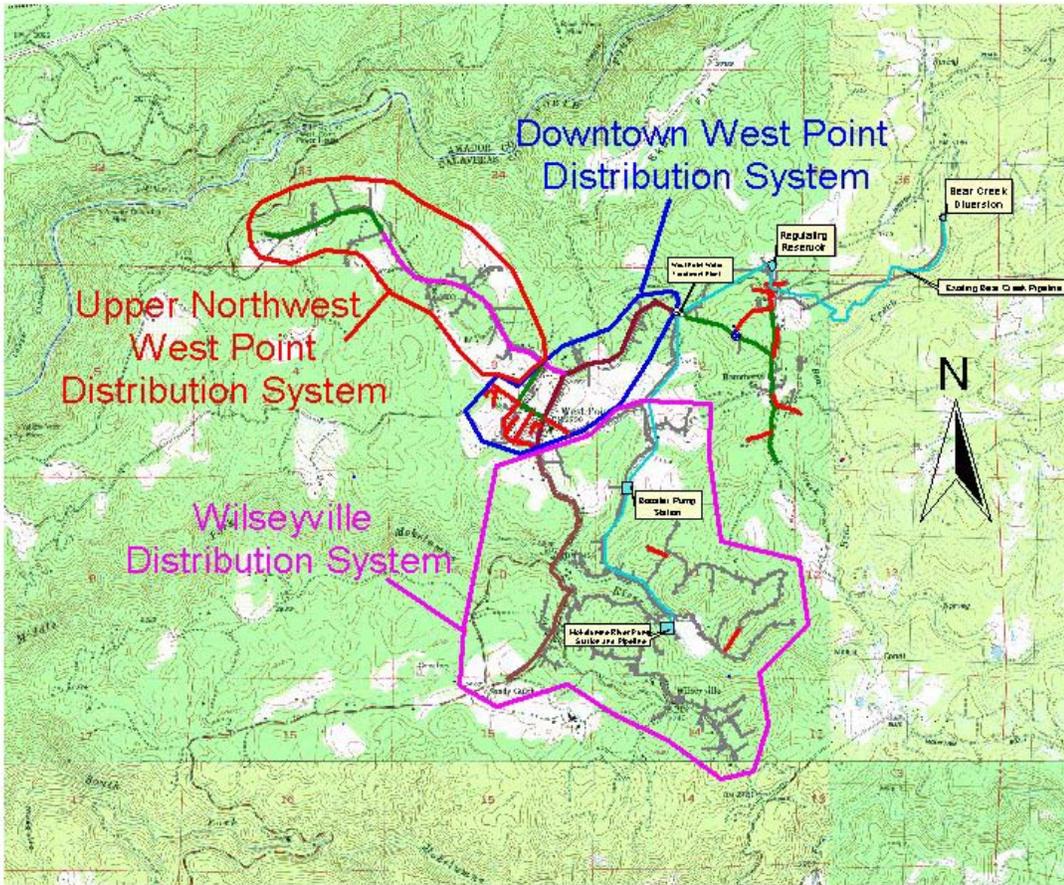
HDR One Company | Many Solutions



Appendix F.

Downtown West Point Distribution Preliminary Design

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application



Sub-system division.

Sub-division Priorities

The sub-divisions are prioritized as follows:

1. Downtown West Point Distribution System
2. Upper Northwest West Point Distribution System
3. Wilseyville Distribution System

The highest priority is given to the downtown area to provide increased fire flows to the commercial district and the school. This area has had fire problems in the past and is a high priority for the District. The next priority is given to the Upper Northwest West Point to provide adequate fire flows to this area which lies at a higher elevation and has low fire flows. The final priority is given to Wilseyville which has had recent improvements and does not require much upgrade. The main improvement in this area is the addition of a line to the Sandy Gulch area.

System Priorities

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project

West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

The proposed improvements within each sub-system have been divided into Phase 1 through Phase 8 and are described below. Please see the attached figure for a breakdown of the phases.

System 1: Downtown West Point

The priorities for System 1 are listed below:

- 12-inch diameter line along Winton Road from West Point Water Treatment Plant to State Highway 26
- 12-inch diameter line along Hwy 26 from intersection of Hwy 26 and Winton Road to the intersection of Main Street and Hwy 26
- 10-inch diameter line along Hwy 26 between Winton Road and Main Street
- 8-inch diameter line along Main Street between Pine Road and Hwy 26.
- 8-inch diameter line along Pine Street between Main Street and Hwy 26
- Various 6-inch diameter lines

Hydraulically the 6-inch lines in Phase 4 are adequate and are recommended for this area. This will provide a cost savings of approximately \$100,000 compared to using 8-inch diameter. Although CCWD standards call for a minimum 8-inch line in all commercial areas, 6-inch lines were deemed adequate. This is due to the fact that the main trunk lines to the downtown area are being upgraded to 8-inch lines and considering that growth of this area is anticipated to remain low. These lines may be upgraded to 8-inch lines to meet CCWD Standards at the District's request.

The highest priority for this sub-system was given to the main trunk line in order to provide the greatest benefit to the system as a whole. The next highest priorities were given to the downtown West Point area. The final priorities were given to upgrading the existing 4-inch lines to at a minimum 6-inch diameter lines.

Costs for the improvements to System 1 are shown by phases.

Estimated costs for Phase 1 improvements

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Phase 1				
12-inch Pipe	3,650	LF	\$80	\$292,000
Valves installed along the 12-inch Pipe	12	EA	\$1,000	\$12,167
Pavement Replacement	3,650	LF	\$10	\$36,500
Service Connections	10	EA	\$950	\$9,500
		Materials/Installation subtotal =		\$350,000
Planning/Design/Engineering	12%	LS		\$42,000
Environmental Mitigation/Enhancement	3%	LS		\$11,000
		SUBTOTAL =		\$403,000

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
 West Point Water Distribution System Improvements
 and Bummerville Treated Water Tank Replacement Grant Application

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Contingency Costs	15%	LS		\$60,000
TOTAL ESTIMATED COST =				\$460,000

Table 2. Estimated costs for Phase 2 improvements

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Phase 2				
12-inch Pipe	2,150	LF	\$80	\$172,000
Valves installed along the 12-inch Pipe	7	EA	\$1,000	\$7,167
Pavement Replacement	2,150	LF	\$10	\$21,500
Service Connections	10	EA	\$950	<u>\$9,500</u>
		Materials/Installation subtotal =		\$210,000
Planning/Design/Engineering	12%	LS		\$25,000
Environmental Mitigation/Enhancement	3%	LS		\$6,000
			SUBTOTAL =	\$241,000
Contingency Costs	15%	LS		\$36,000
TOTAL ESTIMATED COST =				\$280,000

Table 3. Estimated costs for Phase 3 improvements

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Phase 3				
10-inch Pipe	600	LF	\$70	\$42,000
8-inch Pipe	2,000	LF	\$55	\$110,000
Valves installed along the 10-inch Pipe	2	EA	\$1,000	\$2,000
Valves installed along the 8-inch Pipe	7	EA	\$1,000	\$6,667
Pavement Replacement	600	LF	\$10	\$6,000
Pavement Replacement	2,000	LF	\$10	\$20,000
Service Connections	100	EA	\$950	<u>\$95,000</u>
		Materials/Installation subtotal =		\$282,000
Planning/Design/Engineering	12%	LS		\$34,000
Environmental Mitigation/Enhancement	3%	LS		\$8,000
			SUBTOTAL =	\$324,000
Contingency Costs	15%	LS		\$49,000

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
 West Point Water Distribution System Improvements
 and Bummerville Treated Water Tank Replacement Grant Application

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
TOTAL ESTIMATED COST =				\$370,000

Table 4. Estimated costs for Phase 4 improvements

Element Description	Estimated Quantity	Units	Unit Price (installed)	Estimated Amount
Phase 4				
6-inch Pipe	7,000	LF	\$45	\$315,000
Valves installed along the 12-inch Pipe	23	EA	\$1,000	\$23,333
Pavement Replacement	7,000	LF	\$10	\$70,000
Service Connections	130	EA	\$950	<u>\$123,500</u>
		Materials/Installation subtotal =		\$532,000
Planning/Design/Engineering	12%	LS		\$64,000
Environmental Mitigation/Enhancement	3%	LS		\$16,000
			SUBTOTAL =	\$612,000
Contingency Costs	15%	LS		\$92,000
TOTAL ESTIMATED COST =				\$700,000

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Appendix F. Downtown West Point Distribution System Preliminary Design

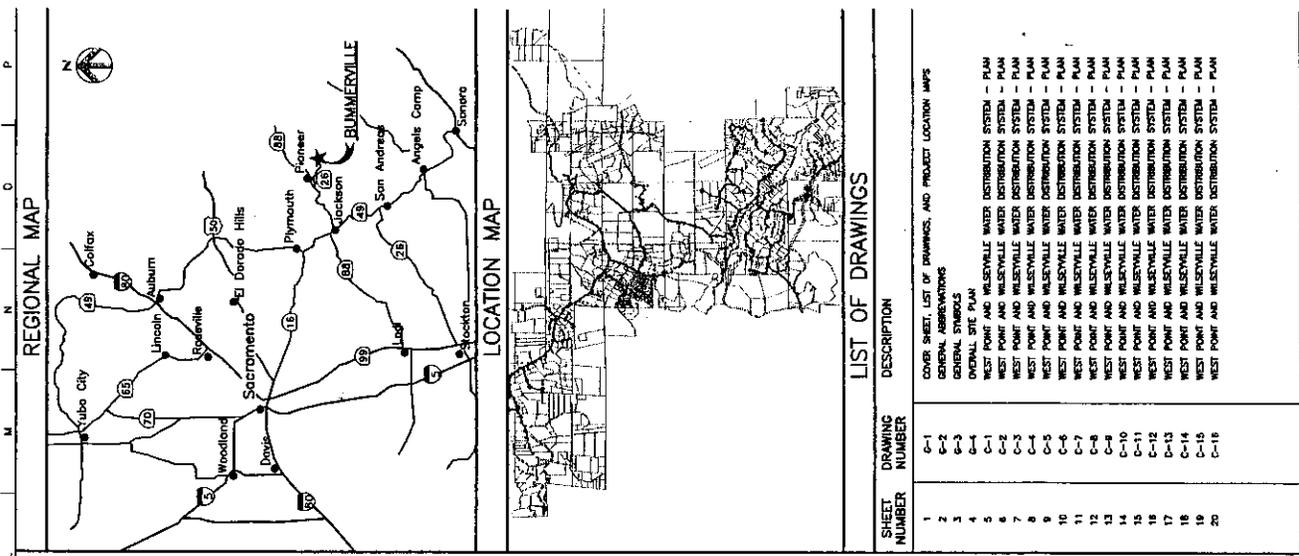
CALAVERAS COUNTY WATER DISTRICT



WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM

PREDESIGN SUBMITTAL
NOVEMBER 2002

HDR
HDR Engineering Inc.
271 Turn Pike Drive
Folsom, CA 95630



LIST OF DRAWINGS

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
1	C-1	COVER SHEET, LIST OF DRAWINGS, AND PROJECT LOCATION MAPS
2	C-2	GENERAL ABBREVIATIONS
3	C-3	GENERAL SYMBOLS
4	C-4	OVERALL SITE PLAN
5	C-1	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
6	C-2	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
7	C-3	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
8	C-4	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
9	C-5	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
10	C-6	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
11	C-7	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
12	C-8	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
13	C-9	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
14	C-10	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
15	C-11	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
16	C-12	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
17	D-13	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
18	C-14	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
19	C-15	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN
20	C-16	WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM - PLAN





