

# 2020 ANNUAL BUDGET

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LAKE WHATCOM WATER & SEWER DISTRICT



LAKE WHATCOM WATER & SEWER DISTRICT  
1220 LAKEWAY DRIVE  
BELLINGHAM, WASHINGTON 98229

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# 2020 ANNUAL BUDGET

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LAKE WHATCOM WATER & SEWER DISTRICT  
1220 LAKEWAY DRIVE  
BELLINGHAM, WASHINGTON 98229

APPROVED December 26, 2019

## BOARD OF COMMISSIONERS

\_\_\_\_\_  
Laura Abele, President, Position 1

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Todd Citron, Secretary, Position 2

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Bruce Ford, Commissioner, Position 3

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Leslie McRoberts, Commissioner, Position 4

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John Carter, Commissioner, Position 5

General Manager  
Justin Clary

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# 1 GENERAL MANAGER'S MESSAGE

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The 2020 Budget represents the proposed fiscal plans for the Lake Whatcom Water & Sewer District for the 2020 calendar year (please refer to Appendix A for a comprehensive presentation of the 2020 Budget). This budget is the culmination of a collaborative effort between the Board of Commissioners and staff, and aligns with the District's mission *to provide the best possible water and sewer services to District customers in a cost efficient manner, and in a way that contributes to protecting Lake Whatcom water quality*. This budget was developed around touchstones of the District's financial policies, which embody the principles that guide District budgeting and long-term financial management, reinforcing the key values of fiscal prudence, pay-as-you-go funding to the extent practicable, and strong stewardship through asset management.

The 2020 Budget marks a shift from prior budgets in the overall fund structure for managing District monies. Past budgets have managed water and sewer revenues and operating expenditures under one *operating fund*, all water and sewer capital projects under a *system reinvestment fund*, all existing water and sewer debt payments under one *debt service fund*, water and sewer reserves under separate *contingency funds*, and a bond covenant-required *bond reserve fund*. The 2020 fund structure effectively separates all water and sewer revenues and expenditures into two separate funds—a *water utility fund* and a *sewer utility fund*. To simplify the fund structure and gain money management efficiencies, applicable water- and sewer-related funds in the prior combined system reinvestment fund and debt service fund have been rolled into the applicable utility fund. Similarly, the separate contingency funds have been integrated into the respective utility fund. As a result, the 2020 Budget is now comprised of three funds (*water utility fund*, *sewer utility fund*, and *bond reserve fund*) rather than the prior six separate funds. The prior debt service and contingency funds will be managed as individual budget items within each utility fund and maintained at the levels consistent with District financial policies. Separating the fund structure into specific water and sewer utility funds is consistent with the financial consultant recommendations, ensuring that cross-subsidies between water and sewer revenues/expenditures are mitigated.

Through adherence to its conservative fiscal policies and the prior adopted multi-year rate schedule, the District enters 2020 with stable revenue projections that enable continued maintenance of fully funded operational and contingency reserves. Utility rate revenues, which make up the majority of overall District revenues, have been projected in accordance with the Board-adopted, multi-year rate schedule. Though new home starts in 2019 (20) remained relatively consistent with 2018 (27), and informal communications with development partners indicate that 2020 may result in similar quantities, development-related revenue projections have been cautiously budgeted at 15 new connections. As a result, the 2020 Budget anticipates continued growth, yet also maintains a conservative approach in accounting for these revenues.

The budget includes approximately \$7.8 million in expenditures, which is comprised of budgets of approximately \$3 million and \$4.8 million for the water utility and sewer utility, respectively, and a restricted bond reserve of approximately \$772,000. The water utility budget is comprised of \$2.3 million dedicated to operations, a capital reinvestment budget of approximately \$500,000, and a debt

service budget of approximately \$232,000, as well as a contingency reserve of \$460,000 and an operating reserve of \$500,000. The sewer utility budget is comprised of \$2.6 million dedicated to operations, a capital reinvestment budget of approximately \$1.5 million, and a debt service budget of approximately \$643,000, as well as a contingency reserve of \$796,000 and an operating reserve of \$420,000.

Despite accommodating staff salary cost-of-living adjustments and benefit increases, hiring an additional utility system support specialist to overlap with the anticipated retirement of the current employee in that position later in the year, and completion of the scheduled utility rate study and State of Washington-required audit, the 2020 Budget decreases overall by approximately 3% relative to 2019. The decrease is largely attributed to the District completing two relatively expensive capital projects in 2019 (Country Club Gravity Main and Geneva Sewer Lift Station Improvement projects). To maintain the District's multi-year capital improvement programs of continued investment in our water and sewer system infrastructure, the Engineering Department will aggressively manage our full slate of projects, which includes renovation of two sanitary sewer lift stations; design associated with another sewer lift station renovation and expansion of the Agate Height water treatment plant; installation of cathodic protection systems at the Geneva and Division 22 reservoirs; and development of a 20-year facility improvement plan for the Sudden Valley water treatment plant. Additional significant expenses to ensure District responsiveness during emergency situations include purchases of a new flush/vacuum truck and a new tool truck.

The budget has been carefully crafted to emphasize the Board's service priorities while deploying resources in a manner that assures a firm foundation that maintains a positive cash balance at yearend. As a result, the 2020 Budget maintains reserves at levels defined by District financial policies, while maintaining adequate operating capital and investing in critical infrastructure improvements that are aimed at prolonging the life of our assets and protecting the environment. The 2020 capital improvement program reflects a pay-as-you-go approach funded through a combination of one-time and ongoing resources consistent with the District's asset management philosophy and the 2016 water and sewer utility rate study. The fact that the 2020 investments can be made without reliance on debt can be attributed to the ongoing commitment to disciplined fiscal policy and management.

The 2020 Budget also reaffirms the District's ongoing commitment to protecting Lake Whatcom. In 2020, the District will continue its partnership with Whatcom County and the City of Bellingham for water quality monitoring and invasive species inspection programs, and has allocated an additional \$100,000 beyond its partnership commitments (with \$40,000 to be reimbursed by the County) to supplement water quality monitoring and preservation of the lake.

Forecasting resources, preparing the budget, monitoring its implementation, and assuring accountability and transparency, all while completing day-to-day work functions, takes an exceptional group of professionals. I want to thank District staff, all of whom had a hand in development of the 2020 Budget. I also want to thank the Board of Commissioners, whose leadership and policy direction has placed the District in a position that enables many of the progressive investments found in this budget. Lastly, I thank the District's customers that make up the Lake Whatcom community, without whom we would not have a purpose.

Sincerely,

A handwritten signature in blue ink, appearing to read "Justin L. Clary". The signature is fluid and cursive, with the first name "Justin" and last name "Clary" clearly legible.

Justin L. Clary  
General Manager

## 2 SUMMARY OF FUNDS

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The Lake Whatcom Water & Sewer District (District) is a special purpose local government authorized under [Title 57 Revised Code of Washington](#) (Water-Sewer Districts). Originally formed in 1968 as Whatcom County Water District No. 10, the District's primary function is to provide water and sewer service to customers in an 18-square mile area encompassing much of the Lake Whatcom watershed, including Geneva, Sudden Valley and the North Shore of Lake Whatcom. The District is governed by a five member Board of Commissioners (Board) who set the policies and rates of the District, and who adopt an annual budget. The annual budget defines the operational and capital improvement programs for that year, as well as maintenance of operating and contingency reserves to respond to unanticipated events, should they occur. The following summarizes each of the District's funds.

### 2.1 Water Utility Fund (Fund 401)

This fund serves as the primary operating fund of the District's water utility. The majority of revenue is derived from rates charged to water customers. Other revenue sources are interest income, late payment fees, recording fees, permit fees, and miscellaneous charges and fees. All fees and charges are set by the Board. Funds collected are used to pay for operations and maintenance, and capital improvement program-related (system reinvestment) expenditures of the water utility in accordance with the Board-approved annual budget.

Managed within the water utility fund are operating reserve, contingency reserve, and debt service funds:

- **Operating Reserve.** The operating reserve serves as a liquidity cushion providing protection from risk of short-term variation in the timing of revenue collection relative to payment of expenses and is maintained consistent with District financial policies at the cost to operate the utility for 90 days.
- **Contingency Reserve.** The contingency reserve ensures that unanticipated projects related to water system expenses will be funded, subsequent to Board approval, and is established through the District's financial policies at one percent of the water utility infrastructure replacement cost.
- **Debt Service.** This fund provides redemption of long term water project loans. Principal and interest on those loans are paid entirely from water utility revenues.

### 2.2 Sewer Utility Fund (Fund 402)

This fund serves as the primary operating fund of the District's sewer utility. The majority of revenue is derived from rates charged to sewer customers. Other revenue sources are interest income, recording fees, permit fees, payments associated with an existing utility local improvement district (ULID), and miscellaneous charges and fees. All fees and charges are set by the Board.



Funds collected are used to pay for operations and maintenance, and capital improvement program-related (system reinvestment) expenditures of the sewer utility in accordance with the Board-approved annual budget.

Managed within the sewer utility fund are operating reserve, contingency reserve, and debt service funds:

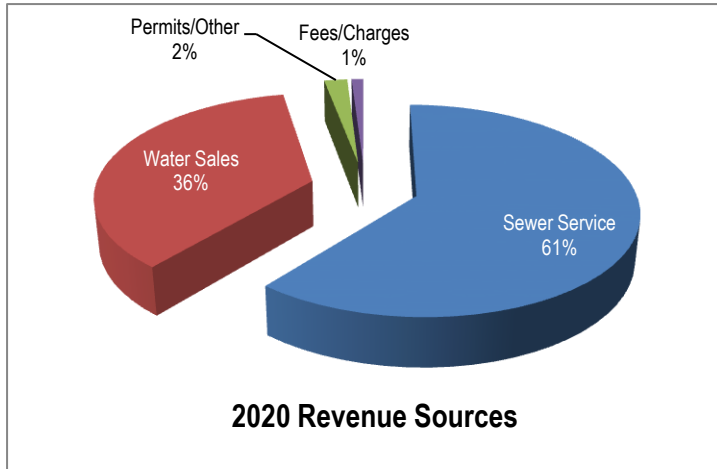
- Operating Reserve. The operating reserve serves as a liquidity cushion providing protection from risk of short-term variation in the timing of revenue collection relative to payment of expenses and is maintained consistent with District financial policies at the cost to operate the utility for 60 days.
- Contingency Reserve. The contingency reserve ensures that unanticipated projects related to sewer system expenses will be funded, subsequent to Board approval, and is established through the District's financial policies at one percent of the sewer utility infrastructure replacement cost.
- Debt Service. The debt service allocation provides redemption of outstanding debt incurred. The 2016 Bond interest is paid semi-annually, and the principal is paid annually from sewer utility revenues.

### 2.3 Bond Reserve Fund (Fund 460)

The fund was established by the covenants of the 2016 bond sale and is restricted by definition. A reserve limitation is required to be held in this fund until the outstanding 2016 bonds are paid in full.

# 3 2020 REVENUE PROJECTIONS

District functions are funded primarily through revenues received through water and sewer service fees, with the relatively small remainder of revenues coming from other fees and charges, and permits and other miscellaneous revenues.



In 2016, the District engaged the services of a utility financing consultant to review the District’s operational and capital programs relative to revenue projections. The outcome of the study provided a multi-year approach to incremental increases to water and sewer rates through 2021 to ensure sufficient funding for operations, outstanding debt service, and system reinvestment through capital improvement projects. Per the Board-approved multi-year rate schedule, 2020 Budget revenues have been based upon water and sewer rate increases of 4 and 2.5 percent, respectively, over 2019 rates. This will result in approximately \$2.6 and \$4.2 million in water and sewer utility rate revenues, respectively.

