

UTILITIES AND THE CAPITAL IMPROVEMENT PLAN

Sewer and the Capital Improvement Plan

The 2017-2022 Utilities CIP invests significantly in the sewer utility. Many existing and new projects will increase sewer capacity to meet future resident and economic growth projections, improve system reliability to ensure continuous operability, and enhance efforts to protect public health and the environment. Substantial capital sewer projects include:

- A phased upgrade to the water reclamation facility including improvements to the ultraviolet disinfection system, supervisory control and data acquisition system (SCADA), solids handling improvements, addition of odor control facilities, construction of a vector decant station, and construction of additional workspace structures and an operational third clarifier.
- The replacement of deteriorated sewer mains that have reached or surpassed functional life.
- The replacement of sewer mains with larger pipes to address system capacity issues.
- The upgrade of pumps at two lift stations to meet projected future flows.
- A comprehensive update to the General Sewer Plan to identify system weaknesses and the improvements required to meet future CoS needs.

The cash flow model on the following page depicts the beginning fund balance, revenues, expenditures, and ending fund balance for the sewer utility. In total, CoS will spend \$36 million on capital sewer projects and collect over \$37 million in revenues over the six-year period, including the issuance of \$25 million in new debt and the collection of \$12 million in utility rate revenue.

The debt payment schedule for the sewer utility, on the subsequent page after the cash flow model, reveals the annual payment CoS will make to service debt if the plan is fully accomplished and no changes are made. To service the debt, CoS will use sewer rate revenue.

The last section of 2017-2022 Utilities CIP shares the purpose, cost, status, and location of each capital sewer project. Finding a sewer project in this section requires locating the project identifier in the upper left-hand corner of a project form. If the project identifier is labeled with a “SWR”, then it is a sewer project. Some projects however may involve more than one utility. In this case, a project labeled as “PUW” or “UTL” may contain sewer-related capital activities.



Beginning Fund Balance	2017	2018		2019	2020	2021	2022	
	\$ 1,363,031	\$ 797,716		\$ 3,572,035	\$ 1,858,511	\$ 6,660,066	\$ 5,136,479	

Revenues

Revenue Type	2017	2018	Total 2017-2018	2019	2020	2021	2022	Total 2017-2022
SEWER UTILITY FEES	\$ 854,513	\$ 1,475,380	\$ 2,329,893	\$ 2,074,244	\$ 2,275,492	\$ 2,490,763	\$ 2,598,699	\$ 11,769,091
OTHER MISCELLANEOUS REVENUES	\$ 68,694	\$ 72,144	\$ 140,838	\$ 73,478	\$ 77,058	\$ 78,425	\$ 81,407	\$ 451,206
REVENUE BOND DEBT PROCEEDS	\$ 3,400,069	\$ 13,246,839	\$ 16,646,908	\$ -	\$ 8,468,008	\$ -	\$ -	\$ 25,114,916
TOTAL REVENUES =	\$ 4,323,276	\$ 14,794,363	\$ 19,117,639	\$ 2,147,722	\$ 10,820,558	\$ 2,569,188	\$ 2,680,106	\$ 37,335,213

