

BIRCH BAY WATER & SEWER DISTRICT 2021 GENERAL FACILITY CHARGE UPDATE

**CHS Engineers, LLC, David Evans And Associates, Inc.,
and District Staff
June 2021**

INTRODUCTION

Birch Bay Water and Sewer District (BBWSD) engaged CHS Engineers, LLC (CHS) in 2019 to update the general facilities charges for the District's water and sewer utilities, in anticipation of adoption of updated comprehensive water and sewer plans in 2019 or 2020. CHS was supported by District staff to update the existing facilities component of the calculations. In June 2020 CHS was acquired by David Evans and Associates, Inc. (DEA). Work on this update was continued by DEA with the same staff formerly of CHS.

The District currently charges developers \$2,970 per equivalent living unit (ELU) to connect to the water system and \$4,260 per ELU to connect to the sewer system, per equivalent residential living unit. These charges were established in 2014 following the last General Facilities Charge (GFC) study update, based on the 2009 comprehensive plans, and a couple of updates based on inflation of the cost of construction.

According to RCW 57.08.005 (10), districts have the power to "fix rates and charges for water, sewer, and drain service supplied and to charge property owners seeking to connect to the district's systems, as a condition to granting the right to so connect, in addition to the cost of the connection, such reasonable connection charge as the board of commissioners shall determine to be proper in order that those property owners shall bear their equitable share of the cost of the system." To calculate a connection charge, the District must "determine the pro rata share of the cost of existing facilities and facilities planned for construction within the next ten years and contained in an adopted comprehensive plan." *Ibid.*

The methodology used to derive a general facilities charge involves calculating three components and using these components to develop a *pro rata* share of costs. The components are:

Existing Cost Basis. This component includes the costs incurred to date by the District while providing service to its customers—it includes the acquisition of fixed assets and the interest paid on them but nets out contributions and existing debt service.

Future Cost Basis. This component contains the costs involved with expanding the system to serve new customers.

Customer Base. This component focuses on determining the size of the current customer base and predicting how it will grow in the future.

The main purpose of the study is to update these three components and use the resulting information to develop new general facilities charges for each system. The next section will explain the methods and data sources used during the update process.

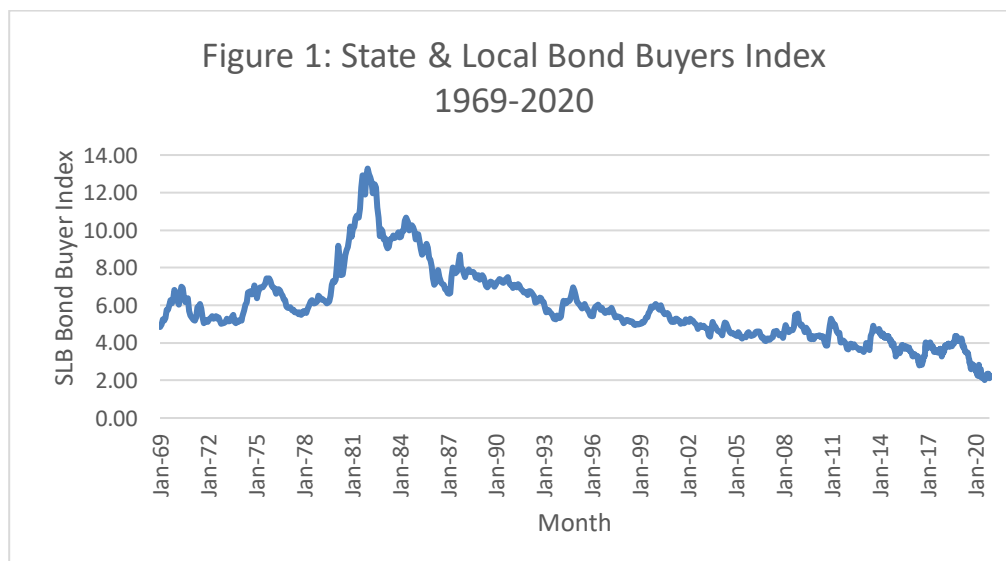
This report considers historical District financial information as of the end of 2019, the latest complete fiscal year at the time of completion of this analysis. In addition, the value of significant work in progress in 2020 was also included, if such work was not identified as future work in the respective capital improvement plans.

METHODS & DATA SOURCES

Existing Cost Basis

The main resource used in developing the existing cost basis was a schedule of fixed assets provided by the District. The original cost information contained in the schedule was used to estimate the cost of the total utility plant in service, deducting grant proceeds, and developer contributions to ensure that only expenses incurred by the District are allocated across the customer base.

The year each asset was added was documented, and interest was calculated by multiplying the asset's *effective age* by the interest rate specified for the year in which it was acquired. The *effective age* of an asset is similar to its *actual age*, except the former has an upper limit of 10 years (i.e. assets that were acquired more than 10 years ago are considered to be 10 years old). The interest rates used in the model came from the Federal Reserve's State and Local Bond Buyer Index. Figure 1 describes the behavior of this index since 1969:



To simplify the calculation, the monthly indices for each year were averaged to estimate a single annual interest rate—these annual rates were then applied to the assets in the schedule to calculate the total accumulated interest. This total includes donated facilities, which need to be separated out for the purposes of calculating a general facilities charge. Accounting records compile various sources, including donations, under the heading “Contributions in Aid of Construction”, or CIAC. The CIAC total is segregated into categories related to donated facilities, such as developer extensions and grants, and categories related to customer payments, such as GFCs.

The District provided a summary of contributed assets from 1992-2019, and this information was used to extrapolate and refine the figures used in the 2021 Connection Charge Model. The 1995 CIAC total plus annual developer contributions added since 1995 were then deducted from the fixed asset base of the District. Also, customer advances for construction (e.g. developer extension project deposits) were also deducted.

Table 1 summarizes the calculation of the existing cost basis, prior to addition of interest, for each system.

Table 1: Summary of Existing System Allocable Cost

WATER SYSTEM - Utility Plant-in-Service

Utility Plant in Service (as of December 31, 2019)	\$23,184,403
plus: Capital in progress in 2020, not in CIP	\$1,011,849
less: Customer Advances for Construction (2)	(28,037)
less: Contributions in Aid of Construction (1)	(9,849,268)
Net Allocable Cost	\$14,318,947
less: Outstanding Debt Service (net cash & investments) (2)	(1,689,880)
Revised Allocable Cost	\$12,629,067

SEWER SYSTEM - Utility Plant-in-Service

Utility Plant in Service (as of December 31, 2019)	\$38,562,313
plus: Capital in progress in 2020, not in CIP (see sched to right)	\$376,284
less: Customer Advances for Construction (2)	(31,642)
less: Contributions in Aid of Construction (1)	(24,029,564)
Net Allocable Cost	\$14,877,391
less: Outstanding Debt Service (net cash & investments) (2)	111,663
Revised Allocable Cost	\$14,989,054

Notes:

- (1) Gross contributions excluding connection charges.
- (2) Allocated based on Utility Plant-in-Service (\$23,184,403 for water & \$38,562,313 for sewer).

