County Service Area #8 – Palo Cedro Sewer and Water

Draft Rate Report

July 3, 2018

INTRODUCTION

County Service Area #8 – Palo Cedro Sewer and Water (CSA) currently provides sewage collection, treatment and disposal to 166 active customers representing 481.5 household equivalents (HE) with 77 standby accounts and 79 water customers with 4 standby accounts.

Regulatory oversight for the sewer system is by the California Regional Water Quality Control Board (RWQCB). The water system is regulated by the Shasta County Environmental Health Division.

In 2005, Ordinance No. 633 was adopted by the Board of Supervisors. It established the rates currently charged in the CSA. Ordinance No. 724 established fees for services and late payments in 2017.

EXISTING OPERATION FUND

Financial information for the three most recent Fiscal Years (FY) years is available. Complete financials for FY 2014-15, FY 2015-16 and FY 2016-17 are included in **Exhibit A**. This period was selected because it matches with an uptick in sewer repair and regulatory interest in the system which seems to be the new "normal."

Table 1 summarizes sewer revenue and expense. See E**xhibit A** for more information.

Table 1 – Sewer Revenue and Expense

	FY 2014-15	FY 2015-16	FY 2016-17	Average
Revenue	$127,444	$124,866	$133,160	$128,490
Expense	$138,260	$189,981	$210,941	$179,727
Difference	-$10,816	-$65,115	-$77,781	-$51,237

Depreciation is not included in **Table** 1.

Table 2 summarizes water revenue and expense. See E**xhibit A** for more information.

Table 2 – Water Revenue and Expense

	FY 2014-15	FY 2015-16	FY 2016-17	Average
Revenue	$27,802	$30,482	$28,606	$28,963
Expense	$78,759	$57,508	$64,965	$67,074
Difference	-$50,947	-$27,026	-$36,359	-$38,111

Depreciation is not included in **Table** 2.

FY 2014-15 shows very high water expenses. This year saw a pump failure and emergency replacement and repair.

SEWER - FINANCIAL NEEDS

Financial needs fall into three broad categories: operations and maintenance, utilities and depreciation.

Operations and Maintenance

Average operating expenses over the last three years were $179,730. The most recent two-year average is $200,461. **Exhibit A** shows the single largest expense is Monitoring Services. This is utility staff time. RWQCB provides regulatory oversight of the CSA. It is a regulatory requirement that the plant be visited by staff every day. RWQCB also periodically requires redevelopment of permits and operating procedures, which incur costs to the system. The 2017 RWQCB Permit Renewal included increased monitoring requirements; the new permit no longer allows off-site effluent application, which increases pumping and labor costs. This period saw some physical improvements, such as fencing the sewage holding ponds and road repairs.

Utilities

The CSA uses electricity from PG&E. While most of the collection system is gravity operated, one pump station also moves effluent towards the treatment plant. Electricity is required to move effluent from short term storage to the diffusion system. There is a direct correlation between the amount of effluent pumped and power use. Long term power rates are likely to rise. Average annual utility costs during the study period were $35,428. Power is subject to peak use penalties.

Depreciation

Financial solvency enables the CSA to collect effluent from its users. Revenue collected must cover all operating costs, overhead and some depreciation. Depreciation is collected to offset the cost of

future equipment replacement and repairs. Thompson-Reuters assigns a fifty year useful life to sewer collection systems as a whole and twenty to sewage treatment plants, though individual components may wear out or become obsolete sooner. The oldest parts of the system have been in operation since 1995. Full annual depreciation of the sewer and water system is $95,778. Funds have not been set aside for system replacement for the three years examined in this report.

SEWER - OTHER FINANCIAL CONSIDERATIONS

Utility operations staff believes the two 50 HP submersible pumps need refurbishing and/or replacement at the sewer lift station. There is also an emergency generator there that needs replacement along with its underground fuel tank. Because no depreciation is being set aside, separate capital recovery schedules should be developed.