The other relatively significant revenue stream is fees the District receives for the connection of new development to its water and sewer systems. These *general facility charges* have been developed based upon the new customer’s proportionate share of the cost of constructing the system to which they are connecting, as well as the proportionate share for future system expansion to accommodate that connection’s impact. Development within the District in 2019 (20 new homes) was relatively consistent with that witnessed in 2018 (27 new homes). Although current indications are that 2020 will witness similar levels of new development, development-related revenues have been based upon a more conservative number of 15 new homes (resulting in projections of \$90,000 and \$135,000 in associated revenues to the water utility and sewer utility, respectively).

Other revenues (totaling approximately \$180,000), comprised of latecomer and other miscellaneous fees, investment interest, and revenues associated with ULID 18, have been based upon 2019 revenues.

Therefore, based upon prior adopted rate increases and conservative projections of other revenues, the 2020 Budget reflects a total revenue from external sources of \$7,226,000, which is an approximate four percent increase over revenues projected in the 2019 Budget, but is within 1.5 percent of actual revenues projected through 2019 yearend.

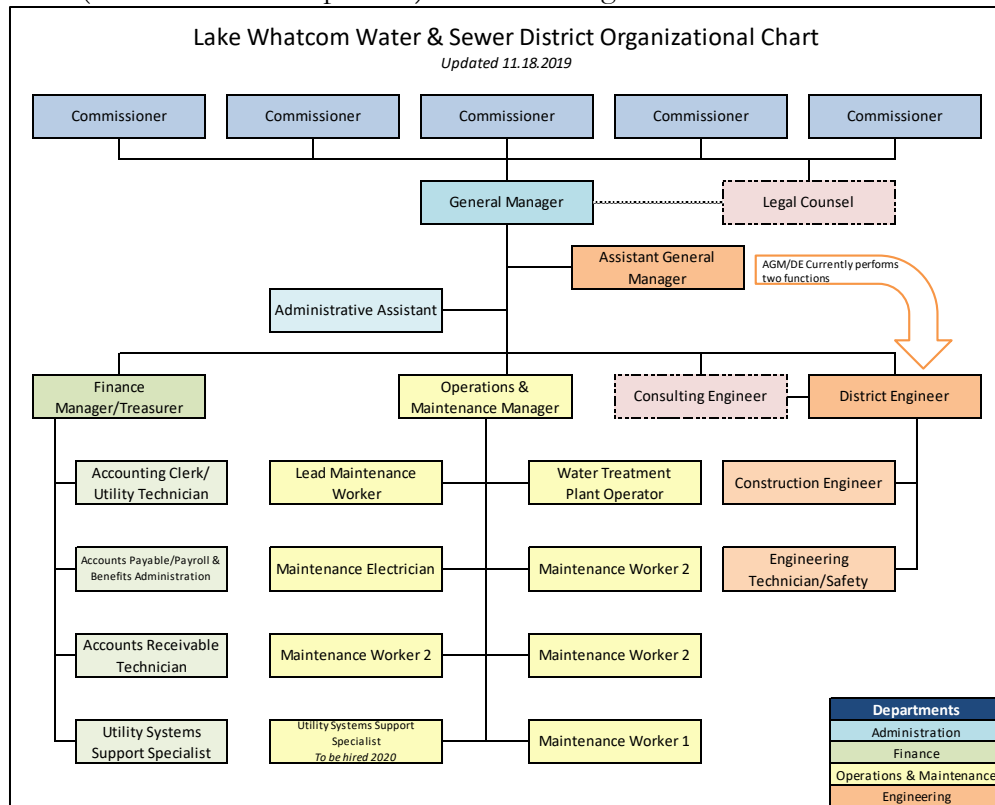
# 4 2020 EXPENDITURES

## 4.1 Water Utility Fund (Fund 401)

The Water Utility Fund is the primary fund through which the District conducts water utility-related business. It should be noted that many administrative expenses are shared with the Sewer Utility Fund. The following sections provide summaries of primary components of the fund expenses.

### 4.1.1 Operating Expenses

**Personnel.** Being a service-oriented organization, staff salary and associated benefits make up a large portion of the Water Utility Fund budget. Salary- and benefit-related expenses are shared with the Sewer Utility Fund, with exception to the Water Treatment Plant Operator position, which is solely funded by the Water Utility Fund. In 2020, the District will add one Utility System Support Specialist position for a total of 18.5 full-time equivalent positions. The additional position is consistent with the District’s staff succession plan as it will allow for overlap with that of current Utility System Support Specialist, who is anticipated to retire in 2020. Beyond the additional position, personnel-related cost increases from the 2019 Budget are primarily associated with union contract-required cost-of-living adjustments to salaries (2.2 percent) and increases to healthcare and related benefits (an increase of two percent). The 2020 Organizational Chart is:



**Professional Services.** The District relies on a number of professional- and vendor-related services to efficiently and effectively carry out the business of the District. Such providers include contracting with the District's legal counsel and on-call consulting engineer, support services associated with asset management, infrastructure control, administrative systems, and general services (e.g., custodial, landscape maintenance, security, etc.). Many of these services are shared evenly between the water and sewer utilities. The combined professional services for 2020 are projected at \$281,000, which is a decrease from the 2019 Budget (\$290,000), despite anticipated costs associated related to a utility rate study and the bi-annual audit performed by the Washington State Auditor's Office.

**City of Bellingham Fees.** The District does not have a drinking water source that is connected to the Eagleridge residential neighborhood located on the Lake Whatcom north shore. Therefore, the District purchases water from the City of Bellingham to serve Eagleridge. The total projected cost for water fees from the City of Bellingham for 2020 is budgeted at \$45,000, which is relatively equivalent to costs projected through 2019 yearend.

**Water Quality Partnerships.** With Lake Whatcom as the primary source of drinking water within the District, protection of its water quality is crucial. In 2020, the District will continue its partnership with Whatcom County and the City of Bellingham for water quality monitoring and invasive species inspection programs (\$60,000), as well as invest an additional \$60,000 in associated initiatives aimed at protecting water quality within the lake (after a \$40,000 reimbursement from Whatcom County).

**Utilities.** Electricity to treat and distribute water to District customers, and to pump sewage to the City of Bellingham makes up a significant portion of the District's operating budget. Combined water and sewer utility electricity costs, together with other utilities, are budgeted at \$210,000 for 2020 which are slightly above those projected through 2019 yearend.

**2019 Fund Carryover.** Due to competing workload obligations, \$105,000 in water utility operating monies was not used under system reinvestment because the associated capital projects were not completed. As a result, these funds will be carried over to 2020 when the associated projects will be completed.

#### 4.1.2 Operating Reserve

In accordance with District financial policies, an operating reserve is maintained equivalent to the cost of operating the water utility for 90 days (\$520,000). Also per District policies, in any year where operating reserves exceed the maximum days of operations expenses at yearend (90 days), the excess cash is to be used for system reinvestment in capital projects. For 2020, \$7,000 of excess cash is projected for reinvestment in water infrastructure.

#### 4.1.3 System Reinvestment

The *2020 Capital Improvement and Maintenance Plan*, included as Appendix B, provides a comprehensive description of the projects that will be completed using system reinvestment funds. Following are projects specific to the water utility:

Category	Project	Cost <sup>1</sup>
Capital Improvement Projects		
Water	Dead End Blowoffs	\$5,000
Water	Little Strawberry Bridge Water Main Predesign & Estimate	\$15,000
Water	Sudden Valley Water Treatment Plant 20-Year Facility Plan	\$90,000
Subtotal		\$110,000
Maintenance Projects		
Water/Sewer	Johnson Well Storage Building New Siding and Paint (water portion)	\$13,750
Water/Sewer	Annual Asphalt Patching (water portion)	\$17,500
Water/Sewer	Annual Tree Trimming (water portion)	\$5,000
Subtotal		\$36,250
System Reinvestment Projects		
Water/Sewer	Quick Connect Fitting for CAT Backhoe (water portion)	\$2,000
Water/Sewer	Used Forklift for Shop (water portion)	\$10,000
Water/Sewer	SCADA Telemetry-Install and Configure Managed Ethernet Switches (water portion)	\$10,000
Water/Sewer	Snowplow Blade and Sander Attachment for Tool Truck (water portion)	\$7,150
Water/Sewer	Accounting & Admin Server-Replace/update hardware, security & OS (water portion)	\$12,500
Water/Sewer	Replace Tool Truck (7 tool trucks in fleet) (water portion)	\$36,000
Water	Agate Heights Water System-Phase 1 WTP Upgrade Design, Bid, SDC	\$80,000
Water	Demolish Concrete Reservoir at 1010 Lakeview Street	\$55,000
Water	Convert Eagleridge Booster to Metering Station	\$30,000
Water	PRV-AUS at Fremont and Austin-Rebuild Vault, Replace PRVs, Piping and Hardware	\$10,000
Water	Geneva and Division 22 Reservoir Impressed Current Cathodic Protection Systems	\$40,000
Water	Water Meters and Registers	\$13,000
Water	Fire Hydrant Flow Testing Kit for Hydraulic Model Calibration Testing	\$3,500
Water	Sudden Valley Water Treatment Plant Misc. Component Replacement	\$40,000
Water	Fire Hydrant Adapters	\$12,000
Subtotal		\$361,150
TOTAL		\$507,400

<sup>1</sup> Costs presented in table are rounded, please refer to Appendices A and B for specific projected costs.

#### 4.1.4 Contingency Reserve

A contingency reserve is maintained in accordance with the District's financial policies at one percent of the water utility infrastructure replacement cost (\$460,000). As this is contingency fund, no expenditures are budgeted for 2020.

#### 4.1.5 Debt Service

The District is obligated to annually set aside sufficient funds for debt service repayment associated with prior District capital improvements, which are summarized in the *Revenue Bonds and Loan Funds Summary* (Appendix C). Water utility-related 2020 expenditures to make principal and interest payments on District low interest loans will be associated with:

- Geneva AC Pipe Mains Replacement Project (\$148,723)
- Division 22 Water Reservoir Construction Project (\$83,153)

## 4.2 Sewer Utility Fund (Fund 402)

The Sewer Utility Fund is the primary fund through which the District conducts sewer utility-related business. It should be noted that many administrative expenses are shared with the Water Utility Fund. The following sections provide summaries of primary components of the fund expenses.

### 4.2.1 Operating Expenses

**Personnel.** As sewer utility-related expenses associated with personnel are largely consistent with those of the water utility, please refer to the personnel discussion in Section 4.1.1.

**Professional Services.** As sewer utility-related expenses associated with professional services are largely consistent with those of the water utility, please refer to the professional services discussion in Section 4.1.1.

**City of Bellingham Fees.** To protect the quality of Lake Whatcom, all sewage collected by the District is conveyed to the City of Bellingham's sanitary sewer system and treated at the City's Post Point wastewater treatment plant. As a result, the District pays the City for treatment of all sewage collected by the District. The total projected cost for sewer fees from the City of Bellingham for 2020 is budgeted at \$680,000, which is slightly above 2019 yearend projections to account for city rate increases.

**Utilities.** Please refer to the utilities discussion in Section 4.1.1.

**2019 Fund Carryover.** Due to competing workload obligations, \$770,000 in sewer utility operating monies was not used under system reinvestment because the associated capital projects were not completed. As a result, these funds will be carried over to 2020 when the associated projects will be completed.

