



CITY OF
BAINBRIDGE ISLAND

**CITY COUNCIL STUDY SESSION
TUESDAY, APRIL 04, 2023**

COUNCIL CHAMBERS
280 MADISON AVENUE NORTH
BAINBRIDGE ISLAND, WA

AND

ZOOM WEBINAR

PLEASE CLICK THE LINK BELOW TO JOIN THE WEBINAR:
[HTTPS://BAINBRIDGEWA.ZOOM.US/J/92947338351](https://bainbridgewa.zoom.us/j/92947338351)
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WEBINAR ID: 929 4733 8351

AGENDA

1. **CALL TO ORDER / ROLL CALL - 6:00 PM**
2. **APPROVAL OF AGENDA / CONFLICT OF INTEREST DISCLOSURE - 6:05 PM**
3. **REGULAR BUSINESS**
 - 3.A **(6:10 PM) Review and Discuss Water and Sewer Rate Study Recommendations - Public Works, 60 Minutes**
[2022 Utility Rate and SPF Update - Final Report.pdf](#)
[Water Capital Improvement Plan.pdf](#)
[Sewer Capital Improvement Plan.pdf](#)
[UAC 2023 Water_Sewer Rate Study Recommendation Letter of Support.docx](#)
[Water_Sewer_Rate_Study_Presentation_FINAL \(1\).pptx](#)
 - 3.B **(7:10 PM) Review Madison Bundled Project 100% Design - Public Works, 20 Minutes**
[Madison Bundled Project Final Plans_Striping_Sections.pdf](#)
[Presentation_Madison Ave Bundled Project Update_100% Plans_040423.pptx](#)
4. **COMMITTEE REPORTS - 7:30 PM**
5. **ADJOURNMENT - 7:40 PM**

GUIDING PRINCIPLES

Guiding Principle #1 - Preserve the special character of the Island, which includes downtown Winslow's small town atmosphere and function, historic buildings, extensive forested areas, meadows, farms, marine views and access, and scenic and winding roads supporting all forms of transportation.

Guiding Principle #2 - Manage the water resources of the Island to protect, restore and maintain their ecological and hydrological functions and to ensure clean and sufficient groundwater for future generations.

Guiding Principle #3 - Foster diversity with a holistic approach to meeting the needs of the Island and the human needs of its residents consistent with the stewardship of our finite environmental resources.

Guiding Principle #4 - Consider the costs and benefits to Island residents and property owners in making land use decisions.

Guiding Principle #5 - The use of land on the Island should be based on the principle that the Island's environmental resources are finite and must be maintained at a sustainable level.

Guiding Principle #6 - Nurture Bainbridge Island as a sustainable community by meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Guiding Principle #7 - Reduce greenhouse gas emissions and increase the Island's climate resilience.

Guiding Principle #8 - Support the Island's Guiding Principles and Policies through the City's organizational and operating budget decisions.



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CITY OF
BAINBRIDGE ISLAND

City Council Study Session Agenda Bill

MEETING DATE: April 4, 2023

ESTIMATED TIME: 60 Minutes

AGENDA ITEM: (6:10 PM) Review and Discuss Water and Sewer Rate Study Recommendations - Public Works,

SUMMARY: Staff and the City's consultant from FCS Group will present the Council with the recommendations from the water and sewer rate study.

AGENDA CATEGORY: Review and Recommendation

PROPOSED BY: Public Works

RECOMMENDED MOTION: Discussion only.

COMMUNITY ENGAGEMENT AND OUTREACH: Broad communication regarding the water and sewer rate study recommendations is planned for the City Manager's report and the city's website.

FISCAL IMPACT:

Amount:	N/A
Ongoing Cost:	N/A
One-Time Cost:	N/A
Included in Current Budget?	Yes

BACKGROUND: The City Council authorized a professional services agreement with FCS Group on March 8, 2022 to study and make recommendations on the City's water and sewer utility rates. The study was intended to address the revenue needs of both utilities, which are facing significant capital investment needs in the next several years. The agenda packet includes a copy of the final rate study, a copy of the revised water and sewer 6-year Capital Improvement Plan, and a summary slide presentation.

City staff and the consultant worked closely with the Utility Advisory Committee at eight monthly meetings between August 2022 and March 2023 to review and shape the recommendations. A separate memo generated by the committee, and supporting the rate study recommendations, is included in the agenda packet.

Following this discussion, staff is prepared to bring forward an action that adopts the recommended water and sewer rates, including any revisions or recommendations provided by the City Council.

ATTACHMENTS:

[2022 Utility Rate and SPF Update - Final Report.pdf](#)

[Water Capital Improvement Plan.pdf](#)

[Sewer Capital Improvement Plan.pdf](#)

[UAC 2023 Water Sewer Rate Study Recommendation Letter of Support.docx](#)

[Water Sewer Rate Study Presentation FINAL \(1\).pptx](#)

FISCAL DETAILS: N/A

Fund Name(s):

Coding: N/A



City of Bainbridge Island

Water/Sewer Rate & SPF Update

FINAL REPORT
March 2023

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FCS GROUP
Solutions-Oriented Consulting

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Appendix A: Water Rate & SPF Model

Appendix B: Sewer Rate & SPF Model

GLOSSARY OF ACRONYMS

- CCF: Hundred Cubic Feet
- CIP: Capital Improvement Plan
- CPI: Consumer Price Index
- DWSRF: Drinking Water State Revolving Fund
- ERU: Equivalent Residential Unit
- GIS: Geographic Information Systems
- GO: General Obligation (Bond)
- GPM: Gallons per Minute
- KCSD: Kitsap County Sewer District No. 7
- LGIP: Local Government Investment Pool
- LTGO: Limited-Term General Obligation (Bond)
- MCE: Meter Capacity Equivalents
- MGD: Millions of Gallons per Day
- MSE: Meter-and-Service Equivalents
- O&M: Operation & Maintenance
- PWTF: Public Works Trust Fund
- RCW: Revised Code of Washington
- SPF: System Participation Fee
- UAC: Utility Advisory Committee
- WWTP: Wastewater Treatment Plant

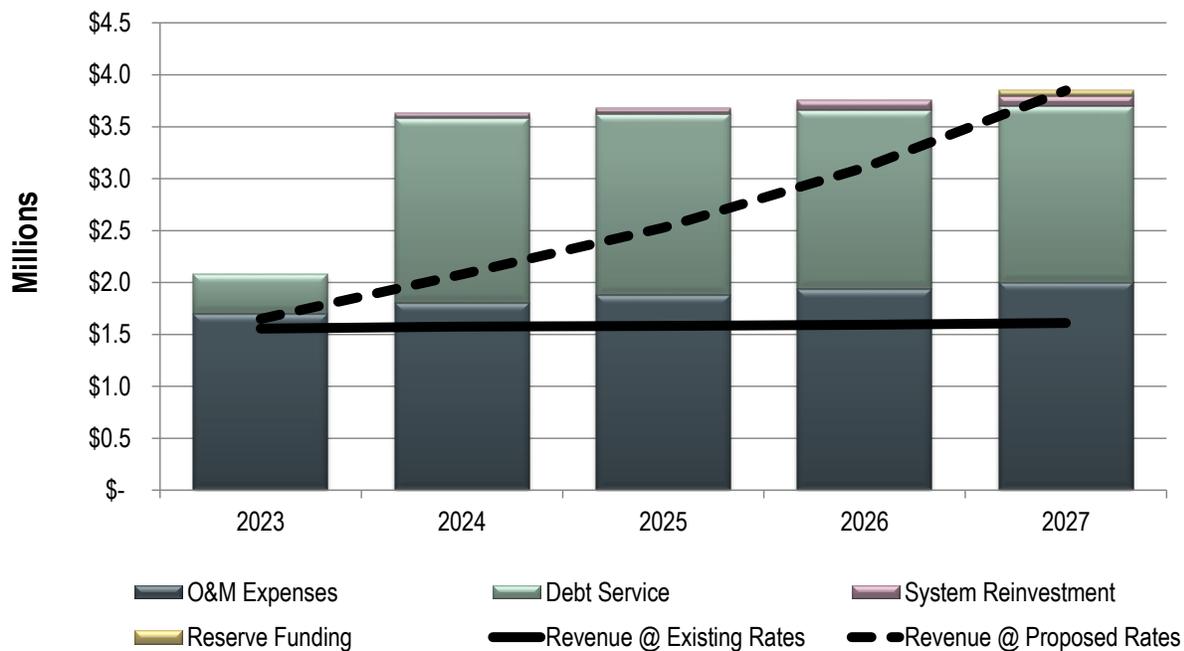
Section I. EXECUTIVE SUMMARY

The City of Bainbridge Island (“City”) contracted with FCS GROUP in 2022 to review its water and sewer rates and System Participation Fees (SPFs). This report summarizes the key findings and recommendations of the study.

