



CITY OF
BAINBRIDGE ISLAND

UTILITY ADVISORY COMMITTEE
REGULAR MEETING
WEDNESDAY, JULY 14, 2021
5:30 PM
ZOOM MEETING

THE UTILITY ADVISORY COMMITTEE WILL HOLD THIS MEETING USING
A VIRTUAL, ZOOM WEBINAR, PER GOVERNOR INSLEE'S
"STAY HOME, STAY HEALTHY" ORDERS

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OR TELEPHONE: 1-253-215-8782

WEBINAR ID: 973 5747 3020

AGENDA

1. CALL TO ORDER / ROLL CALL / ACCEPT OR MODIFY AGENDA / CONFLICT OF INTEREST DISCLOSURE
5:30 PM
2. APPROVE MINUTES FOR MAY 12 AND JUNE 9, 2021 – 5 MIN
3. FERNCLIFF WATER SYSTEM – 30 MIN
4. CONSOLIDATED WATER SYSTEM MAP – 15 MIN
5. WASTEWATER TREATMENT PLANT UPDATE – 15 MIN
6. PUBLIC WORKS UPDATE – 5 MIN
7. NEXT MEETING AGENDA PLANNING – 5 MIN
8. ADJOURNMENT

UTILITY ADVISORY COMMITTEE
SPECIAL MEETING
MAY 12, 2021
ZOOM MEETING

Minutes

Committee Members Present: Ted Jones, Andy Maron, Charles Averill, Susan Hume, and Sheina Hughes

Others Present: Chris Wierzbicki (COBI Public Works Director), and Chris Gonzalez (FCS Group)

Members Absent: Martin Pastucha, Nancy Nolan

Call to Order

The meeting was called to order at 5:30 PM and the agenda reviewed. The Chair asked for any conflict-of-interest disclosures, and none were disclosed.

Minutes

No minutes were presented.

Ferncliff Water Main Extension

The memo prepared by FCS group was presented to the committee for review and discussion. The memo presented options for the Ferncliff water extension and preliminary order of magnitude costs. The discussion of the committee focused on the option for construction (Alternative A or B) and the cost recovery from the benefiting parcels. The presentation covered the options for cost recovery through the following methods.

- A. Local Facilities Charge
- B. Monthly Water Rate Surcharge
- C. System Participation Fee (SPF)
- D. Monthly Water Rates
- E. Hybrid Approach

The committee discussion focused on the options for cost recovery and where to assign the burden of recovery. The committee recommend that the consultant provide some additional information on the options and review what other utility providers were doing to recover costs. The discussion concluded with a general agreement that the cost recovery was going to be a compromise between benefiting parcels paying full cost or the City paying full cost, however no recommendation was made regarding the percentage.

Wastewater Treatment Plant

The Public Works Director, Chris Wierzbicki, presented the Murraysmith memo that will be presented to council.

The memo provided background on the following:

- The results of the sampling and analysis of the industrial/commercial dischargers to the Winslow wastewater treatment plant (WWTP) indicated that they were not contributing significantly and therefore it was not necessary to require pretreatment at this time. Continued monitoring is required.
- Contaminants of Emergent Concern (CEC) at the Winslow WWTP were reviewed. There are no near-term plans to enforce regulation on CEC removals. However, these requirements will be difficult to implement at the Winslow WWTP and be costly from a construction and operating/maintenance costs.
- The priority to meet new nutrient removal requirements at the Winslow WWTP. The plant is approaching design capacity and will need to be re-rated (???) in the next few years
- The Winslow WWTP will have to meet new nutrient reduction regulation that become effective in late 2021.

Chris to recommend focus on the capacity based on Murraysmith recommendations.

The committee focused on the perceived changes in capacity in 1990's vs 2008 vs now. Improvements in 2009-10 were supposed to create capacity for 20 years. but we appear to be there 10 years. The committee asked for background on the reason for the perceived capacity changes.

Public Works Update

A) Water Model Update/New Tank

Model results are suggesting some additional fire flow upgrades. One of these upgrades is Wyatt Way near the traffic circle construction. The water main extension will be completed on northside of Wyatt prior to final paving.

B) PSE Franchise Meeting

Link on the Bainbridge Island Homepage for upcoming meeting.

Meeting Adjourned at 7:35 PM.

Co-Chair

Date

UTILITY ADVISORY COMMITTEE
MEETING MINUTES
JUNE 9, 2021
ZOOM MEETING

Meeting called to order at 5:45 p.m.

Members Present: Andy Maron (chair), Charlie Averill, Susan Hume, Sheina Hughes, Martin Pastucha

Members absent: Nancy Nolan, Ted Jones.

