

**BUTTE COUNTY GRAND JURY REPORT 2008/2009  
THERMALITO WATER AND SEWER DISTRICT**

**SUMMARY**

The 2008/2009 Butte County Grand Jury visited the Thermalito Water and Sewer District (herein referred to as the “District”). The primary purposes were to evaluate the general adequacy of District operations and to determine if the District was providing adequate service to its customers, especially in reference to water quality, quantity, and price.

The Thermalito Water and Sewer District was established in 1922 to deliver water to its customers located west of Oroville, California. Sewer service was added in 1972. Today, the District serves over 2900 water customers and 2100 sewer customers.

Water is obtained from Concow Reservoir, which is owned by the District and four (4) ground water wells within the District boundaries.

Sewage is collected and delivered to a jointly developed wastewater treatment plant operated by the Sewerage Commission-Oroville Region (SC-OR).

The Grand Jury review was prompted by a complaint letter. The Grand Jury initiated the visit by submitting to the District a letter requesting broad information on District operations and rates. Following receipt of the response, the Grand jury visited the District on September 18, 2008, and met with the General Manager and Legal Counsel. Subsequent to the visit, the Grand Jury submitted three additional letters requesting additional information. The responses to the written and interview questions were comprehensive.

From the responses and discussion, the Grand Jury concludes that the District:

- Has planned for an adequate water supply to meet current and future needs
- Appears to be properly maintaining the water and sewer systems
- Has a reasonable number of employees and efficient work practices
- Has procedures for ensuring that providing services to new customers will not burden existing customers with additional capital or operating expenses unrelated to their services
- Is meeting its obligations for collecting sewerage and transporting it to SC-OR
- Has established water and sewer rates that are reasonable and competitive
- Provides regular meetings open to the public to review operations and issues

- Notifies and conducts meetings to review proposed rate increases

At present, the District does not have a leakage detection program or a water conservation program. The Grand Jury recommends that the District continue to closely monitor its Unaccounted for Water and develop and have ready to implement a Leakage Detection Program. The Grand Jury also recommends that the District implement a Water Conservation Program.

## **GLOSSARY**

F/Y- Fiscal year. The F/Y for the District runs from July 1 to June 30 of the following year.

Unaccounted for Water- The difference between the volume of water entering the system and the amount billed to its customers.

gpm- Gallons per minute

mgd- Million gallons per day

O&M- Operations and Maintenance

## **BACKGROUND**

Prompted by a complaint letter concerned about water rate increases and alleged price gouging, the Grand Jury initiated a review of the District's water rates. From a document prepared by the Paradise Irrigation District comparing water rates by various water purveyors in the county, the Grand Jury concluded that the water rates charged by the Thermalito Water and Sewer District were competitive but elected to visit the District to assess its operations.

## **APPROACH**

The Grand Jury obtained water rates charged by other water purveyors in the county and compared them with those charged by the District. The Grand Jury also visited the District to determine the reasons for recent rate increases and to evaluate the operations of the District. Subsequent to the visit, the Grand Jury requested additional information via three letters.

## **DISCUSSION**

### **Water System**

The District obtains water for its water customers from the Concow Reservoir (formerly known as Lake Wilenor) and from four operating ground water wells. Concow Reservoir is a portion of the watershed feeding Lake Oroville. The combined capacity of the reservoir and wells is about nine million gallons per day (mgd). The District's average water demand varies from 1.34 mgd in the winter to 3.216 mgd in the summer. The District has exclusive water rights to the Concow Reservoir supplies and the capability of adding more ground water wells if required. Thus, the District has adequate supplies to meet the demands of future customers.

### **Surface Water Supply**

The District has the water rights to 7200 acre-feet of water developed by Concow Reservoir. The reservoir is formed by an eighty foot high concrete dam with an overflow spillway. Spillway releases are controlled by flashboards operated by District personnel.

The Reservoir is fenced, and public access is limited to onshore fishing. The District has an agreement with the State to operate Concow Reservoir as a fishery. Under this agreement, the District releases water into Oroville Reservoir during the fall, winter, and spring months when inflows exceed reservoir evaporation and local Concow residential water demands. During summer months, the District maintains Concow Reservoir full or nearly full and uses the water previously released and stored in Lake Oroville to meet the demands of its water customers. The California Division of Dam Safety performs annual inspections of the dam.