To estimate the interest that has accrued on the non-contributed assets, the total interest was multiplied by the ratio of costs allocable to customers to the total plant-in-service. Once the interest was calculated, net outstanding debt service would then be deducted from the allocable costs to determine the “revised allocable costs,” which would be used later in the model to calculate the “existing system” component of the general facilities charge. The rationale for this deduction is that new customers, as ratepayers, would bear a proportionate burden of remaining debt outstanding through rates, and the corresponding capital cost should therefore be excluded from the basis for their GFC. To determine the net outstanding debt service, the District’s cash, investments and assessments receivable were deducted from the total debt outstanding. For water this reduced allocable asset value by 12% and for sewer this offset was -1% (for sewer the District had more cash and receivables than outstanding debt).

Future Cost Basis

The main source of data used for determining the future cost base component was the 10-year capital improvement plans (CIP) presented in the respective water and sewer system plans, each initially completed in 2019, then revised and adopted in 2020. Each CIP contains a list of projects that the District plans to undertake in the next ten years, along with estimates of total costs. In the two comprehensive plans, project costs are stated in 2019 dollars. For this study, all project costs are estimated in “current” dollars (December 2020), based on project cost escalation from 2019 through 2020. The *Engineering News Record* Construction Cost Index (ENR CCI) for Seattle (12,026, February 2019 and 12,840.41, December 2020) was used to convert cost estimates in the water and sewer system plans to current dollars.

The costs attributable to growth are calculated in two ways, to correspond to the respective customer base for future costs, as described below for each calculation option.

Customer Base

The capital improvement plans also contained a section addressing the customer base—each provides estimates of the current size (expressed in equivalent living units, or ELUs) and the expected size in ten years based on growth rates specified in the Water and Sewer System Plans. Each growth forecast is based on actual counts as of the end of 2018 (7,798 ELUs for water and 7,455 ELUs for sewer). At the time the Plans were being finalized, it became clear that the county’s forecast for the District’s population growth was too optimistic or aggressive. As the forecast numbers were not being seen in the actual usage and growth, the District decided that it could defer some of the forecasted growth by three years and adjusted its CIPs accordingly. The resulting 10-year (i.e. in 2028) Water ELU forecast is 9,650 and 9,073 ELUs are forecast for Sewer.

Alternative Rate Methods

With the three components determined, it was possible to define the *pro rata* shares of cost. As part of the study, the general facilities charges were computed using two methods; and took steps to avoid “double charging” new customers for the overlap between existing and future capacity.

All charges are expressed on a per ELU basis. The number of ELUs per connection are determined per District Code.

Previous Method. Under this method (used by the District prior to the 2003 GFC update), new customers are charged for their share of the costs of the existing system and future improvements. The *pro rata* share of existing costs is determined by dividing the existing cost basis by the existing customer base; this is added to the *pro rata* share of future costs, which is defined by dividing the future cost basis by the future customer base. Interest expenses are included in the pool of existing system costs allocable to customers.

Current Method. In this method (used by the District since 2003), future improvement projects are each assigned or allocated to future growth as appropriate. The increase in capacity anticipated for each project is compared to the 10 year increase in growth, and then only the share of cost associated with increased capacity for that project, limited to the share needed within 10 years, is allocated to the GFC calculation. Some projects do not increase capacity of a general facility but do enhance the reliability of the administrative or physical elements of the system and are therefore also allocated to existing and future customers. The current method approach differs from the previous method in that it divides the growth-related share of improvements allocable to growth in 10 years by the projected 10-year growth, rather than dividing it by the entire customer base. At the same time, the share of the existing cost basis is discounted by dividing by the total future customer base. This is done to avoid the “double charging” problem mentioned earlier by recognizing the reduced value of existing facilities allocable to new customers.

The results of this analysis indicate the maximum GFCs supported by the CIPs and growth forecasts in the District comprehensive plans and its financial records. Table 2 summarizes the results of the updated model:

Table 2: Summary of Updated General Facilities Charges

	Previous Method	Current Method
<u>Water Utility:</u>		
Existing System, with interest	\$2,434	\$1,967
Future Improvements	\$918	\$2,625
Total Charge	\$3,352	\$4,592
<u>Sewer Utility:</u>		
Existing System, with interest	\$2,968	\$2,439
Future Improvements	\$778	\$5,127
Total Charge	\$3,746	\$7,566
Combined GFC	\$7,098	\$12,158

ADDITIONAL CONSIDERATIONS

Alternative CIP Scenarios

The growth forecasts used in the water and sewer comprehensive plans are based on forecasts prepared by Whatcom County in the early to mid-2010s. As noted above, actual growth of connections in the District later in the last decade was trending at a rate below that forecast by the County. A three year adjustment was factored into the adopted Plans. Growth has continued to track below the rate and total count of connections in the Plans, thus raising the question if all the growth-related projects in the 10-year CIPs will be necessary within the 10-year forecast period. Deferring some projects would reduce the future improvements portion of the GFC calculations. Two methods for consideration of reduced CIP are described below.

Global Discount – the District could conclude that only a portion of the planned CIP will be necessary and that the future facilities portion of the GFC should be correspondingly discounted. For example, Table 3 below shows the impact of discounting the Water and Sewer future CIPs by 20% each, for the current method only.

Table 3: Summary of Updated General Facilities Charges – 20% Reduction in Future CIP

	Current Method
<u>Water Utility:</u>	
Existing System, with interest	\$1,967
Future Improvements	\$2,100
Total Charge	\$4,067
 <u>Sewer Utility:</u>	
Existing System, with interest	\$2,439
Future Improvements	\$4,101
Total Charge	\$6,540
 Combined GFC	 \$10,607

Specific Project Deferral – the District could review the list of future facilities and specifically exclude selected projects with the judgment that such projects are not likely necessary in the 10-year forecast period. This can allow for a more targeted reduction in cost, especially in situations where a large portion of the CIP value is centered in a few high-cost projects. For example, Table 4 is a summary of the GFC with any project scheduled for years 2026, 2027 or 2028 and allocated for growth at over \$100,000 omitted from the analysis. They can be added back in updates of the GFC in coming years.

Table 4: Summary of Updated General Facilities Charges – Omit Last Three Years of Projects in CIP

	Current Method
<u>Water Utility:</u>	
Existing System, with interest	\$1,967
Future Improvements	\$1,365
Total Charge	\$3,332
 <u>Sewer Utility:</u>	
Existing System, with interest	\$2,439
Future Improvements	\$3,249
Total Charge	\$5,688
 Combined GFC	 \$9,020

Blaine Supply - Regional Capacity Charge

In addition to the “existing system” described above, the District purchases water from the City of Blaine under a wholesale supply agreement. Included in the agreement is a commitment to serve, along with a basis for assigning a share of the City’s capital-related costs through the wholesale rate structure. Both the service commitment and the basis for payment consider the District’s future supply needs.

In 2008, the District and City executed the First Amendment to their wholesale water supply agreement. In part, this amendment provided for development of a Regional Capacity Charge (RCC) patterned after a general facility charge, but developed solely on the basis of the existing and planned joint assets of the City water system, serving both the District and the City. The RCC was established as \$854 (2009) and applies to all new connections in either system. With the adoption of the RCC, consideration of the allocable share of the City’s existing system in calculation of the Districts GFC is no longer necessary or applicable.

In the years since Blaine has raised the RCC, with the charge currently set to \$926.81 per their 2020 Unified Fee Schedule¹. It is recommended the District adopt an RCC to match the City’s current charge.