Also present: Chris Wierzbicki (Public Works Director); Chris Gonzalez (FCS Group); Rasham Nassar (City Council Liaison); Blair King (City Manager)

Minutes

April 14 meeting were approved.

City Manager Blair King

With four weeks into his new position, City Manager King introduced himself to the committee, and committee members introduced themselves. He noted that we do not yet know when the state policy on covid might be updated, once again allowing in-person public meetings.

Ferncliff Water System

Chris Gonzalez, project manager for FCS Group, helped explain options to fund extension of the city water system to the Ferncliff water system, continuing the discussion from last month. He provided figures for a range of choices depending on how much of the cost would be paid by the new participants, versus how much to be paid by the system overall.

Chris Wierzbicki noted that he was still waiting for a call back from KPUD, to get details about how they manage this kind of addition. His understanding is that the new connections pay the full amount.

It was noted that the city should establish a clear policy for these issues, as there are likely to be more such expansions in the future.

The committee asked Chris and Chris to write up what they are thinking about, so the UAC can consider it at the next meeting.

Wastewater Treatment Plant Study

Chris Wierzbicki noted that he had given a presentation to the City Council. Last time the plant was improved, it was to improve reliability, not to significantly expand capacity. He noted that usage is generally consistent with what had been expected at the last expansion.

Andy noted another question to be considered next time: What is the build-out capacity that could eventually be served by the existing plant.

Public Works Update

The council will discuss (Aug. 3) what the groundwater management plan will look like. That will provide information for how committees will follow up.

Rasham reported on a discussion with Puget Sound Energy, regarding their plan for a new transmission line to link the substations. They are receiving public comments now and will then present to the full council.

Meeting Adjourned at 7:40 p.m.

Co-Chair

Date



DEPARTMENT OF PUBLIC WORKS MEMORANDUM

Date: July 14, 2021
To: Utility Advisory Committee
From: Christopher Wierzbicki, Public Works Director
Subject: Ferncliff Water Line Extension Cost Distribution Recommendation

Executive Summary

This memo serves as a recommendation to the Utility Advisory Committee (UAC) to advance next steps on extending the City's municipal water utility to serve properties currently belonging to the Ferncliff Water Association (FWA), and the existing City water utility customers on Casey Street. In brief, the recommendation includes incentivizing these connections by proposing a 90% cost recovery of the main extension from the benefitting properties (in connection with Resolution 2021-02, attached as Appendix B), which could include FWA, Casey Street and other properties along the extension route.

Background

On February 5, 2021, the City received a petition from several owners of property that represent the Board of Trustees of the Ferncliff Water Association (a group B private water system), requesting that the City start the process of investigating an extension of the City's water utility to serve the private owners of the Association.

The City's Public Works Department responded by developing a very preliminary cost estimate of the project, and working with a consultant, FCS Group, to provide an analysis of the cost structures and alternatives for funding the project. That analysis, attached to this memo as Appendix A, contains more detail on the project scope, costs and funding alternatives that were considered.

UAC Recommendations

The UAC met to discuss the project and funding alternatives included in Appendix A at their meeting in May and June of 2021. Those discussions did not result in a firm decision on a funding alternative, however, the committee generally agreed on the following:

- The water main extension project is generally in alignment with the committee's goals as outlined in Resolution 2021-02, which encourage private water systems to connect to the municipal utility;

- Providing an incentive to encourage private water systems to connect to the municipal utility would be in alignment with the goals outlined in Resolution 2021-02, particularly if any water main extension required to serve those systems would benefit the water utility;
- The proposed water main extension would benefit the water utility by facilitating an expansion of service within the existing retail service in alignment with the future expansion areas outlined in the City's Water System Plan;
- As part of this water main extension, the City should look to connect the existing Casey Street customers, who are currently served by an older, isolated system;
- The City's policy of requiring all water main extensions to be paid for in full by the benefitting customers should be relaxed to allow more flexibility for meeting the goals of Resolution 2021-02. However, existing water service customers should not be overly burdened by water main extensions intended to serve new customers; and,
- The City should incentivize early connections to the main to advance cost recovery.

Staff Recommendations

Based on feedback from the UAC and internal discussions, the staff recommends the following framework for funding the proposed water main extension:

- Revise the City's code language to facilitate flexibility for project cost sharing by making the following modifications to BIMC Chapter 13.10.050:
 - The installation of water mains to properties not previously served shall be at the benefited property owner's or developer's expense and in accordance with Chapter [13.32](#) BIMC, provided, that the City may participate financially in the extension of installation of a water main that furthers the City's policy to consolidate small non-City owned water systems into the City's current water utility, as expressed in Resolution 2021-02. The extent of the City's participation shall be consistent with the financial resources and priorities of the utility.
- The cost of the extension should be shared among the 101 potential benefitting properties (to date, the staff expects that as many as 34 of the 101 potential properties are interested in connecting to the extension upon completion);
- 90% of the project cost should be paid for by the benefitting properties, with the remaining 10% of the cost contributed by the utility;
- New utility customers would pay a Special Participation Fee (SPF, also known as a connection charge) up front, and the balance would be paid through a 20-year rate surcharge;
- New utility customers would be incentivized to connect within the first 3 years of project completion by receiving the ability to participate in the surcharge option, in lieu of paying in full at the time of connection; and,
- The City will investigate the potential for allowing the rate surcharge balance to be paid in full at the time a benefitting property changes ownership.