SEWER - REVENUE GOALS

Average expenses for the three year period considered were $179,727. Average revenue was $128,490, a 39.9% shortfall. In FYs 2015-16 and 2016-17 the shortfall was greater than 50% and costs were in excess of $185,000. A goal of $190,000 is not overly conservative.

PROPOSED SEWER RATES

To achieve $190,000 in annual revenue, rates should be $63.23 per HE. This would represent at 55.4% increase. **Table 3** phases in rates over a four year period.

Table 3 – Four Year Proposal – Sewer Collection and Disposal Rates

	Current	Year 1	Year 2	Year 3	Year 4
Base Rate per HE	$42.00	$54.00	$66.00	$72.00	$78.00
Model Revenue	$125,903	$160,572	$195,242	$212,577	$229,911

In year 2 of the proposed rate structure, basic operational revenue needs are met and some cost increases are allowed for. In year 3, money is set aside for capital replacement due to depreciation. Before the next rate study, specific capital costs and replacement schedules should be developed for the pumps, generator, fuel tank and any other equipment showing signs of wear.

Exhibit B provides rate comparisons with some local districts. Even the Year 4 proposed rate is below the area norm.

WATER - FINANCIAL NEEDS

Financial needs fall into three broad categories: operations and maintenance, utilities and depreciation.

Operations and Maintenance

Average operating expenses over the last three years were $67,074. **Exhibit A** shows the single largest expense is Maintenance Services. This is utility staff time to make weekly checks of the well, read meters, and collect water tests.

Utilities

The CSA uses electricity from PG&E. The water system in Palo Cedro has very limited storage; generally, the well must run whenever there is demand. There is a direct correlation between the amount of water pumped and power use. Long term power rates are likely to rise.

Average annual utility costs during the study period were $12,101. There was a marked increase in FY 2016-17 costs even though approximately the same amount of water was produced. The CSA is subject to peak use charges.

Depreciation

Financial solvency enables the CSA to deliver water to its users. Revenue collected must cover all operating costs, overhead and some depreciation. Depreciation is collected to offset the cost of future equipment replacement and repairs. Thompson-Reuters assigns a fifty year useful life to water systems as a whole, though individual components may wear out or become obsolete sooner. The oldest parts of the system have been in operation since 1995. Full annual depreciation of both systems, as determined by standard accounting practices, is $95,778. Funds have not been set aside for system replacement for the three years examined in this report.

WATER - OTHER FINANCIAL CONSIDERATIONS

The pressure tank at the wellhead has not been replaced in recent memory. The well's pump was replaced in FY 2014-15 and should have a fifteen year useful life according to Thompson-Reuters. Because of the lack of storage, the pump cycles frequently, which reduces equipment life.

WATER - EXISTING USE PATTERNS

The treatment and distribution systems are adequately sized to serve the current district. During development of this rate report, individual meter use from bi-monthly billings for the service period from July 1, 2014, through June 30, 2017, was examined. Part of this period coincided with a drought. Non-zero average and median use is shown in **Table 4**. The "Aggregate" column considers all of the data together.

Table 4 – Non-Zero Average and Median Use in Gallons

	FY 2014-15	FY 2015-16	FY 2016-17	Aggregate
Average	57,839	55,086	52,039	54,970
Median	36,716	31,842	26,457	33,604

Average use decreased during FY 2016-17. This was a very wet period, so low use probably reflects late irrigation in 2017.

WATER - REVENUE GOALS

Average expenses for the three year period considered were $67,074. Average revenue was $28,963, a 132% shortfall. Even with high FYs 2014-15 expenses, the average revenue is not overly conservative.

PROPOSED WATER RATES

The final step of Rate Ordinance 633 went into effect on May 1, 2005. It established the bi-monthly charge for the first 12,000 gallons of water at $34.00 and $0.50 per 1,000 gallons thereafter. Average use is much lower.