### 4.2.2 Operating Reserve

In accordance with District financial policies, an operating reserve is maintained equivalent to the cost of operating the sewer utility for 60 days (\$420,000). Also per District policies, in any year where operating reserves exceed the maximum days of operations expenses at yearend (60 days), the excess cash is to be used for system reinvestment in capital projects. For 2020, \$190,000 of excess cash is projected for reinvestment in sewer infrastructure.

### 4.2.3 System Reinvestment

The *2020 Capital Improvement and Maintenance Plan*, included as Appendix B, provides a comprehensive description of the projects that will be completed using system reinvestment funds. Following are projects specific to the sewer utility:

Category	Project	Cost <sup>1</sup>
Capital Improvement Projects		
Sewer	Euclid Lift Station Design & Permitting	\$29,000
Sewer	Dellesta and Edgewater Lift Stations Design & Construction	\$597,200
Sewer	Compulsory Sewer Connections	\$20,000
Sewer	Comprehensive Sewer Plan Update	\$20,000
Sewer	AB PLC-5 Replacements and UPS Improvements	\$100,000
	Subtotal	\$766,200
Maintenance Projects		
Water/Sewer	Johnson Well Storage Building New Siding and Paint (sewer portion)	\$13,750
Water/Sewer	Annual Asphalt Patching (sewer portion)	\$17,500
Water/Sewer	Annual Tree Trimming (sewer portion)	\$5,000
	Subtotal	\$36,250
System Reinvestment Projects		
Water/Sewer	Quick Connect Fitting for CAT Backhoe (sewer portion)	\$2,000
Water/Sewer	Used Forklift for Shop (sewer portion)	\$10,000
Water/Sewer	SCADA Telemetry-Install and Configure Managed Ethernet Switches (sewer portion)	\$10,000
Water/Sewer	Snowplow Blade and Sander Attachment for Tool Truck (sewer portion)	\$7,150
Water/Sewer	Accounting & Admin Server-Replace/update hardware, security & OS (sewer portion)	\$12,500
Water/Sewer	Replace Tool Truck (7 tool trucks in fleet) (sewer portion)	\$36,000
Sewer	Replace Flush and Vac Truck	\$525,000
Sewer	Beaver, Flat Car, SVPS Motor Lead Replacement	\$18,000
Sewer	Rehabilitation and Replacement Projects	\$40,000
	Subtotal	\$660,650
	TOTAL	\$1,463,100

<sup>1</sup> Costs presented in table are rounded, please refer to Appendices A and B for specific projected costs.

#### 4.2.4 Contingency Reserve

A contingency reserve is maintained in accordance with the District's financial policies at one percent of the sewer utility infrastructure replacement cost (\$796,000). As this is contingency fund, no expenditures are budgeted for 2020.

#### 4.2.5 Debt Service

The District is obligated to annually set aside sufficient funds for debt service repayment associated with prior District capital improvements, which are summarized in the *Revenue Bonds and Loan Funds Summary* (Appendix C). Sewer utility-related 2020 expenditures to make principal and interest payments on District bond obligations are solely associated with the 2016 Bond (which consisted of re-financing of the 2009 Bond, as well as financing the renovation of two sewer lift stations and the District's portion of upgrades to the City of Bellingham's Post Point wastewater treatment plant). The 2020 sewer utility debt service will be approximately \$643,000.

### 4.3 Bond Reserve Fund (Fund 460)

No expenditures are anticipated in 2020 from this fund. A fund balance of approximately \$772,000 will be carried over from 2019.



# APPENDIX A

2020 BUDGET

## LAKE WHATCOM WATER AND SEWER FUND SUMMARY 2020



	401	402	460	
	WATER	SEWER	BOND RESERVE (RESTRICTED)	TOTAL
2020 REVENUES	2,886,739	4,379,446	-	7,266,185
2020 EXPENDITURES	(3,047,577)	(4,798,310)	-	(7,845,887)
CASH/INVESTMENTS 2019 CARRYOVER \$1,700,000	714,000	986,000	772,334	2,472,334
CONTINGENCY FUNDS TRANSFER IN	\$460,000	\$787,000		\$1,247,000
-----				
PROPOSED 2020 YEAR END BALANCE	\$1,013,162	\$1,354,136	\$772,334	\$3,139,632
2020 ALLOCATED TO OPERATING RESERVES	-\$520,000	-\$420,000		-\$940,000
2020 ALLOCATED TO CONTINGENCY	-\$460,000	-\$796,000		-\$1,256,000
AVAILABLE 2020 YEAR END BALANCE	\$33,162	\$138,136		\$171,298

<b>LAKE WHATCOM WATER AND SEWER DISTRICT</b>					
	<b>Description</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget 2019</b>	<b>Budget</b>
		<b>2017</b>	<b>2018</b>		<b>2020</b>
<b><i>WATER - 401</i></b>					
<b><i>REVENUES</i></b>					
401-333-66-00-00	North Shore Sampling Interlocal Agreement				40,000
401-333-66-00-01	North Shore Consolidation Feasibility Study	29,986			
401-333-97-00-00	FEMA Aug 2015 Storm Assistance	14,280	250		
401-343-40-10	Water Sales Metered (4% base rate increase) *	2,269,645	2,468,445	2,526,043	2,632,739
401-343-41-10	Permits (15 new connection permits) \$6,000	85,915	162,024	87,000	90,000
401-343-81-10	Combined Fees (Increase in Lien and Lock fees)	27,211	27,616	30,000	35,000
401-359-90-00	Late fees	56,798	58,690	50,000	55,000
401-361-11-00	Investment Interest	5,582	35,291	25,000	30,000
401-369-10-00	Sale of scrap metal and surplus	224	1,252	2,000	3,000
401-369-10-01	Miscellaneous	1,378	2,517	1,000	1,000
401-369-40-00	Judgements and Settlements	-	23,767	-	-
401-395-10-00	Sale of Capital Assets	-	7,800	-	-
401-395-20-00	Insurance Recoveries	2,042	-	-	-
	<b>TOTAL REVENUES</b>	<b>2,493,061</b>	<b>2,787,652</b>	<b>2,721,043</b>	<b>2,886,739</b>
	* Per Resolution 844 effective 1/1/2020				
	Scheduled annual rate increase				

<b>LAKE WHATCOM WATER AND SEWER DISTRICT</b>					
	<b>Description</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget 2019</b>	<b>Budget</b>
		<b>2017</b>	<b>2018</b>		<b>2020</b>
<b>SEWER - 402</b>					
<b>REVENUES</b>					
402-343-41-10-02	Permits (15 new connection permits) \$9,000	85,915	162,024	123,000	135,000
402-343-50-11	Sewer Service Residential (2.5% rate increase) *	3,849,280	3,964,760	4,058,102	4,186,946
402-343-50-19	Sewer Service Other	3,961	4,586	4,000	4,500
402-343-50-80	Latecomer's Fees	6,772	6,772	-	-
402-359-90-02	Late Fees	28,399	29,345	-	-
402-361-11-00-02	Investment Interest	5,582	35,291	25,000	30,000
402-361-40-00-80	ULID 18 Interest/Penalties	18,631	8,889	5,000	4,000
402-368-10-00-80	ULID 18 Principal Payments	60,796	30,534	30,000	15,000
402-369-10-00-02	Sale of scrap metal and surplus	224	1,251	1,000	3,000
402-369-10-00-02	Miscellaneous	1,378	2,517	-	1,000
402-369-40-02	Judgements and Settlements	-	23,767	-	-
402-395-10-00-02	Sale of Capital Assets	-	7,800	-	-
402-395-20-02	Insurance Recoveries	2,042	-	-	-
	<b>TOTAL REVENUES</b>	<b>4,062,980</b>	<b>4,277,536</b>	<b>4,246,102</b>	<b>4,379,446</b>
	* Per Resolution 844 effective 1/1/2020				
	Scheduled annual rate increase				

**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
<b>WATER - 401</b>					
<b>OPERATING EXPENDITURES</b>					
401-534-10-10	Admin Payroll (2.2% cola plus step increases - 2020)	320,350	301,648	337,135	353,900
401-534-10-20	Admin Personnel Benefits (includes Commissioner insurance)	123,078	133,169	142,195	174,250
401-534-10-31	Gen Admin Supplies/Equipment (Master Meter Software)	13,289	11,170	15,000	35,000
401-534-10-31-01	Meetings/Team building	1,594	1,178	1,500	2,000
401-534-10-40	Web pay/Bank Fees	16,695	20,199	20,000	10,000
	Interlocal - Invasive Species (City) (8% increase)				55,000
	Interlocal - Lake Whatcom Tributary Monitor (County)				5,000
	North Shore Sampling (County Interlocal Agreement)				100,000
	Mutt Mits				5,000
401-534-10-41	Water Quality Assurance Programs (TOTAL)	8,856	55,119	90,000	165,000
	County Auditor Filing Fees			3,250	3,000
	Statement processing			12,500	12,500
	Answering Service			1,000	750
	Time clock system			1,000	750
	Financial Software Maintenance			5,000	5,000
	Web Check services			2,500	2,500
	CPA (Financial statements)			3,000	3,000
	Rate Study			-	15,000
	State Audit			-	5,000
	Docuware maintenance and upgrade			7,500	7,500
	Legal Counsel			30,000	20,000
	Computer support			12,500	15,000
	Anti virus subscription			500	500
	Building security			1,000	1,000
	Building custodial			5,000	5,000
	Pest control			250	500
	Landscaping service			2,000	3,000
	South Whatcom Fire (hydrant maintenance)			1,000	1,000
	Scada System Software Maintenance - Operations			3,750	3,750
	Engineering Consultant			10,000	5,000
	Cyber Security AWIA Assessment			-	5,000
	SCADA/PLC Support - Engineering/Operations			2,500	5,000
	Cartegraph - Engineering/Operations			15,000	2,500
	Auto Desk - Engineering			500	500
	GIS Partnership (County)			500	500
	Rockwell - Engineering/Operations			250	250
	IT Pipes			750	750

**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
	ESRI - ARC GIS			750	750
	Innovyze - Engineering			1,250	1,250
	Master Meter			2,000	2,000
	Cyberlock software			500	500
	Whatcom County Emergency Management			10,000	10,000
	Misc (Bid notices etc.)			2,500	2,500
401-534-10-41-01	Professional Services (TOTAL)	259,151	296,727	145,000	141,250
401-534-10-42	Communication	24,732	25,601	25,000	30,000
401-534-10-45	Admin Lease (copy/printers)	910	4,198	3,500	5,000
401-534-10-46	Property Insurance	67,595	66,404	67,000	72,000
401-534-10-49	Admin Misc.	682	795	500	500
401-534-10-49-01	Memberships/Dues/Permits	8,317	9,443	10,000	10,000
401-534-10-49-02	WA State Dept of RevenueTaxes/County Stormwater fees	104,678	113,994	110,000	115,000
401-534-40-43	Training & Travel	12,539	16,743	17,500	17,500
401-534-40-43-01	Tuition reimbursement	184		500	500
401-534-50-31	Operations/Maintenance Supplies	95,454	117,834	75,000	75,000
401-534-50-31-01	Small Assets/tools	-	2,158	35,000	25,000
401-534-50-48	Operations Repair/Maint contracted work	32,225	75,421	60,000	60,000
401-534-50-49	Insurance Claims	-	1,183	2,500	2,500
401-534-60-41	Operations Contracted (water testing)	12,110	5,418	7,500	7,500
401-534-60-47	Water City of Bellingham	40,386	61,592	45,000	45,000
401-534-80-10	Operations Payroll (2.2% cola plus step increases - 2020)	513,248	546,976	533,190	575,561
401-534-80-20	Operations Personnel Benefits (Medical,Retirement etc)	223,200	238,647	251,500	247,590
401-534-80-32	Fuel	13,663	14,814	15,000	15,000
401-534-80-35	Safety Supplies (Ergonomic Assessment)	6,149	8,668	5,000	10,000
401-534-80-35-01	Safety Supplies Boots	971	928	1,250	1,250
401-534-80-35-02	Emergency Preparedness	149	319	5,000	5,000
401-534-80-47	General Utilities (Electric, gas, water, garbage)	98,911	111,942	120,000	110,000
401-534-80-49	Laundry	1,951	2,053	2,000	2,000
	<b>WATER OPERATING EXPENDITURES</b>	<b>2,001,067</b>	<b>2,244,341</b>	<b>2,142,770</b>	<b>2,313,301</b>