Expenditures

Expenditure Type	CIP Project ID	Inception To Date Through 2016	2017	2018	Total 2017-2018	2019	2020	2021	2022	Total 2017-2022
DEBT EXPENDITURES										
2008 Revenue Bond	PUW08001CIP	\$ 1,846,229	\$ 205,835	\$ 205,215	\$ 411,050	\$ 205,775	\$ 206,095	\$ 204,175	\$ 206,095	\$ 1,233,190
2011 LTGO Bond	PUW11001CIP	\$ 537,003	\$ 100,340	\$ 101,300	\$ 201,640	\$ 100,100	\$ 100,820	\$ 101,380	\$ 99,780	\$ 603,720
2017 Bond Anticipation Note and 2018 Revenue Bond	PUW18001CIP	\$ -	\$ 25,069	\$ 376,074	\$ 401,143	\$ 1,026,123	\$ 1,026,123	\$ 1,026,123	\$ 1,026,123	\$ 4,505,636
2020 Revenue Bond	PUW20001CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 650,988	\$ 650,988	\$ 650,988	\$ 1,952,963
2002 Public Works Trust Fund Loan (Pump Station No. 1 & Forcemain Renovation)	SWR02001CIP	\$ 961,916	\$ 45,321	\$ 44,894	\$ 90,215	\$ 44,466	\$ 44,038	\$ 43,611	\$ 43,183	\$ 265,513
2013 Public Works Trust Fund Loan (Kimball Creek Lift Station 3rd Pump)	SWR13001CIP	\$ 56,189	\$ 17,457	\$ 17,417	\$ 34,874	\$ 17,375	\$ 17,333	\$ 17,291	\$ 17,249	\$ 104,123
Debt Expenditures Subtotal		\$ 3,401,337	\$ 394,022	\$ 744,900	\$ 1,138,922	\$ 1,393,839	\$ 2,045,398	\$ 2,043,568	\$ 2,043,418	\$ 8,665,145
EXISTING PROJECT EXPENDITURES										
Infrastructure Improvement Program	PUW16001CIP	\$ 60,000	\$ 2,265	\$ 253,394	\$ 255,659	\$ -	\$ 357,714	\$ -	\$ -	\$ 613,373
Railroad Place, Newton Street, and Delta Street Project	PUW16002CIP	\$ 47,152	\$ 13,250	\$ 996,821	\$ 1,010,071	\$ -	\$ -	\$ -	\$ -	\$ 1,010,071
2016/2017 Northern Street Project	PUW16003CIP	\$ 3,314	\$ 24,762	\$ -	\$ 24,762	\$ -	\$ -	\$ -	\$ -	\$ 24,762
Water Reclamation Facility Improvements (Phase 1)	SWR16001CIP	\$ 1,004,335	\$ 3,592,444	\$ -	\$ 3,592,444	\$ -	\$ -	\$ -	\$ -	\$ 3,592,444
Water Reclamation Facility Improvements - Solids (Phase 2)	SWR16002CIP	\$ 116,412	\$ 718,866	\$ 9,490,045	\$ 10,208,911	\$ 1,765,075	\$ -	\$ -	\$ -	\$ 11,973,986
Water Reclamation Facility Improvements - Existing Clarifier (Phase 4)	SWR16004CIP	\$ 1,530	\$ 131,580	\$ 50,000	\$ 181,580	\$ -	\$ 2,780,960	\$ -	\$ -	\$ 2,962,540
Water Reclamation Facility Improvements - Operations Shop and Decant Stations (Phase 5)	SWR16005CIP	\$ -	\$ -	\$ 82,069	\$ 82,069	\$ -	\$ -	\$ -	\$ 2,009,480	\$ 2,091,549
Existing Project Expenditures Subtotal		\$ 1,232,743	\$ 4,483,167	\$ 10,872,329	\$ 15,355,496	\$ 1,765,075	\$ 3,138,674	\$ -	\$ 2,009,480	\$ 22,268,725
NEW PROJECT EXPENDITURES										
Street Preservation Program	PUW20002CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 69,394	\$ 222,902	\$ 789,438	\$ 1,081,734
Water Reclamation Facility Improvements - Aeration System (Phase 6)	SWR17001CIP	\$ -	\$ 11,402	\$ 77,931	\$ 89,333	\$ -	\$ -	\$ -	\$ -	\$ 89,333
General Sewer Plan Update	SWR18001CIP	\$ -	\$ -	\$ 218,734	\$ 218,734	\$ 53,076	\$ -	\$ -	\$ -	\$ 271,810
Bank and Sewer Line Stabilization at Meadowbrook Lift Station	SWR18002CIP	\$ -	\$ -	\$ 106,151	\$ 106,151	\$ 454,968	\$ -	\$ -	\$ -	\$ 561,119
Fir Street Lift Station Reconstruction (Lift Station No. 2) + Forcemain Replacement	SWR19001CIP	\$ -	\$ -	\$ -	\$ -	\$ 82,025	\$ 402,643	\$ -	\$ -	\$ 484,668
Lift Station No. 1 (End of Railroad Place)	SWR19002CIP	\$ -	\$ -	\$ -	\$ -	\$ 27,342	\$ 207,332	\$ -	\$ -	\$ 234,674
Pump Station No. 1 to MH No. 14 (SE Newton Street)	SWR20001CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 101,413	\$ 1,201,579	\$ -	\$ 1,302,992
384th Street SE between SE 85th Street and Pickering Court	SWR20002CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 54,150	\$ 624,725	\$ -	\$ 678,875
Card Readers at Remote Facilities	UTL20001CIP	\$ -	\$ -	\$ -	\$ -	\$ 84,921	\$ -	\$ -	\$ -	\$ 84,921
SR 202 Bridge Utility Replacement Project	UTL22001CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 418,642	\$ 418,642
New Project Expenditures Subtotal		\$ -	\$ 11,402	\$ 402,816	\$ 414,218	\$ 702,332	\$ 834,932	\$ 2,049,206	\$ 1,208,080	\$ 5,208,768
TOTAL EXPENDITURES =		\$ 4,634,080	\$ 4,888,591	\$ 12,020,045	\$ 16,908,636	\$ 3,861,246	\$ 6,019,004	\$ 4,092,774	\$ 5,260,978	\$ 36,142,638