The new rate structure should more closely match recurring fixed costs in the base rate and variable costs in the volumetric charge. Fixed costs are those that occur independent of the quantity of water produced. For instance, an operator must check the plant weekly and meters must be read bi-monthly as long as the system is operating. The most obvious variable cost is for utilities; a certain amount of maintenance is also based on the amount of water produced. Standby and vacation rates are unchanged and are set at $10 per billing cycle and treated as fixed.

Average expenses for the three year period considered were $67,074. Average annual utility costs during the study period were $12,101. The proposed rate structure will attempt to recover at least $55,000 from the basic bi-monthly charge and $12,100 from the volumetric (per 1,000-gallon) charges.

Based on the three years examined, a rate structure using a simple meter fee (no water use) of $118.00 and a per-thousand gallon rate of $0.49 would cover the basic cost of providing service as long as there is not another water supply curtailment or electrical rate increase. However, this overlooks the need to maintain minimum turnover in the system for water quality and other reasons. CSA customers have historically preferred a base water use quantity. This rate structure will not be further examined.

Based on the three years examined, a rate structure allowing 12,000 gallons of base use could work with a $121.50 base rate and a per-thousand gallon rate of $0.53. That would cover the basic cost of providing service until there is an electrical rate increase or other unexpected expense. No money would be set aside for future emergencies or capitol replacement.

Table 5 shows a rate proposal which phases in the rate increase.

Table 5 – Four Year Proposal – 12,000 Gallon Drinking Water Base Quantity

	Current	Year 1	Year 2	Year 3	Year 4
Base Rate	$34.00	$56.00	$78.00	$100.00	$122.00
Per 1,000 Gallons	$0.50	$0.55	$0.60	$0.65	$0.70
Model Revenue	$26,810	$38,284	$49,757	$61,230	$72,704

Incremental revenue is increased $0.05 per year against electric rate increases.

Exhibit B provides rate comparisons with some local districts. The proposed rates are within local norms. Many of the comparison districts are larger and achieve an economy of scale not possible in a 79 connection district.

If no emergency conditions come up during the proposed rate period, the next rate study should realign costs with charges and begin collecting general depreciation and/or a reserve for replacement of the pressure tank and well pump.

CONCLUSION

The sewer rate structure proposed in **Table 3** recovers current operating costs in three years and begins collecting revenue against depreciation in the fourth. The water rate schedule proposed in **Table 5** recovers recent average operating costs after four years.

Barring emergency situations, this rate structure should match CSA costs after five years. At that time, or sooner if expenses warrant, the rates should be reconsidered to include depreciation recovery and/or replacing specific components.

Attachments:

Exhibit A: Expense and Revenue Statement
Exhibit B: Rate Comparisons

EXHIBIT A

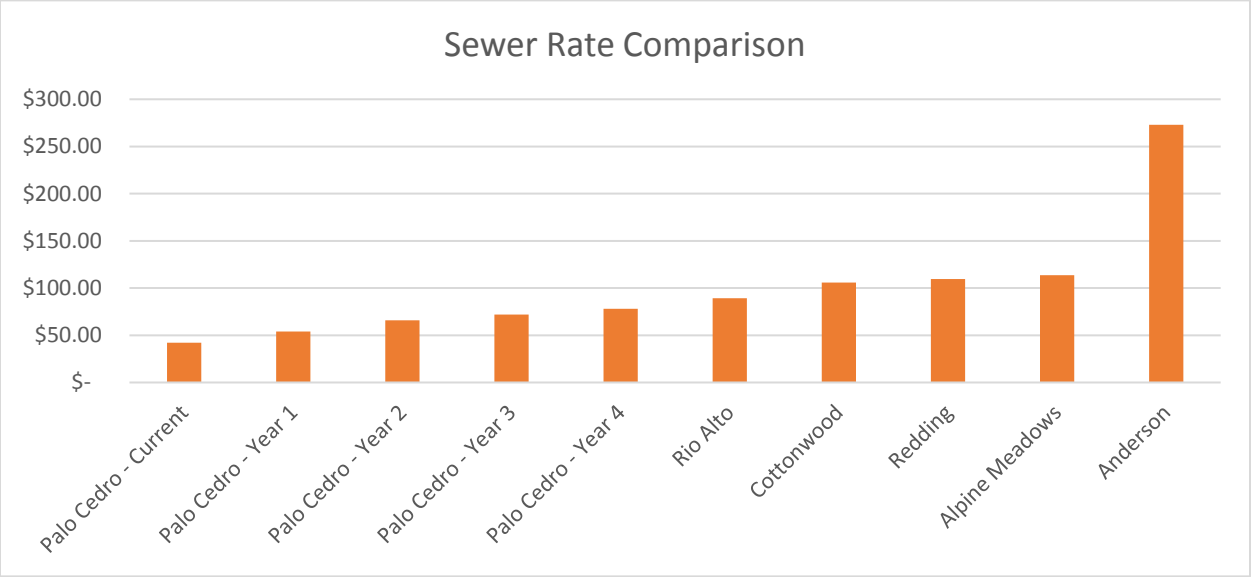
CSA #8 Palo Cedro Expenses and Revenues

	FY 2014-2015			FY 2015-2016			FY 2016-2017			Average		
	Water	Sewer	Total	Water	Sewer	Total	Water	Sewer	Total	Water	Sewer	Aggregate
Expenses												
Clothing/personal supplies[1]	3	10	13	0	0	0	0	0	0	1	3	4
Communications[1]	662	1,939	2,601	689	2,019	2,708	700	2,051	2,751	684	2,003	2,687
Household	0	0	0	20	57	77	0	0	0	7	19	26
Insurance[1]	244	716	960	232	680	912	233	684	917	237	693	930
Maintenance of equipment	5,590	4,389	9,979	2,922	942	3,864	1,953	6,711	8,664	3,488	4,014	7,502
Hardware/software[1]	24	71	95	19	56	75	24	69	93	22	65	87
Maintenance of structures	0	900	900	0	1,285	1,285	0	15,138	15,138	0	5,774	5,774
Medical/dental/lab supplies	0	549	549	0	1,244	1,244	0	0	0	0	598	598
Memberships[1]	39	114	153	42	122	164	41	120	161	41	119	159
Postage[1]	240	704	944	257	752	1,009	239	698	937	245	718	963
Professional/Special services	20,271	1,927	22,198	1,246	7,040	8,286	127	12,681	12,808	7,215	7,216	14,431
Laboratory services[1]	1,406	4,116	5,522	1,552	4,545	6,097	1,227	3,593	4,820	1,395	4,085	5,480
Maintenance services	35,985	0	35,985	32,817	0	32,817	41,952	0	41,952	36,918	0	36,918
Monitoring services	0	67,066	67,066	0	103,272	103,272	0	101,993	101,993	0	90,777	90,777
Information technology services[1]	254	744	998	255	747	1,002	257	751	1,008	255	747	1,002
Rent/lease of equipment	0	65	65	0	0	0	0	0	0	0	22	22
Publications/legal notices[1]	0	0	0	2	5	7	0	0	0	1	2	3
Minor equipment	681	195	876	0	272	272	1,149	579	1,728	610	349	959
Special departmental expense	145	17,472	17,617	657	17,085	17,742	631	17,051	17,682	478	17,203	17,681
Special dept exp permits/licenses	588	0	588	0	0	0	0	0	0	196	0	196
Transportation/travel[1]	348	1,394	1,742	658	2,630	3,288	660	2,642	3,302	555	2,222	2,777
Utilities[1]	11,418	33,428	44,846	11,299	33,081	44,380	13,586	39,775	53,361	12,101	35,428	47,529
Bad Debt	0	(29)	(29)	0	(25)	(25)	0	5	5	0	(16)	(16)
A-87[1]	851	2,490	3,341	4,841	14,172	19,013	2,186	6,400	8,586	2,626	7,688	10,314
Depreciation[1]	24,385	71,393	95,778	24,385	71,393	95,778	24,385	71,393	95,778	24,385	71,393	95,778
Total	103,134	209,653	312,787	81,893	261,374	343,267	89,350	282,334	371,684	91,459	251,122	342,581
Revenue												
Interest	498	1,458	1,956	385	1,126	1,511	479	1,401	1,880	454	1,329	1,783
Special Assessment Delinquent	0	1,315	1,315	0	526	526	0	497	497	0	779	779
Connection Fees	0	1,750	1,750	0	1,750	1,750	0	7,550	7,550	0	3,683	3,683
Charges	27,304	122,810	150,114	29,772	121,350	151,122	28,127	123,562	151,689	28,401	122,574	150,975
Miscellaneous	0	111	111	325	114	439	0	150	150	108	125	233
Total	27,802	127,444	155,246	30,482	124,866	155,348	28,606	133,160	161,766	28,963	128,490	157,453