OVERALL SITE PLAN

NOVEMBER 2002
 08779-022-141
 WDS-004.DWG
 1" = 800'
 G-4

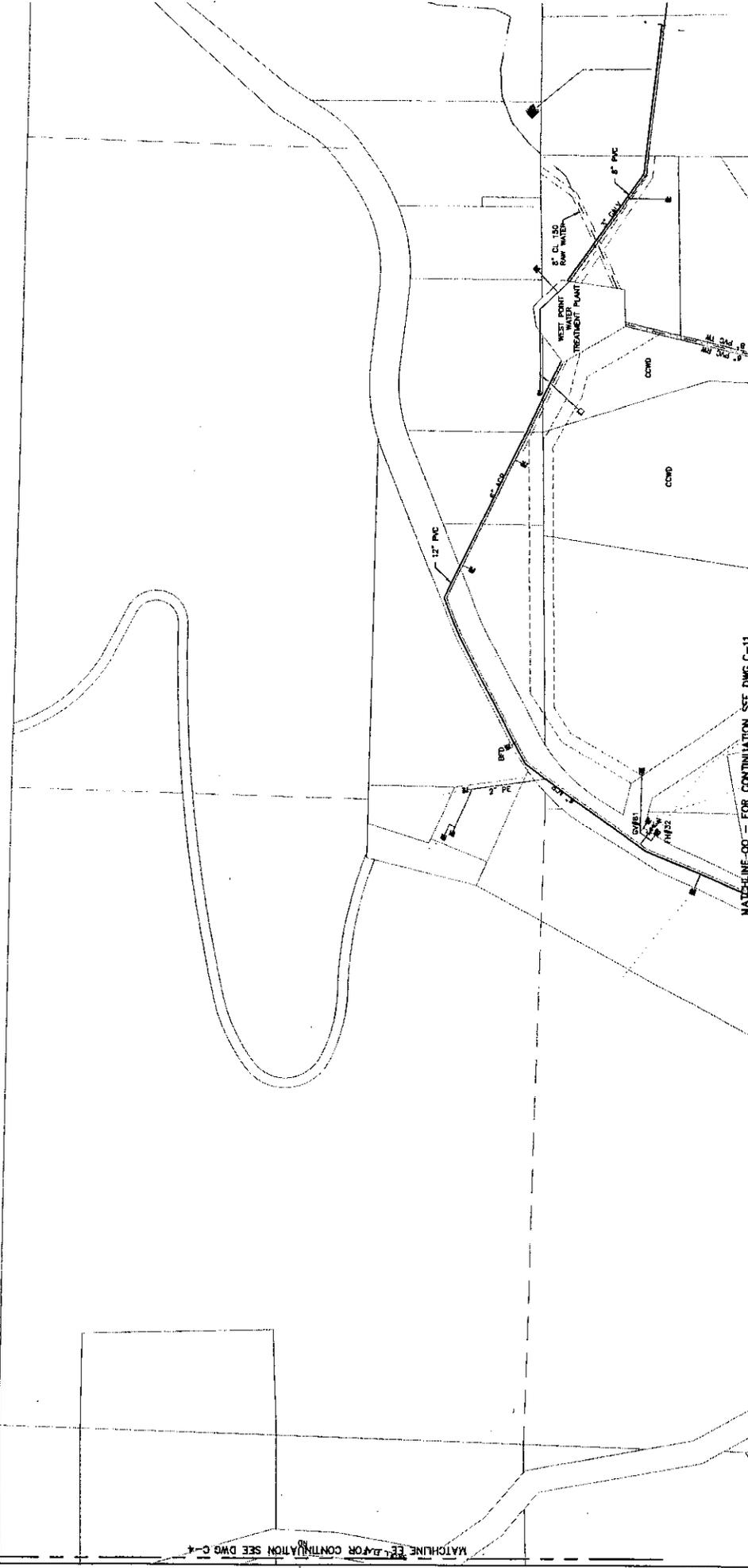
CALAVERAS COUNTY
 WATER DISTRICT
 WEST POINT AND
 WILSEYVILLE WATER
 DISTRIBUTION SYSTEM



MARK B. BRUSTAD
 J. WEBB



A B C D E F G H J K L M N O P

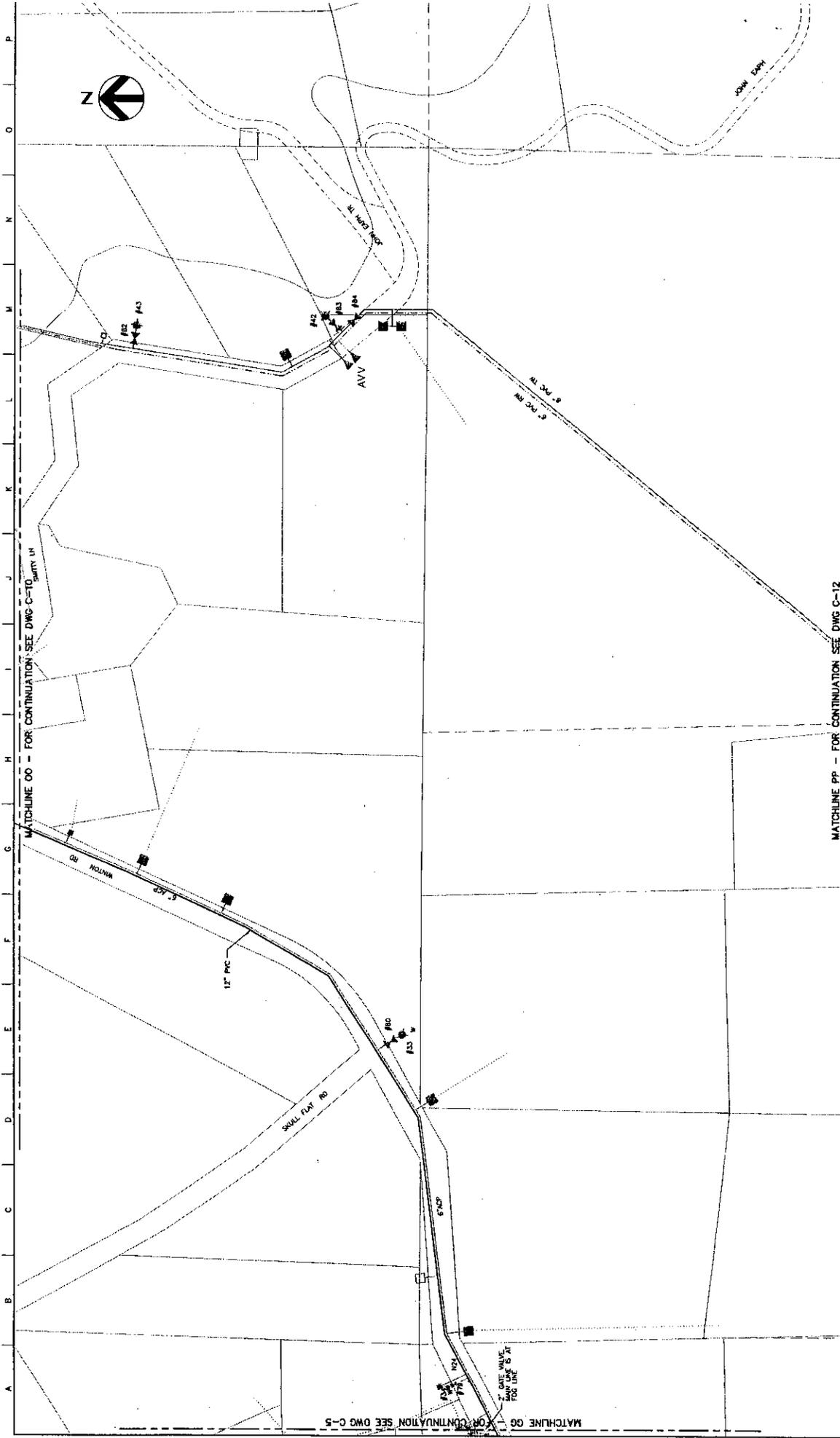


MATCHLINE FOR CONTINUATION SEE DWG C-4

MATCHLINE-00 - FOR CONTINUATION SEE DWG C-11

		WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM PLAN VIEW	
NOVEMBER 2002 1" = 100'	PROJECT NO. D6779-022-141 SHEET NO. WDS-C10.DWG	C-10	
HDR HDR Engineering, Inc. 		KARL B. BRISTAD J. WEBB	

11-22-02 MODIFIED 11/16/02



A B C D E F G H I J K L M N O P

MATCHLINE 00 - FOR CONTINUATION SEE DWG C-10

MATCHLINE 00 - FOR CONTINUATION SEE DWG C-5

MATCHLINE PP - FOR CONTINUATION SEE DWG C-12

CALAVERAS COUNTY WATER DISTRICT  WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM	
WEST POINT AND WILSEYVILLE WATER DISTRIBUTION SYSTEM PLAN VIEW	
Date: NOVEMBER 2002 Scale: 1" = 100'	Project No: 04779-022-141 Drawing No: WDS-C11.DWG Sheet No: C-11
Project Engineer: MARL B. BRUSTO Designer: J. WEBB	 HDR Engineering, Inc. 1500 K STREET, SUITE 200 SACRAMENTO, CA 95811 (916) 441-2222 www.hdr.com

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Appendix G. Bummerville Treated Water Storage Tank Preliminary Design