SUMMARY OF FINDINGS

Table 5 compares the calculated water general facilities charges with the existing charge of \$2,970. Table 6 compares the calculated sewer general facilities charges with the existing charge of \$4,260.

¹ As of June 17, 2021, a later version of the City Unified Fee Schedule had not been posted on the City’s website. Before taking action on the RCC, the District should contact the City to see if there is a 2021 adopted fee schedule or an updated RCC.

Table 5: Comparison of Updated Water GFCs to Existing Charge

	Existing Charge	Previous Method	Current Method
Water GFC	\$2,970	\$3,392 (+14%)	\$4,592 (+55%)

Table 6: Comparison of Updated Sewer GFCs to Existing Charge

	Existing Charge	Previous Method	Current Method
Sewer GFC	\$4,260	\$3,747 (-12%)	\$7,566 (+78%)

RECOMMENDATION

DEA recommends that the District use the current method, which includes interest on existing allocable plant in service, as the maximum basis for setting its general facilities charges. We believe that this option successfully recovers an equitable *pro rata* share of District costs, helping to ensure that growth pays for growth.

We understand that the District will consider a “discounted” GFC, given that actual growth is lagging behind the forecast used to prepare the capital improvement plan. As described above, such discount can be determined at the District’s discretion with a global factor or based on exclusion of costs on the basis of omitting select projects that may not be necessary till sometime beyond when presently scheduled.

We recommend adopting charges rounded to the nearest \$50 each, per ELU¹.

We recommend an annual review of the GFC calculation, with adjustment as appropriate. Significant factors to review are the value of utility plant in service, existing and forecast ELUs, accumulation of interest on existing assets, and updated costs of projects in the CIP. Each GFC should be reviewed after any water or sewer system plan update or amendment, and adjusted as appropriate.

Alternatively, the District could use an established index, such as the ENR CCI, to provide annual adjustments to the GFC. This approach would be generally valid for several years,

¹ If the final charges are not discounted, this rounding should be rounded down, to not result in an adopted charge higher than supported by this evaluation.

or until update of the system plans and related CIPs. Under this approach, the District should be aware that substantial changes in conditions might require a more rigorous update of the charges. If select projects are omitted, then future updates should consider adding them back in.

It is also recommended that the District monitor the City of Blaine's actions regarding changes to the City's RCC and adopt an updated District RCC to match the City's when appropriate.

The detailed calculations are presented in two spreadsheets, with worksheets in each as follows:

- BB 2021 GFC Update CIPs & Growth.xlsx
 - Water CIP Previous
 - Water CIP Current
 - Sewer CIP Previous
 - Sewer CIP Current
 - ELU Growth
 - Cost Growth
 - Scenarios (not used for this update)

- BB 2021 GFC Update Exist Summary.xlsx
 - Summary
 - Water (GFC calc)
 - Sewer (GFC calc)
 - CIAC
 - Utility Plant
 - Assets
 - Bond Index
 - Debt
 - Water Assets (not used)
 - Sewer Assets (not used)

The spreadsheets are not linked, but the data from the former is copied to the latter for use of ELU count data and total CIP costs data.

The water and sewer CIPs, including costs allocable to the GFC under the "current" method, and project share of GFC, are included in the following pages. Only those projects with an allocable share are listed in the following tables.

The detailed worksheets should be consulted for reference for full CIP (i.e. including local facilities projects or other repair and replacement projects not allocated to the GFC calculation), and project costs should be escalated to the anticipated time of construction, if used as a reference for other budget development efforts.

WATER SYSTEM CIP – Allocable Cost per “Current” GFC Method
 (General facilities projects only)

Project	Project Reference in WSP	WSP Schedule	Allocable Updated Project Cost adjusted by ENR	Project Share of GFC/ELU
Updated Seismic Load Vulnerability Analysis	ST-1	2019	\$25,614	\$14
FMP Facility	O-3	2019	\$1,537	\$1
Records	O-5	2019	\$5,944	\$3
Phone	O-6	2019	\$1,845	\$1
	O-7	2019	\$3,074	\$2
Kickerville Reservoir Upgrades	ST-2	2019-2020	\$53,290	\$29
Semiahmoo Reservoir Upgrades	ST-3	2019-2020	\$33,204	\$18
Semiahmoo Intertie	T-4	2020	\$178,196	\$96
Contract	O-4	2021	\$10,248	\$6
Vehicles	O-8	2019-2028	\$65,383	\$35
BBV Zone Change	T-5	2022	\$66,613	\$36
New BPS - Portal Way	SU-2	2023	\$248,570	\$134
PW BPS Pipe Replace	T-6	2023	\$59,234	\$32
New Birch Point BPS	SU-3	2024	\$469,797	\$152
Connect Zones 5 & 2	T-7	2024	\$1,172,738	\$571
Point Whitehorn Reservoir	ST-4	2025	\$400,395	\$216
Zone 3 and 3a	T-8	2025	\$36,073	\$19
Replace Birch Point Reservoir	ST-5	2028	\$1,256,624	\$679
WSP	O-2	2028	\$30,744	\$17
Semiahmoo Booster Pump Station	T-10	2027, with DE	\$771,962	\$417
Blaine Road	T-11	2027, with DE	\$273,595	\$148
Total			\$4,861,310	\$2,625

SEWER SYSTEM CIP – Allocable Cost per “Current” GFC Method
(General facilities projects only)

Project	Project Reference in CSP	CSP Schedule	Allocable Updated Project Cost adjusted by ENR	Project Share of GFC/ELU
Toxicity Testing	T-1	2024, 2029, 2034	\$2,285	\$1
Outfall Evaluation	T-2	2024 & 2034	\$4,760	\$3
NPDES	T-3	2024, 2029, 2034	\$190	\$0
WWTP Eng. Report	T-4	2020 & 2030	\$23,575	\$15
Headworks Odor Control Upgrades	T-6	2020	\$32,369	\$20
Biosolids Management Upgrade	T-7	2019 & 2020	\$38,082	\$24
WWTP Site Work	T-8	2021	\$15,994	\$10
WWTP Upgrades	T-9	2022-2024	\$2,538,271	\$1,569
PS #8 Structure	P-1	2019	\$51,029	\$32
PS #3 Pump Upgrade Phase 1	P-2	2020-2021	\$130,622	\$81
PS #4 and FM Upgrade Phase 1	P-3	2021-2022	\$155,921	\$96
PS BR Upgrade	P-4	2022-2023	\$183,221	\$113
PS #5 and FM Upgrade	P-5	2024	\$123,690	\$76
PS #6 and FM Upgrade	P-6	2026	\$208,054	\$129
PS #7 and FM Upgrade	P-7	2028	\$90,990	\$56
Collection System Evaluation & Repair - I/I	C-1	2020-2038	\$84,083	\$52
24" - PS #3 to #4 - Ph I	C-2a	2020-2021	\$452,599	\$280
18" - PS #4 to #5 - Ph I	C-3a	2023	\$410,582	\$254
15" - PS #5 to #6 - Ph I	C-4a	2025	\$821,009	\$507
15" - PS #6 to #7 - Ph I	C-5a	2027	\$659,527	\$408
12" - PS #8 to MH 742-105	C-6	2028	\$874,463	\$540
12" - Alderson Road (Parallel)	C-7	2028	\$1,204,389	\$744
15" Alderson Rd.	C-9	2020	\$45,378	\$28
12" Alderson Rd.	C-10	2024	\$18,685	\$12
"PS #4				
Pre-design Update"	O-1	2020	\$8,302	\$5
SCADA	O-2	2019	\$8,568	\$5
Phones	O-3	2019	\$2,856	\$2
Vehicles	O-4	2019, 2022-2024, 2027-2028	\$56,742	\$35
CSP	O-5	2027, 2037	\$28,561	\$18
Reclaim Water ER	O-6	TBD, before 2029	\$11,424	\$7
Record	O-7	2019	\$1,714	\$1
Facility	O-8	2019	\$5,522	\$3
Financial Management Policy	O-9	2019	\$1,428	\$1
Total			\$8,294,887	\$5,127

