

Memorandum

To: Scott Koch, Sewerage Commission – Oroville Region

From: Ken Shuey, P.E.

Subject: Monthly EDU Charge Analysis

Date: March 22, 2019

The Sewerage Commission – Oroville Region's (SC-OR's) Board of Commissioners (Board) has requested an analysis of existing rates as a result of two issues.

1. Rising operations costs will exceed the revenue generated by the operations portion of the monthly EDU charge in the coming years.
2. SC-OR will submit a Report of Waste Discharge (ROWD) for the wastewater treatment plant's (WWTP's) National Pollution Discharge Elimination System (NPDES) permit renewal issued by the Central Valley Regional Water Quality Control Board (RWQCB). The RWQCB staff has indicated that new discharge requirements for the WWTP will be more restrictive, requiring significant improvements to the existing WWTP.

This memo presents the results of our analysis of the existing rates. Our approach has been to estimate required revenues necessary to fund operations and capital improvements over the next eight years. The goal of the analysis is to propose rates that meet this objective and rise gradually over that time period with no large single year increases.

EDU Count and Projected Growth

SC-OR currently has 18,304 EDU's connected to the WWTP. An EDU (Equivalent Dwelling Unit) represents the amount of wastewater generated by a typical single-family residence. Commercial and industrial establishments are evaluated to determine their impact on the system, and based on that evaluation, have been assigned a number of EDU's based on their wastewater flow and strength.

Growth in the Oroville area has historically been low. In the past the District has used 1% growth in their projections. Using 1% would result in adding over 180 EDU's to the WWTP each year. This does not match the recent history of new EDU's. The Camp Fire and its impact on housing in the SC-OR service area may significantly increase the annual growth rate over the next three to five years and possibly beyond. These impacts have yet to be determined, and for now, we have elected to use a more historical growth rate. For FY 2019/20 we are estimating an increase of 65 EDU's, then using 20 EDU's per year for the remainder of the study period. The growth rate and its impact on the costs of operating the SC-OR WWTP will be evaluated as part of the annual budgeting process.

We propose to use the following growth projections for this analysis.

Year	Connected EDU's	EDU Increase
FY 17/18	18,476	
FY 18/19	18,201	20
FY 19/20	18,304	65
FY 20/21	18,339	35
FY 21/22	18,359	20
FY 22/23	18,379	20
FY 23/24	18,399	20
FY 24/25	18,419	20
FY 25/26	18,439	20
FY 26/27	18,459	20
FY 27/28	18,479	20

Improvement Costs and Funding

Jacobs Engineering (formerly CH2M Hill) has completed a Schematic Design Report detailing the necessary improvements to the SC-OR WWTP. This draft report dated November 2018 contains the following sections:

- Section 1 – Geotechnical Evaluation Report
- Section 2 – Description of Proposed Facilities
- Section 3 – Draft Process Control Strategies
- Section 4 – Regulatory Compliance and Permitting Assessment
- Section 5 – Class III Cost Estimate
- Section 6 – List of Anticipated Specifications Sections
- Section 7 – List of Anticipated Final Design Drawings
- Section 8 – Drawing Set

The following project costs were used to calculate the monthly user fees required to fund the projected capital on operations costs.

Upgrade Costs		
Jacobs - 30% Design	\$538,000	
Carollo	\$30,000	
Provost & Pritchard	\$184,000	
Influent Lift Station		
WWTP Construction	\$34,700,000	
Legal & Admin	\$1,400,000	4%
Services During Construction	\$3,500,000	10%
Final Design	\$4,200,000	12%
Total Project Cost	\$44,552,000	
Funded From District Funds	\$8,552,000	
Total Loan & Grant Required	\$36,000,000	
Loan	\$36,000,000	
Grant	\$0	
Interest Rate	3%	
Term	30 Years	
Annual Payment	\$1,836,693	
Projected FY 22/23 EDU's (Year 8)	18,419 EDU's	
Cost per EDU	\$99.72 per year	
	\$8.31 per month	
Assumptions:		
Design Complete	April 2021	
Bidding and Award	July 2021	
Construction Starts	August 2021	
Construction Complete	July 2023	
First Loan Payment Due	July 2024	

Calculations for debt service for a loan to fund the WWTP improvements were based on a 100% Clean Water State Revolving Fund (SRF) loan. Some grant funding may be available through the SRF program, but that is not certain. SC-OR is also pursuing grant and loan funding through the USDA Rural Development funding programs and California Office of Emergency Service's grant funding program.