**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
<b><i>DEBT SERVICE</i></b>					
401-591-34-77-01	Redemption of Long Term Debt Geneva AC Mains	119,938	119,938	119,937	119,938
401-591-34-77-02	Redemption of Long Term Debt Div 22 Reservoir	-	53,831	53,831	65,475
401-591-34-77-73	Redemption of Long Term Debt Loan 064	47,252	236,260	-	-
401-592-34-83-01	Debt Service Interest Geneva AC Mains	34,182	32,383	30,584	28,785
401-592-34-83-02	Debt Service Interest Div 22 Reservoir	-	30,982	15,342	17,678
401-592-34-83-03	Debt Service Interest Loan 064	5,670	3,321	-	-
<b><i>SYSTEM REINVESTMENT</i></b>					
	2019 System Reinvestment Projects				105,000
	2020 System Reinvestment Projects	337,296	470,687	425,000	397,400
<b><i>TRANSFERS</i></b>					
	Transfers out to Water Contingency Fund				-
<b>WATER FUND</b>	<b>TOTAL WATER REVENUES</b>	<b>2,493,061</b>	<b>2,787,652</b>	<b>2,787,652</b>	<b>2,886,739</b>
	<b>TOTAL WATER EXPENDITURES</b>	<b>(2,545,405)</b>	<b>(3,191,743)</b>	<b>(2,787,464)</b>	<b>(3,047,577)</b>
	<b>2019 BALANCE CARRYOVER (42%) of \$1,700,000</b>				<b>714,000</b>
	<b>2019 FUND 426 TRANSFER IN</b>				<b>460,000</b>
	<b>2020 ALLOCATED TO OPERATING RESERVES</b>				<b>(520,000)</b>
	<b>2020 ALLOCATED TO WATER CONTINGENCY</b>				<b>(460,000)</b>
	<b>PROPOSED AVAILABLE 2020 YEAR END BALANCE</b>				<b>33,162</b>

**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
<b>SEWER - 402</b>					
<b>OPERATING EXPENDITURES</b>					
402-535-10-10	Admin Payroll (2.2% cola plus step increases - 2020)	320,349	301,897	337,135	353,900
402-535-10-20	Admin Personnel Benefits (includes Commissioner insurance)	123,075	132,376	142,195	174,250
402-535-10-31	Gen Admin Supplies/Equipment	13,889	12,535	15,000	20,000
402-535-10-31-01	Meetings/Team building	1,469	1,693	1,500	2,000
402-535-10-40	Web pay/Bank Fees	16,625	20,195	20,000	10,000
	County Auditor Filing Fees			3,250	3,000
	Statement processing			12,500	12,500
	Answering Service			1,000	750
	Time clock system			1,000	750
	Financial Software Maintenance			5,000	5,000
	Web Check services			2,500	2,500
	CPA (Internal audit and Financial statements)			3,000	3,000
	Rate study			-	15,000
	State audit			-	5,000
	Docuware maintenance and upgrade			7,500	7,500
	Legal Counsel			30,000	20,000
	Computer support			12,500	15,000
	Cyber Security AWIA Assessment				5,000
	Anti virus subscription			500	500
	Building security for offices			1,000	1,000
	Building custodial			5,000	5,000
	Pest control			250	500
	Landscaping service			2,000	3,000
	Scada System Software Maintenance - Operations			3,750	3,750
	Engineering Consultant			10,000	5,000
	Camera Van Software			1,500	1,500
	SCADA/PLC Support - Engineering/Operations			2,500	5,000
	Cartegraph - Engineering/Operations			15,000	2,500
	Auto Desk - Engineering			500	500
	GIS Partnership (County)			500	500
	Rockwell - Engineering/Operations			250	250
	IT Pipes			750	750
	ESRI - ARC GIS			750	750
	Innovyze - Engineering			1,250	1,250
	Cyberlock software			500	500
	Whatcom County Emergency Management			10,000	10,000
	Misc (Bid notices etc.)			2,500	2,500



**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
402-535-10-41-01	Professional Services (TOTAL)	108,695	224,840	145,000	139,750
402-535-10-42	Communication	24,731	25,600	25,000	30,000
402-535-10-45	Admin Lease (copy/printers)	910	4,200	3,500	5,000
402-535-10-46	Property Insurance	67,595	66,403	67,000	72,000
402-535-10-49	Admin Misc.	510	353	500	500
402-535-10-49-01	Memberships/Dues/Permits	5,898	6,545	7,000	8,000
402-535-10-49-02	WA State Dept of RevenueTaxes/County Sormwater fees	97,504	108,063	105,000	115,000
402-535-40-43	Training & Travel	7,924	9,549	17,500	17,500
402-535-40-43-01	Tuition reimbursement	102	-	500	500
402-535-50-31	Operations/Maintenance Supplies	51,805	52,213	75,000	75,000
402-535-50-31-01	Small Assets/tools	-	2,544	35,000	25,000
402-535-50-48	Operations Repair/Maint contracted work	144,487	74,355	60,000	60,000
402-535-50-49	Insurance Claims	-	1,183	2,500	2,500
402-535-60-41	Operations Contracted (generator load testing)	6,869	-	15,000	15,000
402-535-60-47	Sewer City of Bellingham Treatment Fee	643,912	589,677	650,000	680,000
402-535-80-10	Operations Payroll (2.2% cola plus step increases - 2020)	413,138	442,355	533,190	483,494
402-535-80-20	Operations Personnel Benefits (Medical,Retirement etc)	179,101	191,170	251,500	247,590
402-535-80-32	Fuel	13,759	14,770	13,000	13,000
402-535-80-35	Safety Supplies (Ergonomic Assessment)	6,280	8,686	5,000	10,000
402-535-80-35-01	Safety Supplies Boots	1,048	887	1,250	1,250
402-535-80-35-02	Emergency Preparedness	279	467	5,000	5,000
402-535-80-47	General Utilities (Electric, gas, water, garbage)	92,793	101,163	110,000	100,000
402-535-80-49	Laundry	1,950	2,052	2,000	2,000
	<b>SEWER OPERATING EXPENDITURES</b>	<b>2,344,697</b>	<b>2,395,771</b>	<b>2,645,270</b>	<b>2,668,234</b>

**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
<b><i>DEBT SERVICE</i></b>					
402-591-35-72-50	2009 Bond Principal Payments	265,000	275,000	285,000	-
402-591-35-72-03	2016 Bond Principal Payments	125,000	130,000	130,000	425,000
402-592-35-83-50	2009 Bond Interest Payments	30,900	20,300	10,332	-
402-592-35-83-03	2016 Bond Interest Payments	227,175	224,675	222,074	218,176
<b><i>SYSTEM REINVESTMENT</i></b>					
	2019 System Reinvestment Projects				770,000
402-594-35-62-02	Sewer System Reinvestment Projects	337,296	470,687	2,600,000	191,900
402-594-35-64-02	2020 Sewer Equipment (Flush/Vac Truck)				525,000
<b><i>TRANSFERS</i></b>					
	Transfers Out to Sewer/Storm Water Contingency Fund 425	149,000	25,000	15,000	-
<b>SEWER FUND</b>	<b>TOTAL SEWER REVENUES</b>	<b>4,062,980</b>	<b>4,277,536</b>	<b>4,246,102</b>	<b>4,379,446</b>
	<b>TOTAL SEWER EXPENDITURES</b>	<b>(3,479,068)</b>	<b>(3,541,433)</b>	<b>(5,907,676)</b>	<b>(4,798,310)</b>
	<b>2019 BALANCE CARRYOVER (58%) of \$1,700,000</b>				<b>986,000</b>
	<b>2019 FUND 425 TRANSFER IN</b>				<b>787,000</b>
	<b>2020 ALLOCATED TO SEWER OPERATING RESERVES</b>				<b>(420,000)</b>
	<b>2020 ALLOCATED TO SEWER CONTINGENCY</b>				<b>(796,000)</b>
	<b>PROPOSED AVAILABLE 2020 YEAR END BALANCE</b>				<b>138,136</b>

**LAKE WHATCOM WATER AND SEWER DISTRICT**

	Description	Actual 2017	Actual 2018	Budget 2019	Budget 2020
	<b><i>BOND RESERVE - 460</i></b>				
460-361-11-00	Investment Interest (to Operating Fund)	9,870		-	-
460-397-10-00-60	Transfers In from Operating Fund 401	-		-	-
	<b>TOTAL REVENUES</b>	<b>9,870</b>		<b>0</b>	<b>0</b>
460-535-10-41	Investment Service Charges	765		-	-
	<b>TOTAL EXPENDITURES</b>	<b>765</b>		<b>0</b>	<b>0</b>
<b>BOND RESERVE FUND</b>	<b>REVENUES</b>	<b>9,870</b>		<b>-</b>	<b>0</b>
	<b>EXPENDITURES</b>	<b>(765)</b>			<b>0</b>
	<b>CASH/INVESTMENTS BALANCE CARRYOVER</b>				<b>772,334</b>
	<b>PROPOSED 2020 YEAR END BALANCE</b>				<b>772,334</b>

# LAKE WHATCOM WATER AND SEWER DISTRICT

## PERSONNEL SUMMARY

2020 BUDGET DATA

POSITION	NO. OF EMPLOYEES	ANNUAL GROSS	ADMINISTRATION	OPERATIONS
General Manager	1	\$ 147,379	\$ 147,379	
Asst. Manager/Engineer	1	139,705	139,705	
Finance Manager/Treasurer	1	123,400	123,400	
Administrative Assistant	1	67,371	67,371	
Accounts Receivable	1	68,704	68,704	
Accounts Payable/Payroll	1	75,754	75,754	
Accounting Clerk	1	60,486	60,486	
Commissioners		25,000	25,000	
Construction Engineer	1	111,925		\$ 111,925
Engineering Tech/Safety Officer	1	83,499		83,499
Utility Systems Specialist	1.5	105,692		105,692
Water Treatment Plant Operator	1	92,067		92,067
Maintenance/Operations Mgr	1	117,499		117,499
Lead Maintenance Worker	1	87,714		87,714
Maintenance Worker 2	3	229,749		229,749
Maintenance Worker 1	1	54,250		54,250
Maintenance Electrician	1	96,659		96,659
Overtime		40,000		40,000
Stand-By		40,000		40,000
Sub-Totals	18.5	<u>\$ 1,766,853</u>	<u>\$ 707,799</u>	<u>\$ 1,059,054</u>
Social Security		\$ 135,164	\$ 54,147	\$ 81,017
PERS		223,646	87,603	136,043
Unemployment		6,000	2,275	3,725
Worker's Comp (L&I)		28,721	6,758	21,963
Medical/Dental Benefits		413,489	133,917	279,572
Def Comp Match		25,139	9,908	15,231
Sick Leave Buy Out		2,881	1,074	1,807
Longevity		3,240	720	2,520
HRA VEBA		5,400	2,100	3,300
Sub-Totals		<u>\$ 843,680</u>	<u>\$ 298,502</u>	<u>\$ 545,178</u>
<b>GRAND TOTALS</b>		<u><u>\$ 2,610,533</u></u>	<u><u>\$ 1,006,301</u></u>	<u><u>\$ 1,604,232</u></u>

# APPENDIX B

## 2020 CAPITAL AND IMPROVEMENT MAINTENANCE PLAN

# Lake Whatcom Water and Sewer District

## 2020 Capital Improvement Plan

District Administrative Code Section 2.3 – Capital Improvement Plan Policy provides a policy framework to plan and implement capital policies and programs that preserve, maintain, and improve capital facilities, equipment, and assets with the goal of avoiding fiscal emergencies and unplanned capital costs.