I.A. WATER RATES

Exhibit 1.1 provides a summary of the five-year financial plan for the water utility:

Exhibit 1.1: Water Financial Plan



	Existing	Proposed			Projected	
	Jan-May 2023	Jun-Dec 2023	2024	2025	2026	2027
Annual Water Rate Revenue Increase ¹	10.1%	13.5%	25.0%	25.0%	25.0%	25.0%

¹Rate revenue increases include projected inflation.

The water financial plan contemplates increasing water rate revenue levels by 25.0% per year

through 2027. The overall rate increase for 2023 has also been set to 25.0% , with the first increase of 10.1% taking place effective January 1, 2023 (as part of the inflationary rate adjustment policy specified in City Ordinance No. 2022-05) and an additional increase of 13.5% proposed to go into effect on June 1, 2023. The recommended rate plan focuses on setting water rates for the 2023 – 2025 planning period – **Exhibit 1.1** shows projected rate increases for 2026 and 2027 based on the information that is currently available, but the City intends to revisit the need for those increases in another rate study that would take place in 2025. If for some reason the City is not able to complete a rate study by the end of 2025, it can implement the projected 2026 and 2027 rate increases as needed.

The water rate increases shown in **Exhibit 1.1** are driven by the following factors:

- **Existing Condition:** Based on current operations, the water utility appears to be collecting just enough in operating revenues to cover operating expenses at about \$1.5 million per year. This suggests that any cost increases would create a cash-flow deficit for the water utility.
- **Capital Funding Needs:** The City expects to spend \$27.8 million on water capital projects from 2023 – 2027 including \$21.6 million for the replacement of the Winslow Water Tank, \$3.6 million in supply and treatment improvements, \$2.4 million in distribution system improvements, and \$225,000 for an emergency generator. The capital funding plan envisions \$24.1 million in new debt to fund these costs, which will add roughly \$1.7 million in debt service to the annual revenue requirement. This equates to about 131% of current water rate revenue levels, representing about 74% of the cumulative revenue increase needed by 2027.
- **Proposed Staffing Additions:** As assessment of staffing levels prepared by City staff found that the water utility would need to add staff in the following positions in order to complete the work necessary to sustain ongoing operations:
 - » One WWTP supervisor at an annual cost of about \$138,000
 - » Two maintenance technicians, at a combined annual cost of approximately \$207,000
 - » A geographic information systems (GIS) technician at an annual cost of about \$125,000
 - » An administrative specialist at an annual cost of approximately \$104,000

The WWTP supervisor is exclusively attributable to the sewer utility and is not allocated to the water utility. Staff has allocated 45% of the costs associated with the other positions (about \$195,000 per year) to the water utility, which equates to about 15% of current water rate revenue levels – this represents about 8% of the cumulative water revenue increase needed by 2027.

- **System Reinvestment Funding:** City staff have identified concerns resulting from deferred maintenance in the water system. System reinvestment is a financial policy that involves generating cash above current operating costs and debt service to provide funding for infrastructure replacement and maintenance. The financial plan incorporates an initial system reinvestment funding level of \$50,000 per year for the water utility in 2024 – 2025, increasing to \$100,000 per year for 2026 – 2027. The \$100,000 per year funded in 2027 equates to about 8% of current water rate revenue levels, representing about 4% of the cumulative water revenue increase needed by 2027.

- **Inflation:** Based on input from the City’s Finance Department, the financial forecast assumes inflation of 8% in 2023 and 7% in 2024 before reverting to longer-term averages. These higher inflation assumptions are based on recent inflationary trends that the City has experienced. The need to keep up with inflation represents the remainder of the cumulative water revenue increase needed by 2027.

The water capital plan includes the Ferncliff water main extension at an estimated cost of about \$1.5 million, with about \$800,000 of that cost being funded by a Drinking Water State Revolving Fund (DWSRF) loan. City staff have allocated \$550,000 of this cost to general system benefit (such as infrastructure redundancy), which will be recovered through rates and SPFs over time. The remaining \$960,000 will be recovered from the benefitting properties that can connect to the main. Though City staff only expect 25 properties (17 in the Ferncliff Water System and 8 in the Casey Street Water System) to connect initially, a total of 78 properties can connect to the main. Split evenly among the 78 properties that can connect to the main, the \$960,000 local share equates to approximately \$12,300 per property. The water financial plan assumes that the 25 homes in the Ferncliff and Casey Street Water Systems will pay for their share of this cost over a 15-year period through a monthly rate surcharge – at an interest rate of 4.5% (the current cost of borrowing), the monthly surcharge would be \$95.50 per home. Given that there is considerable uncertainty with respect to if and when the remaining 53 properties will connect to the main, the analysis does not assume any additional connections to the main during the five-year planning period. The surcharge applied to the Ferncliff and Casey Street Water Systems is projected to generate about \$29,000 per year, which will be enough to cover the payments on the DWSRF loan (which qualifies for 50% loan forgiveness).

The rate study scope originally included a cost-of-service analysis that would determine an equitable allocation of the annual revenue requirement among the City’s customer classes. Recognizing that shifting costs among classes during a period of significant revenue increases would worsen the rate impacts for some users, we recommend that the City adjust all water rates uniformly (as shown in **Exhibit 1.1**) and revisit the cost allocations in a future update. **Exhibit 1.2** provides an updated schedule of water rates based on this recommended strategy.

Exhibit 1.2: Water Rate Forecast

Water Rates	Existing	Proposed			Projected	
	Jan-May 2023	Jun-Dec 2023	2024	2025	2026	2027
Annual Water Revenue Adjustment	10.1%	13.5%	25.0%	25.0%	25.0%	25.0%
Single-Family Residential						
Monthly Base Rate						
Up to 3/4" Meter	\$13.98	\$15.87	\$19.84	\$24.80	\$31.00	\$38.75
1" Meter	\$27.57	\$31.30	\$39.13	\$48.91	\$61.13	\$76.42
1-1/2" Meter	\$50.26	\$57.06	\$71.33	\$89.16	\$111.45	\$139.31
Consumption Charge per ccf						
0 – 5 ccf	\$1.42	\$1.61	\$2.02	\$2.52	\$3.15	\$3.94
6 – 12 ccf	\$2.28	\$2.59	\$3.24	\$4.04	\$5.06	\$6.32
13 – 30 ccf	\$3.24	\$3.68	\$4.60	\$5.75	\$7.18	\$8.98
> 30 ccf	\$4.40	\$5.00	\$6.24	\$7.81	\$9.76	\$12.20
Single-Family Bill @ 7 ccf per Month	\$25.64	\$29.10	\$36.42	\$45.48	\$56.87	\$71.09
Change From Prior Year	+\$2.35	+\$3.46	+\$7.32	+\$9.06	+\$11.39	+\$14.22
Multi-Family Residential						
Monthly Base Rate per Dwelling Unit	\$6.04	\$6.86	\$8.57	\$10.71	\$13.39	\$16.74
Consumption Charge per ccf	\$1.24	\$1.41	\$1.76	\$2.20	\$2.75	\$3.44
Commercial						
Monthly Base Rate						
Up to 3/4" Meter	\$18.34	\$20.82	\$26.03	\$32.53	\$40.67	\$50.83
1" Meter	\$40.56	\$46.05	\$57.56	\$71.95	\$89.94	\$112.42
1-1/2" Meter	\$77.77	\$88.29	\$110.37	\$137.96	\$172.45	\$215.56
2" Meter	\$122.06	\$138.58	\$173.22	\$216.53	\$270.66	\$338.33
3" Meter	\$240.61	\$273.17	\$341.47	\$426.83	\$533.54	\$666.92
4" Meter	\$373.97	\$424.58	\$530.72	\$663.41	\$829.26	\$1,036.57
6" Meter	\$744.42	\$845.16	\$1,056.45	\$1,320.57	\$1,650.71	\$2,063.39
Consumption Charge per ccf	\$1.73	\$1.96	\$2.46	\$3.07	\$3.84	\$4.80
Irrigation						
Monthly Base Rate						
Up to 3/4" Meter	\$4.59	\$5.21	\$6.51	\$8.14	\$10.18	\$12.72
1" Meter	\$6.04	\$6.86	\$8.57	\$10.71	\$13.39	\$16.74
1-1/2" Meter	\$8.46	\$9.60	\$12.01	\$15.01	\$18.76	\$23.45
2" Meter	\$11.37	\$12.91	\$16.14	\$20.17	\$25.21	\$31.52
3" Meter	\$19.09	\$21.67	\$27.09	\$33.86	\$42.33	\$52.91
4" Meter	\$27.80	\$31.56	\$39.45	\$49.32	\$61.64	\$77.06
6" Meter	\$51.98	\$59.01	\$73.77	\$92.21	\$115.26	\$144.08
Consumption Charge per ccf	\$3.79	\$4.30	\$5.38	\$6.72	\$8.40	\$10.51

Exhibit 1.2 shows the proposed 2023 – 2025 water rates, also showing the projected 2026 – 2027 rates for reference. We recommend that the City conduct another rate study around 2025 to verify that the rates shown for 2026 – 2027 remain necessary and adequate.