Proposed monthly user fee increases for the next five years (FY 19/20 through FY 23/24) were presented to the SC-OR Board at their January 23, 2019 meeting (Option 1 below). At the meeting staff was directed to look at options to make the increases more uniform from year to year to lessen the impacts to the customers. At the February 27, 2019 Board meeting the following options were presented:

SC-OR Monthly EDU Charge				
	Option 1	Option 2	Option 3	Option 4
FY 17/18	\$11.85	\$11.85	\$11.85	\$11.85
FY 18/19	\$11.85	\$11.85	\$11.85	\$11.85
FY 19/20	\$15.85	\$13.85	\$13.85	\$13.85
FY 20/21	\$15.85	\$15.85	\$15.85	\$15.85
FY 21/22	\$16.10	\$17.85	\$17.85	\$17.85
FY 22/23	\$17.60	\$20.35	\$20.35	\$19.85
FY 23/24	\$23.85	\$22.85	\$22.85	\$23.85
FY 24/25	\$24.60	\$23.85	\$23.85	\$24.60
FY 25/26	\$25.60	\$24.85	\$24.85	\$25.60
FY 26/27	\$26.35	\$25.85	\$25.85	\$26.35
FY 27/28	\$27.35	\$27.35	\$27.35	\$27.35
Total Paid Over 11 Years	\$2,602	\$2,596	\$2,596	\$2,626
Minimum Reserve Balance	\$3,599,167	\$3,403,069	\$3,320,544	\$3,077,967
Option 1 was presented at the Board meeting.				
Option 2 delays the project by two years.				
Option 3 builds the pump station now and delays the rest by two years.				
Option 4 builds the project now, but delays the rate increases slightly.				

The Board adopted Option 4 to build the project now with slightly delayed rate increases. The Board also instructed staff to construct the new influent lift station as soon as possible and to pursue funding for both the lift station and the remaining WWTP improvements.

In calculating the proposed monthly EDU charges, we have made the following assumptions:

- Rate increases will be gradual from year to year with no large single year increases.
- Rates will be adopted for the next five years. This is necessary for funding applications to demonstrate that SC-OR will have sufficient revenues to fund debt repayment and the increase operations costs of the upgraded WWTP.
- Budgeted operations expenses for FY 19/20 are tentatively estimated at \$2,248,053.
- Revenue sources included EDU charges, interest income and septage fees.

- Budget capital expenses for FY 19/20 are tentatively estimated at \$6,208,000. This includes constructing the proposed influent pump station and all expenditures are assumed to come from existing reserve accounts.
- Excess revenues generated in one year will be carried over to the following year.

The following table summarizes the calculation of proposed rates necessary to fund operations and improvements to the WWTP, based on the assumptions above.

	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28
EDU Increase during the year											
Total EDU's	(275) 18,476	20 18,201	65 18,304	35 18,339	20 18,359	20 18,379	20 18,399	20 18,419	20 18,439	20 18,459	20 18,479
Projected Monthly EDU Charges											
Monthly Charge/EDU-Operations	\$9.50	\$9.50	\$11.50	\$11.50	\$11.75	\$12.25	\$15.00	\$15.75	\$16.75	\$17.50	\$18.50
Monthly Charge/EDU-WCRF	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35	\$0.35
Monthly Charge/EDU- R&CA	\$2.00	\$2.00	\$2.00	\$4.00	\$5.75	\$7.25	\$8.50	\$8.50	\$8.50	\$8.50	\$8.50
Total Monthly EDU Charge	\$11.85	\$11.85	\$13.85	\$15.85	\$17.85	\$19.85	\$23.85	\$24.60	\$25.60	\$26.35	\$27.35
Projected Operations Fund											
Revenue - Operations	\$2,336,369	\$2,266,473	\$2,266,473	\$2,617,237	\$2,675,074	\$2,788,168	\$3,398,275	\$3,567,646	\$3,792,694	\$3,962,845	\$4,188,793
Expense - Operations	\$2,326,987	\$2,248,053	\$2,248,053	\$2,360,456	\$2,478,478	\$2,602,402	\$3,122,883	\$3,279,027	\$3,442,978	\$3,615,127	\$3,795,884
Increase over Previous Year				5%	5%	5%	20%	5%	5%	5%	5%
Balance - Operations (Includes Previous Year's Carryover)			\$18,420	\$275,201	\$471,797	\$657,563	\$932,955	\$1,221,574	\$1,571,289	\$1,919,007	\$2,311,917
Projected Capital Fund											
Revenue - WWTP Upgrade (R&CA)			\$1,323,032	\$880,272	\$1,266,771	\$1,598,973	\$1,876,698	\$1,878,738	\$1,880,778	\$1,882,818	\$1,884,858
Regional Facility Charge/EDU	\$6,638		\$232,330	\$232,330	\$132,760	\$132,760	\$132,760	\$132,760	\$132,760	\$132,760	\$132,760
Loan Proceeds					\$18,000,000	\$18,000,000					
Expense - WWTP Upgrade			\$6,208,000								
Preliminary Design, Funding, CEQA											
Final Design				\$1,000,000							
Legal & Admin				\$466,667	\$466,667	\$466,667					
Construction Services				\$1,750,000	\$1,750,000	\$1,750,000					
Construction				\$17,350,000	\$17,350,000	\$17,350,000					
Loan Repayment											
Balance - R&CA + Capital & Expansion Fund	\$7,023,806	\$8,251,805	\$3,599,167	\$3,245,102	\$3,077,967	\$3,243,033	\$5,252,491	\$5,427,296	\$5,604,140	\$5,783,025	\$5,963,950

CEQA, Permitting & Design

WWTP Upgrade Construction

Upgrades Done

Loan Repayment ---->