

ENGINEERING COMMITTEE

AGENDA

Committee Meeting:
Tuesday, July 12, 2016
2:00 PM (Board Room)

Calaveras County Water District
120 Toma Court / P.O. Box 846
San Andreas, California 95249

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at (209) 754-3028. Notification in advance of the meeting will enable CCWD to make reasonable arrangements to ensure accessibility for this meeting. Any documents that are made available to the Committee before or at the meeting, not privileged or otherwise protected from disclosure, and related to agenda items, will be made available at CCWD for public review.

ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

1. **PUBLIC COMMENT**

At this time, members of the public may address the Committee on any non-agendized items. The public is encouraged to work through staff to place items on the agenda for consideration by the Committee. Comments are limited to five (5) minutes per person.

2.* **APPROVAL OF MINUTES**

- May 10, 2016 Minutes

3.* **NEW BUSINESS**

3a. Presentation / Discussion of Forest Meadows Wastewater System and Effluent Storage and Disposal Facilities (Bob Godwin, Senior Engineer)

3b. Presentation / Discussion of West Point/Wilseyville Water Supply Reliability and Planning Objectives (Charles Palmer, District Engineer and Peter Martin, Water Resources Program Manager)

4. **OLD BUSINESS**

- Nothing to Report

5. **FUTURE AGENDA ITEMS**

- Review of Suspension of Service Policy

6. **NEXT MEETING**

Tuesday, August 9, 2016 at 2:00 PM
Regular Meeting

7. **ADJOURNMENT**

*Paperwork included in package

ENGINEERING COMMITTEE
CALAVERAS COUNTY WATER DISTRICT
May 10, 2016

The Engineering Committee of CALAVERAS COUNTY WATER DISTRICT met at the CCWD offices in San Andreas, California, at 1:30 p.m.

The following Directors/Committee Members were present:

Jeff Davidson
Terry Strange

Also present:

Dave Eggerton	General Manager
Jeff Meyer	Director of Administrative Services
Teresa Tanaka	Director of Operations
Charles Palmer	District Engineer
Bob Godwin	Senior Civil Engineer
Robbie Creamer	Engineering Analyst
Tami Bennett-Kirby	Senior Administrative Technician

1. PUBLIC COMMENT: None

2. APPROVAL OF MINUTES:

The March 15, 2016 Minutes were approved as presented.

3. NEW BUSINESS

3a. Presentation / Discussion of La Contenta Wastewater Master Plan and Potential Purchase of Additional Property for Expansion of Effluent Storage and Disposal

Bob Godwin gave a PowerPoint presentation, along with accompanying slide handouts, discussing staff's efforts made to date to update the Master Plan for La Contenta as well as the planning efforts made regarding the potential land purchase for future storage expansion should development in the area continue. In follow-up to the March 15, 2016 Engineering Committee meeting staff has prepared and distributed an RFP requesting engineering services to update the Jenny Lind and Copper Cove water systems, and the La Contenta and Copper Cove wastewater system master plans. Additionally Bob has met with these engineering consultants at the project sites. Proposals are due by June 7, 2016 and it is anticipated a recommendation will be made to the Board in July 2016 once the next fiscal year budget has been approved.

Staff has identified the need for additional disposal and irrigation land and storage associated with La Contenta as the District moves forward and increases the capacity of the La Contenta treatment plant. It is estimated the District would have to double its

capacity level when it reaches 4.5 gpd at the treatment plant. Lengthy discussion took place regarding potential utilization of a 50-acre piece of residential property southeast of Valley Springs purchased by the District in 2005 versus purchasing an alternative site. In 2007 the District had a report prepared which evaluated the cost and feasibility of constructing sprayfields at the 50-acre site.

- Would have involved the construction of a pump station, a force main or distribution line to the property and the construction of the sprayfields.
- Several resultant issues emerged from this report regarding the proposed plan (primarily easement / access issues; no existing infrastructure or way to get water to the site)
- The 50-acre property does not address the storage issue that we experience during wet winter months when there is virtually no irrigation.