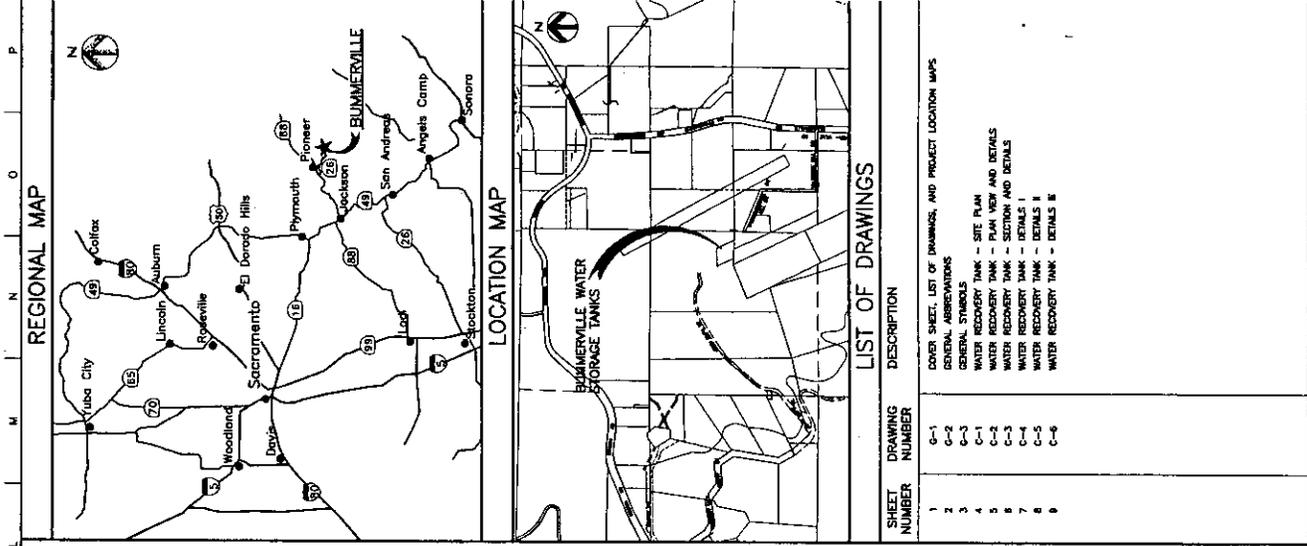
CALAVERAS COUNTY WATER DISTRICT



BUMMERVILLE TREATED WATER STORAGE TANKS

PREDESIGN SUBMITTAL
NOVEMBER 2002

HDR
HDR Engineering Inc.
271 Turn Pike Drive
Folsom, CA 95630



LIST OF DRAWINGS

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
1	C-1	COVER SHEET, LIST OF DRAWINGS, AND PROJECT LOCATION MAPS
2	C-2	GENERAL ABREVIATIONS
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4	C-1	WATER RECOVERY TANK - SITE PLAN
5	C-2	WATER RECOVERY TANK - PLAN VIEW AND DETAILS
6	C-3	WATER RECOVERY TANK - SECTION AND DETAILS
7	C-4	WATER RECOVERY TANK - DETAILS I
8	C-5	WATER RECOVERY TANK - DETAILS II
9	C-6	WATER RECOVERY TANK - DETAILS III



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P																																		
<h3>SITE PLAN SYMBOLOGY</h3> <p>NOTES:</p> <ol style="list-style-type: none"> VALUES THREE OR LESS ARE INDICATED BY SYMBOLOGY SHOWN BELOW. VALUES 3-1/2 AND 3-1/4 MAY BE SHOWN WITH GATE VALVE SYMBOL FOR REQUIREMENTS. SYMBOLS SHOWN IS FOR SINGLE LINE PIPING. DOUBLE LINE PIPING SYMBOLS ARE SIMILAR. <p>VALVES</p> <ul style="list-style-type: none"> GATE VALVE GLOBE VALVE BALL VALVE CHECK VALVE DOUBLE DISK CHECK VALVE BALL CHECK VALVE BUTTERFLY VALVE ORIFICE VALVE PRICH VALVE WAFER GATE VALVE PRESSURE RELIEF VALVE PLUG VALVE NEEDLE VALVE PRESSURE REDUCING VALVE AIR RELIEF / VACUUM VALVE PLUG VALVE PRESSURE REGULATING VALVE THREE WAY BALL VALVE THREE WAY PLUG VALVE <p>MISCELLANEOUS</p> <ul style="list-style-type: none"> VARIABLE AREA METER ROTAMETER UNION WYE-STRAINER LINE SIZE CHANGE (CONCENTRIC REDUCER) FLEXIBLE HOSE OR TUBING FLEXIBLE PIPING CONNECTION LINE SIZE CHANGE (CONCENTRIC REDUCER) LINE SIZE CHANGE (ECCENTRIC REDUCER) LINE TURNING DOWN LINE TURNING UP BLIND FLANGE PIPE JOINT (SEE SPECS FOR REQUIREMENTS) SLEEVE TYPE COUPLING FLANGED COUPLING ADAPTER (FCA) FLEXIBLE CONNECTION WIDENED MECHANICAL COUPLING <p>NOTES:</p> <ol style="list-style-type: none"> VALUES THREE OR LESS ARE INDICATED BY SYMBOLOGY SHOWN ABOVE. ABOVE GRADE ARE DESIGNATED BY THE PREFIX "AG". <ul style="list-style-type: none"> TELEPHONE LINE ELECTRIC LINE FIBER OPTIC COMMUNICATION HANDRAIL PIPELINE LARGE PIPELINE PRECAST CONCRETE OR STRUCTURE RAILROAD CHANNEL FLOW NATURAL WATERWAY CHAIN LINK FENCE FIELD FENCE PROPERTY LINE CENTERLINE ROCK BROW SILT FENCE 																																																	
<h3>PIPING SYMBOLOGY</h3> <p>MISCELLANEOUS (CONTINUED)</p> <ul style="list-style-type: none"> PRESSURE GAGE (W/COCK) TRAP CRACK REPAIR/SEAL CAP & GROOVE COUPLING INTERIOR CLEANOUT HOSE VALVE, HOSE REEL OR FLEXIBLE CONNECTION HOSE BACK FLOOR DRAIN PIPE IN SECTION BELL UP (SECTION OR SCHEMATIC) BELL UP (SECTION OR SCHEMATIC) DRAIN (SECTION OR SCHEMATIC) AIR TOOL ASSEMBLY AUTOMATIC VALVE STATION PRESSURE REDUCING STATION <p>PLUMBING PIPING:</p> <ul style="list-style-type: none"> VENT (V) POTABLE WATER, COLD (PWC) POTABLE WATER, HOT (PWH) COMBINATION AIR VALVE SIZE, INCHES BLOW OFF VALVE 																																																	
<h3>MATERIALS IN PLAN/SECTION</h3> <table border="1"> <tr> <td></td> <td>CONCRETE</td> </tr> <tr> <td></td> <td>MASONRY (CMU)</td> </tr> <tr> <td></td> <td>BRICK (SECTION)</td> </tr> <tr> <td></td> <td>ASPHALT</td> </tr> <tr> <td></td> <td>GRANULAR FILL</td> </tr> <tr> <td></td> <td>SAND</td> </tr> <tr> <td></td> <td>CLAY</td> </tr> <tr> <td></td> <td>METAL (SECTION)</td> </tr> <tr> <td></td> <td>GRAVEL (PLAN)</td> </tr> <tr> <td></td> <td>CHEQUERED PLATE</td> </tr> <tr> <td></td> <td>BRICK (PLAN)</td> </tr> <tr> <td></td> <td>ROOF INSULATION</td> </tr> <tr> <td></td> <td>BATT INSULATION</td> </tr> <tr> <td></td> <td>WOOD - CONTINUOUS</td> </tr> <tr> <td></td> <td>WOOD - NON CONTINUOUS</td> </tr> <tr> <td></td> <td>PLYWOOD</td> </tr> <tr> <td></td> <td>CYPRESS BOARD</td> </tr> </table>																	CONCRETE		MASONRY (CMU)		BRICK (SECTION)		ASPHALT		GRANULAR FILL		SAND		CLAY		METAL (SECTION)		GRAVEL (PLAN)		CHEQUERED PLATE		BRICK (PLAN)		ROOF INSULATION		BATT INSULATION		WOOD - CONTINUOUS		WOOD - NON CONTINUOUS		PLYWOOD		CYPRESS BOARD
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<h3>REFLECTED CEILING SYMBOLOGY</h3> <table border="1"> <tr> <td></td> <td>SUSPENDED CYPRESS WALLBOARD CEILING</td> </tr> <tr> <td></td> <td>2x4 ACoustICAL SUSPENDED CEILING</td> </tr> <tr> <td></td> <td>RECESSED LIGHT FIXTURE</td> </tr> <tr> <td></td> <td>1x4 FLUORESCENT LIGHT FIXTURE</td> </tr> <tr> <td></td> <td>2x4 FLUORESCENT LIGHT FIXTURE</td> </tr> <tr> <td></td> <td>4x4 FLUORESCENT LIGHT FIXTURE</td> </tr> <tr> <td></td> <td>SUPPLY AIR DIFFUSER/GRILLE</td> </tr> <tr> <td></td> <td>RETURN AIR GRILLE</td> </tr> </table> <p>FIRE WALL RATINGS</p> <ul style="list-style-type: none"> 1 HOUR FIRE RATED WALL 2 HOUR FIRE RATED WALL 																	SUSPENDED CYPRESS WALLBOARD CEILING		2x4 ACoustICAL SUSPENDED CEILING		RECESSED LIGHT FIXTURE		1x4 FLUORESCENT LIGHT FIXTURE		2x4 FLUORESCENT LIGHT FIXTURE		4x4 FLUORESCENT LIGHT FIXTURE		SUPPLY AIR DIFFUSER/GRILLE		RETURN AIR GRILLE																		
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	RETURN AIR GRILLE																																																
<h3>GENERAL SYMBOLOGY</h3> <p>PLAN 1/4" = 1'-0"</p> <ul style="list-style-type: none"> ARROW INDICATES PLAN POINT SECTION LETTER FLAG INDICATES DIRECTION OF SECTION CUT DRAWING WHERE SECTION VIEW IS LOCATED <p>SECTION 3/8" = 1'-0"</p> <ul style="list-style-type: none"> SECTION LETTER DRAWING WHERE SECTION VIEW IS LOCATED DETAIL NUMBER DRAWING WHERE DETAIL IS LOCATED <p>DETAIL 3" = 1'-0"</p> <ul style="list-style-type: none"> DETAIL NUMBER DRAWING WHERE DETAIL VIEW IS LOCATED ELEVATION LETTER ARROW INDICATES POINT OF VIEW DRAWING WHERE ELEVATION IS LOCATED <p>SINGLE ELEVATION OR PHOTO MARKER</p> <ul style="list-style-type: none"> ELEVATION LETTER ARROW INDICATES POINT OF VIEW ELEVATION DRAWING WHERE ELEVATION IS LOCATED <p>MULTIPLE ELEVATION OR PHOTO MARKER</p> <ul style="list-style-type: none"> ELEVATION LETTER ELEVATION LETTER ARROW INDICATES POINT OF VIEW DRAWING WHERE ELEVATION IS LOCATED <p>ELEVATION 3" = 1'-0"</p> <ul style="list-style-type: none"> ELEVATION LETTER ARROW INDICATES POINT OF VIEW DRAWING WHERE ELEVATION IS LOCATED <p>GENERAL NOTES:</p> <ol style="list-style-type: none"> IF PLAN AND SECTION OR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A LINE (-). PRE-CAST MANHOLE STANDARD DETAIL MARKER KEYNOTE DESIGNATION 																																																	
<h3>IDENTIFICATION SYMBOLOGY</h3> <p>PIPING:</p> <ul style="list-style-type: none"> 3/4" FILE EXAMPLE LINE SIZE SERVICE PLANT ELEVATION <p>EQUIPMENT TAG NUMBERS:</p> <p>ALTERNATE 1</p> <ul style="list-style-type: none"> EXAMPLE INDICATES NON PORTABLE WATER INDICATES PUMP BUILDING OR STRUCTURE NUMBER EQUIPMENT NUMBER <p>ALTERNATE 2</p> <ul style="list-style-type: none"> EXAMPLE INDICATES NON PORTABLE WATER INDICATES PUMP BUILDING OR STRUCTURE NUMBER EQUIPMENT NUMBER <p>ARCHITECTURAL:</p> <ul style="list-style-type: none"> ROOM NUMBER DOOR NUMBER COLUMN GRID LINE WALL TYPE WINDOW TYPE LAUNDRY <p>GENERAL NOTES:</p> <ol style="list-style-type: none"> THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLS. SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT. SYMBOLS OR STANDAARDS OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DESIGNATE PROPOSED IMPROVEMENTS TO BE INSTALLED. USING WORK REFER TO CONTEXT OF EACH DRAWING FOR USE. SEE PROJECT EQUIPMENT AND SPRING SYSTEMS DRAWING FOR SYMBOLS AND APPROXIMATE SPACING TO THE PROJECT. 																																																	