Cost Implications

There are a host of variables that will contribute to the exact costs for each property that benefits from the proposed water main extension. The following is a high-level analysis of the potential ballpark costs.

- Assuming a total project cost of \$800,000, benefitting properties that choose to connect within three years of the project completion would pay:
 - The current SPF fee of approximately \$3,806 (or the City's adjusted SPF fee at the time of connection);
 - A monthly surcharge (for 20 years) of approximately \$48;
 - A monthly water bill of approximately \$25.
- Assuming a total project cost of \$800,000, benefitting properties that choose to connect after 3 years of the project completion would pay:
 - The current SPF fee of approximately \$3,806 (or the City's adjusted SPF fee at the time of connection);
 - A one-time local facilities charge of approximately \$7,130;
 - A monthly water bill of approximately \$25.
- Assuming a total project cost of \$800,000, existing water system customers not directly benefitting from the water main extension would pay:
 - A monthly water bill increase of less than \$0.10 per month.

Next Steps

This memo was developed in preparation for discussion at the July 14, 2021 Utility Advisory Committee meeting. The committee's feedback will be incorporated into this recommendation and forwarded to the City Council for discussion on August 10, 2021.

To: Chris Wierzbicki, City of Bainbridge Island

Date: June 7, 2021

From: Chris Gonzalez, Senior Project Manager
John Ghilarducci, Principal

RE Funding Alternatives for Ferncliff Water Main Extension

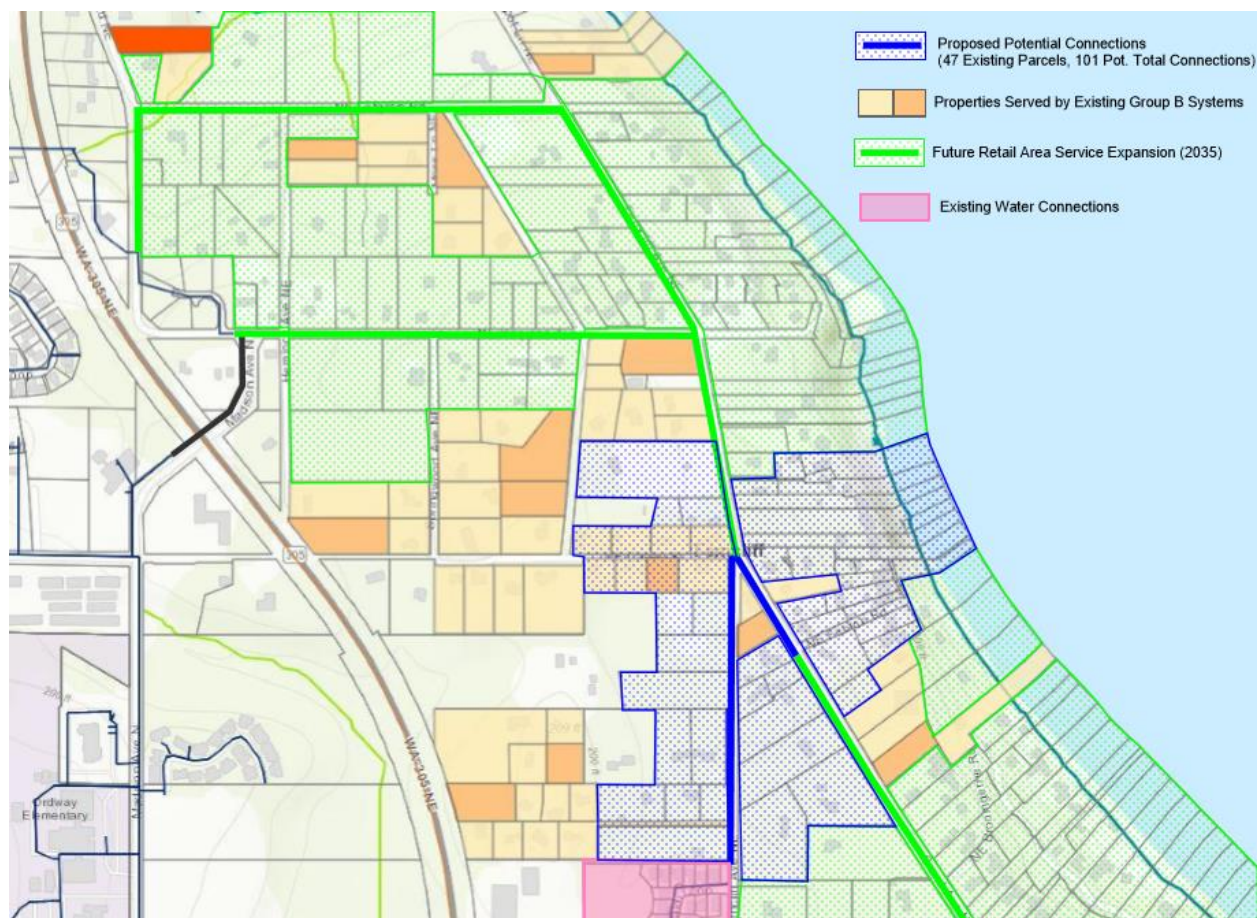
The City of Bainbridge Island's Comprehensive Plan generally calls for managing utility services in an efficient, effective, and safe manner that preserves local water resources. To this end, the City Council asked the City's Utility Advisory Committee (UAC) to "study and recommend a process for facilitating consolidation of small water systems." The UAC released a memo in September 2020 recommending that the City adopt a policy of actively responding to requests for assistance from small water systems on Bainbridge Island and, where appropriate, encouraging voluntary consolidation of those systems into the City's water utility. Bainbridge Island is home to 35 active Group A water systems serving 15 connections or more, as well as 135 Group B water systems that serve fewer than 15 connections.