Ending Fund Balance	2017	2018		2019	2020	2021	2022	
	\$ 797,716	\$ 3,572,035		\$ 1,858,511	\$ 6,660,066	\$ 5,136,479	\$ 2,555,607	

2017-2022 UTILITIES CAPITAL IMPROVEMENT PLAN

SEWER DEBT PAYMENT SCHEDULE			
30-Year Perspective			
Year	Principal	Interest	Annual Payment
2017	\$ 242,832	\$ 123,432	\$ 366,264
2018	\$ 249,847	\$ 492,336	\$ 742,183
2019	\$ 543,386	\$ 847,709	\$ 1,391,095
2020	\$ 835,181	\$ 1,207,446	\$ 2,042,627
2021	\$ 867,756	\$ 1,173,015	\$ 2,040,771
2022	\$ 903,655	\$ 1,136,940	\$ 2,040,595
2023	\$ 897,739	\$ 1,098,894	\$ 1,996,632
2024	\$ 937,594	\$ 1,059,594	\$ 1,997,189
2025	\$ 978,770	\$ 1,017,940	\$ 1,996,710
2026	\$ 1,023,135	\$ 974,557	\$ 1,997,691
2027	\$ 1,068,880	\$ 928,683	\$ 1,997,563
2028	\$ 910,132	\$ 880,642	\$ 1,790,774
2029	\$ 952,761	\$ 839,844	\$ 1,792,605
2030	\$ 993,233	\$ 797,616	\$ 1,790,849
2031	\$ 937,328	\$ 753,590	\$ 1,690,918
2032	\$ 965,151	\$ 711,960	\$ 1,677,111
2033	\$ 1,008,583	\$ 668,528	\$ 1,677,111
2034	\$ 1,053,969	\$ 623,142	\$ 1,677,111
2035	\$ 1,101,398	\$ 575,713	\$ 1,677,111
2036	\$ 1,150,961	\$ 526,150	\$ 1,677,111
2037	\$ 1,202,754	\$ 474,357	\$ 1,677,111
2038	\$ 1,256,878	\$ 420,233	\$ 1,677,111
2039	\$ 1,313,438	\$ 363,673	\$ 1,677,111
2040	\$ 721,555	\$ 304,569	\$ 1,026,123
2041	\$ 754,025	\$ 272,099	\$ 1,026,123
2042	\$ 787,956	\$ 238,168	\$ 1,026,123
2043	\$ 823,414	\$ 202,710	\$ 1,026,123
2044	\$ 860,467	\$ 165,656	\$ 1,026,123
2045	\$ 899,188	\$ 126,935	\$ 1,026,123
2046	\$ 939,652	\$ 86,471	\$ 1,026,123
2047	\$ 981,936	\$ 44,187	\$ 1,026,123
2048	\$ 273,975	\$ -	\$ 273,975
TOTAL	\$ 28,437,528	\$ 19,136,788	\$ 47,574,316