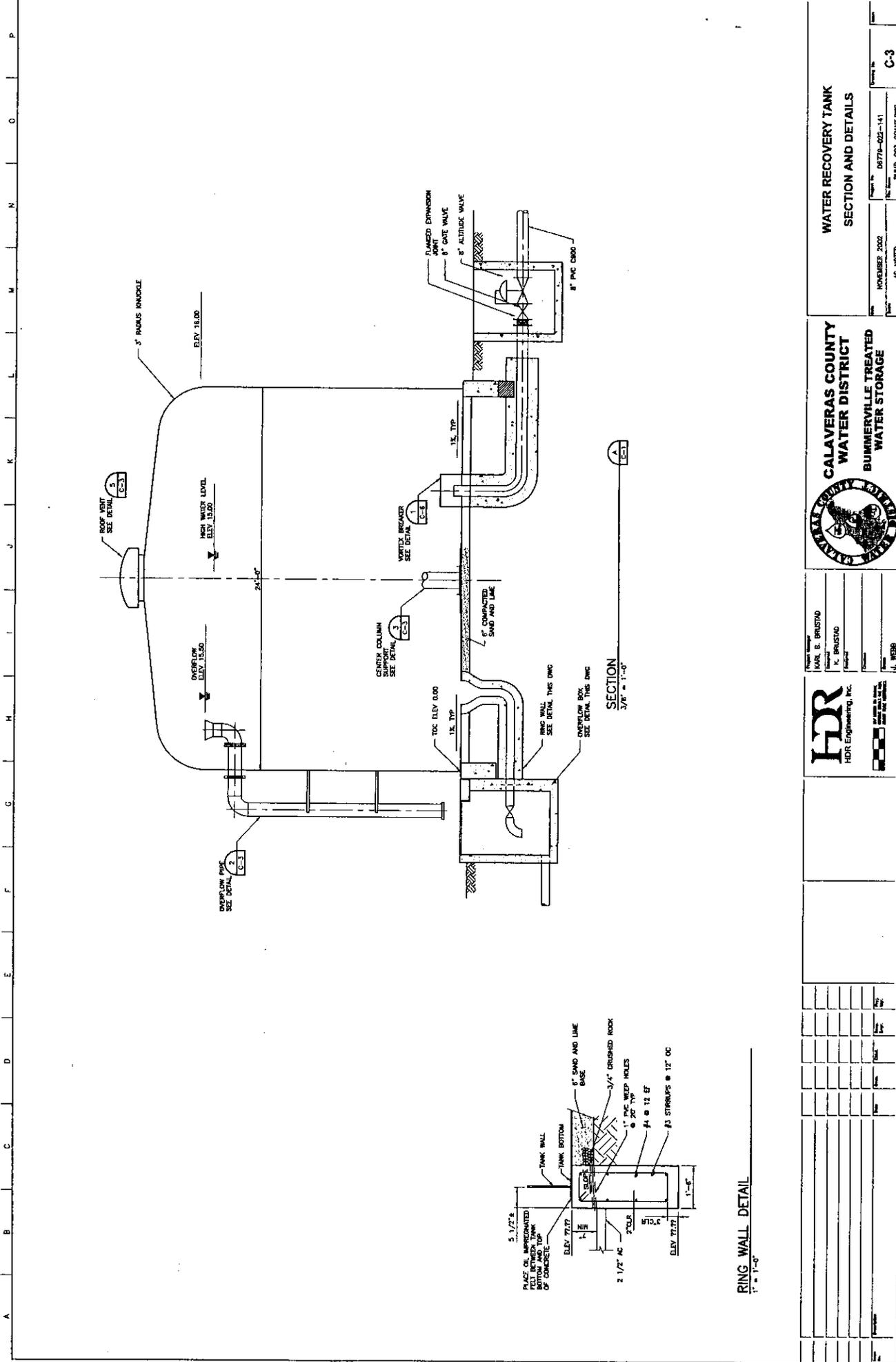
CALAVERAS COUNTY WATER DISTRICT
BURNMEREVILLE TREATED WATER STORAGE

Project No: 02779-025-141
Date: NOVEMBER 2002
Name: NONE

Sheet No: G-3
Name: BURNMEREVILLE TREATED WATER STORAGE

Prepared By: MARL B. BRISTAO
Checked By: K. BRISTAO
Reviewed By: J. WEBB

HDR Engineering, Inc.
11-22-02-10000001 (12/15)



WATER RECOVERY TANK
SECTION AND DETAILS

CALAVERAS COUNTY
WATER DISTRICT
BUMMERSVILLE TREATED
WATER STORAGE



Project Engineer: **KARL B. BRUSTAD**
 Designer: **K. BRUSTAD**
 Checker: **J. WEBB**

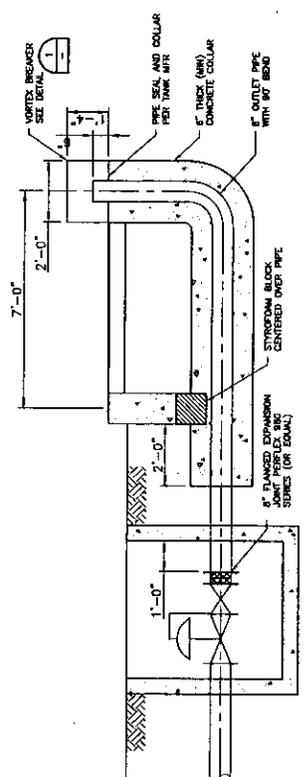


Date: **NOVEMBER 2002**
 Project No: **06774-002-1-11**
 Drawing No: **BUM-CDL-SWRT-TNK**
 Scale: **AS NOTED**
 Sheet No: **C-3**

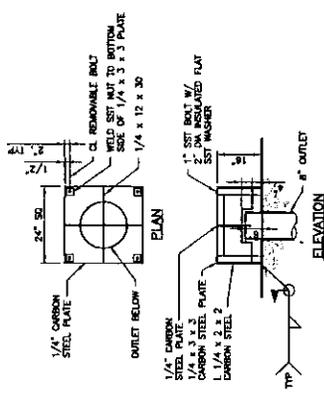
RING WALL DETAIL
 1" = 1'-0"

11-22-02 H000000 1111122
 11-22-02 H000000 1111122

A B C D E F G H I J K L M N O P



INLET/OUTLET PIPE AND VORTEX BREAKER
1/2" = 1'-0"



8" OUTLET AND VORTEX BREAKER
1/8" = 1'-0"

				WATER RECOVERY TANK SECTION AND DETAILS	
Project Manager MARL B. BRUSTAD	Designer K. BRUSTAD	Date NOVEMBER 2002	Project No. 00779-022-141	Drawing No. C-6	Revision AS NOTED
HDR Engineering, Inc. 1000		CALAVERAS COUNTY WATER DISTRICT BURNERVILLE TREATED WATER STORAGE		BURNER-026.010	

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Appendix H. Environmental Impact Check List

ENVIRONMENTAL IMPACT CHECKLIST:

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
I. LAND USE AND PLANNING. <i>Would the proposal:</i>				
a) conflict with general plan designation or zoning? (Ia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) be incompatible with existing land use in the vicinity? (Ia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)? (Ia, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) disrupt or divide the physical arrangement of an established community (including a low-income or minority community)? (Ia, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. POPULATION AND HOUSING. <i>Would the proposal:</i>				
a) cumulatively exceed official regional or local population projections? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infra-structure)? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) displace existing housing, especially affordable housing? (Ia, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
III. GEOLOGIC PROBLEMS. <i>Would the proposal result in or expose people to potential impacts involving:</i>				
a) fault rupture? (Ig, j)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) seismic ground shaking? (Ig)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) seismic ground failure, including liquefaction? (Ig)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) seiche, tsunami, or volcanic hazard? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
e) landslides or mudflows? (I, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) erosion, changes in topography or unstable soil conditions from excavation, grading, or fill? (I, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) subsidence of land? (I, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) expansive soils? (I, II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) unique geologic or physical features? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IV. WATER. Would the proposal result in:				
a) changes in absorption rates, drainage patterns, or the rate and amount of surface runoff? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) exposure of people or property to water-related hazards such as flooding? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen or turbidity)? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) changes in the amount of surface water in any water body? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) changes in currents, or the course or direction of water movements? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of ground-water recharge capability? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) altered direction or rate of flow of groundwater? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) impacts to groundwater quality? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
i) substantial reduction in the amount of groundwater otherwise available for public water supplies? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. AIR QUALITY. *Would the proposal:*

a) violate any air quality standard or contribute to an existing or projected air quality violation? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) expose sensitive receptors to pollutants? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) alter air movement, moisture, or temperature, or cause any change in climate? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) create objectionable odors? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