The 6-year capital improvement plan (CIP) is updated annually during budgeting efforts for the following year. The CIP coordinates projects identified in the current Water System Comprehensive Plan and Sewer Comprehensive Plan with facility, equipment, and asset needs identified during the trailing 12 months. The current Water System Comprehensive Plan was approved by the Washington State Department of Health on October 3, 2018 and is valid until October 3, 2028 (10-years). The current Comprehensive Sewer Plan was approved by the Washington State Department of Ecology on June 6, 2014.

Capital projects are financed to the greatest extent possible through user fees when direct benefit to users results from the construction of the project. The District utilizes revenue bonds and applicable state and federal loans and grants to assist in capital funding whenever necessary. Each capital project that may be funded by a loan is evaluated within the context of the District's capital improvement program and the capital budget. The funding strategy is reviewed and updated approximately every two to three years as part of the District's period rate study that considers revenues, expenses, CIP needs, and debt. Projects are scheduled to fit within the funding strategy contained in the most current rate study.

Projects are prioritized and scheduled considering the following criteria:

- Impact on the operating budget through increases or reductions in revenues and expenses.
- Identified and scheduled in the water and sewer comprehensive plans.
- Can be realistically accomplished during the year that they are scheduled.
- Implement previous Board-approved reports and strategies.
- Renewal and replacement schedules identified in the asset management system's comprehensive inventory of all capital assets which includes estimates of actual value, replacement cost and remaining useful life.
- Business risk exposure index that factors consequence of failure and probability of failure of the subject asset.

Capital projects that are not completed during the fiscal year are carried over to the next fiscal year. These projects are listed on the page titled "Active Capital Improvement Project".

Active Capital Improvement Projects											
2020 Budget Worksheet											
10/23/2019											
Category	Project #	Project Title / Tasks	Projected Budget to Completion	Spent to Date (as of 10/23/2019)	Projected Spending Thru 2019	Amt Remaining to include in 2020 Budget	Notes				
<b>Rate Funded Projects</b>											
Sewer	C1611	Country Club Sewer Pump Station - HDD									
		Permits, Advertisements, Printing, Testing, Etc.	\$ 9,333.44	\$ 9,333.44	\$ 9,333.44	\$ -					
		BHC Design, Permitting, Bidding	\$ 198,642.65	\$ 198,642.65	\$ 198,642.65	\$ -					
		BHC Services During Construction	\$ 72,000.00	\$ 54,222.92	\$ 72,000.00	\$ -					
		Construction Contract	\$ 683,170.36	\$ 513,047.68	\$ 683,170.36	\$ -	original construction contract price \$760,585				
Sewer	C1705	Geneva and Par Sewer Pump Stations									
		Permits, PSE, Advertisements, Printing, Testing, Etc.	\$ 59,310.74	\$ 59,310.74	\$ 59,310.74	\$ -					
		RH2	\$ 419,019.00	\$ 368,497.89	\$ 419,019.00	\$ -	thru amendment #5				
		Par Construction Contract	\$ 438,263.69	\$ 438,263.69	\$ 438,263.69	\$ -					
		Geneva Construction Contract	\$ 717,836.00	\$ 607,545.00	\$ 717,836.00	\$ -					
Sewer	C1708	Ball Check Valves at Austin and Beaver Sewer Pump Stations	\$ 8,518.57	\$ 8,518.57	\$ 8,518.57	\$ -					
Water	C1716A	Dead End Blowoffs	\$ 20,000.00	\$ 13,311.47	\$ 15,000.00	\$ 5,000.00					
Water	C1716B	Geneva Booster Station - PRV's, Backflow, Roof	\$ 40,000.00	\$ 16,916.79	\$ 40,000.00	\$ -					
Sewer	C1802	Dellesta, Edgewater & Euclid Sewer Pump Stations									
		Euclid									
		RH2 Design, Permitting, Bidding	\$ 93,512.00	\$ 71,520.37	\$ 71,520.37	\$ 21,991.63	original agreement, phase 1a				
		RH2 Euclid Mitigation Plan	\$ 18,867.00	\$ 18,867.00	\$ 18,867.00	\$ -	amendment 2, phase 1a				
		Permits, Advertisements, Printing, Testing, Etc.	\$ 25,000.00	\$ 16,690.66	\$ 18,000.00	\$ 7,000.00	includes dellest & edgewater & euclid				
		Dellesta & Edgewater									
		RH2 Predesign, Shoreline Permitting	\$ 99,490.00	\$ 99,490.00	\$ 99,490.00	\$ -	original agreement, phase 1b				
		RH2 Edgewater Supplemental Surveying	\$ 3,393.00	\$ 3,393.00	\$ 3,393.00	\$ -	amendment 1, phase 1b				
		RH2 Design, Permitting, Bidding	\$ 62,210.00	\$ -	\$ 40,000.00	\$ 22,210.00	amendment 3				
		RH2 Services During Construction - Estimate	\$ 100,000.00	\$ -	\$ -	\$ 100,000.00	estimate based on par and geneva ps				
		Construction - Estimate	\$ 450,000.00	\$ -	\$ -	\$ 450,000.00	based on planning level estimate from RH2 9/30/2019				
		PSE Electrical Service Changes	\$ 25,000.00	\$ -	\$ -	\$ 25,000.00					
Sewer	C1810	Airport PS Generator and Lakewood PS Access Esmt	\$ 57,692.93	\$ 57,692.93	\$ 57,692.93	\$ -					
Sewer	M1811	North Shore Sewer FM Stream Crossing Protection									
		Wilson Design, Permitting, Services During Construction	\$ 38,703.25	\$ 38,703.25	\$ 38,703.25	\$ -					
		Construction Contract	\$ 49,254.33	\$ 49,254.33	\$ 49,254.33	\$ -					
Water	C1813	Div 7 Reservoir - Seismic FEMA Grant Application	\$ 17,569.00	\$ 17,569.00	\$ 17,569.00	\$ -					
Water	C1814	Agate Heights WTP and Opal Booster Upgrades									
		Wilson Predesign, Pilot Test, Permitting, DOH Project Report	\$ 45,546.00	\$ 34,268.00	\$ 45,546.00	\$ -	wilson task order #2018-01				
	A1901	Whatcom County Region GIS Imagery Partnership 2019 Flight	\$ 1,000.00	\$ -	\$ 1,000.00	\$ -					
Sewer	A1902	Compulsory Sewer Connections	\$ 20,000.00	\$ -	\$ -	\$ 20,000.00					
	C1903	District Office Misc Facility Improvements (\$60k budget)									
		Irrigation System, Front Concrete Steps	\$ 13,478.80	\$ 13,478.80	\$ 13,478.80	\$ -					
		2019 Asphalt Patching - WRS Contract	\$ 43,093.00	\$ -	\$ 43,093.00	\$ -	will increase due to more patching areas				
Sewer	C1904	Comprehensive Sewer Plan Update	\$ 69,950.00	\$ 5,926.50	\$ 50,000.00	\$ 19,950.00	wilson task order #2019-001 (target by November 2019)				
Sewer	C1905	Sewer Rehabilitation and Replacement Projects	\$ 40,000.00	\$ 28,539.83	\$ 40,000.00	\$ -					
Water	C1906	Water Meters and Replacement Registers	\$ 19,177.89	\$ 19,177.89	\$ 19,177.89	\$ -					
Water	C1907	Fire Flow Improvements - Remove FH #22-122	\$ 2,000.00	\$ -	\$ 2,000.00	\$ -					
Water	C1908	Fire Flow Improvements - Hydraulic Model Calibration	\$ 15,000.00	\$ 4,284.50	\$ 15,000.00	\$ -	wilson task order #2019-002 (target by October 2019)				
Water	C1909	Little Strawberry Bridge Water Main Predesign & Estimate	\$ 20,000.00	\$ -	\$ 5,000.00	\$ 15,000.00					
Water	C1910	SVWTP and AHWTP Misc Component Replacement	\$ 72,000.00	\$ 29,588.91	\$ 72,000.00	\$ -					
Water	C1911	Field CL2 Injection System	\$ 5,000.00	\$ -	\$ 5,000.00	\$ -					
Water	C1913	SVWTP 20-Year Facility Plan	\$ 100,000.00	\$ -	\$ 10,000.00	\$ 90,000.00					
Water	C1914	Water Rehabilitation and Replacement Projects	\$ 62,493.59	\$ 62,493.59	\$ 62,493.59	\$ -	svwtp xfmr fire, svwtp intake check valve				
Sewer	M1916	Flat Car Impellers, Volutes, and Wear Rings	\$ 28,583.24	\$ -	\$ 28,583.24	\$ -	po #475 \$28,583.24				
	M1917	AB PLC-5 Replacements and UPS Improvements	\$ 100,000.00	\$ -	\$ -	\$ 100,000.00					
<b>Total</b>			<b>\$ 4,364,108.48</b>	<b>\$ 2,858,549.40</b>	<b>\$ 3,487,956.85</b>	<b>\$ 876,151.63</b>					