Ferncliff Water Association, a Group A system with 18 connections, recently reached out to the City and expressed interest in potentially having the City take over its infrastructure. In accordance with the City's pro-consolidation policy, the City has conducted a preliminary assessment of the infrastructure that would be needed to connect the Ferncliff water system (as well as the neighboring Casey Street water system, which serves 9 connections) to the City's water system. The infrastructure needed includes:

- A main extension along Ferncliff Avenue NE that runs north from NE Garibaldi Loop to Grand Avenue NE.
- A main extension and service lines to the homes that will receive service. The City has identified two alternative routes for the extension beyond the intersection of Ferncliff Avenue NE and Grand Avenue NE:
 - » One alternative runs the extension southeast to NE Fenton Road along Grand Avenue NE.
 - » The other alternative runs the extension north along Ferncliff Avenue NE.
- A main extension to the Casey Street Water System.

Exhibit 1 provides a map illustrating these alternatives. Initial estimates from City staff suggest that the necessary mains and service lines could cost between \$570,000 and \$800,000, depending in part on which route the extension follows (southeast along Grand Avenue versus north along Ferncliff Avenue).

Exhibit 1: Water System Extension Alternatives



The City has several options for recovering the cost of this main extension, which are discussed in further detail below. When determining how to recover the cost of this project, it is important to recognize that this water main extension will enable the City to serve more than the 27 connections from the Ferncliff and Casey Street Water Systems. Because Section 13.08.050 of the Bainbridge Island Municipal Code (BIMC) requires new development or redevelopment occurring within 300 feet of an existing water main to connect to that water main rather than drilling a well, City staff decided to focus on properties that are located within 300 feet of the main extension. This analysis excludes properties that are located more than 300 feet from the water main because (a) the main is not explicitly being sized to meet their demands and (b) the process of estimating if and when these homes will connect to the City’s water system would be highly speculative in nature.

Including the connections from the Ferncliff and Casey Street Water Systems, City staff estimate that this water main extension could accommodate up to 101 connections under the Grand Avenue route and up to 104 connections under the Ferncliff Avenue route. The City recently surveyed 60 properties near the Ferncliff and Casey Street Water Systems to gauge their interest in connecting to the new water main. Of the 23 responses that the City received, 7 homes expressed interest in connecting to the main along the Grand Avenue Route and 5 homes expressed interest in connecting to the main along the Ferncliff Avenue Route.

A. Local Facilities Charge

Under this alternative, the City would charge the benefitting properties for a proportionate share of the cost of the main extension. Based on the estimated range of costs discussed above and the number of potential connections within 300 feet of the proposed main, the cost per connection would vary from \$5,481 – \$7,921.

Pros:

- This is the least expensive option for the City overall, as the new connections will eventually pay for the entire cost of the project.
- The upfront cash funding received from the new connections would reduce the amount that the City would need to fund from its own resources.