Birch Bay Water & Sewer District

2021 GFC Update

Summary of Water & Sewer GFCs

Last Edited: 30-Nov-20 *District Update of Exist. Calc*
 10-Dec-20 *DEA Update with Future Improvements Share*
 29-Apr-21 *DEA Update of Future Improvements Share - ENR update through 2020*
 02-Jun-21 *DEA Update to Future Improvements Share - corrected allocations*
 17-Jun-21 *DEA Update to Future Improvements Share - corrected allocations*

Water GFC:

CIP discount factor: 0%

A. Previous Method

Existing System, With Interest	\$2,434
Future Improvements (Allocated To All Customers)	<u>\$918</u>
Total Connection Charge	\$3,352

B. Current Method

Existing System, With Interest	\$1,967
Future Improvements (Allocated To New Customers Only)	<u>\$2,625</u>
Total Connection Charge	\$4,592

Sewer GFC:

CIP discount factor: 0%

A. Previous Method

Existing System, With Interest	\$2,968
Future Improvements (Allocated To All Customers)	<u>\$778</u>
Total Connection Charge	\$3,746

B. Current Method

Existing System, With Interest	\$2,439
Future Improvements (Allocated To New Customers Only)	<u>\$5,127</u>
Total Connection Charge	\$7,566

Combined GFC:

A. Previous Method	\$7,098
B. Current Method	\$12,158

All charges are per ELU.

Birch Bay Water & Sewer District 2021 GFC Update Water Connection Charge Update

Last Edited: 02-Jun-21

EXISTING FACILITY CHARGE	2019	
<u>Utility Plant-in-Service</u>		
Utility Plant in Service (as of December 31, 2019)	\$23,184,403	
plus: Capital in progress in 2020, not in CIP (see sched to right)	\$1,011,849	
less: Customer Advances for Construction (2)	(28,037)	
less: Contributions in Aid of Construction (1)	(9,849,268)	
Net Allocable Cost	\$14,318,947	
less: Outstanding Debt Service (net cash & investments)(2)	(1,689,880)	12%
Revised Allocable Cost	\$12,629,067	

Notes:

- (1) Gross contributions excluding connection charges.
- (2) Allocated based on Utility Plant-in-Service (\$23,184,403 for water & \$38,562,313 for sewer).

A. Net Investment Per Existing Customer

<u>Number of Equivalent Units</u>		
Total Number of ELUs		7,798
<u>Existing Plant per Meter Equivalent</u>		
Accumulated Interest on Existing Plant		6,351,645
Charge per Meter Equiv		\$1,620
Charge per Meter Equiv Including Interest		\$2,434

B. Existing Investment Over The Entire Customer Base

<u>Number of Equivalent Units</u>		
Total Number of ELUs		9,650
<u>Existing Plant per Meter Equivalent</u>		
Accumulated Interest on Existing Plant		6,351,645
Charge per Meter Equiv		\$1,309
Charge per Meter Equiv Including Interest		\$1,967

FUTURE FACILITIES CHARGE 2019

<u>10 Year Capital Improvement Plan</u>	All Projects	Growth Projects
See separate spreadsheet for details - full CIP and Growth portion thereof		
BB 2021 GFC update CIPs & Growth.xls		
Full General Facilities share of CIP	\$ 8,858,985	
Growth Portion of General Facilities share of CIP		\$ 4,861,783
CIP Discount Factor 0%		
Total Allocated Capital Improvement Cost for GFC Calc (including impact of CIP discount)	\$ 8,858,985	\$ 4,861,783

Projected Growth

See separate spreadsheet for 10-year growth projections

Existing Number of ELUs	7,798	7,798
Projected Number of ELUs	9,650	9,650
		1,852

Alternative 1:	Allocate only to New Customers	
Alternative 2:	Allocate to all Customers	\$2,625
		\$918

Birch Bay Water & Sewer District
2021 GFC Update
Water Connection Charge Update, Page 2

SUMMARY OF CONNECTION CHARGES

A. Previous Method		
Existing System, With Interest		\$2,434
Future Improvements (Allocated To All Customers)		\$918
Total Connection Charge		\$3,352
B. Current Method		
Existing System, With Interest		\$1,967
Future Improvements (Allocated To New Customers Only)		\$2,625
Total Connection Charge		\$4,592

Birch Bay Water & Sewer District 2021 GFC Update Sewer Connection Charge Update

Last Edited: 02-Jun-21

EXISTING FACILITY CHARGE

2019

Utility Plant-in-Service

Utility Plant in Service (as of December 31, 2019)	\$ 38,562,313	
plus: Capital in progress in 2020, not in CIP (see sched to right)	\$ 376,284	
less: Customer Advances for Construction (2)	(31,642)	
less: Contributions in Aid of Construction (1)	(24,029,564)	
Net Allocable Cost	\$ 14,877,391	
less: Outstanding Debt Service (net cash & investments)(2)	111,663	-1%
Revised Allocable Cost	\$14,989,054	

Notes:

- (1) Gross contributions excluding connection charges.
- (2) Allocated based on Utility Plant-in-Service (\$23,184,403 for water & \$38,562,313 for sewer).

A. Net Investment Per Existing Customer

Number of Equivalent Units

Total Number of ELUs	7,455
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Existing Plant per Meter Equivalent

Accumulated Interest on Existing Plant	7,140,563
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Charge per Meter Equiv	\$2,011
Charge per Meter Equiv Including Interest	\$2,968

B. Existing Investment Over The Entire Customer Base

Number of Equivalent Units

Total Number of ELUs	9,073
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Existing Plant per Meter Equivalent

Accumulated Interest on Existing Plant	7,140,563
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Charge per Meter Equiv	\$1,652
Charge per Meter Equiv Including Interest	\$2,439

FUTURE FACILITIES CHARGE

2019

10 Year Capital Improvement Plan

See separate spreadsheet for details - full CIP and Growth portion thereof

BB 2019 GFC update CIPs & Growth.xls

Full General Facilities share of CIP

Growth Portion of General Facilities share of CIP

CIP Discount Factor 0%

Total Capital Improvement Cost

All Projects

Growth Projects

\$ 7,058,702

\$ 8,294,887

\$ 7,058,702

\$ 8,294,887

Projected Growth

See separate spreadsheet for 10-year growth projections

Existing Number of ELUs

7,455

7,455

Projected Number of ELUs

9,073

9,073

Alternative 1: Allocate only to New Customers

\$5,127

Alternative 2: Allocate to all Customers

\$778

Birch Bay Water & Sewer District
2021 GFC Update

Sewer Connection Charge Update, Page 2

SUMMARY OF CONNECTION CHARGES

A. Previous Method

Existing System, With Interest	\$2,968
Future Improvements (Allocated To All Customers)	\$778
Total Connection Charge	\$3,746