**Lake Whatcom Water and Sewer District - Capital Improvement Plan 2020 thru 2025**

Program Area / CIP Project # / CIP Project Name		Fund	Total	2020	2021	2022	2023	2024	2025
<b>Maintenance - General</b>									
0210	8 Johnson Well Storage Building - New Siding and Paint		27,500	27,500					
A0011	1 Annual Asphalt Patching		210,000	35,000	35,000	35,000	35,000	35,000	35,000
A0012	2 Annual Tree Trimming		60,000	10,000	10,000	10,000	10,000	10,000	10,000
<b>Subtotal</b>			<b>297,500</b>	<b>72,500</b>	<b>45,000</b>	<b>45,000</b>	<b>45,000</b>	<b>45,000</b>	<b>45,000</b>
<b>Maintenance - Water</b>									
W0005	35 Reservoirs - Inspection & Maintenance		31,827				31,827		
<b>Subtotal</b>			<b>31,827</b>				<b>31,827</b>		
<b>System Reinvestment - General</b>									
0207	1 Quick connect fitting kit for new CAT backhoe		4,000	4,000					
0208	1 Used Fork Lift for Shop		20,000	20,000					
0209	18 SCADA Telemetry - Install and Configure Managed Ethernet Switches		20,000	20,000					
0218	Snowplow Blade and Sander Attachment for Tool Truck		14,300	14,300					
A0005	50 Accounting & Administration Server - Replace/Update Hardware, Network Security, & OS		50,000	25,000			25,000		
E0002	10 Replace 5-yard Dump Truck		131,127					131,127	
E0007	12 Replace Mini Excavator		71,027						71,027
E0008	18 Replace Flush and Vac Truck		525,000	525,000					
V0001	18 Replace Tool Truck (7 tool trucks in fleet)		216,000	72,000		72,000		72,000	
V0002	9 Replace Administrative Staff Vehicle (4 cars in fleet)		55,167		27,583				27,583
<b>Subtotal</b>			<b>1,106,621</b>	<b>680,300</b>	<b>27,583</b>	<b>72,000</b>	<b>25,000</b>	<b>203,127</b>	<b>98,611</b>
<b>System Reinvestment - Sewer</b>									
0032a	36 Agate Bay Sewer Pump Station - Predesign and Shorelines Permitting		103,000			103,000			
0032b	36 Agate Bay Sewer Pump Station - Design and Bidding		128,750				128,750		
0032c	36 Agate Bay Sewer Pump Station - Construction		540,750					540,750	
0055a	30 Rocky Ridge Pump Station - Predesign and Shorelines Permitting (with Lakewood)		51,500		51,500				
0055b	30 Rocky Ridge Pump Station - Design and Bidding		103,000			103,000			
0055c	30 Rocky Ridge Pump Station - Construction		300,000				300,000		
0056a	30 Lakewood Pump Station - Predesign and Shorelines Permitting (with Rocky Ridge)		51,500		51,500				
0056b	30 Lakewood Pump Station - Design and Bidding		103,000			103,000			
0056c	30 Lakewood Pump Station - Construction		300,000				300,000		
0124a	42 Flat Car Reverse Flow to SVPS Piping and Valves - Design & Permitting		50,000		50,000				
0124b	42 Flat Car Reverse Flow to SVPS Piping and Valves - Construction		100,000			100,000			
0157	12 Install Ball Check Valves at Cable, Ranch House, Flat Car, Beaver		112,551			112,551			
0161	30 Stationary Generator Closed Loop Cooling Retrofit - North Point, SV, Flat Car, Beaver		225,102				225,102		
0163	Euclid Electrical Controls Replacement and New Stationary Generator		415,090		415,090				
0171	18 Sudden Valley Sewer Pump Station - Recondition Electrical Controls		168,826					168,826	



Program Area / CIP Project # / CIP Project Name		Fund	Total	2020	2021	2022	2023	2024	2025
0172	16 Flat Car Sewer Pump Station - Recondition Electrical Controls		168,826						168,826
0193	100 COB Post Point WWTP Biosolids Handling (LWWSD Cost Share 4.8%) - Construction 2023		10,000,000				10,000,000		
0206a	18 Beaver, Flat Car, SVPS Motor Leads (replace 3 at \$6k/each)		18,000	18,000					
0206b	18 Beaver, Flat Car, SVPS Motor Leads (replace 2 at \$6k/each)		12,000		12,000				
A0010	35 Update Sewer Comprehensive Plan (Current Plan under revision as of 11/6/2019)		87,550						87,550
E0003	14 Replace Sewer Camera Vehicle		82,340			82,340			
E0004	8 Replace Camera Equipment		41,524			41,524			
S0001a	15 Sewer System Rehab and Replacement Projects		60,000	60,000					
S0001b	15 Sewer System Rehab and Replacement Projects		660,000		165,000	165,000	165,000	165,000	
S0001c	15 Sewer System Rehab and Replacement Projects		600,000						600,000
<b>Subtotal</b>			<b>14,483,309</b>	<b>78,000</b>	<b>745,090</b>	<b>810,415</b>	<b>11,118,852</b>	<b>874,576</b>	<b>856,376</b>

### System Reinvestment - Water

0084a	40 Agate Heights Water System - Phase 1 WTP Upgrade 1/3 capacity (from 30gpm to 60gpm) - Design, Bid, SDC		80,000	80,000					
0084b	40 Agate Heights Water System - Phase 1 WTP Upgrade 1/3 capacity (from 30gpm to 60gpm) - Construction		190,000		190,000				
0144a	70 South Shore Water System - 1992 SVWTP 0.235MG Chlorine Contact Tank Seismic Retrofit - Priority 2 - Design		84,413			84,413			
0144b	70 South Shore Water System - 1992 SVWTP 0.235MG Chlorine Contact Tank Seismic Retrofit - Priority 2 - Construction		175,579				175,579		
0145a	70 South Shore Water System - 1971 Division 7 1.0MG Reservoir Seismic Retrofit and Coatings - Priority 1 - Design & Permitting		200,000					200,000	
0164	30 Demolish Old Concrete Reservoir at 1010 Lakeview Street		55,000	55,000					
0166	1 South Shore Water System - SVWTP - Convert from Chlorine Gas to Liquid		103,000			103,000			
0201	2 Convert Eagleridge Booster to Metering Station		30,000	30,000					
0203	36 PRV-AUS at Fremont and Austin - Rebuild Vault, replace 3inch and 1.5inch PRVs, Piping, and Hardware		10,000	10,000					
0204	36 Geneva and Division 22 Reservoir Impressed Current Cathodic Protection Systems		40,000	40,000					
0205	Water Meters and Registers		13,000	13,000					
0211	1 Fire Hydrant Flow Testing Kit for Hydraulic Model Calibration Testing		3,500	3,500					
0212	6 SVWTP Misc Component Replacement		40,000	40,000					
0213	1 Dutch Harbor Water Meter - Add to Telemetry/SCADA Historian		20,000		20,000				
0214	4 SVWTP Raw Water Intake - Emergency Pumps (water only portable pump)		50,000				50,000		
0215	6 1237 Lakeview St - Replace 2" PVC with 2" HDPE		50,000			50,000			
0216	10 Fire Hydrant Adapters		12,000	12,000					
W0002a	18 Water System Rehab and Replacement Projects		40,000		40,000				
W0002b	18 Water System Rehab and Replacement Projects		50,000					50,000	
W0002c	18 Water System Rehab and Replacement Projects		226,600						226,600
W0003	35 SVWTP Filter 3&4 Media - Replace		25,714						25,714
<b>Subtotal</b>			<b>1,498,807</b>	<b>283,500</b>	<b>250,000</b>	<b>237,413</b>	<b>225,579</b>	<b>250,000</b>	<b>252,314</b>

\* Note: Cost Estimates in 2020 Dollars

<b>Grand Total</b>	<b>17,418,064</b>	<b>1,114,300</b>	<b>1,067,673</b>	<b>1,164,828</b>	<b>11,446,258</b>	<b>1,372,704</b>	<b>1,252,301</b>
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## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Demolish Old Concrete Reservoir at 1010 Lakeview Street
<b>CIP #:</b>	0164

<b>Asset Register:</b>	LWWSD → Water → Reservoirs				
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	n/a	= _ x _ x _ (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	n/a	<b>Consumed Life:</b>		<b>Effective Life:</b>	

### **PURPOSE and DESCRIPTION OF THE PROJECT**

Demolish old concrete reservoir across the street from the Shop at 1010 Lakeview Street. The concrete structure was built in the 1930's and has been out of service since the late 1940's. The reservoir is weathered, structurally deteriorating and does not meet current building codes, and is not suitable for reuse or salvage by the District.

The District owns the 100' x 50' parcel at this site. The District may be able to repurpose this site as a gravel parking or staging area, as was once envisioned by the Board of Commissioners. As this project is developed, the desired site restoration will also need to be determined.

Work will require a Whatcom County Demolition Permit. The District hired CAZ Environmental in October 2019 to test and report on whether the existing structure contains asbestos. The report concluded that materials tested did not detect asbestos and therefore the project is not expected to fall under regulations governing the handling of building materials containing asbestos beyond allowable limits. The CAZ Environmental report will be provided with the Whatcom County Demolition Permit application.

Budget Estimate: \$55,000

Cost estimate in 2020 dollars.

Estimate is based on information from WRS in November 2019. The estimate includes reservoir removal and haul away of materials and an estimate for replacement of fencing, landscape restoration caused by damage to neighboring property during the demolition process and any final site restoration to accommodate a possible parking area.

For further information about this project contact Kristin Hemenway.

#### Revision History

- Created 11/17/2017 by BH.
- Edited 11/5/2019 by KH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Convert Eagleridge Booster to Metering Station
<b>CIP #:</b>	0201

<b>Asset Register:</b>	LWWSD → Water → Distribution System				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	2	= 7 x 3 x 0.1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	10	<b>Consumed Life:</b>	30	<b>Effective Life:</b>	40

### **PURPOSE and DESCRIPTION OF THE PROJECT**

The purpose of this project is to convert the Eagleridge Booster Station to a Metering Station. The 2018 Water System Comprehensive Plan determined that the 3 smaller residential flow pumps are no longer needed since the City source water pressure has increased from when the booster station was put into service in 1989.

If the residential pumps were decommissioned, the District will benefit by eliminating ongoing operational and maintenance costs as well as avoiding replacement costs for the 30-year old pump system and controls. However, without the pumps home owners experience approximately 15 to 19 psi less pressure than they are used to, but still be delivered the District's minimum standard 30 psi at the meter. Neighborhood and customer outreach will be important to convey the benefits to the system as a whole, and avoid a surprise by the drop in normal operating pressure.

Preliminary analyses performed as part of the 2018 Water System Comprehensive Plan indicate that the fire suppression pumps may no longer be needed, but a more detailed investigation is needed.

A phased approach is proposed for this project as follows:

Phase A – 2020:       \$30,000

Detailed hydraulic analysis and field verification to determine whether the fire suppression pumps can be decommissioned. Begin public outreach to neighborhood for plan to decommission residential flow pumps that will result in less pressure than the community is accustomed to.

Develop Project Report (design) for submittal and review by Department of Health

Phase B – 2021 or 2022       Cost to be determined in Phase A

Construction. Probable that work can be performed by District field crew. This will depend on workload and the final scope of construction work.

## CAPITAL PROJECT NARRATIVE

Information from 2018 Water System Comprehensive Plan:

*It has recently been found that the pressure from the City source has increased since the pump station was constructed. Now the City source has a pressure that is only slightly less than that of the Eagleridge system. The City source pressure at the pump station was measured by the District on a chart recorder for one week starting October 30, 2017. The pressure varied from approximately 86-90 psi. The pumps currently increase the pressure to approximately 105 psi. A pressure of 86 psi at the pump station elevation is sufficient to provide greater than 30 psi to all connections under peak hour demand, which suggests that the residential pumps may be taken out of service and that the City source pressure could serve residential demand. Analysis indicates that the two large pumps to provide fire suppression flow may not be necessary but require a more detailed investigation before decommissioning.*

*The Eagleridge water system model includes all pipes and pumps. The model demands were updated to reflect a MDD of 800 gpd/ERU and a system PHD of 150 gpm (based on MDD, build-out of 85 ERUs). Pump curves were updated based on available information. Elevations were updated to all be based on NAVD88 (current datum adopted by the City of Bellingham).*

*The source from the City of Bellingham was updated to reflect current operating conditions. The connection from the City is at a hydraulic grade of 519 ft.*

### Summary Analysis Results

*The model was analyzed based on the existing configuration with domestic and fire flow pumps. Results indicate that the existing system can provide sufficient pressure and flow to meet Peak Hour Demand for the projected build-out while maintaining the required minimum system pressure of 30 psi. Results also indicate that the existing system can provide 750 gpm at all fire hydrants under MDD while maintaining the required minimum system pressure of 20 psi.*

*Because of the increase in the source (City) pressure from the previous analysis, the possibility of bypassing or eliminating the pump station was investigated. The model indicates that with the three residential flow pumps bypassed and served by the pressure of the City source, 30 psi can be provided to all connections under peak hour demand.*

*Additional data is needed to analyze whether the City pressure can provide sufficient fire flow without the fire flow pumps.*

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

### Revision History

- Created 11/5/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Replace PRV-AUS Pressure Reducing Valve Station
<b>CIP #:</b>	0203

<b>Asset Register:</b>	LWWSD → Water → Distribution System				
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### PURPOSE and DESCRIPTION OF THE PROJECT

Replace aging pressure reducing valve station (PRV-AUS) located at the intersection of Austin and Fremont. The station currently has 3" and 1.5" pressure reducing valves. The vault needs to be reconfigured and all the hardware including the valves needs replacing.