Exhibit 1.3 provides a comparison of the water bill for a typical residential user under the City’s current and proposed 2023 rates versus those of other comparable jurisdictions.

Exhibit 1.3: Monthly Single-Family Water Bill Comparison (3/4” Meter, 7 ccf)

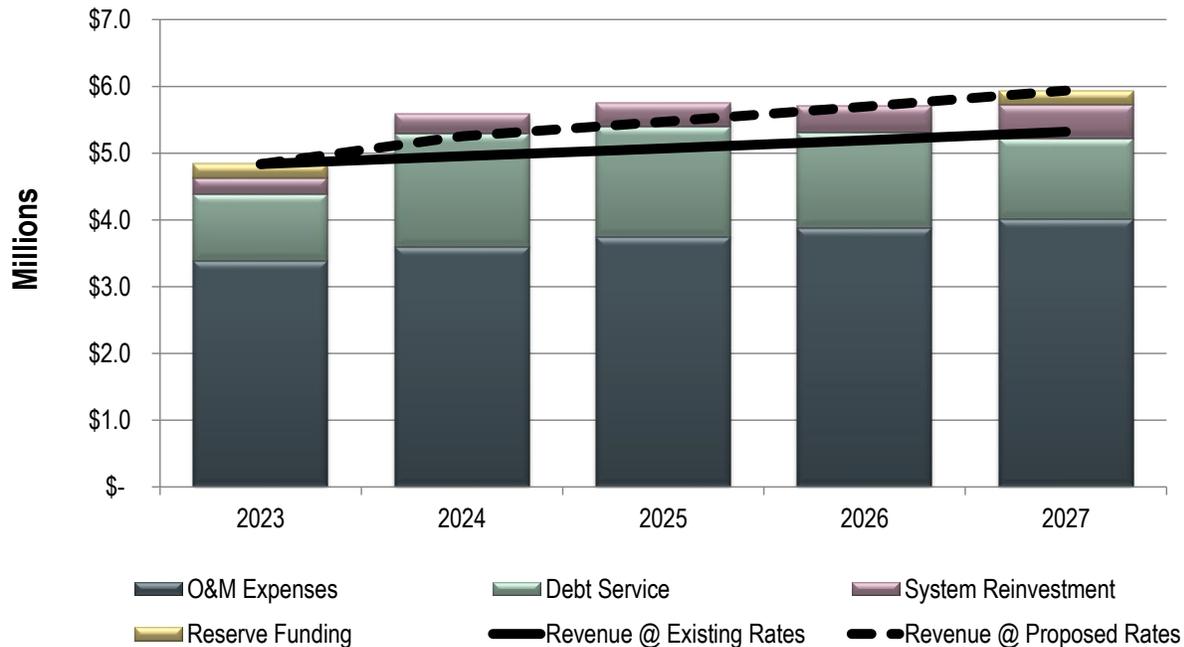


Exhibit 1.3 shows that even with the 10.1% increase that went into effect in January 2023 and the additional 13.5% rate increase proposed for June 2023 (intended to bring the cumulative water rate increase for 2023 to 25%), a typical single-family user would pay less for water service under the City’s rates than those of any of the other jurisdictions included in the comparison. Based on the projected single-family bills shown in **Exhibit 1.2**, the water bill under the City’s rates would increase from \$29.10 in 2023 to \$36.42 in 2024 (comparable to what Bonney Lake and Poulsbo currently charge), \$45.48 in 2025 (comparable to what Gig Harbor, Port Orchard, and Sumner currently charge), and \$56.87 in 2026 (comparable to what Oak Harbor currently charges).

I.B. SEWER RATES

Exhibit 1.4 provides a summary of the five-year financial plan for the sewer utility:

Exhibit 1.4: Sewer Financial Plan



	Existing	Projected			
	2023	2024	2025	2026	2027
Annual Sewer Rate Revenue Increase ¹	10.1%	7.0%	2.0%	2.0%	2.0%

¹Rate revenue increases include projected inflation.

The rate increase of 10.1% shown for 2023 became effective on January 1, 2023 as part of the inflationary rate adjustment policy specified in City Ordinance No. 2022-05. The recommended rate plan contemplates annual CPI adjustments to sewer rate revenue levels through 2027 – **Exhibit 1.4** shows increases based on the assumed CPI inflation rates, but in practice the rate adjustments will be based on actual CPI inflation. These increases are driven by the following factors:

- **Existing Condition:** Based on current operations, the sewer utility is projected to incur about \$3.1 million in operating expenses during 2023. Excluding a loan that the City is paying back through assessments collected in the South Island area, the sewer utility is responsible for roughly \$1.0 million per year in principal and interest payments on its outstanding bonds and loans. The sewer utility currently collects roughly \$4.8 million per year in operating revenue, which exceeds current annual operating expenses and debt obligations by roughly \$700,000.
- **Capital Funding Needs:** The City expects to spend \$19.0 million on capital projects from 2023 – 2027. This includes \$12.2 million in pump and force main improvements, \$4.0 million in wastewater treatment plant (WWTP) improvements, and \$2.8 million in collection and gravity main projects. The sewer capital funding plan envisions \$8.3 million in new debt to fund these projects, consisting of a PWTF loan of \$2.5 million for the Eagle Harbor sewer

upgrades and a general obligation bond of \$5.8 million. This debt will add roughly \$700,000 in debt service to the annual revenue requirement.

- **Proposed Staffing Additions:** As assessment of staffing levels prepared by City staff found that the sewer utility would need to add staff in the following positions in order to complete the work necessary to sustain ongoing operations:
 - » One WWTP supervisor at an annual cost of about \$138,000
 - » Two maintenance technicians, at a combined annual cost of approximately \$207,000
 - » A geographic information systems (GIS) technician at an annual cost of about \$125,000
 - » An administrative specialist at an annual cost of approximately \$104,000

Staff has allocated the full cost of the WWTP supervisor to the sewer utility along with 36% of the costs associated with the other positions – together, the projected staffing additions will increase the sewer utility’s labor costs by about \$293,000 per year.

- **System Reinvestment Funding:** City staff have identified concerns resulting from deferred maintenance in the sewer system. The financial plan incorporates an initial system reinvestment funding level of \$250,000 for the sewer utility in 2023, increasing to \$500,000 per year by 2027 with a longer-term goal of reaching full depreciation expense over time.
- **Inflation:** Based on input from the City’s Finance Department, the financial forecast assumes inflation of 8% in 2023 and 7% in 2024 before reverting to longer-term averages. These higher inflation assumptions are based on recent inflationary trends that the City has experienced.

The impacts of the projected cost increases described above will be largely offset by anticipated reductions in payments on existing sewer bonds and loans as they are fully paid off by 2026. The Sewer Fund’s reserves are expected to be adequate to sustain a strategy of annual CPI adjustments until the existing bonds and loans are paid off.

The rate study scope originally included a cost-of-service analysis that would determine an equitable allocation of the annual revenue requirement among the City’s customer classes. Though the sewer rate revenue increases are not as large on a percentage basis as the proposed water rate revenue increases, the resulting dollar increases to customers’ sewer bills are high enough that shifting costs among classes could worsen the rate impacts for some users. Recognizing the short-term impacts that the COVID-19 pandemic had on customer water usage (e.g. residential water usage was likely higher than normal due to the greater amount of telecommuting; commercial usage was likely lower than normal due to limited and modified business operations), we would hesitate to make material changes to how the City recovers costs from customer classes based on potentially skewed data. For these reasons, we recommend that the City adjust all sewer rates uniformly (as shown in **Exhibit 1.4**) and revisit the cost allocations in a future update.

Exhibit 1.5 provides an updated schedule of sewer rates based on this recommended strategy.