VI. TRANSPORTATION/CIRCULATION. *Would the proposal result in:*

a) increased vehicle trips or traffic congestion? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) inadequate emergency access or access to nearby uses?(II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) insufficient parking capacity onsite or offsite? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) hazards or barriers for pedestrians or bicyclists? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?(II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) rail, waterborne, or air traffic impacts?(II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
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VII. BIOLOGICAL RESOURCES. *Would the proposal result in impacts to*

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|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) endangered, threatened, or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) locally designated species (e.g., heritage trees)? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) locally designated natural communities (e.g., oak forest, coastal habitat, etc.)? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) wetland habitat (e.g., marsh, riparian, and vernal pool)? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) wildlife dispersal or migration corridors? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

VIII. ENERGY AND MINERAL RESOURCES. *Would the proposal:*

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) conflict with adopted energy conservation plans? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) use nonrenewable resources in a wasteful and inefficient manner? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State? (Id, j) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

IX. HAZARDS. *Would the proposal involve*

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|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) a risk of accidental explosion or release of hazardous substances (including, but not limited to, oil, pesticides, chemicals, or radiation)? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) possible interference with an emergency response plan or emergency evacuation plan? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) the creation of any health hazard or potential health hazard? (II) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
d) exposure of people to existing sources of potential health hazards? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) increased fire hazard in areas with flammable brush, grass, or trees? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. NOISE. <i>Would the proposal result in:</i>				
a) increases in existing noise levels? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) exposure of people to severe noise levels? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. PUBLIC SERVICES. <i>Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:</i>				
a) fire protection? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) police protection? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) schools? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) maintenance of public facilities, including roads? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) other government services? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. UTILITIES AND SERVICE SYSTEMS. <i>Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:</i>				
a) power or natural gas? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) communications systems? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) local or regional water treatment or distribution facilities? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) sewer or septic tanks? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) storm water drainage? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
f) solid waste disposal? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) local or regional water supplies? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIII. AESTHETICS. <i>Would the proposal:</i>				
a) affect a scenic vista or scenic highway? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) have a demonstrable negative aesthetic effect? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) create light or glare? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIV. CULTURAL RESOURCES. <i>Would the proposal</i>				
a) disturb paleontological resources? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) disturb archaeological resources? (li, II)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) have the potential to cause a physical change which would affect unique ethnic cultural values? (li)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) restrict existing religious or sacred uses within the potential impact area? (li)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
XV. RECREATION. <i>Would the proposal:</i>				
a) increase the demand for neighborhood or regional parks or other recreational facilities? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) affect existing recreational opportunities? (II)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
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XVI. MANDATORY FINDINGS OF SIGNIFICANCE.

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|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVII. EARLIER ANALYSIS.

Earlier analysis may be used, where pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a discussion should identify the following on attached sheets:

- a) **Earlier analyses used.** Identify earlier analyses and state where they are available for review.
- b) **Impacts adequately addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
- c) **Mitigation measures.** For effects that are "Less

than Significant with Mitigation Incorporated," describe the mitigation measures which are incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

Authority: Public Resources Code Sections 21083 and 21087.
Reference: Public Resources Code Sections 21080(c), 21080.1, 21083, 21083.3, 21093, 21094, 21151; *Sunstrum v. County of Mendocino*, 202 Cal.App.3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal.Ap.3d 1337 (1990).

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Appendix I. Response to Questions Related Environmental Impact Checklist

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The following statements answer those questions identified in the provided Environmental Checklist.

I. Land Use and Planning

a) The proposed repair projects will not have a significant impact on land use planning programs within Calaveras County or conflict with CCWD operating plans given that the proposed project is consistent with the Calaveras County General Plan and zoning designations. The project is expected to have beneficial impacts to the community through improved water delivery, and by providing water for fire-fighting in existing developed communities. No amendments to existing or planned land uses would be required to support the projects outlined in the Feasibility Report.

b) The proposed project improvements will not conflict with any environmental plans or policies developed by agencies with jurisdiction over the project since only existing infrastructure would be repaired or replaced. The improved infrastructure would not impact new areas or significantly modify an existing project site.

c-e) The proposal will have no effect on existing land use in the vicinity of the project since all existing uses would continue to operate as they do today, both during and after construction. Additionally, there are no agricultural resources or operations in the areas proposed for infrastructure repair to impact. Consequently, no physical arrangements of an established community, or community patterns, would occur as a result of the proposed projects.

II. Population and Housing

a-c) The purpose of the proposed project is to repair the existing water delivery system. The project would also provide water for fire protection in existing developed areas that currently have little to no fire suppression capabilities during the dry season. Given these project objectives, repairing the existing infrastructure would not, in and of itself, alter existing population or housing conditions, nor provide the necessary stimulus for alterations in population, housing or growth projections.

III. Geologic Problems

a-i) The geologic conditions that currently exist at the project sites today would not be altered by implementation of the proposed project. No deep excavation, trenching or loading that could potentially alter or exacerbate existing geologic conditions would occur. Specifically, the proposed project sites are not located in areas that would be affected by seiches, tsunamis, or volcanism and do not contain unique geologic features. Moreover, the project sites are not located in areas uniquely subject to subsidence, landslides, mudflows soil expansion or loss of topsoil. Regardless, the standard use of Best Management Practices (e.g., silt fences and/or other erosion control features) during construction of the project would reduce any potential impacts from erosion and soil stability to less than significant levels.

IV. Water

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- a) The proposed projects would not result in changes in absorption rates, drainage patterns, or the rate and amount of surface runoff since no new project features are proposed that would alter existing patterns. The proposed projects would essentially mirror existing patterns.
- b) The proposed projects consist of either water delivery or storage facilities and, given the scale of these facilities, would not result in exposure of people or property to water-related hazards such as flooding.
- c) The proposed project is not expected to result in discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen or turbidity). Silt fencing and/or other erosion control measures would be in place to prevent discharge of construction related debris into Bear Creek and the Middle Fork of the Mokelumne River. If any water diversions were to become necessary they would be only temporary and intended to allow safe construction. If temporary impoundment, diversions or other such features are identified as necessary for safe construction, appropriate permitting with the resource agencies will be obtained prior to construction. However, at this time, no such features are planned.
- d) The proposed project will not result in changes in the amount of surface water in any water body. Part of the project involves replacement of a leaking dam on Wilson Lake. Replacement of this dam is necessary in order to prevent its failure, and the new dam would be the same size as the existing dam. Wilson Lake would be drained during construction of the new dam, but would be returned to normal water levels upon completion of the project. However, changes in storage capacity are not part of the proposed project. Additional environmental documentation for the dam repair project would be required at the time when it appears feasible to initiate those projects.
- e) The proposed project will not result in changes to currents, or the course of direction of water movements since there are none in the project area to be affected by project improvements.
- f-i) There would be no impact to groundwater as a result of this project. The proposed projects do not have features that directly extract or inject water into groundwater systems. Consequently, groundwaters would not be depleted as a result of the proposed project actions, nor would it discharge any materials that would affect groundwater quality.

V. Air Quality

Calaveras County is located in the Mountain Counties Air Basin, which is designated by the California Air Resources Board as a non-attainment area for the criteria pollutants ozone and PM10. As such, consideration of air quality impacts revolves around construction and operation emissions. From an operations standpoint, the proposed projects do not contain any features or equipment that emit more pollutants than existing equipment. In fact, when some pieces of equipment are replaced with modern pieces, such as pumps, the new equipment will actually operate more efficiently thereby reducing emissions over existing levels.

During the construction phase of the various projects, it will not be possible to reduce the amount of ozone and PM10 emissions to less than significant levels because the air basin is already in non-attainment for these two constituents. With this understanding, the Mountain Counties Air Basin has

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standard construction activity mitigation measures that are required of all contractors that reduce the severity of this impact to acceptable levels. The CCWD, as a standard part of their engineering practice, require all contractors they employ in this type of work to comply with these mitigation measures. As a result, temporary construction impacts to air quality are reduced to less than significant levels with incorporation of these measures which are added to the contractor specifications.

- a) Construction of the proposed project would not violate any air quality standard or contribute to an existing or projected air quality violation, beyond those allowed in the Mountain Counties Air Basin non-attainment program for construction emissions.
- b) Whereas the proposed project features would not, in and of themselves, expose sensitive receptors to substantial pollutant loads, the fact that the air basin is in non-attainment for two criteria pollutants suggests that temporary construction emissions could be of concern to some sensitive receptors in the project study area. This impact is reduced to less than significant levels through incorporation of Mountain Counties Air Basin standard construction mitigation measures.
- c) The proposed project improvements do not contain any features that would have the ability to effect or alter air movement, moisture, or temperature, or any change in climate in the study area.
- d) The proposed project may result in a temporary increase in objectionable odors during construction as a result of operating construction equipment. Any impact would be temporary and is considered to be less than significant.

VI. Transportation/Circulation

The proposed projects would not create additional traffic on local roads or negatively alter existing traffic levels of service since improving the existing infrastructure would not alter vehicle maintenance or trip patterns. However, it is possible that during construction, there could be a temporary impact on local traffic patterns. Most of this would occur as trucks bring materials to the project sites. In some cases, where the water conveyance system is located in or immediately adjacent to streets, traffic may need to be routed around construction areas. If such traffic diversions were to become necessary, the contractor would be required to submit detour plans to CCWD prior to construction and provide appropriate safety personnel at the impact area to mitigate this impact. With such required traffic mitigation, this impact would be reduced to less than significant levels.

- a) The proposed projects may result in increased vehicle trips and/or traffic congestion while under construction, but would not create a notable increase in operational trips. Any construction impacts would be temporary and are considered to be less than significant.
- b) The proposed projects will not result in hazards due to design features of the project, or incompatible uses since no such design work is included as part of the proposed projects.
- c) The proposed projects would not modify or affect any existing emergency access route or access to nearby uses.

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- d) The proposed projects would not need to modify any existing parking plans in or adjacent to the CCWD service area.
- e) The proposed projects would not create pedestrian or bicycle hazards or barriers during operation. It is possible that some sidewalks or bike routes could be affected during construction, however, these impacts would be addressed as part of the traffic management plan that would have to be approved by CCWD prior to construction. Through incorporation of this standard mitigation practice, potential impacts would be reduced to less than significant.
- f-g) The proposed projects are an improvement to the current water delivery program and would have no impact resulting in conflict with adopted policies supporting alternative transportation, nor would it result in impacts to rail, waterborne or air traffic.