Bob recommended the committee, and ultimately the full Board, consider looking at the potential purchase of an alternative site consisting of 53 acres directly south of the La Contenta treatment plant and directly north of the District's lower effluent storage pond. The property is currently listed for \$880,000, although price may be negotiable as the District appears to be the only interested party. The District is working on obtaining a current appraisal for the property.

Advantages to this proposed piece of property include:

- Adjacent to the existing storage pond
- Allows expansion of storage
- Tailwater captured by lower effluent storage pond
- Minimal infrastructure
- Reduces mixed land use near the WWTP
- Provides flexibility in disposal
- Additionally we could increase the volume of our effluent storage pond while not incurring any additional permitting requirements.

Director Davidson inquired about possible encroachments if the District were to purchase this particular property. Bob explained that the pond expansion in depth could be constructed in such a way that would not encroach upon the property.

Director Davidson suggested having a model to review the District's next step prior to any property negotiations. He felt it would be more prudent to purchase agricultural property for \$5,000 to \$10,000 rather than buying prime residential property in the middle of AD604 for \$880,000.

Director Strange inquired as to the current market value of the existing 50-acre piece of property that the District currently owns. It was decided by the committee that the District paid approximately \$500,000 for the property in 2005.

Dave Eggerton suggested moving forward with the appraisal and completing the due diligence process.

Both Directors agreed that it made sense to develop an additional use for the tailwaters based upon the current and continuing need for water conservation.

Charles Palmer commented that the 53-acre property would work well for the District for the next 10-15 years and would provide the opportunity to continue utilizing the golf course for the excess water needs experienced in wet years. Although this property would be a short-term solution, the update to the master plan would provide long-term answers.

3b. Presentation / Discussion of the Copper Cove Wastewater NPDES Permit and Compliance with Time Schedule Orders

Bob Godwin also gave a brief PowerPoint presentation regarding the Copper Cove Wastewater Permit and Time Schedule Orders.

CCWD holds and needs to hold a NPDES permit because the Saddle Creek golf course has jurisdictional wetlands around it which are technically considered "waters of the United States". The District received a Time Schedule Order (TSO) in 2006, updated in 2012; final compliance is due by July 2016. The TSOs were to allow the District to come into compliance with the NPDES permit limits. The Reclaimed Treatment Plant treats effluent with both filtration and ultra-violet light disinfection prior to it being sent to the golf course. The District also operates sprayfields immediately north of Pond 6; sprayfields operation is covered under the District's Waste Discharge Requirements (WDRs) while the effluent from the Reclaimed Treatment Plant going to the golf course is covered under the NPDES permit. The NPDES permit provides for minimum mandatory penalties if the District violates water quality objectives. If it were not for the jurisdictional wetlands the District could get a General Irrigation Order (just as it has at La Contenta) and not have a NPDES permit, eliminating the mandatory minimum penalties.

To comply with the TSOs to date, staff has abandoned the use of chlorine disinfection of effluent going to the golf course, constructed a UV disinfection system in 2008 and made some changes to the way water is applied to the sprayfields near Pond 6 thus reducing the level of manganese and iron. To date the District has addressed all of the TSO-referenced issues with the exception of ammonia – there is either ammonia or nitrates in the effluent. To solve this last issue before the TSO expires in July 2016, staff requested authorization from the Board in 2014 to purchase a pump for use at the Reclaimed Treatment Plant to use raw water to flush out the entire golf course's irrigation system, irrigate at night and then deliver raw water to the wetlands. The District would then resume sending reclaimed water to the golf course. After discussion among District staff it became apparent this solution may not allow enough time for proper disposal. Staff then met with the RWQCB in March 2016 and requested they consider an alternative proposal; the RWQCB suggested the District request a change in location of its sampling site to NC2D. The Water Board has verbally approved this request and the resultant documentation should arrive within the next 2-3 weeks. The Permit Update would then be available for a 30-day Public Review period and then go before the Regional Board in August 2016.