### **Ground Water Supply**

The district has four operating ground water wells which can collectively deliver about 2.9 mgd. The District monitors the ground water levels and has noticed only a very small (six inches) lowering of the water level when the wells are operating. Thus the wells appear able to provide a sustained delivery of ground water. Ground water is chlorinated at the wells just prior to entering the delivery system. Water is tested monthly by FGL (formerly Monarch) Laboratory in Chico. Test reports are submitted to the California Department of Public Health.

### **Water Distribution System**

Surface water is withdrawn from the canal between Thermalito Forebay and Afterbay. It is treated by a new pressure filter treatment plant, pumped to a water storage tank at the base of Table Mountain, and delivered by gravity to District customers. Ground water is added to the system at the water main closest to each well. The District recently completed construction of a new thirty six inch diameter pipeline from the filtration plant to the water storage tank. This new line parallels an existing twenty four inch diameter steel pipeline. The steel pipeline has recently been relined. Together, the two pipelines give the District security in its ability to deliver water to its customers. Capacity of the pipeline system is over 12 mgd. The District has over fifty miles of water pipelines. Portions of the distribution pipelines were built in the 1920's and portions of the distribution pipelines are steel. As a result of the age of the system and construction materials, leakage is a potential problem.

Water deliveries are recorded at the point of delivery to each customer by a water meter. Meters are read monthly. The District reported that their meters are old and under record the amount of water delivered. Specifically, during periods of low flows the meters do not record all of the water delivered. The District has commenced a meter replacement program to replace the under recording meters.

The District monitors "Unaccounted for Water". Unaccounted for Water is the difference between the volume withdrawn from surface and groundwater sources and the volume of water delivered to its customers. "Unaccounted for Water" is attributed to system leakage, meter inaccuracies, water used for flushing lines, fire fighting, and other uses not measured. The District advised that "Unaccounted for Water" is about three to five percent of withdrawals, which is low. The District does not currently have a leakage detection program. Significant leakage is normally found by customers and reported to the District. The District does not have a water

conservation program. As water in California is relatively scarce and it is a very valuable resource, efforts should be made by all water agencies and users, including the District to conserve water and to prevent waste.

### **Water Quality**

The District takes potable water samples monthly from the delivery system and sends the samples to FGL (formerly Monarch) Laboratory of Chico for testing. The test results are sent to the California Department of Public Health. The test results are within government guidelines.

### **Sewer System**

Sewage services were added by the District in 1972. By Butte County law, when the septic system of a District water customer fails, the customer is required to become a sewer customer of the District. The District, together with two other local water agencies has formed an agency called CO-RE for treating wastewater. Today the District serves over 2100 customers within its boundaries. In addition to conveying wastewater from its customers, it also conveys wastewater from some customers of the City of Oroville through its wastewater conveyance pipelines to the SC-OR wastewater treatment plant. The District's current sewer system consists of about thirty five miles of pipelines.

### **New Subdivisions and Customers**

New subdivisions are required to provide water and sewer pipelines at the developer's cost from the residences to District mains. Prior to acceptance, these pipelines are inspected by District personnel for construction adequacy. In addition to water and sewer usage fees, all new customers are required to pay water and sewer connection fees to help offset the District's capital costs for facilities already in place.

### **Operations and Maintenance**

The District performs all of the necessary O&M with a work force of eleven full time employees. Primary employee activities are meter reading, billing, mapping, meter installation, construction, and water treatment. The only activities performed by outside contractors are Engineering, Auditing, Water Testing, and Legal Services. The District claims that when compared to other similar water districts, its number of employees is much less. The District has purchased and operates a TV inspection camera for in place checking of its water and sewer pipelines.