VII. Biological Resources

Two field surveys were conducted within the project area, for biological resources in the winter and spring of 2001/2001. General surveys were conducted for Special Status Species, habitat for Special Status Species, and wetlands. No endangered, threatened, rare or Special Status species, or wetlands, were encountered during these surveys. Bear Creek and the Middle Fork of the Mokelumne River contain potential habitat for Foothill yellow-legged frogs, a species that is considered a Species of Concern by the Federal government and as a Species of Special Concern by the State of California. Impacts to Bear Creek and the Mokelumne would be minimal, and would be temporary in nature; only during the construction of the project. If it were necessary to de-water Bear Creek and the Middle Fork of the Mokelumne River during construction of the project, all care would be taken to ensure adequate flows downstream of the project site during the diversion period, and all construction related debris would be kept out of the creek. A qualified biologist would be on site during construction activities to make sure that no aquatic resources were adversely affected by construction. In all cases, biological surveys would be conducted during early project planning to ensure that sensitive biologic resources would not be impacted, or were avoided to the extent practicable. Where necessary, permitting through the appropriate resource agency(s) would be conducted prior to finalization of project plans.

- a) The proposed project is not expected to have any adverse impacts to endangered, threatened, or rare species or their habitats based on the field reviews conducted and literature consulted as part of this study. Additional field studies would be initiated during the planning of the various project features to ensure that threatened or endangered species are not present on the project site, or if they are, that appropriate measures are taken to meet the requirements of the federal and/or state endangered species acts.
- b) No "locally designated" species have been identified in the project study area.
- c) No "locally designated" natural communities have been identified in the project study area.
- d) No wetlands are anticipated to be affected by this project. The area upstream of the intake structure on Bear Creek, a riparian area, would be dredged as silt is filling in the creek at the intake. The pump area on the Middle Fork of the Mokelumne River may also require some excavation. Both

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of these areas contain potential habitat for the foothill yellow-legged frog, a Species of Special Concern. Measures that would be undertaken to ensure avoidance of impacts to the foothill yellow-legged frog during construction were described at the beginning of Chapter 6 of this report. Some of these include: pre-construction surveys for foothill yellow-legged frogs; presence of a qualified biological monitor on the construction site; installation of silt fencing and /or other erosion control materials to keep runoff and construction related debris from entering the creekbed; de-watering of the area to be dredged, with water piped around the construction site so that adequate flows would be maintained downstream of the project site. As each project is planned for improvement, additional environmental work will be initiated to ensure that special status species are managed according to appropriate protocols. At that time, any site specific surveys and/or permitting will be conducted prior to finalization of project plans.

e) The proposed project is a repair/replacement/enhancement project, and would not affect wildlife dispersal or migration corridors since none such designated corridors exist in the study area.

VIII. Energy and Mineral Resources

a-b) The proposed project consists of repair, replacement, and enhancement of inadequate water storage and delivery facilities. It would have no effect on energy conservation plans nor would it use nonrenewable resources in a wasteful and inefficient manner. It is anticipated that as some newly replaced project features are brought on line, such as pumps, the energy efficiency of these new features would reduce energy demands.

c) Information regarding the mineral resources of Calaveras County can be found in the report: Mines and Mineral Resources of Calaveras County, California, published by the California Division of Mines and Geology. There are no known mineral resources within the project area, and the nature of the project would not result in the loss of availability of a mineral resource that would be of future value to the region and the residents of the State.

IX. Hazards

a) The proposed project will have a less than significant impact involving risk of accidental explosion or release of hazardous substances due to the standard safety protocols established by the state for the handling of such materials. During construction of the project, there could be a slight chance of contamination by the release of petroleum products from the operation of construction equipment. Standard construction activity BMPs would be incorporated into contractor specifications to ensure that any petroleum leaks or spills would be contained and cleaned up according to appropriate regulations. Silt fencing and/or other erosion control measures would be used to prevent construction related debris (including oil) from entering any stream channels or other bodies of water.

b) The proposed project would not interfere with any emergency response or evacuation plan in the project study area and largely exists outside of well traveled portions of the CCWD service area.

c-d) The proposed project would not create, nor would it expose people to, potential health hazards nor would it expose people to existing health hazards. The proposed project is expected to have beneficial impacts, as it will correct a potentially harmful distribution condition. The raw water pipe

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that delivers drinking water from Bear Creek has several leaks and large holes from which debris could enter the water supply.

e) The proposed project would not result in increased fire hazard. The project is expected to have beneficial impacts in that it will provide water to existing developed areas that currently do not have adequate water supplies during the dry season from which to suppress or fight fires.

X. Noise

a-b) Operation of the proposed projects is not expected to result noise conditions above those currently experienced today. In some cases, the replacement of aged equipment with new equipment could reduce noise emission in some cases. During construction operations of the various project features, there could be a temporary increase in local noise levels as project features are installed. Through the use of standard noise mitigation, such as requiring all appropriate construction equipment to be properly muffled, would reduce this impact to less than significant levels. Further, the project would not generate noise levels in excess of the allowable levels described in the Noise Element of the Calaveras County General Plan, December 1996. The proposed projects do not contain any features that would result in exposure of people to severe noise levels.

XI. Public Services

a-e) The proposed projects would only improve the existing water delivery and storage systems and are expected to have beneficial impacts to public services. Further, the projects are expected to improved water delivery capabilities for fire suppression during the dry season in those areas that do not currently have adequate water supplies. No additional public services, such as police, schools, or other government facilities, would be required to support the proposed projects.

XII. Utilities and Service Systems

a-b) Given that upgrades of some project features will result in the installation of more energy efficient equipment, the proposed projects are expected to reduce the demand on existing power and natural gas for many applications. Communication system impacts are expected to be minimal at best, and in all cases, would not result in significant demands for additional service.

c) The proposed project is considered to have beneficial impacts on water distribution and treatment facilities, and is in fact, part of the purpose of the project.

d-f) The proposed project will have no impact on sewer or septic tanks, storm water drainage or solid waste disposal programs currently in effect since modifications to these facilities are not included as part of proposed projects. Further, there are very few of such facilities in the project study areas to be affected by the project.

g) The proposed project will have beneficial impacts to local/regional water supplies. The water delivery system will be repaired and upgraded to better serve the existing developed portions of CCWD's service area.

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XIII. Aesthetics

a-c) The proposed project is not located on a scenic highway and would not effect any designated scenic vistas. The majority of the project would be a cut and cover project and would therefore have buried project features. The above ground features would replace existing ones, or augment exiting ones on the same site thereby not creating any new visual impacts. Further, no substantial night lighting features are included in the project that would create new sources of significant light or glare.

XIV. Cultural Resources

a) Based on past paleontological studies conducted in the study area, the proposed project is not anticipated to disturb paleontological resources. Should paleontological resources be discovered during construction of the project, a qualified paleontologist would be consulted to determine the appropriate remediation actions.

b-d) The proposed project is not expected to result in disturbance to archeological resources, affect ethnic cultural values, or restrict existing religious or sacred uses within the project area. The project would replace existing water storage and delivery systems, and would be constructed in areas that have been disturbed by past construction. Current use of the project area would remain the same. In addition, Native American groups were contacted regarding existing religious or sacred uses in the project area, and no responses beyond an acknowledgement of the request, were received. However, in the event cultural resources are discovered during construction, a qualified archaeologist will be consulted to determine the appropriate remediation actions.

XV. Recreation

a-b) The proposed project would not result in an increased demand for neighborhood or regional parks or other recreational facilities, nor would it affect existing recreational opportunities since none currently exist around CCWD facilities.

XVI. Mandatory Findings of Significance

a) The proposed project has the potential, unless mitigation is incorporated, to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Implementation of the following measures will ensure that any impacts to biological resources and cultural resources will be less than significant.

i. Pre-construction surveys would be conducted for foothill yellow-legged frogs. Surveys would be conducted by qualified biologists. Exclusion fencing would be installed, if necessary, to keep any frogs out of the construction area while the project is under construction.

ii. Silt fencing and/or other erosion control measures will be installed prior to any work in Bear Creek or the Mokelumne River, to ensure that no construction related debris enters any water body.

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The construction area would be returned to as natural a condition as feasible upon completion of the project.

iii. A construction monitoring program for both biological and cultural resources will be implemented during construction of the proposed project. The biological monitoring will ensure that the project is in compliance with all environmental permits. Cultural resources monitoring will ensure that if buried cultural materials are discovered during construction of the project, work would be halted in the vicinity until a qualified archeologist or paleontologist were able to assess the significance of the find under the appropriate regulations.

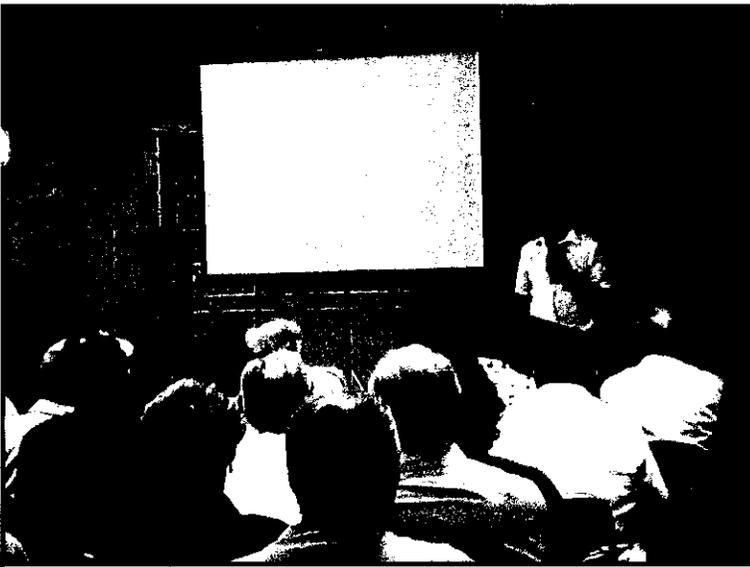
b. The proposed project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.

c. The proposed project does not have impacts that are individually limited, but cumulatively considerable.

d. The proposed project will not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. The proposed project is expected to have beneficial effects on the human environment due to the improved water delivery and supply system.

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Appendix J. Photographs and News Clippings Documenting Public Outreach



West Point Community Meeting, August 23, 2000



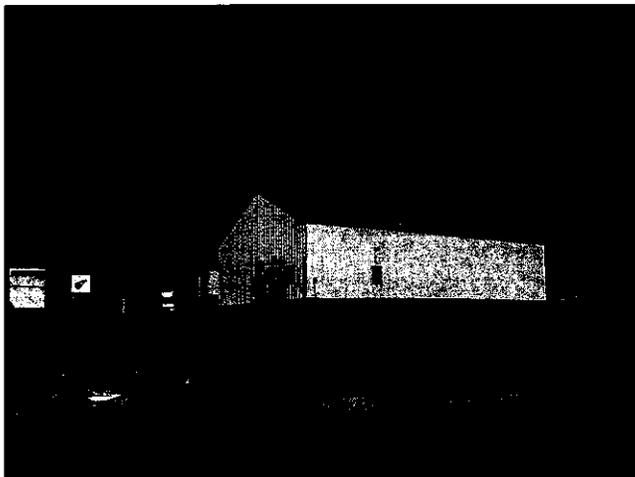
West Point WTP Groundbreaking Ceremony
December 7, 2000



West Point Community Meeting, February 1, 2001



West Point WTP Dedication Ceremony
August 1, 2002



The New West Point
Water Treatment Plant
August 2002

CCWD holds open house for ~~waste~~ water treatment plant

The Calaveras County water District (CCWD) will be holding an open house and the dedication ceremony for the new West Point Water Treatment Plant on Thursday August 1, 2002 from 5:00-8:00 pm.