Exhibit 1.5: Sewer Rate Forecast

Monthly Sewer Rates	Existing	Projected			
	2023	2024	2025	2026	2027
Annual Sewer Revenue Adjustment	10.1%	7.0%	2.0%	2.0%	2.0%
Single-Family Residential (Winslow)					
Monthly Base Rate	\$47.94	\$51.30	\$52.32	\$53.37	\$54.44
Consumption Charge per 100 Cubic Feet (ccf) ¹	\$8.18	\$8.75	\$8.93	\$9.11	\$9.29
Sewer-Only Monthly Flat Rate per ERU	\$134.54	\$143.96	\$146.84	\$149.77	\$152.77
Multi-Family Residential (Winslow)					
Monthly Base Rate	\$41.99	\$44.93	\$45.83	\$46.74	\$47.68
Consumption Charge per 100 Cubic Feet (ccf) ¹	\$8.18	\$8.75	\$8.93	\$9.11	\$9.29
Commercial (Winslow)					
Monthly Base Rate	\$147.41	\$157.73	\$160.88	\$164.10	\$167.38
Consumption Charge per 100 Cubic Feet (ccf)	\$11.12	\$11.90	\$12.14	\$12.38	\$12.63
Sewer-Only Monthly Flat Rate per ERU	\$180.69	\$193.34	\$197.21	\$201.15	\$205.17
South Island ²					
Monthly Base Rate – With Grinder Pump	\$31.69	\$33.91	\$34.59	\$35.28	\$35.98
Monthly Base Rate – No Grinder Pump	\$26.08	\$27.91	\$28.46	\$29.03	\$29.61

¹From mid-June to mid-September, residential users are billed for their average water usage from mid-December through mid-May.

²South Island users also pay KCSD's monthly rate (currently \$62.59 per ERU) for wastewater treatment.

Exhibit 1.5 shows the existing sewer rates and projected rates for 2024 – 2027 sewer rates based on the assumed CPI inflation rates – as previously noted, the rates adopted by the City will reflect actual CPI inflation as specified in City Ordinance No. 2022-05. We recommend that the City conduct another rate study around 2025 to verify that the rates shown for 2026 – 2027 remain necessary and adequate.

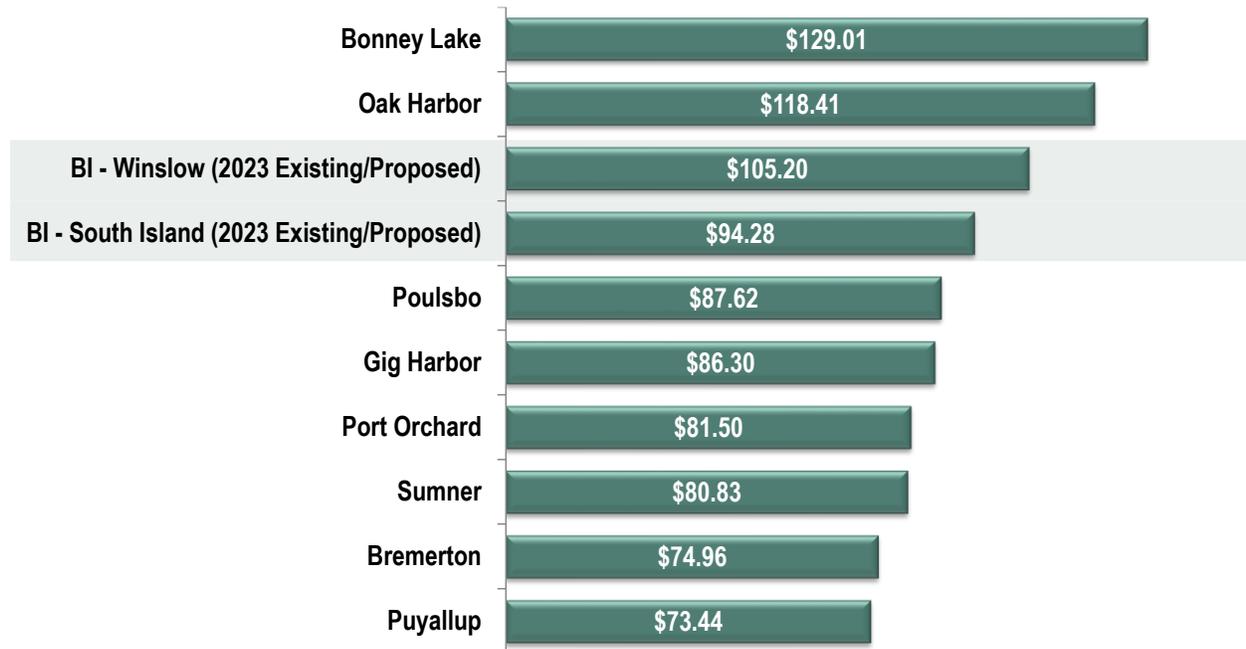
From June – September, the City currently bills residential users for sewer service based on water used from mid-December through mid-May. Billed water consumption in October has been notably higher than winter-average levels for at least the past several years, causing unintended spikes in residential sewer bills that have triggered a number of customer complaints. Considering this issue as well as billing practices commonly used by other utilities, we recommend that the City consider changing its sewer rate structure to bill residential users based on their winter-average water consumption year-round. In addition to addressing the issue of October bill spikes, this would improve revenue stability for the sewer utility. Given that the City already determines winter-average water consumption on an annual basis for the existing rate structure, this change would not increase (and could even decrease) the effort required to administer the rate structure.

We recommend that the City bill single-family residential users that do not have a representative history of winter water consumption based on the median winter-average consumption per single-family account (currently estimated to be about 9 ccf per bimonthly billing period) until they establish a representative usage history. We would recommend billing multi-family users without a representative history based on 8 ccf per bimonthly billing period for each dwelling unit, given the

median single-family consumption value and the existing policy for billing multi-family users (they pay approximately 88% of the single-family base rate per dwelling unit).

Exhibit 1.6 provides a comparison of the sewer bill for a typical residential user under the City’s current and proposed 2023 rates versus those of other comparable jurisdictions.

Exhibit 1.6: Monthly Single-Family Sewer Bill Comparison (3/4” Meter, 7 ccf)



The City’s sewer rates result in a bill that is relatively high compared to the jurisdictions shown in **Exhibit 1.6**. Given that the sewer financial plan envisions annual CPI adjustments through 2027, this finding should remain largely consistent over the planning period. There are a variety of reasons why the City’s sewer rates are relatively high, including (but not limited to) differences in financial policies, operating conditions, capital funding decisions, and rate structures.

I.C. WATER/SEWER BILL COMPARISON

Exhibit 1.7 provides a comparison of the combined monthly water/sewer bill for a typical single-family home using 700 cubic feet (7 ccf) under the City’s rates versus those of other comparable jurisdictions:

Exhibit 1.7: 2023 Monthly Water/Sewer Bill Comparison (3/4” Single-Family @ 7 ccf)

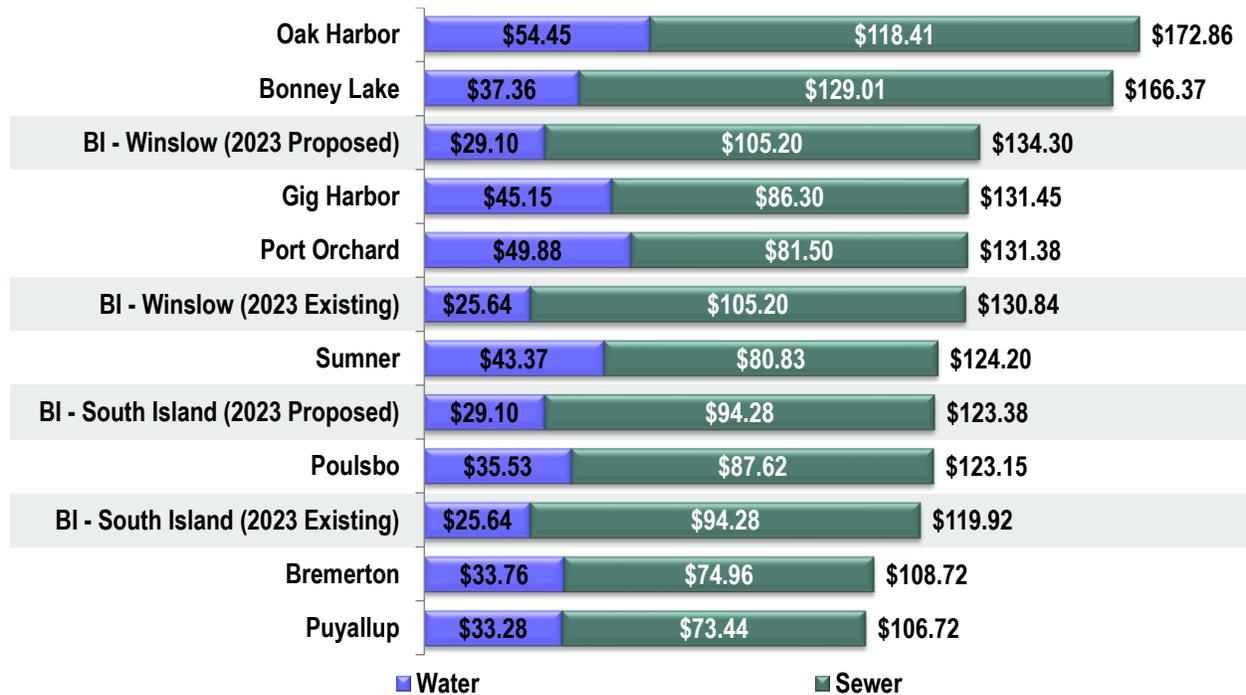


Exhibit 1.7 suggests that the combined water/sewer bill for a typical single-family residence is expected to remain within a reasonable range relative to other comparable jurisdictions.