The District will be marketing the pump for as close to the purchase price paid in 2014 as possible.

(Terse Tanaka left the meeting at 3:00 p.m.)

4. OLD BUSINESS

None

5. STAFF COMMENTS:

None

6. DIRECTOR COMMENTS:

None

7. FUTURE AGENDA ITEMS:

- Standalone Report for West Point

8. SETTING OF NEXT MEETING

- June 7, 2016 (2:00 p.m.)

9. ADJOURNMENT


There being no further business, the meeting adjourned at approximately 3:10 p.m.

Respectfully submitted,

Tami Bennett-Kirby
Senior Administrative Technician

Engineering Agenda Item

DATE: July 12, 2016

TO: Dave Eggerton, General Manager 
Charles Palmer P.E., District Engineer

FROM: Bob Godwin, P.E., Senior Civil Engineer 

RE: Presentation and Discussion of Forest Meadows Wastewater System
and the Forest Meadows Golf Course

SUMMARY:

This agenda item for the Engineering Committee is a discussion of important topics related to the Forest Meadows wastewater system and the Forest Meadows Golf Course. This discussion will include:

- Description of existing wastewater facilities
- Summary of sewer flowrates
- Estimate of existing treatment and disposal capacity
- Summary of golf course maintenance requirements
- Issues associated with Forest Meadows Golf Course if sold or the property subdivided

FINANCIAL CONSIDERATIONS

None at this time.

CCWD ENGINEERING COMMITTEE

Agenda Item

DATE: July 12, 2016

TO: Engineering Committee

FROM: Charles Palmer, P.E., District Engineer
Peter Martin, Water Resources Program Manager

SUBJECT: West Point Water System / Raw Water Supply Reliability

Introduction

The West Point Water System currently has 567 service connections providing potable water to the communities of West Point, Wilseyville, and Bummerville. The raw water supply is diverted from Bear Creek and the Middle Fork of the Mokelumne River. Bear Creek is not a completely reliable water source during the summer months and, standing alone, cannot provide sufficient water supply during seasonal dry periods. As a result, CCWD has an agreement with the Calaveras Public Utility District (CPUD) for purchase of water annually from the Middle Fork. Based on the last planning effort by HDR in 2004, CCWD implemented many but not all of the previously recommended capital improvements. Also, the previous planning effort did not fully anticipate the 2015 drought conditions, including insufficient flow with lengthy curtailments in Bear Creek, degraded raw water quality, and extensive/extended use of raw water diverted from the Middle Fork. An updated planning effort is proposed to re-evaluate the reliability of the raw water sources and confirm and prioritize future capital improvement projects.

Existing Facilities

CCWD's existing raw water facilities are shown in the attached Figure 1 and described below.

Bear Creek Diversion: Raw water diverted from Bear Creek is conveyed 1.9 miles by gravity via a 16-inch diameter pipeline to storage in the Regulating Reservoir (50 ac-ft), which is located north of intersection of Bummerville Rd and Winton Rd; from this reservoir, raw water is then conveyed 0.5 miles via pipeline to the Water Treatment Plant (on Smitty Ln). The Regulating Reservoir allows the flow of raw water to be controlled as needed to operate the water treatment plant according to daily water demands. As permitted by the State on Sept. 7, 1967, the Bear Creek water right allows for diversion of up to 4-cfs (up to 1,830 ac-ft annually) and annual storage of up to 150 ac-ft (between December 1st and May 30th).

Wilson Dam/Lake: Is a 25 ac-ft earthen dam and reservoir on Bear Creek upstream of CCWD's diversion point. The dam was constructed sometime around 1951 on an easement on land owned by a prior logging company, which is now owned by SPI. The dam is currently non-operational due to a large sinkhole in the middle of the dam's upstream face that first appeared in early 1991. Since that time, there has been an on-going discussion regarding the pros and cons of decommissioning the dam versus repair and restoration of the dam and lake. As the dam is instream, subject to environmental concerns and other considerations such as potential liability to the District, its future must be addressed as part of whatever suite of projects are ultimately selected by the District to provide for the water supply needs of the community into the future.