The Dedication Ceremony will be held at 6pm, with tours of the

plant available. Refreshments and hors d'oeuvres will be served, and the public is invited. The plant is located at 481 Smitty Lane.

The capacity of the old plant was 432,000 gallons per day, and the new one 1 million

Construction began on October 10, 2000, with the plant coming on-line February 2002

Total cost of the project was \$1.4 Million, and was funded by grants and low interest loans aided by CCWD.

The grants included a \$1 Million grant from the California Dept of Health Services, a \$300,000 grant from the US Dept of Agriculture, and a \$100,000 Low-Interest Loan from the US Dept of Agriculture.

The public is invited

Open House and Dedication Ceremony

West Point ~~Waste~~ Water
Treatment Plant

August 1, 2002
5pm - 8pm

481 Smitty Lane
West Point, CA

For more info. call
CCWD at (209)754-3543



Calaveras Times
July 2002

SCANNED

CCWD receives \$1.9 million grant *Grand opening of new treatment plant Aug 1st*

On June 18, 2002, the California Department of Water Resources (DWR) Office of Water Use Efficiency announced the award of a \$1,925,000 grant to the Calaveras County Water District (CCWD).

The grant will provide funding for replacement of the Bear Creek raw water pipeline in West Point. The award was in response to CCWD's application to the Urban Water Conservation Proposition 13 Capital Outlay Grant Proposal Solicitation in March 2002.

Continued page 13

From page 1 - CCWD grant

In the application, CCWD requested \$3.28 million to replace the Bear Creek raw water pipeline, the Bummerville treated water storage tank and the Bummerville water distribution system.

DWR's official notification

specifically earmarked the \$1.925 million award for the Bear Creek pipeline replacement project.

CCWD has been seeking grant funding from state and federal sources to cover the cost of completing needed area-wide improvements in the communities of West Point, Wilseyville and Bummerville.

This large-scale project would include pipeline and treated water distribution system replacement in all three areas, rehabilitation of Wilson Dam and the regulating reservoir, and repair and replacement of storage tanks, pump stations, and pipelines to convey water from the Middle Fork of the Mokelumne River to the new West Point Water Treatment Plant.

These improvements were planned and designed under a \$500,000 DWR Local Projects Feasibility Study Grant awarded to CCWD in 1999.

For more information about the project, contact Kristin Coon at CCWD, (209) 754-3543, ext. 29.

*Calaveras Times
July 2002*

SCANNED

Proposed improvements to West Point's water system

By William G. Dunn

At the regular meeting of the West Point Fire District board in June, I pointed out serious deficiencies in the West Point water distribution system for fire protection.

I noted that downtown West Point is served by a single 6-inch main stretching about 6,500 feet down Winton Road from the treatment plant west of Bumm-

erville and down Main Street into the downtown area.

If there were a major fire downtown, this system would only deliver 500-600 gallons per minute. Adequate fire protection would dictate two or three times that amount.

All the other water mains in the outer downtown West Point area are only 4-inches in diameter.

Turn to WATER, page 13.

WATER

Continued from page 4.

This means that West Point Elementary School, the Community Hall, Veteran's Hall, West Point Community Covenant Church and the Caltrans Maintenance Station on Highway 26 have only 100-150 gallons per minute available in case of a fire; only a fraction of the fire flow needed.

I have proposed constructing an 8-inch main on Pine Street and Bald Mountain Road from Main Street to the west end of an existing 6-inch main that lies about 800 feet east of the elementary school.

Such a main would be about 2,060 feet long and cost about \$100,000. A second 8-inch main could be laid along Highway 26 between Bald Mountain Road and Winton Road, a distance of 1,310 feet at a cost of about \$70,000.

With these two improvements, fire flows of at least 1,000 gallons per minute could be available throughout the whole downtown area.

I have urged the Fire District Board of Directors to get together with school officials, Caltrans people and other community leaders and appeal to the Calaveras County Water District board to make the construction of such a facility the highest priority on their program of improvements for the West Point water system.

William "Bill" Dunn has lived in West Point since 1987. He is a civil engineer specializing in water and water rights.

West Point News
August 2002

West Point's new water treatment plant properly dedicated Aug. 1



Photograph by John Hall

Leroy Fonceca (standing with microphone) represents West Point on the Calaveras County Water District's Board of Directors. Shown here with him at the Aug. 1 dedication ceremony for the new West Point Water Treatment Plant is CCWD Board President Jeff Davidson and Bertha Underhill who represents the Ebbetts Pass area on the CCWD Board.

The new West Point Water Treatment Plant is on line, treating an average of 320,000 gallons of water a day for the current 556 Calaveras County Water District customers in the West Point-Wilseyville area.

Water district officials held a ribbon-cutting ceremony Aug. 1 to officially open the facility, which was completed Feb. 8 and put into service earlier this year.

The new facility, with a capacity of one million gallons a day, more than doubles the amount of water that can be treated each day. The previous plant had a capacity of 432,000 gallons per day.

Leroy Fonceca, who represents the area on the CCWD board of directors, said, "This new plant will not make our rates go up."

CCWD general manager John Stewart said the facility should serve the area well for many years to come.

A \$1 million grant from the state Department of Health Services' Safe Drinking Water Revolving Fund, and a \$300,000 grant and \$100,000 low-interest, 40-year loan from the U.S. Department of Agriculture's Rural Development Agency covered nearly all the costs of the \$1.4 million water treatment plant.

Raw water is supplied by gravity-flow from Bear Creek, and, when necessary, by a pumping station on the Middle Fork of the Mokelumne River, to the treatment facility on Smitty Lane.

The construction contractor, HPS Mechanical Inc. of Bakersfield, began work on the project in October, 2000. SPH Associates of Folsom designed the plant, incorporating a new building and new equipment with existing structures and filters to create a facility that features multi-barrier filtration, chlorine disinfection, filter wash-water recovery, remote operation and emergency back-up systems.

SCANNED

West Point gets \$100,000 for water projects

By Craig Koscho

Calaveras County Water District officials are happy to get \$100,000 in federal money for much needed water improvements in West Point, even though the amount falls far short of the \$6.2 million for which they applied.

The \$100,000 grant was announced recently by Rep. John Doolittle and is expected to be approved soon by President George W. Bush. The money comes through the Veterans Administration, Housing and Urban Development.

CCWD officials had hoped to get \$6.2 million to upgrade the system, but funding for such programs has been diverted nationwide to help in

the rebuilding of New York City following Sept. 11's terrorist attacks.

"We weren't the only project that fell into this circumstance," said CCWD General Manager Simon Granville.

Still, the award is considered significant, he said, because it means the project has been recognized as a worthy one and could qualify for another round of funding next year.

"It's a success because it's very hard to get included in a federal bill like this," said Granville.

CCWD also has applied for state grants on the project and hopes to hear about those efforts in the next six months.

Granville described the project as an ambitious one for West Point, Wisleyville and Bummerville.

It will include replacement of domestic water and fire lines in all three communities as well as rehabilitation of Wilson Dam on Bear Creek. The project also calls for repair and replacement of pump stations and pipes to convey river water to the new West Point water treatment plant.

The upgrades will ensure there is adequate pressure and water for fire protection and to serve future development.

Granville noted that if the West Point Inn fire of 1998 had occurred during the day, there would not have

been enough water in the system to protect the town's other buildings.

CCWD purchased the West Point system in 1954, adding nearby Bummerville to the line five years later. Most of the present system was constructed before 1960.

District officials are seeking grants because the upgrade costs far exceed the financial capabilities of the area.

Granville praised Doolittle; CCWD Director Leroy Forceca, who represents West Point; and the board of directors for their efforts in pursuing the grant.

"This is a milestone for those communities," he said.

Calaveras
Enterprise
11/23/01
cc: Kristin.

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project
West Point Water Distribution System Improvements
and Bummerville Treated Water Tank Replacement Grant Application

Appendix K. Construction Inspection Plan

Calaveras County Water District
West Point/Bummerville Proposition 50 Water Use Efficiency Project

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and Bummerville Treated Water Tank Replacement Grant Application

On 11 June 1997, the Calaveras County Water District's Board of Directors adopted Resolution No. 97-56, formally approving the Calaveras County Water District "Improvement Standards for Water Systems and Sewer Systems." Attached is a copy of the cover sheet and related CCWD Board Resolution 97-56.

CCWD will select a construction management consultant to provide the detailed construction inspections. CCWD will assign a staff construction inspector to oversee the work of the consultant. The District consultant has provided a proposed Construction Management and Inspection technical scope of work, which is attached.

CALAVERAS COUNTY

WATER DISTRICT

IMPROVEMENT STANDARDS

FOR

WATER SYSTEMS
AND
SEWER SYSTEMS

PLANNING
AND
DESIGN

JUNE, 1997

RESOLUTION NO. 97-56

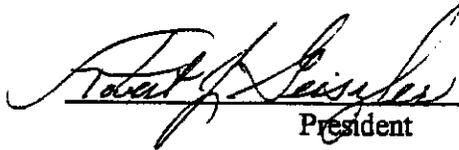
BE IT RESOLVED that the Board of Directors of CALAVERAS COUNTY WATER DISTRICT does hereby approve the revised Improvement Standards For Water Systems and Sewer Systems Planning and Design dated June 1997.

FURTHER RESOLVED that these revised Standards supersede any others previously used.

PASSED AND ADOPTED this 11th day of June, 1997 by the following vote:

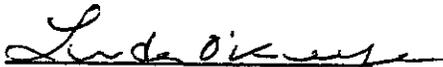
AYES: Directors Dooley, Geiszler, Weinkle, Dunn and Meyers
NOES: None
ABSENT: None

CALAVERAS COUNTY WATER DISTRICT



President

ATTEST:



Secretary


PROPOSED CONSTRUCTION MANAGEMENT AND INSPECTION TECHNICAL SCOPE OF WORK
SCOPE OF SERVICES

HDR's proposed scope of work is provided below.

Task 1 - Preconstruction Activities

- a. **Construction Administration Plan.** HDR will customize our master construction administration plan for this project. The plan stresses schedule compliance, outlines, procedures, and policies. The plan includes goals and objectives of the construction management team with a commitment to teamwork, project organization and related responsibilities, communications, and reporting procedures. It also include quality control/quality assurance procedures, as well as claims mitigation procedures.