### **Finances**

At present, the District receives no funding from County, State or Federal agencies. Thus, the District finances all of its operations and maintenance activities and system upgrades from water and sewer revenues. The District has initiated investigation into potentially available County, State and Federal grants. For the FY 2007/2008, District expenses were \$2.7 million compared to revenues of \$2.3 million. The difference is partially due to capital expenses for a new water filtration plant and pipeline repairs and upgrades. Further upgrades are planned. The Grand Jury requested and received a copy of the District's FY2007/2008 Audit. A review of the Audit did not find any discrepancies or concerns.

### Water and Sewer Tariffs

Previously, District water tariffs were based on a philosophy of having the lowest rate in the County. This philosophy resulted in shortages in funds for O&M activities and capital reserves. Thus the District has recently initiated a series of rate increases aimed at getting the water and sewer tariffs closer to actual expenses and to rebuild capital reserves. The rates for the last few years are shown in the Table below:

<b>Fiscal Year</b>	<b>04/05</b>	<b>05/06</b>	<b>06/07</b>	<b>07/08</b>	<b>08/09</b>	<b>09/10</b>
Water connection cost	16.00	17.60	20.06	22.47	26.00	28.00
Water usage cost per 100 cubic feet	*	0.46	0.52	0.58	0.66	0.71
Sewer cost	13.75	16.00	17.50	18.30	23.30	34.30

\*Data not available

Proposed rate increases are determined after a review and recommendation by the District's engineer (Kennedy /Jenks) and public hearings. Notices of the public hearings were given by mailings to the District's water and sewer customers and by notices in periodicals. For the FY 2008/2009 and 2009/2010 increases, notice of meetings scheduled for May 30 and June 17, 2008 were mailed to each customer and posted in the Chico Enterprise Record and Oroville Mercury News on May 1, 8, and 15, 2008. The public hearings were set during day and evening hours in order to give all members of the public an opportunity to attend and comment. Attendance was light and comments received were minimal.

The Paradise Irrigation District has developed a matrix of water rates for ten water agencies within or near the County. For FY 2007/2008, depending upon the amount of water delivered, the Thermalito Water and Sewer District ranked as the fourth to sixth lowest. The rates are lower than those paid by Oroville customers, immediately across the river (See Appendix A).

### FINDINGS

- F1. The recent water rate increases appear reasonable. Water rates charged are below or close to those charged by similar Water Agencies in the vicinity.
- F2. The District currently reports a three to five percent Unaccounted for Water statistic which is low for this system. However, considering the age of portions of the system, the use of steel pipelines, high static pressures in some areas, transient pressures from the well pumps, and potential ground movements, the situation could change dramatically. At present, the District relies on customers and the public to report leaks. It does not have a leakage detection program. Relying on District customers and the public to report leakage is not sufficient. Water saved would reduce the District's treatment and pumping costs. Water saved could be released from Oroville Reservoir and used to produce power and meet other downstream water uses.
- F3. The District has not developed a Water Conservation Program to encourage conservation or to inform the public of water savings practices. The District's flat water consumption

## RECOMMENDATIONS

- R1. The District should expand its explanation of the need for rate increases in the literature sent to its customers and during public meetings. Specifically, the District should outline its needs and plans for pipeline repairs and upgrades.
- R2. The District should continue to carefully monitor its calculations of “Unaccounted for Water” for any significant changes. To prepare for any significant increases in Unaccounted for Water, the District should develop and have ready for immediate implementation a leakage detection program.
- R3. The District should review the water conservation programs adopted by other California Water Agencies, tailor a program to its situation, and then implement a water conservation program to inform and encourage its customers of the need to conserve water. The District should review and evaluate using a tiered consumption rate to encourage conservation.

## REQUEST FOR RESPONSES

Pursuant to Penal Code Section 933.05, the Grand Jury requests responses as follows:

Thermalito Water and Sewer District

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted subject to the notice, agenda and open meeting requirements of the Brown Act.

Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person, or facts leading to the identity of any person who provides information to the Civil Grand Jury. The California State Legislature has stated that it intends the provisions of Penal Code Section 929 prohibiting disclosure of witness identities to encourage full candor in testimony in Civil Grand Jury investigations by protecting the privacy and confidentiality of those who participate in any Civil Grand Jury investigation.