Cons:

- This alternative results in the most adverse impacts to the benefitting properties. In addition to the local facilities charge, they would have to pay the City's system participation fee (SPF) as well as other upfront charges for the physical service connection, which together could add up to an additional \$4,750 – \$6,300 per connection. An upfront cost on the order of \$10,000 – \$14,000 could be prohibitive for at least some of the benefitting properties.
- The policy decision to target the recovery of these costs to the properties specifically benefitting from this water main extension calls into question the extent to which these properties should pay for a proportionate share of other facilities. The need to account for facilities that do not serve these properties can increase the complexity of calculating and administering SPFs.
- There is also the potential for a consistency issue, given that other properties in the City might not have had to pay directly for the local mains serving them.
- While the cost of the project is appropriately allocated across the broader base of customers that would benefit from the main extension (rather than being allocated solely to the properties that are currently looking to connect to the City's water system), this introduces a degree of uncertainty as to when the City will be able to recover the cost of the project from the benefitting properties. Until the connections occur, the City and its ratepayers will have to fund the project.

B. Monthly Water Rate Surcharge

This alternative would roll the local facilities charge into a monthly rate surcharge with specified terms, with the goal of spreading the recovery of the cost over time. At least several jurisdictions impose their connection charges in this way, including:

- **City of Bellevue:** Property owners pay a capital recovery charge in monthly installments over a ten-year period. The charge is assessed to the property and stays with it; if the property sells before the charge is paid, the outstanding balance is transferred to the new owner. The payment due in the month of the transaction is prorated between the previous owner and the new owner.

- **King County:** Property owners pay a monthly capacity charge over a fifteen-year period. The charge is assessed to the property and stays with it; if the property sells during the payment period, the outstanding balance is transferred to the new owner. King County recommends that sellers consult with a real estate agent regarding the disclosure of any outstanding balances to prospective buyers.
- **Spokane County:** Properties that benefit from localized main extensions pay a capital facilities rate over a twenty-year period. If the property is sold before the balance is fully paid off, the balance can be paid in full or transferred to the new owner.

Based on the range of cost estimates provided above and assuming an interest rate of 2.5% (which is consistent with current bond interest rates), the monthly surcharge per connection would fall into the range of \$36.89 – \$53.31. As a variation of this alternative, the City could issue bonds to fund the project and build the related principal and interest payments into a monthly surcharge applicable to the benefitting properties.

Pros:

- Because this alternative still targets full cost recovery from the benefitting properties, the City and its ratepayers would eventually be made whole.
- This alternative results in a lower upfront cost impact to the benefitting properties, increasing the likelihood that they would be able to afford connecting to the new water main.

Cons:

- Even though the rate surcharge spreads the financial impact out over time, the monthly cost per connection is still significant. Assuming 700 cubic feet per month of water usage, a single-family home with a 3/4" meter would pay \$22.81 per month for water service. A monthly rate surcharge of \$36.89 – \$53.31 would be roughly twice the water bill.
- Unless the City issues bonds to fund the cost of the project, spreading the recovery of the project cost over time would require the City's water utility to use its funds to cover the cost until it can be reimbursed. Given the potential for customer delinquency and uncertainty about when the benefitting properties will connect and begin paying the surcharge, this alternative would also subject the City to a greater degree of risk (especially if it issues debt to fund the project) than spreading cost recovery across the City's entire water customer base would.
- City staff would need to undertake an accounting process to monitor customer payments of the surcharge and ensure that the correct amounts are paid. Combined with a heightened potential for customer service calls, this would increase the administrative burden on City staff.
- The policy decision to target the recovery of these costs to the properties specifically benefitting from this water main extension calls into question the extent to which these properties should pay for a proportionate share of other facilities. The need to account for facilities that do not serve these properties can increase the complexity of calculating and administering SPFs.

- There is also the potential for a consistency issue, given that other properties in the City might not have had to pay directly for the local mains serving them.

C. System Participation Fee (SPF)

The City imposes SPFs on new development to recover an equitable share of system infrastructure. The cost basis for the SPF includes existing assets as well as planned capital projects – given that the City’s SPF reflects an “average cost” methodology, the decision to include the cost of this water main extension as an existing asset (once it is completed) or as a future project (until it is completed) does not impact the calculated charge. At an estimated cost of \$570,000 – \$800,000, incorporating the cost of the water main extension into the SPF calculation would increase the City’s water SPF by \$100 – \$141 per meter capacity equivalent (MCE).

Given that the City’s 2018 Rate Study projected near-term growth on the order of 55 – 60 MCEs per year, this increase would generate between \$5,500 and \$8,500 per year in additional SPF revenue. The City could use this revenue to recover the cost of the main extension over time – based on the estimated capacity of the system and the projected annual growth rates, the City could recover approximately 40% of the cost of the main extension by 2050. Alternatively, if the City were to issue 20-year bonds with an interest rate of 2.5% to fund the main extension, the additional SPF revenue would cover roughly 15 – 20% of the annual principal and interest payments.