Middle Fork Diversion: CPUD owns and operates Schaads Reservoir having storage capacity of more than 2,400 ac-ft with pre-1914 senior water rights. CCWD has an agreement with CPUD for water purchase of up to 200 ac-ft annually from releases made to the Middle Fork Mokelumne River from CCWD's diversion point 5-miles downstream from Schaads. Raw water has been purchased from CPUD thirty-two (32) of past thirty-nine (39) years. In 2015, because of drought conditions and negligible flow in Bear Creek, greater than 80% of the annual raw water supply was diverted via the Mokelumne River. In order to divert raw water from the Middle Folk to the water plant, the water is pumped via two pump stations at 200-gpm, 1.9-miles and uphill 500 feet in elevation. Using slightly more pumping effort, this raw water can be conveyed an additional 0.5 miles to the Regulating Reservoir for short term storage.

Planning Considerations

The West Point/Wilseyville/Bummerville System Improvements, Final Feasibility Report by HDR dated November 2004 was the last effort to evaluate water supply options and develop a capital program. Several recommended capital projects were completed including the Bear Creek raw water pipeline, West Point distribution system and clearwell improvements, and Bummerville storage tank replacement. Other recommendations have not yet been implemented such as repair of the Wilson Lake dam and replacement of the raw water pipeline from the Middle Fork pump station to the Water Plant. Also, the HDR plan stated enlargement of the Regulating Reservoir (from 50 ac-ft to 124 ac-ft) was feasible but not considered cost effective at that time.

More recently, CPUD is in the process of evaluating alternatives to use its senior water rights in Schaads to provide a more reliable water supply for its 5,400 customers in San Andreas and Mokelumne Hill, and avoid curtailments that limit diversion on the South Fork (which currently supplies Jeff Davis reservoir and water plant). A historic ditch that once transported water from Schaads to the South Fork has been non-operational for some time; as a solution, CPUD has been studying and looking for financial means to construct a new \$11 million pipeline somewhat following the same alignment as the original ditch. CCWD should consider if from a cost/benefit standpoint participating in the project is justified to either improve raw water supply reliability and/or water quality for the West Point system.

It is expected that CCWD will continue to use its water rights on Bear Creek to the maximum extent possible and to the extent that flows permit during the dry season. Also, CCWD will continue to purchase supplemental water from CPUD via the Middle Fork pump station to supply raw water during dry months and periods of drought. Given the last feasibility study and capital program for the West Point system were developed 12-years ago, and events of the 2015 drought have renewed concerns over water supply reliability and water quality, CCWD staff proposes to conduct an updated study and confirm and prioritize the next series of capital improvements. The study should consider criteria such as raw water source reliability and redundancy, existing water rights, raw water quality, service area growth estimates, engineering feasibility, capital and operating costs, energy efficiency and pumping costs, age/condition of existing facilities, environmental issues, etc.

Furthermore, the study provides an opportunity to address important questions and issues regarding the system such as: a) What options exist for the future of Wilson Reservoir and associated costs/benefits to the District in performing its mission b) What is the condition of the Middle Fork diversion facility, pump station and pipeline and do these facilities have sufficient capacity to meet current and future water demands for the community, c) Can specific projects improve source water quality such as increasing the size and capacity of the Regulating Reservoir, d) What are the associated costs for each option and what is the most efficient means of providing a reliable water supply and maintaining good water quality in the system, e) How might water resources projects proposed by CPUD also benefit CCWD customers and should we be working with CPUD with a common goal of developing these projects, and f) greater clarity on associated water right considerations. At this time CCWD staff is requesting comment and preliminary direction from the Engineering Committee.

Financial Considerations

Funding for the study would likely come from the West Point Water Expansion Fund and the Water Resources Department Program Budget.