B. Current Method

Existing System, With Interest	\$2,439
Future Improvements (Allocated To New Customers Only)	\$5,127
Total Connection Charge	\$7,566

Birch Bay Water & Sewer District
 2021 GFC Update
 Data: Contributions in Aid of Construction (1992-2019)
 Last Edited: 11/30/2020

Year	Water		Sewer		All Years	*WC 8,390,717	*SC 21,442,815
	Reported	Calculated	Reported	Calculated			
1992	\$10,133	\$10,133	\$0	\$0	1969	-	-
1993	\$50,365	\$50,365	\$37,728	\$37,728	1970	-	-
1994	\$23,849	\$23,849	\$22,027	\$22,027	1971	-	-
1995	\$308,377	\$308,377	\$826,159	\$826,159	1972	-	-
1996	\$140,453	\$140,453	\$124,553	\$124,553	1973	-	-
1997	\$703,639	\$703,639	\$1,850,565	\$1,850,565	1974	-	-
1998	\$197,075	\$197,075	\$407,725	\$407,725	1975	-	-
1999	\$460,810	\$460,810	\$122,623	\$122,623	1976	-	-
2000	\$508,935	\$508,935	\$1,282,679	\$1,282,679	1977	913,722	11,142,769
2001	\$46,784	\$46,784	\$36,209	\$36,209	1978	632,482	358,878
2002	\$0	\$0	\$1,231,894	\$1,231,894	1979	372,889	-
2003	\$130,058		\$118,448		1980	-	-
2004	\$0		\$564,852		1981	-	-
2005	\$652,650		\$823,153		1982	-	-
2006	\$468,713		\$461,196		1983	-	-
2007	\$145,487		\$1,820,068		1984	-	-
2008	\$1,080,225		\$904,967		1985	109,427	196,843
2009	\$145,545		\$146,926		1986	-	-
2010	\$112,857		\$0		1987	180,111	537,648
2011	\$44,254		\$81,426		1988	-	-
2012	\$94,816		\$18,086			-	-
2013	\$0		\$0			-	-
2014	\$0		\$0		1989	131,484	-
2015	\$0		\$0		1990	-	-
2016	\$145,491		\$0			-	-
2017	\$70,262		\$41,467		1991	442,594	-
2018	\$0		\$0		1992	10,133	-
2019	\$0		\$0		1993	50,365	37,728
Total	\$5,148,053	\$2,450,420	\$10,036,838	\$5,942,163	1994	23,849	22,027

Note - totals excludes projects through 1995 - prior projects included in lump sum through 1995 from prior GFC studies.

Water CIAC

Year	Account	Asset #	Description	Cost
1992	W205 03	1345WC	Osberg System	\$10,133
1993	W205 03	1394WC	Sea Links Dev. Extension	\$50,365
1994	W205 03	1408WC	Vitalis DE	\$23,849
1995	W205 03	1426WC	Mains - Contributed '95	\$308,377
1996	W205 03	1433WC	Mains '96 - Lincoln Green	\$140,453
1997	W205 03	1434WC	Mains - Dbl R ULID	\$703,639
1998	W205 03	1452WC	System DE Additions	\$197,075
1999	W205 03	1456WC	PT Whitehorn Project	\$158,239
1999	W205 15	1461WC	Whitehorn Booster PS	\$302,571
2000	W205 03	1469WC	Mains	\$491,921
2000	W205 15	1473WC	Pumping Equip - LT	\$17,013
2001	W205 03	1484WC	Lincoln Green II	\$46,784
2002	-	-	-	-
2003	W205 03	1504WC	Anderson Park	\$65,887
2003	W205 03	1505WC	Muskoka	\$43,885
2003	W205 03	1506WC	Richmond Park	\$20,286
2004	-	-	-	-
2005	W205 03	1530WC	DE Mains	\$652,650
2006	W205 03	1536WC	DE Mains	\$468,713
2007	W205 03	1548WC	Homestar Condo Ph1	\$71,275
2007	W205 03	1550WC	Homestead - Beach house	\$74,213
2008	W205 03	1561WC	Horizons	\$707,941
2008	W205 03	1563WC	Van Luven	\$18,384
2008	W205 03	1564WC	Shintaffer Farm	\$353,900
2009	W205 03	1577WC	Grand Bay PH2	\$29,369
2009	W205 03	1578WC	Bay Breeze	\$116,176
2010	W205 03		Bleakney	\$112,857
2011	W205 03		Bay Rd 3 Lots	\$44,254
2012	W205 03	1606WC	BB Bible Comm Church DE	\$94,816
2013				\$0
2014				\$0
2015				\$0
2016	W205 03	1623WC	Calluna Beach	\$145,491
2017	W205 03	1634WC	The Tides at Birch Bay Phase	\$70,262
2018				\$0
2019				\$0
Total				\$5,540,777

Sewer CIAC

Year	Account	Asset #	Description	Cost
1992	-	-	-	-
1993	S205 03	1346SC	Sealinks Dev. Ext.	\$37,728
1994	S205 03	1357SC	Vitalis DE	\$22,027
1995	S205 03	1369SC	Mains - Contributed '95	\$826,159
1996	S205 03	1375SC	Mains - Lincoln Green	\$124,553
1997	S205 03	1376SC	Mains - Double R ULID	\$1,599,391
1997	S205 07	1377SC	Blaine Rd. Pump Station	\$251,174
1998	S205 03	1388SC	System DE Additions	\$407,725
1999	S205 03	1393SC	Mains - PT Whitehorn	\$122,623
2000	S205 03	1401SC	Mains - 2000	\$919,628
2000	S205 07	1402SC	Pump Station - Loomis Trail	\$363,051
2001	S205 03	1411SC	Lincoln Green II	\$36,209
2002	S205 03	1420SC	ARCO - Main	\$584,564
2002	S205 07	1421SC	ARCO - Pump Station	\$647,330
2003	S205 03	1428SC	Anderson Park	\$54,968
2003	S205 03	1429SC	Richmond Park	\$63,480
2004	S205 03	1443SC	DE Mains	\$564,852
2005	S205 03	1448SC	DE Mains	\$823,153
2006	S205 03	1453SC	Mains - DE	\$461,196
2007	S205 03	1463SC	Homestar Condo Ph1	\$48,462
2007	S205 03	1464SX	Birch Bay View Sewer	\$1,771,606
2008	S205 03	1473SC	Horizons	\$904,967
2009	S205 03	1480SC	Bay Breeze	\$146,926
2010				\$0
2011	S205 03	1603SC	Bay Rd 3 Lots	\$81,426
2012	S205 03	1606SC	Broadway Lots DE main	\$18,086
2013				\$0
2014				\$0
2015				\$0
2016				\$0
2017	S205 03	1620SC	The Tides at Birch Bay Phase	\$41,467
2018				\$0
2019				\$0
Total				\$10,922,753

Water Capital Improvement Program: 2019-2028
 For Previous Method of GFC Calculation¹