## APPENDIX A

Paradise Irrigation District Water Rate Comparison

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Paradise Irrigation District Water Rate Comparison

**COMPARATIVE WATER RATES**  
**Cost per MONTH for Various Volumes of Water**  
**Includes Service and Quantity Charges Where They Apply**  
**All Residential 3/4" Meters**  
**Updated 01/09**

Utility	0 Cu. Ft. 0 Gal.	500 Cu. Ft. 3,740 Gal.	1000 Cu. Ft. 7,480 Gal.	1,500 Cu. Ft. 11,220 Gal.	2,000 Cu. Ft. 14,960 Gal.	2,500 Cu. Ft. 18,700 Gal.	3,000 Cu. Ft. 22,440 Gal.	3,500 Cu. Ft. 26,180 Gal.	4,000 Cu. Ft. 29,920 Gal.	4,500 Cu. Ft. 33,660 Gal.	5,000 Cu. Ft. 37,400 Gal.	5,500 Cu. Ft. 41,140 Gal.	6,000 Cu. Ft. 44,880 Gal.	Effective Date
Paradise Irrigation District "A" c <sup>^</sup>	5	20.60	23.95	27.30	30.65	34.00	37.35	40.70	44.05	47.40	50.75	54.10	57.45	Jan-08
Paradise Irrigation District "B" c %	7	27.26	30.61	33.96	37.31	40.66	44.01	47.36	50.71	54.06	57.41	60.76	64.11	Jan-08
Cal. Water Svcs - Chico	3	18.12	22.04	25.95	30.14	34.33	38.52	42.71	46.90	51.09	55.28	59.47	63.66	Nov-08
Cal. Water Svcs - Oroville	9	39.43	47.40	55.33	63.49	71.96	80.42	88.89	97.36	105.83	114.30	122.77	131.24	Nov-08
Del Oro Water Co. Pines Dist.	4	19.76	27.86	35.96	44.06	52.16	60.26	68.36	76.46	84.56	92.66	100.76	108.86	Nov-08
Lime Saddle Corn. Svcs.	10	54.33	63.26	71.13	81.12	90.06	98.99	107.92	116.85	125.78	134.71	143.64	152.57	Nov-08
Magalia Co. Water Dist.	8	27.59	39.16	50.75	62.33	73.90	85.48	97.06	108.64	120.22	131.80	143.38	154.96	Jun-08
South Feather Water and Power	2	15.00	18.21	21.40	24.60	27.80	31.00	34.20	37.40	40.60	43.80	47.00	50.20	Jan-09
Stirling Bluffs	1	10.87	14.02	17.17	20.32	23.47	26.62	29.77	32.92	36.07	39.22	42.37	45.52	May-07
Thermalito Irrigation District	6	26.00	29.30	32.60	35.90	39.20	42.50	45.80	49.10	52.40	55.70	59.00	62.30	Jul-07
City of Redding		14.00	18.30	22.60	26.90	31.20	35.50	39.80	44.10	48.40	52.70	57.00	61.30	Jan-08
City of San Francisco <sup>a</sup>		5.70	16.94	29.44	41.94	54.44	66.94	79.44	91.94	104.44	116.94	129.44	141.94	Jul-08
City of Santa Barbara		17.35	37.49	55.89	78.89	101.89	124.89	147.89	170.89	193.89	216.89	239.89	262.89	Jul-08
Marin Water District - Summer <sup>b</sup>		9.98	24.03	38.08	52.13	66.18	80.23	94.28	108.33	122.38	136.43	150.48	164.53	Jul-08

- PID average residential customer uses 2,000 Cu. Ft / Month
- Water prices for PID and neighboring agencies are numbered from 1-10 for each water usage example. 1 being the lowest water rate in that column and 10 being the highest cost for water.
- **Key:**
- <sup>^</sup> "A" Rate indicates annual cumulative usage of 85 Units or less.
- % Households averaging over 7 units per month will be placed on "B" rate the following year.
- <sup>a</sup> Water Rates are Higher if Customer does not submit a Water Department Conservation Affidavit.
- <sup>b</sup> Winter Rates are Higher.
- <sup>c</sup> Does not include \$1.00 Fire Hydrant Maintenance Surcharge.

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