Piping and site constraints at the intersection require a topographic survey on which to base a replacement design. The project will be phased.

Phase A – Survey/Design: 2020 \$10,000

Phase B - Construction: 2021 Cost to be determined following design

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- Created 11/4/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Geneva and Division 22 Reservoirs Impressed Current Cathodic Protection Systems			
<b>CIP #:</b>	0204			

<b>Asset Register:</b>	LWWSD → Water → Reservoirs			
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	<u>Efficiency</u>
<b>Business Risk Exposure:</b>	NA	= _ x _ x _ (PoF x CoF x Redundancy)		
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>		<b>Effective Life:</b>

### PURPOSE and DESCRIPTION OF THE PROJECT

This project includes installation of impressed current cathodic protection system at both the Geneva Reservoir and original of the two Division 22 Reservoirs.

Norton Corrosion's 2019 reservoir cathodic protection inspection noted that the level of corrosion in the Geneva Reservoir exceeds what the galvanic cathodic protection system can provide. Geneva has 60-75% coating failure (interior floor and walls). The options are to: 1) recoat the structure, 2) change from galvanic cathodic protection to an impressed system (estimated \$17,000 to \$19,000 each system) or 3) continue operation without sufficient cathodic protection in place.

Norton Corrosion's report also notes that measurements taken at Division 7, 22 and 30 were *close* to not meeting the NACE requirement to satisfy the criteria for adequate protection.

Budget Estimate: \$40,000

Cost estimate in 2020 dollars.

For further information about this project contact Kristin Hemenway or Bill Hunter.

#### Revision History

- Created 11/4/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Water Meters and Registers
<b>CIP #:</b>	0205

<b>Asset Register:</b>	LWWSD → Water → Distribution System → Services				
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	2	= 2 x 1 x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	15	<b>Consumed Life:</b>	5	<b>Effective Life:</b>	20

### PURPOSE and DESCRIPTION OF THE PROJECT

Over the last several years there was a wave in the number of water meter registers that came up on their 10-year battery life. These were replaced with newer model registers that have a 20-year battery life. It is anticipate that there will be another wave of older 10-year battery life registers that were installed in 2011-2013. This next wave will probably start around 2022.

The number of register replacements for 2020 is anticipated to be minimal.

Staff is estimating about 30 new meters should be stocked for new development.

#### Budget Estimate

30 New Registers x \$175/ea	\$5,250
30 New Meters x \$225/ea	<u>\$6,750</u>
Subtotal	\$12,000
8.7% Sales Tax	\$1,044
Total	\$13,000

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- Created 8/2/2006.
- Revised 1/5/2010 by BH: Adjusted materials cost to closer match recent brass bids. Deleted labor since it is already in the general budget.
- Revised 10/26/2011 by BH: Reduced annual budget from \$30k (85 rebuilds/year) to 15k (40-50 rebuilds/year) to better match available District labor resources.
- Revised 11/20/2013 by BH. Updated number of remaining rebuilds and annual budget.
- Revised 10/25/2017 by RM: Updated purpose, description and budget estimate
- Revised 11/6/2018 by BH. Updated description and budget estimate.
- Revised 11/4/2019 by BH. Updated description and budget estimate.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Beaver, Flat Car, SVPS Motor Leads		
<b>CIP #:</b>	0206		

<b>Asset Register:</b>	LWWSD → Sewer → Pump Stations				
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	<u>Efficiency</u>	
<b>Business Risk Exposure:</b>	20	= 10 x 2 x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	2 years	<b>Consumed Life:</b>	18 years	<b>Effective Life:</b>	20 years

### PURPOSE and DESCRIPTION OF THE PROJECT

Five motor leads, from the soft start to the motor in the wet well, tested low on wire insulation resistance (low megger value).

Staff recommends replacement should begin soon with 3 cables budgeted for 2020, and 2 more in 2021.

Budget Estimate:

Phase A

2020 Replace 3 cables x \$6,000 each = \$18,000

Phase B

2021 Replace 2 cables x \$6,000 each = \$12,000

Estimate from verbal budget quote from pump vendor.

Cost estimate in 2020 dollars.

Revision History

- Created 11/4/2019 by BH.



## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Quick Connect Kit for CAT Backhoe
<b>CIP #:</b>	0207

<b>Asset Register:</b>	LWWSD → Resources → Equipment				
<b>Failure Mode:</b>	Capacity	Level of Service	Mortality	<u>Efficiency</u>	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

Purchase bucket quick connect kit for Caterpillar backhoe. The kit will make changing different width buckets safer and quicker.

Estimate is \$4,000

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- Created 11/4/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Used Forklift for Shop
<b>CIP #:</b>	0208

<b>Asset Register:</b>	LWWSD → Resources → Equipment				
<b>Failure Mode:</b>	Capacity	Level of Service	Mortality	<u>Efficiency</u>	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

Purchase a used forklift for 1010 Lakeview Street facility (Shop). Staff is looking for a unit that is capable of operating on pavement and gravel surfaces to move, load, and unload supplies and equipment in the yard.

The District's safety committee discussed the pros and cons of a forklift. There was consensus that a forklift would improve safety for moving, loading, and unloading various materials and heavy components. The District will need to add a Forklift Safety Program as well as provide operator training for certification that are ongoing operational expenses.

Once a forklift is available for use at the Shop, the District will surplus the old backhoe fitted with forks on the front bucket.

Estimate is \$20,000

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- Created 11/4/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	SCADA Telemetry – Install & Configure Managed Ethernet Switches				
<b>CIP #:</b>	0209				

<b>Asset Register:</b>	LWWSD → General Facilities				
<b>Failure Mode:</b>	<u>Capacity</u>	Level of Service	Mortality	Efficiency	
<b>Business Risk Exposure:</b>	1	= 2 x 4 x 0.1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	2 years	<b>Consumed Life:</b>	8 years	<b>Effective Life:</b>	10 years

### **PURPOSE and DESCRIPTION OF THE PROJECT**

The District's telemetry system is comprised of multiple communications mediums: Fiber, Leased Phone Lines, Radio, and Internet VPN's. As more and more devices are brought online, there is more and more bandwidth that is utilized. At the central hub of the telemetry system are Ethernet switches that connect everything together.

Managed Ethernet switches are needed which can be configured to isolate network devices from others. The goal is to utilize existing bandwidths as efficiently as possible by limiting unnecessary network traffic between devices and network segments.

The estimated budget is \$20,000. This will allow for procurement of the hardware as well as assistance from consultants for configuration and deployment.

#### Revision History

- Created 11/4/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Johnson Well Storage Building – New Siding and Paint
<b>CIP #:</b>	0210

<b>Asset Register:</b>	LWWSD → General Facilities				
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	10	= 10 x 1 x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	0 Years	<b>Consumed Life:</b>	30 Years	<b>Effective Life:</b>	30 Years

### **PURPOSE and DESCRIPTION OF THE PROJECT**

The Johnson Well storage building is an existing plywood-sided building that is used for Operations & Maintenance Dept. storage. The plywood siding is directly exposed to the weather and is showing signs of warping and deteriorating. The purpose of this project is to extend the building life by removing and replacing the existing plywood, adding a weatherproofing underlayment and replacing the siding with either metal or cement board siding. A secondary purpose is to improve the ability to store and access materials and equipment within the building by installing a roll-up garage door.

Budget Estimate: \$27,500.00

Cost estimate in 2020 dollars.

Estimate based on an engineer's estimate of a contractor's labor costs, material costs and projected overhead and markup.

For further information about this project contact Kristin Hemenway.

#### Revision History

- Created 11/05/2019 by KH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Fire Hydrant Flow Testing Kit
<b>CIP #:</b>	0211

<b>Asset Register:</b>	LWWSD → Water → Equipment				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

The water model shows fire hydrant flows that need to be confirmed due to unusually high flow. The District needs to procure fire hydrant flow testing equipment to confirm the model numbers.

Budget Estimate:     \$3,500

Cost estimate in 2020 dollars.

For further information about this project call Rich Munson.

#### Revision History

- Created 11/5/2019 by RM.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	SVWTP Misc Component Replacement
<b>CIP #:</b>	0212

<b>Asset Register:</b>	LWWSD → Water → Water Treatment Plants				
<b>Failure Mode:</b>	Capacity	Level of Service	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	18	= 9 x 2 x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

Replace worn out components at Sudden Valley Water Treatment Plant (SVWTP).

Norton Corrosion's 2019 reservoir cathodic protection inspection noted that the level of corrosion in the chlorine contact reservoir exceeds what the galvanic cathodic protection system can provide. The steel interior ladder and cage seem to be the issue. A budget item is included to remove the steel ladder/cage and replace it with a fiberglass system.

Planned replacements include:

- \$17k Chlorine Contact Reservoir Replace Steel Ladder with Fiberglass Ladder
- \$4k Spare 300 Amp Breakers (2 spares x \$2k each)
- \$8k Division 22 Finish Water Flow Meter Replacement
- \$6k Raw Water Flow Meter Replacement
- \$2k Differential Pressure Transmitter (Chlorine Contact Reservoir Water Level)
- \$3k Intake Pipe Anchorage Warning Signs on Morning Beach
  
- \$40k Total Budget

Cost estimate in 2020 dollars.

For further information about this project call Kevin Cook or Bill Hunter.

#### Revision History

- Created 11/04/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Fire Hydrant Adapters
<b>CIP #:</b>	0216

<b>Asset Register:</b>	LWWSD → Water → Distribution System				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### PURPOSE and DESCRIPTION OF THE PROJECT

South Whatcom Fire Authority had a fire at Wall St. and Lakewood Lane that needed mutual aid from the city of Bellingham. The city fire department engines could not connect to the hydrant at that location. SWFA discovered that the hydrant threads were not a common type.

During SWFA's annual maintenance they did an inventory of hydrants with this non-standard thread and found 57 of them throughout the District.

Staff recommends replacing all 57 hydrants with a 5" Storz to 4" PCT adapter.

Budget Estimate is \$ 12,000 including tax

Cost estimate in 2020 dollars.

For further information about this project call Rich Munson.

#### Revision History

- Created 11/5/2019 by RM.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Snowplow Blade and Sander Attachment for Tool Truck
<b>CIP #:</b>	0218

<b>Asset Register:</b>	LWWSD → Resources → Equipment				
<b>Failure Mode:</b>	Capacity	Level of Service	Mortality	<u>Efficiency</u>	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

During last year's winter snow storms, the road leading to the 1010 Lakeview Street Shop Facility was not plowed by Whatcom County public works until many days into the storms. If we had an emergency and needed use of our heavy equipment and generators, staff would have been unable to drive down Lakeview Street due to snow and ice.