Deliverable: Construction Administration Plan

Task 2 - Construction Contract Administration

- a. **Preconstruction Conference.** HDR will attend a preconstruction conference with Citizens and Auburn Constructors prior to the issuance of the Notice to Proceed. If Citizens so desires, HDR can conduct this meeting covering project administration procedures, schedule requirements, and other project specific issues. Meeting minutes for the conference will be compiled, and all parties attending the meeting will receive a copy of the meeting minutes.

Deliverable: Meeting minutes.

- b. **Information Management.** This task will implement a system for organizing, tracking, filing, and managing paper and electronic correspondence; including letters, requests for information (RFIs), field memoranda and clarifications, submittals, contracts, reports, operations and maintenance (O&M) manuals, progress payments, change orders, and other relevant documentation. A filing system will be designed to provide an efficient archival of documents during and after construction. This is important for the management of the project during the construction, as well as for providing usable documentation for claims defense, record drawings, and future design efforts. Document tracking will be coordinated by using HDR's computerized document tracking and database system. The system will track RFIs, change

orders, submittals, design clarifications, field orders, and other miscellaneous correspondence.

- c. **Requests for Information (RFIs).** RFIs will be reviewed and logged. HDR will respond in writing to RFIs from Auburn Constructors during construction to assure conformance with the construction specifications and drawings. All comments will be routed to Citizens. We have budgeted for up to 10 RFIs.
- d. **Submittals.** Submittals will be reviewed for completeness and conformation with the project plans, specifications, and requirements. Submittals will be tracked by number, section, action taken, date received, and date returned to Auburn Constructors. We have budgeted up to 30 submittals.

HDR will also review or take other appropriate action with respect to shop drawings, submittals, samples, and other data that Auburn Constructors is required to submit, but only for conformance with the design concept of the project and compliance with the information given in the contract documents. Such reviews or other action shall not include means, methods, techniques, sequences, or procedures of construction or safety programs and precautions incident thereto.

HDR will evaluate and determine the acceptability of substitute materials and equipment proposed by Auburn Constructors as described in the contract documents.

In addition, HDR will receive and review maintenance and operating instructions, schedules, guarantees, certificates of inspections, and tests and approvals of equipment that are to be provided by Auburn Constructors in accordance with the contract documents. HDR will determine if their content complies with the requirements of the contract documents, and will transmit them to Citizens.

- e. **Daily Logs and Records.** Daily inspection logs and records will be archived in the file system.
- f. **Schedule.** Auburn Constructors' schedule will be reviewed for completeness and appropriateness in regard to the specified milestone dates, shutdown sequencing, and practicality. In addition, their CPM schedule will be monitored monthly. Citizens will be notified of deviations from the schedule.

- g. **Weekly Status Meetings.** Regular status meetings are necessary to maintain continuing and effective dialogue between team members and to keep the project on track. Weekly status meetings will be held on-site to discuss the general project schedule; one-month look ahead schedule; projected shutdowns; current, past, and potential issues; permit and mitigation and monitoring plan issues; and outstanding items such as RFIs and submittals. HDR will organize, attend, and lead these meetings for the purpose of reviewing job progress, discussing key issues, and recommending measures to resolve these issues in a timely manner so as not to delay the completion of the project.

Deliverable: Meeting minutes.

- h. **Monthly Status Reports.** Monthly reports keep all project team members informed of the project status. HDR will prepare monthly reports highlighting project progress, change orders, cost issues, and schedule status.

Deliverable: Monthly status reports.

- i. **Change Orders.** HDR will implement a change order review process as follows:

1. **Contractual and Technical Merit Review.** All potential change orders will be reviewed for contractual and technical merit. Change order items will be reviewed to ensure that the work in question is not part of the original contract scope.
2. **Cost Estimate.** HDR will prepare cost estimates for each change order. This will serve as a crosscheck of Auburn Constructors' pricing and a basis for cost negotiations, if necessary.
3. **Schedule Impact Review.** The impact on the schedule of the proposed change order will be evaluated and reviewed. Any time extensions requested in the change order will be evaluated for merit.
4. **Discrepancy Negotiation.** HDR will negotiate with the Contractor in the event that HDR's cost estimate or schedule impacts review does not agree with Auburn Constructors' request. These negotiations will be conducted to produce an acceptable change order

request that can be presented to Citizens for consideration.

5. **Disposition Recommendations.** HDR will prepare a disposition recommendation for each change order that will provide a narrative justification for either recommendation of execution of the change order or denial of the change order. In addition, HDR will provide assistance to Citizens staff in regard to preparation and justification of change.
6. **Cumulative Impacts.** HDR will track the cumulative impact of change orders on the project cost and schedule. This information will be summarized in the monthly reports.

Up to four change orders have been budgeted under this scope of work.

- j. **Progress Payment Applications.** HDR will determine the amount owed to Auburn Constructors based on HDR's observations at the site and the data comprising the application for payment, and recommend in writing payments to the Contractor in such amounts. Such recommendations of payment will constitute representation to Citizens that the work has progressed to the point indicated and that, to the best of HDR's knowledge, information, and belief, the quality of work is in accordance with the contract documents. The foregoing representations are subject to an evaluation of the work for conformance with the contract documents upon substantial completion, to results of subsequent tests, and to minor deviations from the contract documents correctable prior to completion and to specific qualifications expressed by HDR. The issuance of a recommendation will further constitute a representation that Auburn Constructors is entitled to payment in the amount recommended. However, the issuance of a recommendation for payment will not be a representation that HDR has reviewed copies of requisitions received from subcontractors and materials suppliers and other data requested by Citizens to substantiate Auburn Constructors' right to payment or made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the contract price.
- l. **Payment Request Review.** Auburn Constructors' progress payment applications will be reviewed for compliance

with the project specifications in terms of format and content. Retention amounts and numerical addition will be verified.

2. **Quantity Verification.** Each pay item in the payment application will be verified with the Contractor and through field inspection.
 3. **Payment Application Documentation.** HDR will prepare payment documentation for execution by Citizens to support Auburn Constructors' application.
- k. **Claims Mitigation (Optional).** HDR will utilize the claims mitigation procedures contained in the Construction Administration Plan developed under Subtask 1A. HDR will also track, via the potential claims system, any disputed work items that cannot be processed as a change order, and will make every effort to resolve issues before they become a formal claim. In addition, HDR will prepare complete claims analysis, including resolution strategy for Citizens review.

Task 3 - Construction Monitoring

- a. **Onsite Personnel.** One construction manager and one inspector will be on site as needed. We expect that the construction manager and inspector will attend weekly progress meetings and resolve administrative and technical issues. The inspector will be on site for an average of 15 hours per week, and will observe construction activities and check that construction is proceeding in compliance with the contract documents. The inspector and the construction manager will be responsible for coordinating construction documents, RFIs, etc., clarifying field issues, and scheduling inspections and testing. Occasional site visits by the appropriate design engineer will also be included under this task.

HDR will use Kleinfelder or a subconsultant of Citizen's choice to perform special inspections and laboratory testing. Special inspections will include welding inspection and compaction testing. Laboratory testing will include soils and concrete testing.

- b. **Photo-Documentation.** Photo-documentation will be utilized throughout the construction sequence to provide a visual database of the project progress, unforeseen site

conditions, and other areas of concern or interest. It is also an excellent tool for claims defense. Each photograph will be dated, initialed, and annotated. All photographs will be compiled in a binder and indexed by date.

Deliverable: A copy of this binder will be provided to the Citizens at the end of construction.

Task 4 - Start-up/Contract Closeout Activities

a. **Record Drawings.**

1. **"As-Built" Drawing Review.** HDR will perform a final review of Auburn Constructors' as-built drawings for accuracy and completeness based on information available to HDR. Review comments organized by drawing number and a marked up set of as-built drawings will be returned to the Contractor for final revision.
2. **Final "As-Built" Drawing Preparation.** HDR will prepare electronic as-built drawings based on the contractor's record drawings, changes during construction compiled by HDR, and any other revisions noted by Citizens' project manager. HDR will provide one full-size hard copy and one electronic copy (AutoCAD) to Citizens, along with the contractor's field record drawings.

Deliverable: One set of final record drawings.

b. **Final Walkthrough.** HDR will coordinate one final project walkthrough when the project is substantially complete, which includes the following:

1. **Final Walkthrough/Punchlist.** HDR will compile a table of punchlist items for the Contractor to address, and will work closely with Citizens to collect punchlist items. The final punchlist will be provided to both Citizens and Auburn Constructors.

Deliverable: Final punchlist.

2. **Administrative Requirements Verification.** HDR will verify that the required certificates of compliance, O&M manuals, warranty certificates, final record drawing information, training, and other administrative items required by the contract

documents have been executed and delivered by the Contractor.

- c. **Project Completion Report.** HDR will compile a final report to Citizens to summarize the project status and the final walk-through, as well as conclude any final administrative actions to close out the project. The following tasks are anticipated:

1. **Final Progress Payment.** Auburn Constructors' final progress payment application will be reviewed for conformance and completeness. Final payment quantities will be verified. HDR will provide the final progress payment, and support documentation to Citizens staff for presentation to the Board.

Deliverable: Final progress payment.

2. **Notice of Substantial Completion.** HDR will compile and execute the notice of substantial completion. The notice will be provided to both Citizens and Auburn Constructors.

Deliverable: Notice of substantial completion.

3. **Final Project Summary Report.** A final project summary report will be written and forwarded to Citizens. This report will document the schedule status, outstanding issues, change order status, punchlist status, and the operational status of all new facilities.

Deliverable: Final project summary report.

4. **Project Records.** HDR will deliver one copy of the project documentation to Citizens.

Deliverable: One copy of the project documentation.

- d. **Contract Closeout**

1. **Final Punchlist Walk-through.** HDR will perform one final walk-through to verify that all punchlist items have been completed to Citizens' satisfaction. The completion of each punchlist item will be verified and the completion date noted.

2. **Contract Retention.** HDR will review the Contractor's final payment application for retention and will make a recommendation for payment of retention to Citizens staff.
3. **Notice of Completion.** Upon verification of completion of all punchlist items, HDR will execute and file the notice of completion. The notice of completion will verify that the Contractor has fulfilled the contract requirements and that all work is complete.
4. **Final Payment.** HDR will review the status of all stop notices, mechanics liens and other claims against the project prior to the time of preparing the final payment request. In addition, HDR will execute a lien waiver from the Contractor and each of his subcontractors and suppliers.

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Appendix L. USGS Qual Maps Providing Location of Water Sources and Conveyance to Water Source for Proposed Project