Pros:

- This alternative reduces the upfront cost impact to the benefitting properties, increasing the likelihood that they would be able to afford connecting to the new water main.
- Building the cost of this project into systemwide charges is simpler to administer than determining and tracking area-specific charges. It is also consistent with the City’s decision in the 2018 Rate Study to move away from area-specific charges.

Cons:

- Embedding the cost of the water main extension in the SPF would shift the recovery of costs associated with this project to other customers. There could be a consistency issue if the City requires developers in other parts of the City to fund comparable infrastructure to serve their properties while embedding the cost of this water main extension in the SPF paid by all development. The incremental SPF associated with this project will only recover about 40% of the total cost, requiring either the benefitting properties or the City’s entire base of ratepayers to cover the remainder.
- Planning to use the incremental SPF revenue to repay debt attributable to the project would expose the City to risks associated with year-to-year volatility in SPF revenue collections. If growth slows down and the City receives less SPF revenue than expected, its ratepayers would have to cover the shortfall.

D. Monthly Water Rates

Another option would be for the City to include the cost of the water main extension in the water utility capital improvement plan (CIP) and fund it as part of the water utility's ongoing obligations. The financial plan developed as part of the 2018 Rate Study anticipated the issuance of about \$1.7 million in revenue bonds around 2024 to fund the six-year CIP, given planned investments in a new storage tank and treatment improvements. The City could decide to use its existing water utility cash balances to cover the cost of the main extension, increasing the bond issue to compensate for the reduction in cash funding available for the planned treatment improvements. Depending on the rate at which the City completes planned capital projects over the next several years, it might need to accelerate the bond issue to 2023.

Assuming 20-year bonds, an interest rate of 4.0% (conservative assuming that interest rates will increase over the next couple of years), issuance costs equal to 1.0% of the amount issued, and a reserve requirement equal to one year's debt service payment, the water utility's annual debt service would increase by \$46,000 – \$64,000 depending on the cost of the water main extension. This equates to roughly 4 – 6% of the City's budgeted annual water rate revenue, which the City could potentially spread over a five-year period.

Pros:

- This alternative reduces the upfront cost impact to the benefitting properties, increasing the likelihood that they would be able to afford connecting to the new water main. This would ultimately increase the number of ratepayers across which the City could spread the water utility's largely fixed costs.
- Building the cost of this project into systemwide charges is simpler to administer than determining and tracking area-specific charges. It is also consistent with the City's decision in the 2018 Rate Study to move away from area-specific charges, consolidating the residential water rate structure for customers in the Winslow and Rockaway Beach systems.

Cons:

- Embedding the cost of the water main extension in the financial plan underlying systemwide water rates would shift the recovery of costs associated with this project to other customers. There could be a consistency issue if the City requires customers in other parts of the City to fund comparable infrastructure to serve their properties while embedding the cost of this water main extension in the rates paid by all customers.

E. Hybrid Approach

The City can choose a combination of the funding alternatives discussed above, with the key question pertaining to how the City sets a targeted level of cost recovery from the benefitting properties as a matter of policy. **Exhibit 2** summarizes the charges that would apply under five scenarios:

- No direct cost recovery from the benefitting properties. The cost of the main extension is built into the SPF applicable to all customers.

- 25% direct cost recovery from the benefitting properties. 75% of the cost of the main extension is built into the SPF; the remainder is rolled into a monthly surcharge applicable to the benefitting properties for a 15-year period.
- 50% direct cost recovery from the benefitting properties. 50% of the cost of the main extension is built into the SPF; the remainder is rolled into a monthly surcharge applicable to the benefitting properties for a 15-year period.
- 75% direct cost recovery from the benefitting properties. 25% of the cost of the main extension is built into the SPF; the remainder is rolled into a monthly surcharge applicable to the benefitting properties for a 15-year period.
- Full direct cost recovery from the benefitting properties. The cost of the main extension is not built into the SPF but is rolled into a monthly surcharge applicable to the benefitting properties for a 15-year period.

Given that the City only expects a limited number of benefitting properties to connect in the near future, these scenarios envision increasing water rates as needed to cover the incremental costs associated with the main extension.