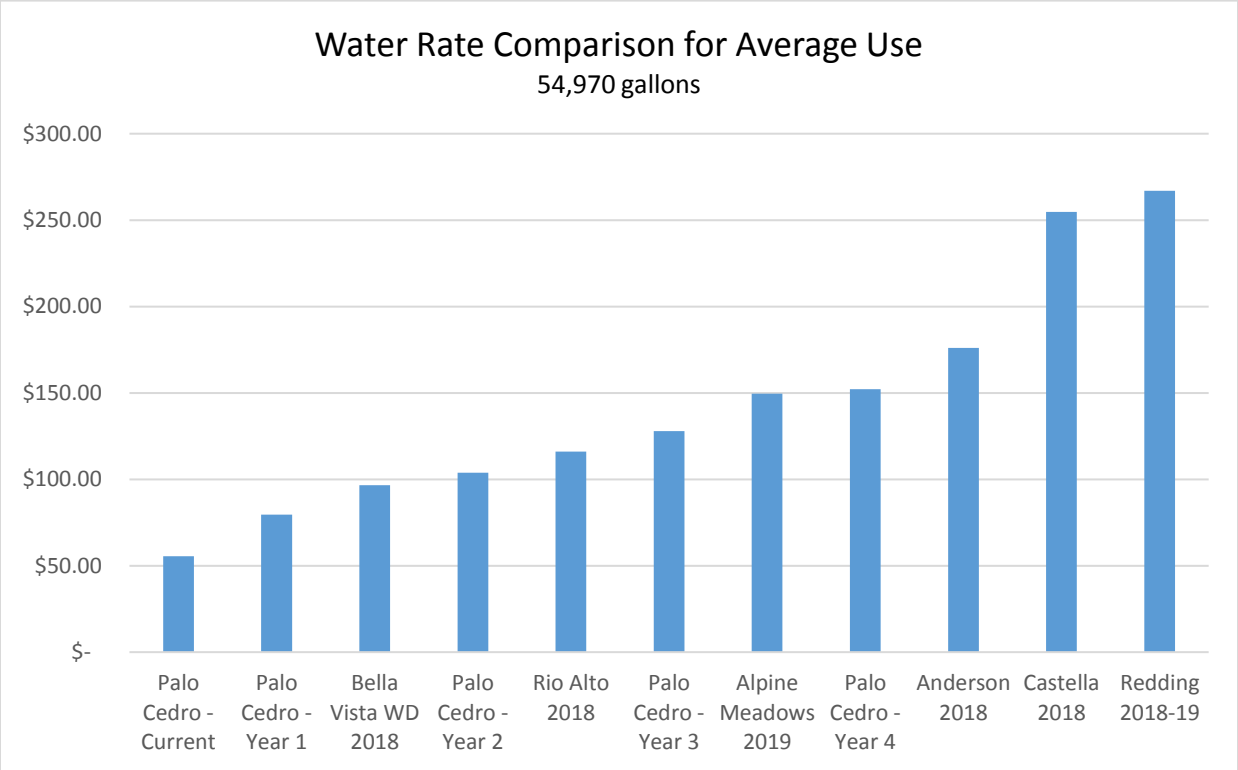
Note 1: Expenses in this category are not tracked, so the amounts charged to water and sewer are weighted by total service connections.