I.D. SYSTEM PARTICIPATION FEE UPDATE

The study included an update to the City’s water and sewer SPFs using the methodology recommended in the 2018 study. Conceptually, the “average-cost” method calculates the SPF by dividing the allocable cost of each system by the number of customer equivalents that it can serve.

Exhibit 1.8 summarizes the existing and proposed water SPFs:

Exhibit 1.8: Schedule of Water SPFs

Water SPF	Single-Family		Multi-Family		Commercial		Irrigation	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
5/8” Meter	\$3,806	\$4,750	\$4,030	\$5,538	\$4,030	\$5,538	\$3,357	\$3,173
3/4” Meter	\$5,709	\$7,125	\$6,045	\$8,307	\$6,045	\$8,307	\$5,036	\$4,760
1” Meter	\$9,515	\$11,875	\$10,075	\$13,845	\$10,075	\$13,845	\$8,394	\$7,933
1-1/2” Meter	\$19,029	\$23,749	\$20,150	\$27,691	\$20,150	\$27,691	\$16,787	\$15,867
2” Meter	\$30,447	\$37,999	\$32,240	\$44,305	\$32,240	\$44,305	\$26,860	\$25,387
3” Meter	\$60,893	\$75,998	\$64,480	\$88,610	\$64,480	\$88,610	\$53,720	\$50,773
4” Meter	\$95,145	\$118,746	\$100,750	\$138,453	\$100,750	\$138,453	\$83,937	\$79,334
6” Meter	\$190,291	\$237,492	\$201,499	\$276,905	\$201,499	\$276,905	\$167,875	\$158,667

Exhibit 1.8 shows a significant increase in the City’s water SPFs due to the following factors:

- The water capital plan increased from \$8.4 million in the prior study to a net recoverable cost of \$13.6 million, primarily due to the estimated cost of the Winslow Water Tank Replacement Project.
- The prior calculation considered an inventory of capital assets as of the end of 2017; the updated calculation reflects the addition of \$2.3 million in new assets from 2018 – 2021.
- The City’s estimate of the capacity of the water system decreased since the prior study, most notably being limited by equalizing (peak) storage in its reservoir. Coincidentally, the component of the SPF with the largest decrease in capacity (the denominator) is also the component with the largest increase in cost (the numerator) due to the reservoir replacement project – together, these two changes are responsible for 83% of the total increase in the water SPF per equivalent unit.

Exhibit 1.9 presents a comparison of the City’s water SPFs to those of other local jurisdictions:

Exhibit 1.9: Comparison of 2023 Water SPF per Equivalent Unit

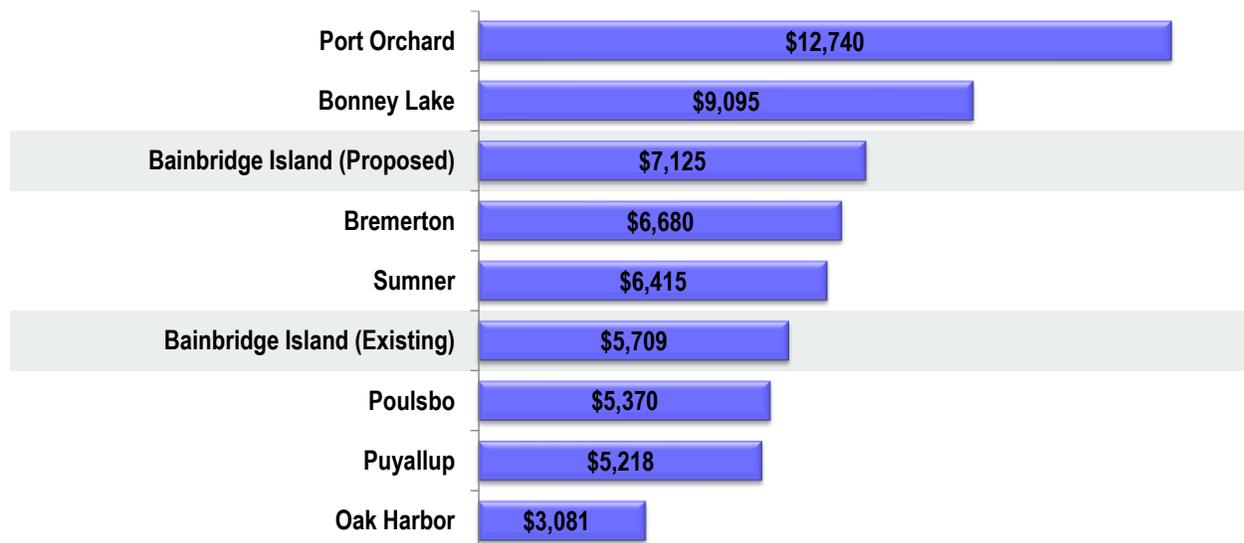


Exhibit 1.9 shows that the City’s water SPF is in the middle of the range of what the other jurisdictions charge – while more than what Bremerton and Sumner currently charge, the proposed water SPF remains well within the range of charges imposed by the surveyed jurisdictions.

Exhibit 1.10 summarizes the existing and proposed sewer SPFs:

Exhibit 1.10: Schedule of Sewer SPFs

Sewer SPF	Single-Family		Multi-Family (per Unit)		Commercial (per ERU ¹)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Winslow	\$8,187	\$11,923	\$5,079	\$7,397	\$8,187	\$11,923
South Island ²	\$3,751	\$5,699	\$2,327	\$3,536	\$3,751	\$5,699

¹The City defines an ERU as 20 fixture units for commercial users.

²South Island customers also pay a connection charge to KCSD for wastewater treatment, currently up to \$11,175.00.

Exhibit 1.10 shows a significant increase in the City’s sewer SPFs due to the following factors:

- The sewer capital plan increased from \$10.1 million in the prior study to an estimated cost of \$19.8 million, due to a combination of new projects and cost increases on projects that were already in the capital plan.
- The prior calculation considered an inventory of capital assets as of the end of 2017. The updated calculation reflects the addition of \$1.4 million in new assets from 2018 – 2021. The cost basis also includes an additional \$1.8 million in interest accrual on existing assets as allowed by RCW 35.92.025.
- The estimated capacity of the sewer system decreased based on updated estimates provided by City staff. The total number of equivalent units that the Winslow system can serve decreased by almost 10%, which when coupled with an increase of over 32% in the allocable system cost amounts to an increase of almost 46% in the sewer SPF per equivalent unit.

Exhibit 1.11 presents a comparison of the City’s sewer SPFs to those of other local jurisdictions:

Exhibit 1.11: Comparison of 2023 Sewer SPF per Equivalent Unit

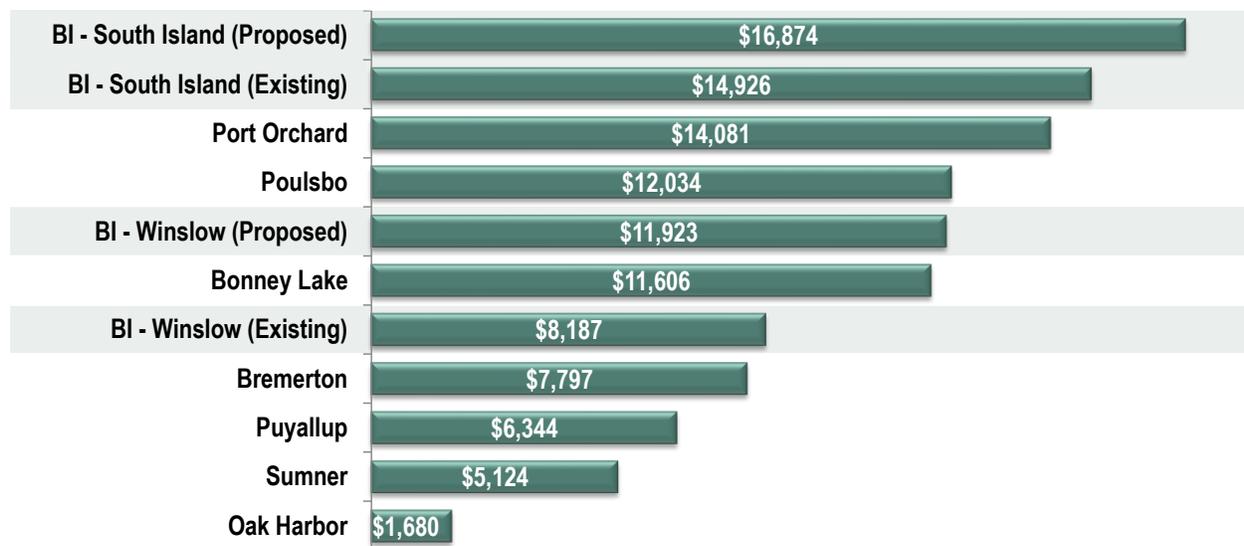


Exhibit 1.11 suggests that the sewer SPF that the City currently charges in the Winslow area is in the middle of the range for the group included in the comparison. While the updated sewer SPF is comparable to the SPFs charged by Bonney Lake and Poulsbo, it is relatively high compared to most of the other jurisdictions. There are several potential explanations for this finding, including:

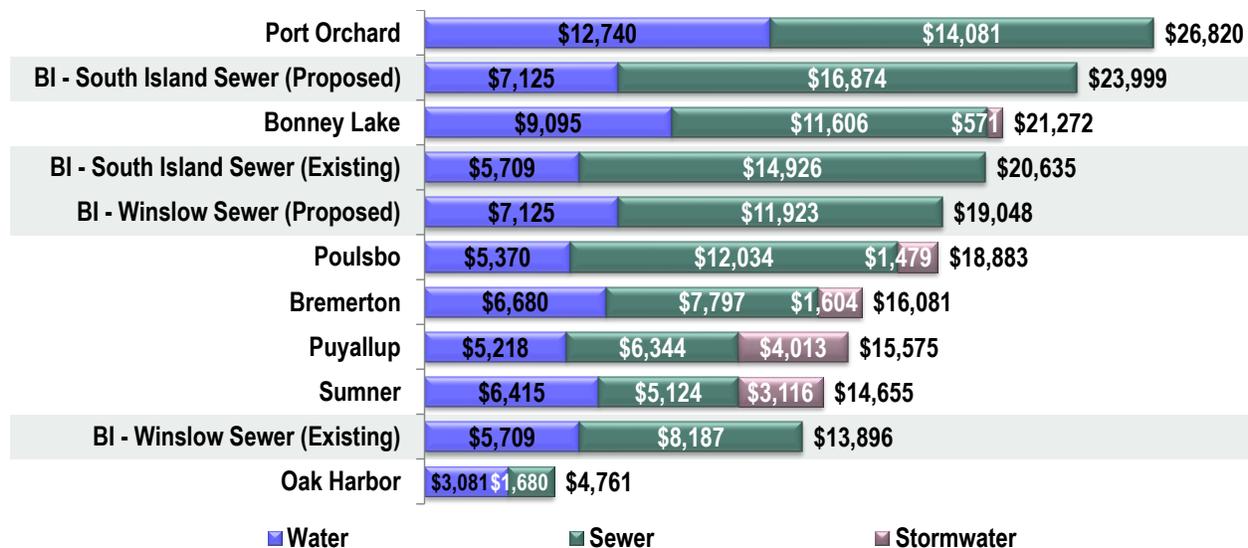
- **Economies of Scale:** Bremerton, Puyallup, and even Sumner are significantly larger than the City in terms of the number of equivalent units that they can serve. Larger systems can have lower SPFs per unit because they can spread their total infrastructure cost (which does not increase proportionately with the size of the utility) across a greater number of units.

- **Timing of Last Calculation:** While most of the SPFs shown are a few years old, Oak Harbor’s current sewer SPF is based on a 1996 calculation.
- **Policy Decisions:** Oak Harbor completed an update of its SPFs in 2022, which found that its full-cost SPF would be around \$15,000. The Oak Harbor City Council opted to phase its increases in over a five-year period, with the first increase scheduled to take place in June 2023. Oak Harbor’s SPFs are low due to an explicit policy decision made by the Oak Harbor City Council to forgo full cost recovery from development with the objective of promoting affordable housing and economic development in mind.
- **Methodology Differences:** The calculation supporting Sumner’s sewer SPF does not include the cost of future replacement projects in the stated system cost. The methodology underlying the City’s SPFs does include future replacement project costs, adjusting the existing asset cost estimate to avoid double charging for an asset and its replacement. This methodology results in a higher charge but conceptually accounts for the higher cost of replacing assets as part of the current capital plan (relative to historical construction costs).

The charges that the City imposes in the South Island area are at the high end of the range, primarily because they include the connection charge imposed by Kitsap County Sewer District No. 7 (currently \$11,175 for most connections). This charge appears to be the full connection charge that Kitsap County Sewer District No. 7 imposes on its customers, which likely includes collection system costs that are conceptually duplicative of the costs built into the City’s sewer SPF for the South Island area.

Exhibit 1.12 provides a summary of the total SPF per equivalent unit for all utility services.

Exhibit 1.12: Comparison of 2023 SPF per Equivalent Unit



Though this study did not include the development or review of a stormwater SPF for the City, Exhibit 1.12 includes stormwater SPFs to show what development in the various jurisdictions would

pay as a condition of receiving utility service. **Exhibit 1.12** shows that the City's SPF (particularly for development in Winslow) is at the low end of the spectrum, which appears to be primarily because the City does not currently charge a stormwater SPF. The updated SPFs shown for the City in **Exhibit 1.12** are toward the upper end of the range but are justifiable given the infrastructure costs and estimated capacity of the City's water and sewer systems.

It is worth noting that while RCW 35.92.025 authorizes the City to impose SPFs to recover a proportionate share of system costs, it does not require it to do so. The City has the option of imposing SPFs at any level below the maximum justifiable charges shown in **Exhibit 1.12**, though doing so would reduce the amount of funding generated for capital needs and could result in future impacts to ratepayers. Especially considering the utilities' infrastructure needs and the expected rate impacts of the water and sewer capital plans, we would recommend that the City adopt the updated charges to recover a full share of the cost of each system from development.

Section II. INTRODUCTION

II.A. BACKGROUND

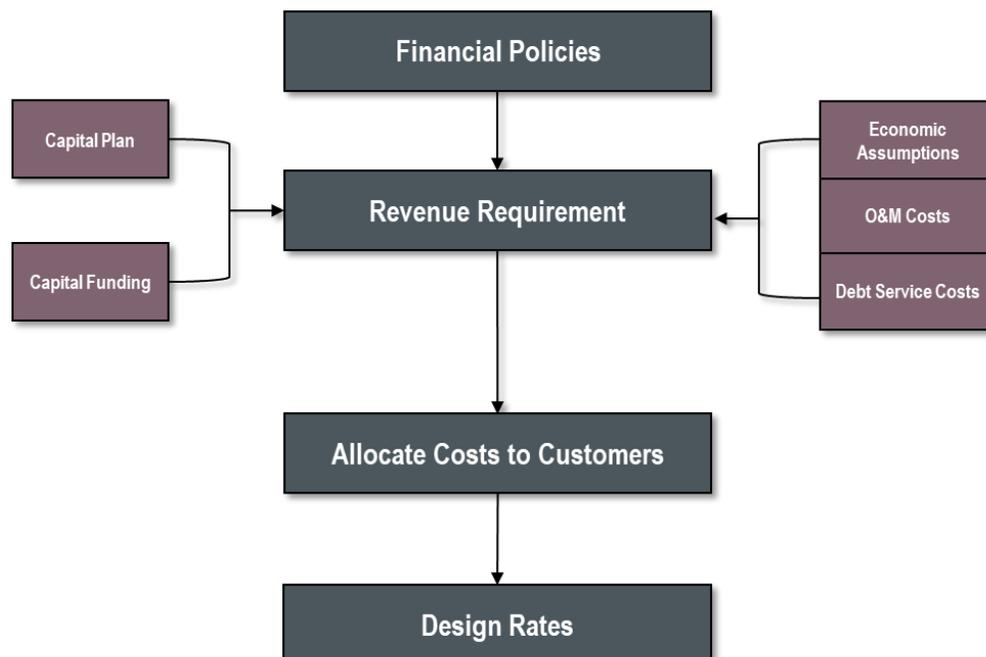
In 2022, the City of Bainbridge Island (City) engaged FCS GROUP to update the City’s water and sewer rates and system participation fees (SPFs). This project included the following elements:

- Forecasting the total amount of rate revenue needed to cover each utility’s capital investment needs, operating costs, debt service, and policy-driven commitments over a five-year planning period.
- Revisiting the allocation of the utilities’ costs to customer classes, determining whether the City’s rates recover costs equitably given current cost projections and customer demands.
- Updating the City’s water and sewer SPFs to ensure that they continue to recover an equitable share of system costs from development

II.B. METHODOLOGY

Exhibit 2.1 summarizes the general methodology used in this analysis, which is consistent with industry-standard ratemaking principles.