Project	Project Reference in WSP	Schedule	Total Project Cost per WSP (2019 \$\$)	Allocable Project Cost (2) Updated		Project Share of GFC/ELU	Notes:	
				Project Cost per WSP (2019 \$\$)	Project Cost adjusted by ENR (3)			
Supply/ Storage Pre-design Study	SU-1	2019	\$ 18,000	\$ 18,000	\$ 19,219	\$ 2	Capacity Increase (district share only)	
Source/Water Rights	SU-4	2019-2028	\$ 200,000	\$ 200,000	\$ 213,544	\$ 22	Capacity Increase	
Updated Seismic Load Vulnerability Analysis	ST-1	2019	\$ 125,000	\$ 125,000	\$ 133,465	\$ 14	General reliability measure with future customer benefit	
Relocate Meters/ Abandon Main	T-1a	2019	\$ 132,000	\$ -	\$ -	\$ -	Local Benefit Only	
Relocate Meters/ Abandon Main	T-1b	2020	\$ 46,000	\$ -	\$ -	\$ -	Local Benefit Only	
Abandon Dist. Main	T-1c	2020	\$ 10,000	\$ -	\$ -	\$ -	Local Benefit Only	
Shintaffer Rd Main Extension	T-2	2020	\$ 249,000	\$ -	\$ -	\$ -	Local Benefit Only	
Main Replacement	T-3	2019-2028	\$ 478,000	\$ -	\$ -	\$ -	Main Replacement 8" only	
AMR	O-1	2019-2022	\$ 1,500,000	\$ -	\$ -	\$ -	Rates funded - existing customers conversion	
FMP	O-3	2019	\$ 7,500	\$ 7,500	\$ 8,008	\$ 1	General management measure with future customer benefit	
Facility	O-5	2019	\$ 29,000	\$ 29,000	\$ 30,964	\$ 3	General management measure with future customer benefit	
Records	O-6	2019	\$ 9,000	\$ 9,000	\$ 9,609	\$ 1	General management measure with future customer benefit	
Phone	O-7	2019	\$ 15,000	\$ 15,000	\$ 16,016	\$ 2	General management measure with future customer benefit	
Kickerville Reservoir Upgrades	ST-2	2019-2020	\$ 260,000	\$ 260,000	\$ 277,607	\$ 29	General reliability measure with future customer benefit	
Semiahmoo Reservoir Upgrades	ST-3	2019-2020	\$ 162,000	\$ 162,000	\$ 172,971	\$ 18	General reliability measure with future customer benefit	
Semiahmoo Intertie	T-4	2020	\$ 185,000	\$ 185,000	\$ 197,528	\$ 20	Increases capacity and defers storage	
Contract	O-4	2021	\$ 50,000	\$ 50,000	\$ 53,386	\$ 6	General reliability measure with future customer benefit	
Vehicles	O-8	2019-2028	\$ 319,000	\$ 319,000	\$ 340,603	\$ 35	General reliability measure with future customer benefit	
BBV Zone Change	T-5	2022	\$ 325,000	\$ 325,000	\$ 347,009	\$ 36	Zone change to increase local pressure - ex and future benefit	
Addn. Supply	Blaine	2023	Blaine Project*	\$ -	\$ -	\$ -	-	Blaine supply project
New BPS - Portal Way	SU-2	2023	\$ 962,000	\$ 962,000	\$ 1,027,147	\$ 106	Supply Project	
PW BPS Pipe Replace	T-6	2023	\$ 289,000	\$ 289,000	\$ 308,571	\$ 32	Supply Project	
New Birch Point BPS	SU-3	2024	\$ 440,000	\$ 440,000	\$ 469,797	\$ 49	Supply Project	
Connect Zones 5 & 2	T-7	2024	\$ 2,110,000	\$ 1,098,356	\$ 1,172,738	\$ 122	Connection of existing zones to better supply each Excludes cost of	
Point Whitehorn Reservoir	ST-4	2025	\$ 375,000	\$ 375,000	\$ 400,395	\$ 41	Storage Upgrade	
Zone 3 and 3a	T-8	2025	\$ 176,000	\$ 176,000	\$ 187,919	\$ 19	HGL reduction (ID'd as Rates in WSP - reclassified as general benefit	
Replace Birch Point Reservoir	ST-5	2028	\$ 2,123,000	\$ 2,123,000	\$ 2,266,771	\$ 235	Storage Upgrade	
WWTP Meter Relocation	T-9	2028	\$ 57,000	\$ -	\$ -	\$ -	Local Benefit Only	
WSP	O-2	2028	\$ 150,000	\$ 150,000	\$ 160,158	\$ 17	General management measure with future customer benefit	
Semiahmoo Booster Pump Station	T-10	2027, with DE	\$ 723,000	\$ 723,000	\$ 771,962	\$ 80	Supply project (with local benefits)	
Blaine Road	T-11	2027, with DE	\$ 1,208,000	\$ 256,242	\$ 273,595	\$ 28	Supply project (with local benefits) Excludes cost of 2,600' of 8" sha	
Total			\$ 12,732,500	\$ 8,297,099	\$ 8,858,985	\$ 918		
ELU Base - Existing plus 10 Year's Growth					9650			
CIP Cost per ELU					\$ 918			

Notes

- 1 - Previous Method - Allocate CIP to all customers, including 10 year's growth in ERUs
- 2 - Allocable project costs for water main projects are for oversizing only (>8"). Projects that benefit both existing and future customers are also included, and will be allocated to all customers.
- 3 - ENR Adjustment Factor: 1.068
- 4 - All projects with CIP cost planned between 2019 and 2028, regardless of 2019 CIP schedule

Water Capital Improvement Program: 2019-2028
For Current Method of GFC Calculation¹