EXHIBIT B

RATE COMPARISONS



Anderson has a per-100 cubic foot fee based on water use. This is possible in Anderson because the water and sewer districts are the same. CSA 8 average water use of 54,970 gallons was used to calculate the Anderson sewer fee.



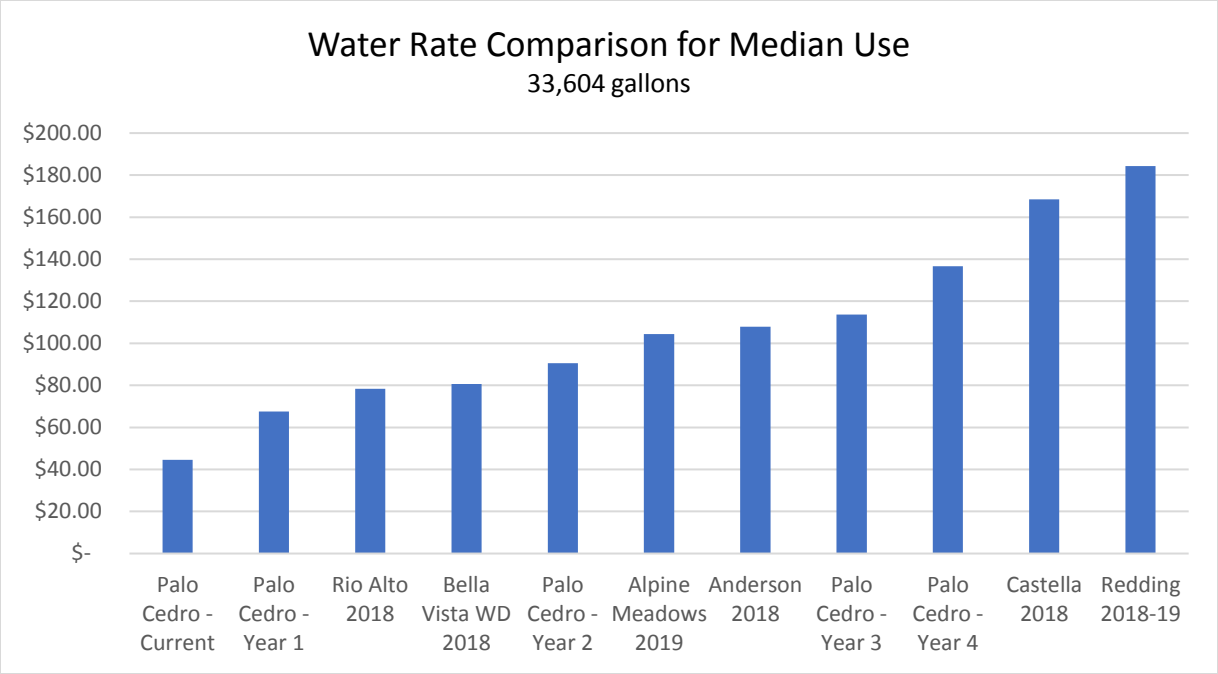

Water Rate Comparison for Median Use
33,604 gallons
$200.00
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$-
Palo Cedro - Current
Palo Cedro - Year 1
Rio Alto 2018
Bella Vista WD 2018
Palo Cedro - Year 2
Alpine Meadows 2019
Anderson 2018
Palo Cedro - Year 3
Palo Cedro - Year 4
Castella 2018
Redding 2018-19

EXHIBIT B

RATE COMPARISONS