Exhibit 2.1: Rate Study Methodology



Section III. POLICY FRAMEWORK

III.A. FISCAL POLICIES

The utility financial plans are based on a framework of fiscal policies that promote the financial integrity and stability of each utility as a standalone enterprise. The ensuing discussion provides a brief summary of the key policies incorporated in this analysis.

III.A.1. Reserves

Like any business, a municipal utility requires certain minimum levels of cash reserves to operate. These reserves address the variability and timing of revenues and expenses as well as occasional disturbances in activities. Given the City's responsibility to provide essential services to its customers at a certain standard, protection against financial disruption is even more important than it would be for private-sector or non-essential counterparts. In addition, a defined reserve structure serves to maintain appropriate segregation of funds and promote the use of resources for their intended purposes. City Resolution No. 2022-07 establishes the following structure of reserves for the City's utilities:

- **Operating Reserve.** This reserve provides cash for operations given the potential for seasonal variations in revenues or expenses, also supporting operations in years where revenues are abnormally low. City policy establishes a minimum year-end balance target of 60 days of operating expenses for the water and sewer utilities.
- **Capital Contingency Reserve.** This reserve provides a ready source of cash for an emergency, specifically where a major piece of equipment or a portion of the utility's infrastructure fails unexpectedly. City policy establishes a minimum year-end balance target equal to 1% of the net book value of capital assets for each utility.
- **Restricted Bond Reserve.** Revenue bond covenants typically require a restricted reserve as a security measure for the bondholders. The covenants specify the minimum balance, which is generally based on either the annual debt service or a percentage of the amount issued. The City's utilities do not currently have any outstanding debt that requires this type of reserve.

III.A.2. System Reinvestment Funding

"System reinvestment" is the practice of setting aside cash from rates each year to provide for the replacement of aging system facilities, promoting the long-term sustainability of the system for ongoing operations. Based on input from City staff and the Utility Advisory Committee, this analysis assumes that both the water and sewer utilities begin phasing in a policy to fund system reinvestment based on annual depreciation expense.

III.A.3. Financial Performance Standards

This analysis evaluates the sufficiency of the utilities' revenues to meet their respective financial obligations including operation and maintenance (O&M) expenses, debt repayment, rate-funded capital needs, and any other policy-based needs. It determines the amount of revenue needed each year to meet that year's expected financial obligations, in the context of two revenue sufficiency tests:

- **Cash Flow Sufficiency Test.** The cash flow test determines whether annual revenues are sufficient to cover the known cash requirements for each year of the planning period. These cash requirements typically include O&M expenses, debt service payments, rate-funded capital outlays, and any additions to reserve balances.
- **Coverage Test.** The coverage test evaluates the utilities' ability to meet applicable debt service coverage requirements specified by the City's bond covenants and internal debt policies. Debt service coverage ratios are typically calculated by dividing "net revenue" (defined by the bond covenants, but generally calculated as eligible revenues net of operating expenses) by the annual debt service. The bond covenants specify a minimum value for the debt service coverage ratio, which has historically been 1.25 (meaning that net revenue must be at least equal to 1.25 times debt service) – however, the bond rating agencies have expressed a preference for maintaining coverage ratios at 2.00 or higher. In addition, while debt service coverage requirements have historically been expressed in terms of revenue - bond debt service, coverage requirements considering all outstanding debt (including low-cost loans) have become more common in recent years.

In determining the annual revenue requirement, the test with the greatest deficiency generally drives the rate increase in any given year. It is worth noting that the City can temporarily waive the requirements of the cash flow test as part of a conscious decision to phase in rate increases, as long as its reserve balances are sufficient to absorb the resulting cash flow deficit. The coverage test, however, must always be met as failure to do so may result in a downgrading of the City's bond rating. Because the City does not currently have any outstanding debt that requires coverage, cash-flow needs define the utilities' revenue requirements.

Section IV. FINANCIAL PLAN

IV.A. BACKGROUND & GENERAL METHODOLOGY

The financial plan involves determining the revenue requirement, or the amount of revenue that a utility needs in order to meet its various financial obligations. This analysis serves as a means of evaluating the utility’s fiscal health and adequacy of current rate levels, also setting the revenue basis for near-term and long-term rate planning. The rate revenue requirement is defined as the net difference between total revenue needs and the revenue generated through non-rate sources – hence, the revenue requirement analysis involves defining and forecasting both needs and resources.

IV.B. OPERATING FORECAST

The operating forecast focuses on annual expenses incurred to operate, maintain, and manage the City’s utilities. The forecast used in this study is largely based on the 2022 Budget, with adjustments provided by City staff to incorporate known or estimated future revenues and expenditures for some specific line items. The key assumptions and inputs used to develop the operating expense forecasts are described in further detail below:

IV.B.1. Operating Revenue

- **Customer Growth.** This analysis uses an average of actual growth in the City’s water and sewer accounts from 2016 – 2021 as the basis for future growth projections. **Exhibit 4.1** summarizes the growth assumptions used in this analysis:

Exhibit 4.1: Water & Sewer Customer Growth Assumptions

Annual Growth Rates	Water	Sewer
Single-Family Residential		
Winslow	2.3%	3.2%
Rockaway Beach	0.0%*	N/A
Multi-Family Residential	1.0%	1.3%
Commercial	0.0%*	0.7%
Irrigation	2.3%	N/A
South Island Sewer	N/A	6.0%

*Average growth rate from 2016 – 2021 was negative; not assumed to be a continuing trend.

The growth assumptions in **Exhibit 4.1** equate to projected growth averaging 63 equivalent residential units (ERUs) per year for the water utility and 118 ERUs per year for the sewer utility. The ERU growth assumptions differ by utility for a couple of reasons, including:

1. ERUs are defined differently for each utility. The water utility’s ERUs are based purely on meter-capacity equivalents (MCEs), which equates metered

service connections to a typical single-family residence (assumed to have a 3/4” × 3/4” meter) based on meter flow capacities published by the American Water Works Association. MCEs appropriately capture the potential water demand of a service connection but are less accurate indicators of potential wastewater flows because water meters are typically sized for purposes that do not generate wastewater (e.g. fire flow, peak irrigation use). For this reason, the City uses a different ERU definition for the sewer utility based on expected wastewater flow contributions – single-family homes are assigned 1 ERU per connection (regardless of meter size), multi-family buildings are assigned 0.62 ERUs per dwelling unit, and commercial users are assigned 1 ERU per 20 fixture units.

2. The utilities grew differently during the 2016 – 2021 period used to establish growth rates. For example, the Winslow area saw average annual growth of 48 single-family water connections and 57 single-family sewer connections. Winslow saw virtually no commercial water customer growth from 2016 – 2021 but added an average of two commercial sewer customers per year. The sewer customer base also includes growth in the South Island service area, which does not receive water service from the City.

- **Rate Revenue.** The forecast of rate revenue is derived by applying the adopted rate structures to projected customer counts and water usage (based on billing statistics from 2021 and the assumed growth rates shown in **Exhibit 4.1**).
- **Non-Rate Revenue.** The forecast of other operating revenues is generally based on the 2022 Budget, with no escalation assumed in this forecast to mirror the City’s budget projections.
- **Investment Income:** This analysis assumes that the utilities earn interest on their projected cash balances at an annual interest rate of 1.0%. Based loosely on a historical average of Local Government Investment Pool (LGIP) investment yields, the City’s Finance Department validated this interest rate assumption as reasonable yet conservative.
- **Kitsap County Sewer District #7 Treatment Charges:** This revenue represents the City’s passthrough of charges from Kitsap County Sewer District No. 7 (KCSD) to South Island sewer customers. This analysis projects the amount of revenue that the City will collect from KCSD charges by applying KCSD’s monthly rate per ERU to the projected number of customers in the South Island area; the projected payments to KCSD are then set to equal the projected revenues.

IV.B.2. Operating Expenses

The forecast of operating expenses is generally based on the 2022 Budget, with adjustments made to account for future cost inflation. **Exhibit 4.2** summarizes the assumed inflation rates, which reflect input from the City’s Finance Department regarding near-term inflation based on recent trends. Most costs are assumed to increase with inflation in the Consumer Price Index (CPI) for the Seattle Metropolitan Area, though labor and benefits costs have historically increased at rates exceeding CPI inflation. By 2026, inflation rates are assumed to return to longer-term averages.