Project	Project Reference	Schedule	General				Allocable Share Calculation						ERU Capacity parameters							
			Total Project Cost per WSP (2019 \$\$)	(2) of Project Cost per WSP (2019 \$\$)	Share Allocable to Growth in 10 Years	Allocable Project Cost (2019 \$\$)	Updated Project Cost by ENR (3)	Project Share of GFC/ELU	Existing or Local Capacity (ERUs)	Total Capacity (ERUs)	Growth Capacity (ERUs)	Allocable Growth in 10 Years (ERUs)	Share of Allocable Project Cost	Notes	Pipe Dia. (in)	Capacity (+/-) at 1.5 fps in gpm	Capacity - GPD	ERUs at MDD of 120'2.19= 263 gpd		
Supply/ Storage Pre-design Study	SU-1	2019	\$ 18,000	\$ 18,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0	0.0%	GFC, but no new capacity for next 10 years	2.5	23	33120	126
Source/Water Rights	SU-4	2019-2028	\$ 200,000	\$ 200,000	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0	0.0%	GFC, but no new capacity for next 10 years	4	59	84960	323
Updated Seismic Load Vulnerability Analysis	ST-1	2019	\$ 125,000	\$ 125,000	19%	\$ 23,990	\$ 25,614	\$ 14	\$ 14	\$ 14	0	0	0	0	19.2%	Reliability measure with benefit to future customers	6	132	190080	723
Relocate Meters/ Abandon Main	T-1a	2019	\$ 132,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0	0.0%	local facilities project	8	235	338400	1287
Relocate Meters/ Abandon Main	T-1b	2020	\$ 46,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0.0%	local facilities project	10	367	528480	2009	
Abandon Dist. Main	T-1c	2020	\$ 10,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0.0%	local facilities project	12	529	761760	2896	
Shintaffer Rd Main Extension	T-2	2020	\$ 249,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0.0%	local facilities project	14	720	1036800	3942	
Main Replacement	T-3	2019-2028	\$ 478,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0.0%	local facilities project	16	940	1353600	5147	
AMR	O-1	2019-2022	\$ 1,500,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0.0%	local facilities project	18	1190	1713600	6516	
FMP	O-3	2019	\$ 7,500	\$ 7,500	19%	\$ 1,439	\$ 1,537	\$ 1	\$ 1	\$ 1	0	0	0	19.2%	Reliability measure with benefit to future customers	PW BPS	1000	1440000	5475	
Facility	O-5	2019	\$ 29,000	\$ 29,000	19%	\$ 5,566	\$ 5,943	\$ 3	\$ 3	\$ 3	0	0	0	19.2%	Reliability measure with benefit to future customers	Portal Way BPS	1400	2016000	7665	
Records	O-6	2019	\$ 9,000	\$ 9,000	19%	\$ 1,727	\$ 1,844	\$ 1	\$ 1	\$ 1	0	0	0	19.2%	Reliability measure with benefit to future customers	BP BPS	250	360000	1369	
Phone	O-7	2019	\$ 15,000	\$ 15,000	19%	\$ 2,879	\$ 3,074	\$ 2	\$ 2	\$ 2	0	0	0	19.2%	Reliability measure with benefit to future customers	Semiahmoo BPS	100	144000	548	
Kickerville Reservoir Upgrades	ST-2	2019-2020	\$ 260,000	\$ 260,000	19%	\$ 49,898	\$ 53,278	\$ 29	\$ 29	\$ 29	0	0	0	19.2%	Reliability measure with benefit to future customers					
Semiahmoo Reservoir Upgrades	ST-3	2019-2020	\$ 162,000	\$ 162,000	19%	\$ 31,091	\$ 33,196	\$ 18	\$ 18	\$ 18	0	0	0	19.2%	Reliability measure with benefit to future customers					
Semiahmoo Intertie	T-4	2020	\$ 185,000	\$ 185,000	90%	\$ 166,894	\$ 178,196	\$ 96	\$ 96	\$ 96	126	1287	1161	1161	100.0%	Increased supply capacity, replacing existing facility				382
Contract	O-4	2021	\$ 50,000	\$ 50,000	19%	\$ 9,596	\$ 10,246	\$ 6	\$ 6	\$ 6	0	0	0	0	19.2%	Reliability measure with benefit to future customers				
Vehicles	O-8	2019-2028	\$ 319,000	\$ 319,000	19%	\$ 61,222	\$ 65,368	\$ 35	\$ 35	\$ 35	0	0	0	0	19.2%	Reliability measure with benefit to future customers				
BBV Zone Change	T-5	2022	\$ 325,000	\$ 325,000	19%	\$ 62,373	\$ 66,597	\$ 36	\$ 36	\$ 36	0	0	0	0	19.2%	Reliability measure with benefit to future customers				
Adn. Supply	Blaine	2023	Blaine Project*	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0	0.0%	GFC but Blaine project				
New BPS - Portal Way	SU-2	2023	\$ 962,000	\$ 962,000	24%	\$ 232,254	\$ 247,983	\$ 134	\$ 134	\$ 134	4818	7665	2847	1852	65.0%	provides added capacity extending beyond 10 years.				
PW BPS Pipe Replace	T-6	2023	\$ 289,000	\$ 289,000	19%	\$ 55,464	\$ 59,220	\$ 32	\$ 32	\$ 32	0	0	0	0	19.2%	Reliability measure with benefit to future customers				
New Birch Point BPS	SU-3	2024	\$ 440,000	\$ 440,000	60%	\$ 264,000	\$ 281,878	\$ 152	\$ 152	\$ 152	548	1369	821	821	100.0%	Increased supply capacity, replacing existing facility				
Connect Zones 5 & 2	T-7	2024	\$ 2,110,000	\$ 1,098,356	90%	\$ 990,857	\$ 1,057,959	\$ 571	\$ 571	\$ 571	126	1287	1161	1161	100.0%	Increased supply capacity, replacing existing facility				
Point Whitehorn Reservoir	ST-4	2025	\$ 375,000	\$ 375,000	100%	\$ 375,000	\$ 400,395	\$ 216	\$ 216	\$ 216	0	0.169	442	442	100.0%	All new storage capacity for Zone 3, as extension of Zone 1				
Zone 3 and 3a	T-8	2025	\$ 176,000	\$ 176,000	19%	\$ 33,777	\$ 36,065	\$ 19	\$ 19	\$ 19	0	0	0	0	19.2%	Reliability measure with benefit to future customers				
Replace Birch Point Reservoir	ST-5	2028	\$ 2,123,000	\$ 2,123,000	55%	\$ 1,176,922	\$ 1,256,624	\$ 679	\$ 679	\$ 679	0.50	1.12	1628	1628	100.0%	Share based on gallons of storage added for District				
WWTP Meter Relocation	T-9	2028	\$ 57,000	\$ -	0%	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0	0.0%					
WSP	O-2	2028	\$ 150,000	\$ 150,000	19%	\$ 28,788	\$ 30,737	\$ 17	\$ 17	\$ 17	0	0	0	0	19.2%	Management measure with benefit to future customers				
Semiahmoo Booster Pump Station	T-10	2027, with DE	\$ 723,000	\$ 723,000	100%	\$ 723,000	\$ 771,962	\$ 417	\$ 417	\$ 417	0	548	548	548	100.0%	All future customers				
Blaine Road	T-11	2027, with DE	\$ 1,208,000	\$ 256,242	100%	\$ 256,242	\$ 273,595	\$ 148	\$ 148	\$ 148	1287	2896	1610	1610	100.0%	Exclude portion to be constructed by DE				
Total			\$ 12,732,500	\$ 8,297,099	55%	\$ 4,552,978	\$ 4,861,310	\$ 2,625	\$ 2,625	\$ 2,625										
ELU Base - 10 Year's Growth																				1852
CIP Cost per ELU																				\$ 2,625

Notes
 1 - Current Method - Growth/Oversizing portion of CIP (see Table 9.1 of Water System Plan) allocated to next 10 years growth only.
 2 - Allocable project costs for water main projects are for oversizing only (>8")
 3 - ENR Adjustment Factor: 1.068
 4 - All projects with CIP cost planned between 2019 and 2028, regardless of 2019 CIP schedule

Sewer Capital Improvement Program: 2019--2028
 For Previous Method of GFC Calculation¹