Exhibit 2: Summary of Charges Under Various Levels of Direct Cost Recovery

If Direct Cost Recovery Occurs Upfront	0% Direct Cost Recovery	25% Direct Cost Recovery	50% Direct Cost Recovery	75% Direct Cost Recovery	100% Direct Cost Recovery
Upfront Cost to Benefitting Properties Within 300 Feet of Main					
Local Facilities Charge (If Paid Upfront)	\$ -	\$1,980	\$3,961	\$5,941	\$ 7,921
SPF per Meter Equivalent (Applies to Citywide Development)	3,947	3,912	3,877	3,841	3,806
Total	\$3,947	\$5,892	\$7,838	\$9,782	\$11,727
Ongoing Monthly Cost for Benefitting Properties Within 300 Feet of Main					
2027 Monthly Water Bill @ 7 ccf (Applies to All City Water Customers) ¹	\$25.27	\$25.17	\$24.98	\$24.86	\$24.79

If Direct Cost Recovery Occurs Over Time	0% Direct Cost Recovery	25% Direct Cost Recovery	50% Direct Cost Recovery	75% Direct Cost Recovery	100% Direct Cost Recovery
Upfront Cost to Benefitting Properties Within 300 Feet of Main					
SPF per Meter Equivalent (Applies to Citywide Development)	\$3,947	\$3,912	\$3,877	\$3,841	\$3,806
Ongoing Monthly Cost for Benefitting Properties Within 300 Feet of Main					
Monthly Surcharge (For 15 Years)	\$ -	\$13.33	\$26.66	\$39.98	\$53.31
2027 Monthly Water Bill @ 7 ccf (Applies to All City Water Customers) ¹	25.27	25.17	24.98	24.86	24.79
Total (Assuming 7 ccf per Month of Water Usage)	\$25.27	\$38.50	\$51.64	\$64.84	\$78.10

¹Sample bills shown for 2027, after phasing in the rate increase needed to cover debt service related to the main extension.

All of the scenarios shown in **Exhibit 2** assume that the 27 connections from the Ferncliff and Casey Street Water Systems and the additional 5 – 7 properties that expressed interest during the City’s recent survey will connect to the main within the next year – based on input from City staff, this analysis assumes that an additional property will connect every two years. As only a limited number of properties are expected to connect in the near future, there is a rate impact in all scenarios. This impact ranges from \$1.28 – \$1.76 per month above the forecast developed in the 2018 rate study, depending on the level of direct cost recovery. **Exhibit 2** indicates that based on the high-end estimate of the cost of the main extension (\$800,000), the decision to embed the full cost of the main extension in systemwide rates and SPFs would cost an average ratepayer up to \$0.48 per month relative to a policy decision that targets full cost recovery from the benefitting properties.

Pros:

- Balancing the pros and cons of the other approaches, this approach mitigates the upfront cost to the benefitting properties while limiting the impact of the project on other customers.

Cons:

- Because it includes multiple variables and parameters, the hybrid method is more complex to administer than the other approaches.

When considering whether to recover the cost of the water main extension directly from the benefitting properties or from the City’s water customer base as a whole, it is important to consider how this decision will impact the affordability of the City’s rates for its existing customers (especially as a precedent for similar water system acquisitions in the future). Rate affordability has traditionally been evaluated as a percentage of median household income, with water and sewer rates being defined as “affordable” if the bill of a typical resident is less than or equal to 4.5% of median household income. 2019 data from the American Community Survey indicates that the median household income in Bainbridge Island is \$117,990 (this evaluation uses median income for residents of Bainbridge Island because it is more representative of the income level of customers paying the City’s rates than data for the Bremerton-Silverdale Metropolitan Statistical Area that the City uses in other affordability evaluations). A typical single-family residence using 7 ccf per month would pay a combined water/sewer bill of \$116.46 per month, which represents approximately 1.2% of median household income.

While this would suggest that the City’s rates are well within the range defined as “affordable,” there has been a growing consensus in the industry that median household income is a flawed metric to use in evaluating the affordability of utility rates. Dr. Manuel Teodoro (a professor at the University of Wisconsin) has been a key contributor in the discussion of alternative metrics that can inform a more meaningful assessment of affordability, with his work appearing in multiple industry publications. Dr. Teodoro’s proposed metrics include:

- **Hours at Minimum Wage (HM):** This metric quantifies the amount of time that someone earning minimum wage would need to work in order to pay their bill. Dr. Teodoro has recommended 8.0 hours as an upper limit when evaluating the relative affordability of a utility’s water and sewer rate structures. For the purpose of this evaluation, Dr. Teodoro focuses on an assumed “lifeline” volume of 50 gallons per capita per day (which equates to roughly 5 ccf based on the City’s

average household size of 2.4 persons). At 5 ccf, the combined monthly water/sewer bill would be \$97.84 – someone earning the 2021 minimum wage of \$13.69 per hour would need to work 7.1 hours to pay this bill.