Staff recommends the purchase of a snow plow and sander for Truck #24.

Estimate is \$ 14,300 including tax and labor to install

Cost estimate in provided by Northend Truck

For further information about this project call Rich Munson.

#### Revision History

- Created 11/5/2019 by RM.



## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Accounting & Administrative Server – Replace/Update Hardware, Network Security, & OS
<b>CIP #:</b>	A0005

<b>Asset Register:</b>	LWWSD → General Facilities				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	30	= 10 x 3 x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	0 years	<b>Consumed Life:</b>	3 years	<b>Effective Life:</b>	3 years

### PURPOSE and DESCRIPTION OF THE PROJECT

Replace/update accounting and administrative server, network security firewalls, and operating systems. Information technology professionals typically recommend a server hardware refresh cycle every 3 to 4 years as best practice.

The District currently utilizes a single server running several virtualized servers. The servers are essential to daily operations including accounting and customer service (BIAS), electronic document management of district archive files (Docuware), computerize maintenance management system (Cartegraph), geographic information system (GIS), data files, and shared calendars.

District customers, Board of Commissioners, and management expect a very high level of service delivered by the server. Continuous service with no more than one 4-hour or longer unplanned outage during business hours per year is management's level of service goal. To meet this level of service, replacement of server hardware should follow industry best practice of a 3-year replacement cycle.

Microsoft will no longer update or support the Windows 7 operating system after January 14, 2020. The District has several workstations that are running Windows 7. This project will replace Windows 7 workstations.

Budget Estimate:     \$25,000

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- Created 7/19/2006.
- Update 8/2/2006.
- Update description 11/7/2012. Bill Hunter.
- Updated 12/5/2016 by BH. Updated budget estimate.
- Updated 11/4/2019 by BH. Updated description and budget estimate.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Annual Asphalt Patching
<b>CIP #:</b>	A0011

<b>Asset Register:</b>	LWWSD → General Facilities				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

During the course of regular maintenance and repair the District excavates underground infrastructure at numerous locations. Many of these locations are within asphalt pavement owned by Whatcom County, Sudden Valley Community Association, or private parties.

A temporary “cold” patch applied until a permanent “hot” patch is installed. To minimize cost, the District contracts all the patching work in one contract each fall.

2020 Budget Estimate:           \$35,000

With a \$20/SF unit price that is equivalent to 1,750 square feet. Less asphalt patching area is projected for 2020 since both 2018 and 2019 had unusual extra areas.

Cost estimate in 2020 dollars.

The 2018 Asphalt Patching project was about \$20 per square foot (including tax) for excavation and disposal of asphalt, prep with crushed rock and compaction, 2” of asphalt and hot asphalt seal at edges (not including saw cutting). The total area was 2,100 square feet of patched asphalt area.

The 2019 Asphalt Patching project was about \$16 per square foot for the same and included saw cutting. The total area was 3,576 square feet of patched asphalt area

For further information about this project call Bill Hunter

#### Revision History

- Created 11/04/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Annual Tree Trimming
<b>CIP #:</b>	A0012

<b>Asset Register:</b>	LWWSD → General Facilities				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	Mortality	Efficiency	
<b>Business Risk Exposure:</b>	NA	= __ x __ x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	NA	<b>Consumed Life:</b>	NA	<b>Effective Life:</b>	NA

### **PURPOSE and DESCRIPTION OF THE PROJECT**

During the course of regular maintenance and repair the District routinely finds trees that need to be trimmed or cut down to protect District infrastructure.

2020 Budget Estimate:        \$10,000

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter

#### Revision History

- Created 11/04/2019 by BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Replace Flush and Vac Truck
<b>CIP #:</b>	E0008

<b>Asset Register:</b>	LWWSD → Resources → Equipment				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	8	= 4 x 2 x 1 (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	2	<b>Consumed Life:</b>	18	<b>Effective Life:</b>	20

### PURPOSE and DESCRIPTION OF THE PROJECT

The District's 2005 Vac-Con Vacuum Truck is reaching the end of its effective life. The vehicle has needed several major repairs. The function of a vac truck is essential to the District's operations and maintenance program.

The District's vacuum truck has 3 main uses:

- Flushing and vacuuming sewer mains.
- Exposing underground utilities
- Excavation of water and sewer main breaks
- Cleanup of sewer spills

Staff recommends purchasing a full size replacement vacuum truck.

Budget Estimate:

New Truck	\$482k
Sale Tax	\$43k
Net Total Expense	\$525k

#### Revision History

- Created 9/20/2010. BH.
- Revised 11/8/2012. BH. Added truck descriptions and adjusted total budget.
- Revised 10/24/2017 by RM: Modified purpose and description and project cost.
- Revised 11/5/2019 by RM: Updates with 2020 prices. Exact quote will be available 11/6/19

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Sewer System Rehabilitation and Replacement Projects
<b>CIP #:</b>	S0001

<b>Asset Register:</b>	LWWSD → Sewer → Collection System			
<b>Failure Mode:</b>	<u>Capacity</u>	Level of Service	Mortality	<u>Efficiency</u>
<b>Business Risk Exposure:</b>	15	= 3 x 5 x 1 (PoF x CoF x Redundancy)		
<b>Remaining Life:</b>		<b>Consumed Life:</b>		<b>Effective Life:</b>

### **PURPOSE and DESCRIPTION OF THE PROJECT**

Combines several separate District projects into one annual project. The goal is to find and repair inflow and infiltration (I&I) sources. District crews camera sewer mains during wet season months searching for I&I.

The annual project scope and focus will vary based on the type of high priority items discovered during the previous wet season. Types of work include: sewer main slip lining (spot repairs and full lengths), pressure grouting service tees, pressure grouting manhole leaks/voids, rebuild/seal manholes, smoke testing, and other efforts to reduce I&I.

Engineering (Plans, Specs & Est.):	District Staff
Bid & Contract Administration:	District Staff
Construction:	\$165,000 (annual target)

2020 budget includes \$60,000 for minor sewer system rehab and replacement projects that are not identified as specific CIP projects. Some of the work identified to date includes:

- Flow monitoring of gravity pipe basins
- Sewer camera high I&I areas
- Manhole / wet well grouting
- Pipe slip lining and spot repairs (Ream and slip line last 200 LF of LWB Interceptor at gravity transition)
- Misc repairs and I&I

Cost estimate in 2020 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- 10/26/2011. Combined separate I&I related projects into one annual project budget. Bill Hunter. Footnote: October 2011 Pro-Vac Estimate (Hank) for Smoke Testing: \$0.65/LF and can test approximately 10,000 LF per day.
- 11/18/2013. Minor budget updates. Bill Hunter.
- 12/6/2016. Updated budget for year 2017. BH.

## CAPITAL PROJECT NARRATIVE

- 11/6/2018. Updated budget for year 2019. BH.
- 11/4/2019. Updated budget for year 2020. BH.

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Replace Tool Trucks
<b>CIP #:</b>	V0001

<b>Asset Register:</b>	LWWSD → Resources → Equipment				
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency	
<b>Business Risk Exposure:</b>	N/A	= _ x _ x _ (PoF x CoF x Redundancy)			
<b>Remaining Life:</b>	N/A	<b>Consumed Life:</b>	N/A	<b>Effective Life:</b>	N/A

### PURPOSE and DESCRIPTION OF THE PROJECT

Project includes replacing a Tool Truck approximately every 2 years. There are 7 Tool trucks currently in the fleet.

The District has targeted a 12 to 15 year replacement schedule. The trucks are well maintained and should last their targeted service life. The replacement cycle assumes trucks may need to have a few major repairs but the overall cost is less than purchasing trucks on a more frequent schedule.

Existing tool trucks average 12,000 – 15,000 miles per year. After 15-years of service a truck would have 180,000 to 225,000 miles.

	Age	Mileage as of 11/5/2019	Average Annual Mileage
1998 VEH23 Ford F-250	21	180,648	8,602
1999 VEH24 Ford F-350	20	158,157	7,908
2006 VEH31 Chevrolet 3500	13	146,306	11,254
2010 VEH41 Ford F-350	9	65,905	7,323
2012 VEH47 Chevrolet 3500	7	71,291	10,184
2017 VEH51 Ford F-350	2	17,445	8,723
2018 VEH52 Ford F-350	1	7,360	7,360

### **Budget Estimate: \$72,000 Including Tax (2019 dollars)**

#### Revision History

- Updated 12/5/2016 by BH. Updated description and budget estimate based on current state bid prices.
- Updated 10/24/2017 by RM. Updated description and vehicle mileages.
- Updated 11/5/2019 by RM: Updated vehicle age, mileage and annual mileage and 2020 estimated budget cost

## CAPITAL PROJECT NARRATIVE

<b>Project Name:</b>	Water System Rehabilitation and Replacement Projects			
<b>CIP #:</b>	W0002			

<b>Asset Register:</b>	LWWSD → Water → Distribution System			
<b>Failure Mode:</b>	Capacity	<u>Level of Service</u>	<u>Mortality</u>	Efficiency
<b>Business Risk Exposure:</b>	18	= 9 x 2 x 1 (PoF x CoF x Redundancy)		
<b>Remaining Life:</b>		<b>Consumed Life:</b>		<b>Effective Life:</b>

### PURPOSE and DESCRIPTION OF THE PROJECT

Combines several separate District projects into one recurring annual project. The intent is to rehabilitate or replace aging water distribution system mains, service lines, hydrants, and valves.

As infrastructure is assessed and found nearing end of useful life, it will be scheduled for renewal using this annual project budget. The annual project scope and focus will vary based on the type of high priority items discovered during the previous year.

Target Water System Reinvestment (per 2016 Water & Sewer Rate Update dated 1/24/2017)

2017	\$200k	
2018	\$210k	
2019	\$220k	**Note that the 2019 budget includes \$259k of capital water projects, of which \$25k is set aside for the miscellaneous water system rehab and replacement projects (CIP #W0002a) identified below
2020	\$230k	
2021	\$240k	
2022	\$250k	

Miscellaneous water system rehab and replacement projects identified for 2019 include:

- Installing PRV vault drains at 5 PRV sites (Cascade, Rock Ridge, Hillside, Dutch Harbor, & Fremont)

Cost estimates in 2019 dollars.

For further information about this project call Bill Hunter.

#### Revision History

- Created 8/2/2006.
- 11/20/2013. Combined separate water related projects into one recurring annual project budget. Bill Hunter.
- Updated 12/5/2016 by BH. Revised target amounts and updated scope for 2017.
- Updated 11/17/2017 by BH.
- Updated 11/5/2018 by BH.



# APPENDIX C

2020 REVENUE BOND AND LOANS FUND SUMMARY

## REVENUE BONDS AND LOANS SUMMARY

The District has obtained publicly funded loans to construct projects. The project title, loan remaining, funding source, agency and interest rates are noted as follows:

<b>Project Title</b>	<b>Balance Remaining 1/1/2020</b>	<b>Funding Source</b>	<b>Agency</b>	<b>End Date</b>	<b>Rate</b>
Geneva AC Mains	\$ 1,919,000	Rates	Drinking Water State Revolving Fund	2035	1.5%
Division 22 Reservoir	\$ 1,178,545	Rates	Drinking Water State Revolving Fund	2037	1.5%
2016 Revenue Bonds Outstanding	\$ 6,030,000	Rates		2035	2.25%
<b>Total Debt Outstanding - 1/1/2020</b>	<b>\$ 9,127,545</b>				