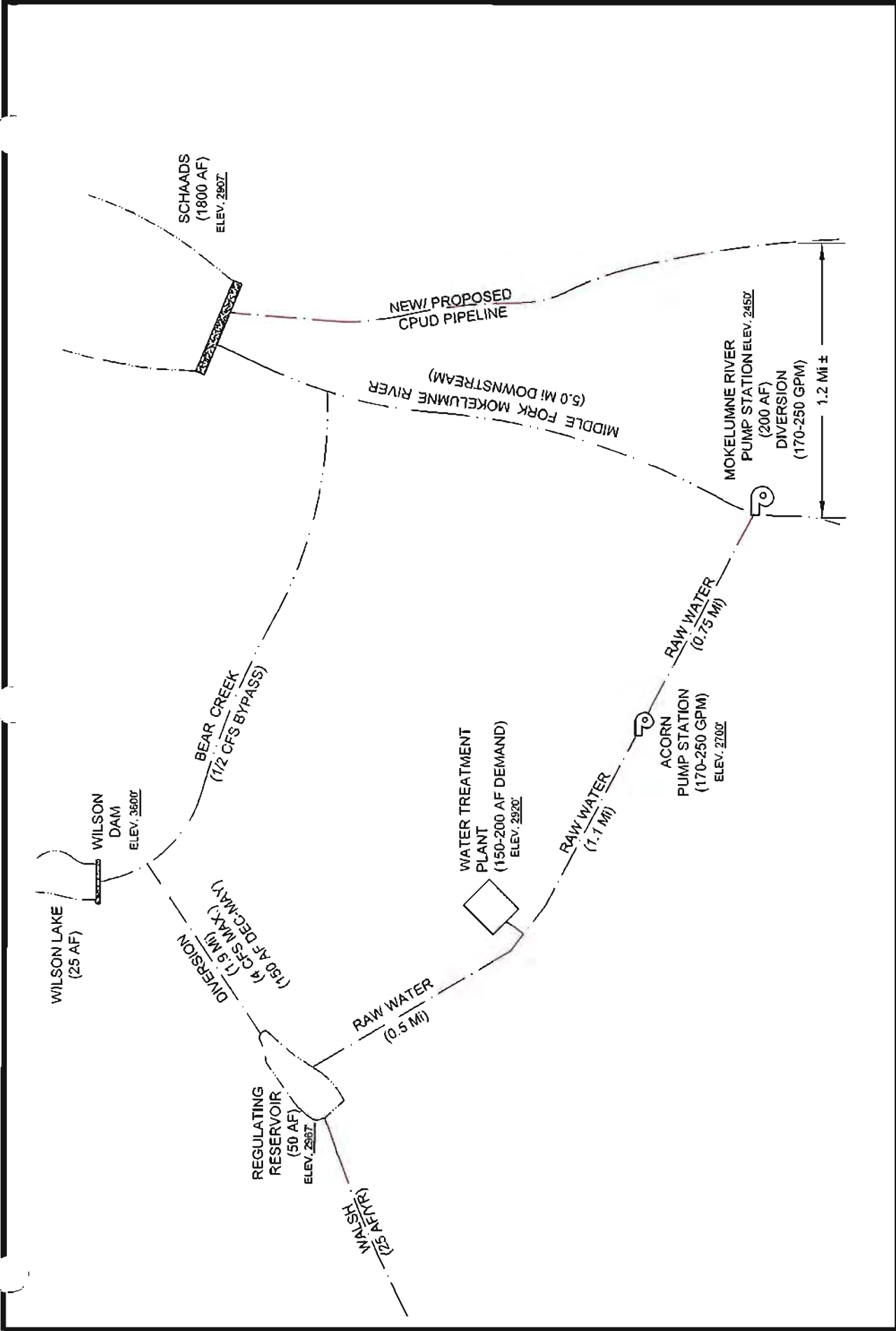


FIGURE 1
WEST POINT WATER SYSTEM
RAW WATER SUPPLY

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