- **Affordability Ratio at the 20th Income Percentile (AR₂₀):** This metric expresses the combined bill as a percentage of the discretionary income of a home in the 20th income percentile after accounting for the cost of food, housing, power, and healthcare. Dr. Teodoro has recommended 10.0% as an upper limit when evaluating the relative affordability of a utility’s water and sewer rate structures. Based on 2019 data from the American Community Survey and the Bureau of Labor Statistics’ Consumer Expenditure Survey, we estimate that a household at the 20th income percentile in Bainbridge Island has approximately \$1,750 in discretionary monthly income. The combined water, sewer, and surface water bill of \$97.84 represents 5.6% of the discretionary income of a home in the 20th income percentile.

Exhibit 3 provides a forecast of the combined utility bill and projected values of HM and AR₂₀:

Exhibit 3: Forecast of Utility Rate Affordability

2018 Rate Study Forecast	2021	2022	2023	2024	2025	2026
Annual Water Rate Increases		2.0%	2.0%	2.0%	2.0%	2.0%
Annual Sewer Rate Increases		2.0%	2.0%	2.0%	2.0%	2.0%
Monthly Single-Family Bill @ 5 ccf	\$97.84	\$99.84	\$101.86	\$103.91	\$105.98	\$108.12
Projected HM (Target: ≤ 8.0)	7.1	7.2	7.2	7.2	7.2	7.2
Projected AR ₂₀ (Target: ≤ 10.0%)	5.6%	5.7%	5.8%	5.9%	6.1%	6.2%

With Main Extension ¹	2021	2022	2023	2024	2025	2026
Annual Water Rate Increases		3.0%	3.0%	3.0%	3.0%	3.0%
Annual Sewer Rate Increases		2.0%	2.0%	2.0%	2.0%	2.0%
Monthly Single-Family Bill @ 5 ccf	\$97.84	\$100.01	\$102.21	\$104.45	\$106.72	\$109.06
Projected HM (Target: ≤ 8.0)	7.1	7.2	7.2	7.2	7.2	7.2
Projected AR ₂₀ (Target: ≤ 10.0%)	5.6%	5.7%	5.8%	6.0%	6.1%	6.2%

¹Based on the scenario with the greatest potential rate impacts (Grand Avenue Route, No Direct Cost Recovery).

Note that the calculation of HM in **Exhibit 3** assumes that the prevailing minimum wage increases by 2.0% per year, consistent with the annual adjustments provided for by RCW 49.46.020 (2)(b) based on the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The calculation of AR₂₀ assumes that the net monthly disposable income of a household in the 20th income percentile remains at \$1,750, reflecting the assumption that income and expenses increase at comparable rates of inflation.

With these assumptions, **Exhibit 3** suggests that the City’s rates will remain affordable under both of these measures over the next five years. It also indicates that funding the cost of the water main extension through rates will have a negligible impact on the overall affordability of the City’s rates, assuming that the City can spread the recovery of the cost over time through interfund or external borrowing. A key reason for this finding is that the sewer bill for a single-family home using 5 ccf per month is \$79.09, or about 81% of the current monthly bill of \$97.84 – modest increases to the water bill do not materially impact the combined total bill. **Exhibit 3** indicates that in the scenario where the City funds the water main extension through the water utility, the cumulative impact to the

projected monthly water bill by 2026 is only \$0.94. If the City were to fund multiple main extensions through its water utility and affordability became an issue, it could consider revisiting its sewer rate structure and reducing the base charge per account (currently \$42.69 per month) while increasing its volume-based sewer rate (currently \$7.28 per ccf).

While the City can set the level of cost recovery from the benefitting properties as a matter of policy, it appears reasonable to conclude that the water utility would need to share the cost in order for the main extension to be financially feasible for the properties that it would serve. The City may need to amend Section 13.10.050 (A) of the Bainbridge Island Municipal Code, which indicates that “the installation of water mains to properties not previously served shall be at the benefitted property owner’s or developer’s expense,” to pursue this path.

The City would be able to justify such investments on the grounds that consolidating systems like the Ferncliff and Casey Street systems into the municipal water system:

- Provides the potential for better economies of scale and improves efficiency of service, benefitting existing ratepayers by expanding the customer base across which the utility’s overhead costs can be spread;
- Provides the City with greater control over local water resources;
- Provides valuable redundancy in infrastructure; and
- Promotes consistency in the level of service that the City’s residents receive.

If the City decides to pursue a hybrid funding approach for future extensions, we would recommend establishing a consistent policy regarding what the City expects benefitting properties to pay through direct assessments versus through systemwide water rates and SPFs. The City may also wish to consider ways in which it might structure its implementation of these fees to encourage properties that can connect to the main to do so. For example, phasing the charges in over multiple years will mitigate the upfront impact to existing properties but incentivize them to connect before the charges increase. The City can also limit how long it offers the monthly surcharge option, requiring properties seeking to connect to the main after that period to pay the full charges upfront.