Project	Project Reference in CSP	Schedule	Allocable Project Cost (2) Updated				Project Share of GFC/ELU	Notes:
			Total Project Cost per CSP (2019 \$\$)	Project Cost per CSP (2019 \$\$)	Project Cost adjusted by ENR (3)			
Toxicity Testing	T-1	2024, 2029, 2034	\$ 12,000	\$ 12,000	\$ 12,813	\$ 1	General Facility - 100% allocable	
Outfall Evaluation	T-2	2024 & 2034	\$ 25,000	\$ 25,000	\$ 26,693	\$ 3	General Facility - 100% allocable	
NPDES	T-3	2024, 2029, 2034	\$ 1,000	\$ 1,000	\$ 1,068	\$ 0	General Facility - 100% allocable	
WWTP Eng. Report	T-4	2020 & 2030	\$ 60,000	\$ 60,000	\$ 64,063	\$ 7	General Facility - 100% allocable	
UV Upgrade	T-5	2019	\$ 373,000	\$ -	\$ -	\$ -	Excluded - completed at lower cost and included in existing assets,yet to be booked	
Headworks Odor Control Upgrades	T-6	2020	\$ 170,000	\$ 170,000	\$ 181,513	\$ 20	General Facility - 100% allocable	
Biosolids Management Upgrade	T-7	2019 & 2020	\$ 200,000	\$ 200,000	\$ 213,544	\$ 24	General Facility - 100% allocable	
WWTP Site Work	T-8	2021	\$ 84,000	\$ 84,000	\$ 89,689	\$ 10	General Facility - 100% allocable	
WWTP Upgrades	T-9	2022-2024	\$ 6,800,000	\$ 6,800,000	\$ 7,260,501	\$ 800	General Facility - 100% allocable	
PS #8 Structure	P-1	2019	\$ 268,000	\$ 268,000	\$ 286,149	\$ 32	General Facility - 100% allocable	
PS #3 Pump Upgrade Phase 1	P-2	2020-2021	\$ 520,000	\$ 520,000	\$ 555,215	\$ 61	General Facility - 100% allocable	
PS #4 and FM Upgrade Phase 1	P-3	2021-2022	\$ 556,000	\$ 556,000	\$ 593,653	\$ 65	General Facility - 100% allocable	
PS BR Upgrade	P-4	2022-2023	\$ 312,000	\$ 312,000	\$ 333,129	\$ 37	General Facility - 100% allocable	
PS #5 and FM Upgrade	P-5	2024	\$ 337,000	\$ 337,000	\$ 359,822	\$ 40	General Facility - 100% allocable	
PS #6 and FM Upgrade	P-6	2026	\$ 480,000	\$ 480,000	\$ 512,506	\$ 56	General Facility - 100% allocable	
PS #7 and FM Upgrade	P-7	2028	\$ 303,000	\$ 303,000	\$ 323,519	\$ 36	General Facility - 100% allocable	
Collection System Evaluation & Repair - I/I	C-1	2020-2038	\$ 315,000	\$ 157,500	\$ 168,166	\$ 19	General Facility - 50% allocable for capacity benefits	
24" - PS #3 to #4 - Ph I	C-2a	2020-2021	\$ 1,363,000	\$ 1,363,000	\$ 1,455,303	\$ 160	General Facility - 100% allocable	
18" - PS #4 to #5 - Ph I	C-3a	2023	\$ 703,000	\$ 703,000	\$ 750,608	\$ 83	General Facility - 100% allocable	
15" - PS #5 to #6 - Ph I	C-4a	2025	\$ 966,000	\$ 966,000	\$ 1,031,418	\$ 114	General Facility - 100% allocable	
15" - PS #6 to #7 - Ph I	C-5a	2027	\$ 776,000	\$ 776,000	\$ 828,551	\$ 91	General Facility - 100% allocable	
12" - PS #8 to MH 742-105	C-6	2028	\$ 819,000	\$ 819,000	\$ 874,463	\$ 96	General Facility - 100% allocable	
12" - Alderson Road (Parallel)	C-7	2028	\$ 1,128,000	\$ 1,128,000	\$ 1,204,389	\$ 133	General Facility - 100% allocable	
15" Alderson Rd.	C-9	2020	\$ 425,000	\$ 42,500	\$ 45,378	\$ 5	General Facility for oversizing only - 10" equivalent by developer extension	
12" Alderson Rd.	C-10	2024	\$ 400,000	\$ 17,500	\$ 18,685	\$ 2	General Facility for oversizing only - 10" equivalent by developer extension	
PS #4Pre-design Update	O-1	2020	\$ 25,000	\$ 25,000	\$ 26,693	\$ 3	General Facility - 100% allocable	
SCADA	O-2	2019	\$ 45,000	\$ 45,000	\$ 48,047	\$ 5	General Facility - 100% allocable	
Phones	O-3	2019	\$ 15,000	\$ 15,000	\$ 16,016	\$ 2	General Facility - 100% allocable	
Vehicles	O-4	2019, 2022, 2023, 2024, 2027, 2028	\$ 298,000	\$ 298,000	\$ 318,181	\$ 35	General Facility - 100% allocable	
CSP	O-5	2027, 2037	\$ 150,000	\$ 150,000	\$ 160,158	\$ 18	General Facility - 100% allocable	
Reclaim Water ER	O-6	TBD, before 2029	\$ 60,000	\$ 60,000	\$ 64,063	\$ 7	General Facility - 100% allocable	
Record	O-7	2019	\$ 9,000	\$ 9,000	\$ 9,609	\$ 1	General Facility - 100% allocable	
Facility	O-8	2019	\$ 29,000	\$ 29,000	\$ 30,964	\$ 3	General Facility - 100% allocable	
Financial Management Policy	O-9	2019	\$ 7,500	\$ 7,500	\$ 8,008	\$ 1	General Facility - 100% allocable	
Total			\$ 18,034,500	\$ 6,611,000	\$ 7,058,702	\$ 778		

ELU Base - Existing plus 10 Year's Growth

9073

CIP Cost per ELU

\$ 778

Notes

- 1 - Previous Method - Allocate CIP to all customers, including 10 year's growth in ERUs
- 2 - Allocable project costs for gravity sewer main projects are for oversizing only (>10"). Projects that benefit both existing and future customers are also included, and will be allocated to all customers.
- 3 - ENR Adjustment Factor: 1.068
- 4 - All projects with CIP cost planned between 2019 and 2028, regardless of 2019 CIP schedule

10 Year Forecast per 2019 Comp Plans>>>

Water ELUs (RCEs):

		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018 (RCE Count per District Records w/ BP)	7798	6836	6983	7132	7285	7442	7602	7766	7934	8105	8281	8460
ERU Forecast per WSP 2019 - all customers		6836	6983	7132	7285	7442	7602	7766	7934	8105	8281	8460
ERU Annual Increase per WSP			2.15%	2.13%	2.15%	2.16%	2.15%	2.16%	2.16%	2.16%	2.17%	2.16%
Forecast ELUs in 2028 (ten year's growth at ERU annu	9650	7797.5	7965	8135	8310	8489	8671	8858	9050	9245	9446	9650
New ELUs Forecast in next ten years	1852											
	19.2%											

Sewer ELUs (RCEs):

		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018 (RCE Count per District Records w/ BP)	7455	8073	8248	8424	8599	8774	8949	9125	9300	9475	9651	9826
ELU Forecast per CSP 2019 - all customers		8073	8248	8424	8599	8774	8949	9125	9300	9475	9651	9826
Total Forecast ELUs in 2028 (ten year's growth)	9073	7454.5	7616	7778	7940	8102	8264	8426	8587	8749	8911	9073
New ELUs Forecast in next ten years	1618											
	17.8%											

Forecasts are built from Comp. Water and Sewer Plans:

Water Plan forecast is in units of ERUs - basis for this equivalency is SF water use at a point in time and rounded. But GFC is based on ELU forecast as this is how District accounts for customers

Sewer Plan forecast is in units of ELUs but the forecast is benchmarked in 2013 so 2018 value is too high - not as much growth as County forecast in that period of time.

For both systems, use growth RATE for the ten year period but benchmark ELU growth for 10 years on 2018 actual District ELU records