Exhibit 4.2: Inflation Assumptions for Operating Expenses

Cost Category	2023	2024	2025	2026	2027
Labor	8.00%	7.00%	6.00%	4.25%	4.25%
Benefits	8.00%	7.00%	4.00%	4.00%	4.00%
Other (CPI)	8.00%	7.00%	2.00%	2.00%	2.00%

- **Taxes:** Computed based on projected revenues and prevailing tax rates.
 - » State Excise Tax: 5.029% for water, 3.852% for sewer collection
 - » Business & Occupation Tax: 1.75%
 - » City Utility Tax: 6.0%

In addition to the operating expenses being projected to grow with inflation, the forecast incorporates salary and benefit costs associated with staffing additions recommended by a staffing analysis recently prepared by City staff. The staffing plan includes the following additions:

- One WWTP supervisor at an annual cost of about \$138,000
- Two maintenance technicians, at a combined annual cost of approximately \$207,000
- A geographic information systems (GIS) technician at an annual cost of about \$125,000
- An administrative specialist at an annual cost of approximately \$104,000

Staff has assigned the full cost of the WWTP supervisor to the sewer utility and allocated the costs for the other positions among its three utilities (44.7% to the water utility, 35.5% to the sewer utility, and 19.7% to the stormwater utility). Together, the projected staffing additions are expected to increase the water utility’s labor costs by \$195,000 per year and the sewer utility’s labor costs by about \$293,000 per year.

IV.B.3. Existing Debt Service

- The water utility currently has no outstanding debt.
- The sewer utility’s outstanding debt consists of one limited-term generation obligation (LTGO) bond and six loans. Excluding one loan that is being repaid through local assessments in the South Island area, the combined annual payment on this debt is currently about \$1.0 million. The payment is expected to drop to approximately \$533,000 by 2027 as the sewer utility fully repays its existing PWTF loans.

IV.C. CAPITAL FORECAST

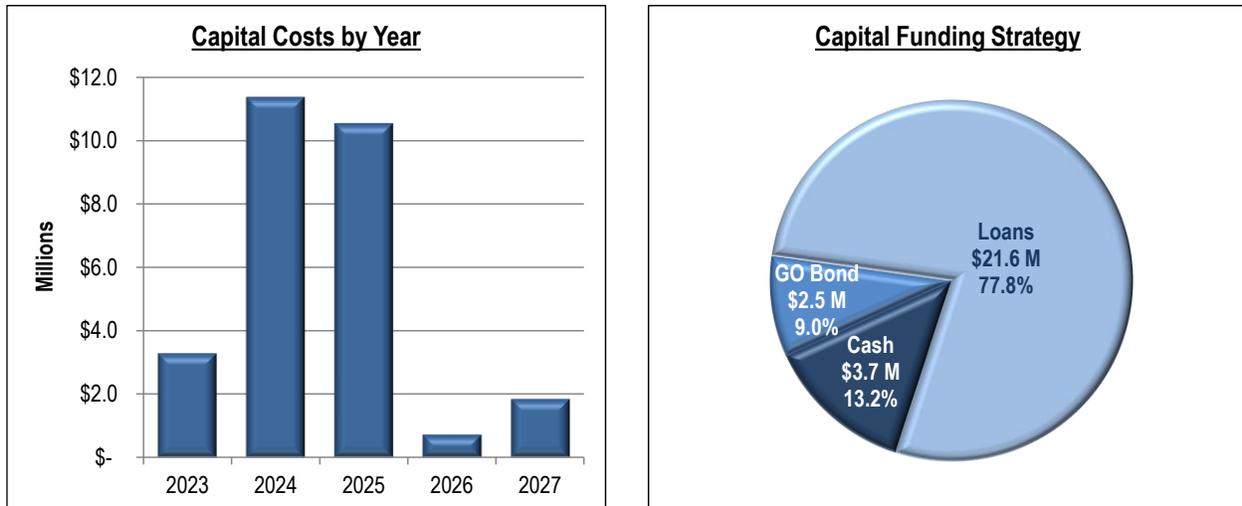
The capital forecast involves projecting annual capital project expenditures and developing a strategy to fund those expenditures. The City’s Capital Improvement Plan (CIP) serves as the primary source of information for these projections, with adjustments from City staff to represent the City’s

anticipated spending plan more accurately. The capital funding strategy considers available cash from system reinvestment, SPF revenues, available cash balances in the capital reserves, and if necessary, debt.

IV.C.1. Water Capital Funding Plan

Exhibit 4.3 summarizes the projected capital funding plan for the water utility.

Exhibit 4.3: Summary of Water Capital Funding Plan (2023 – 2027)



The City expects to spend \$27.8 million on water capital projects from 2023 – 2027 including \$21.6 million for the replacement of the Winslow Water Tank, \$3.6 million in supply and treatment improvements, \$2.4 million in distribution system improvements, and \$225,000 for an emergency generator. The capital funding plan summarized in **Exhibit 4.3** envisions \$24.1 million in new debt proceeds (\$21.6 million in loans and \$2.5 million in GO bonds) to fund these costs, which will add roughly \$1.7 million in debt service to the annual revenue requirement. The majority of this debt will be used to fund the replacement of the Winslow Water Tank, though roughly \$800,000 of the loan proceeds will be dedicated to funding the Ferncliff water main extension.

Exhibit 4.3 includes approximately \$1.5 million in expenditures related to the Ferncliff water main extension, which are expected to occur primarily in 2023. City staff allocated \$550,000 of this cost to systemwide benefits (e.g. infrastructure redundancy) and requested that the SPF calculation include that amount in the stated cost of the water system to be recovered proportionately from development. The remaining \$960,000 is attributable to the localized benefits that the main will offer the homes that can connect to it.

City staff estimated that up to 78 properties will be able to connect to the main, though only expect to connect 25 homes (8 in the Casey Street Water System and 17 in the Ferncliff Water System) to it once it is constructed. Spread evenly among the 78 potential connections, the local cost share of \$960,000 equates to an equitable contribution of approximately \$12,300 per connection. At \$12,300 per connection, the City would be able to recover \$308,000 from the connections in the Ferncliff and Casey Street Systems. The remaining \$652,000 of the cost would be recovered by the other 53 homes

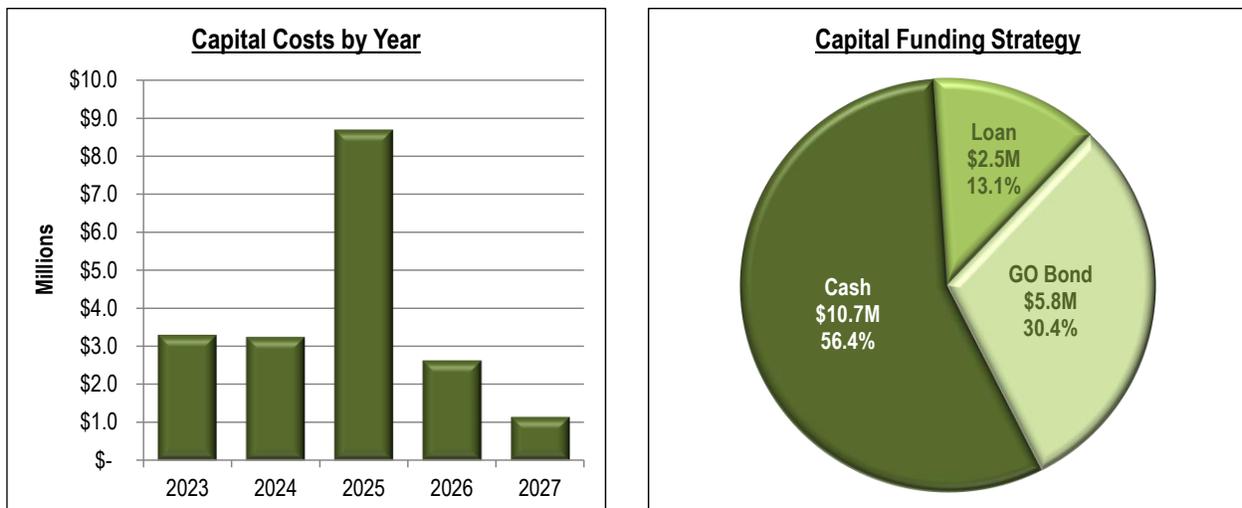
upon connection to the main, though there is considerable uncertainty as to if and when those homes will connect to the main. To be conservative, this analysis does not assume any additional connections to the main beyond the Ferncliff and Casey Street Systems.

Whether through a direct rate increase or through cash generated from past rate increases, the water utility’s ratepayers will ultimately have to cover any costs that exceed other available funding sources. The ratepayers will need to cover the \$652,000 that is attributable to the 53 other properties that can connect to the main extension, as well as the \$550,000 that will be built into the SPF and recovered from future growth over time. The \$800,000 loan (which is eligible for 50% forgiveness) will enable the City to mitigate the impact of these costs to ratepayers. The forecast assumes that the 25 homes in the Ferncliff and Casey Street Systems will pay for their share of the cost of the main extension over a 15-year period through a monthly rate surcharge, which (depending on the terms offered) will offset most if not all of the net payment due on the loan.

IV.C.2. Sewer Capital Funding Plan

Exhibit 4.4 summarizes the projected capital funding plan for the sewer utility.

Exhibit 4.4: Summary of Sewer Capital Funding Plan (2023 – 2027)



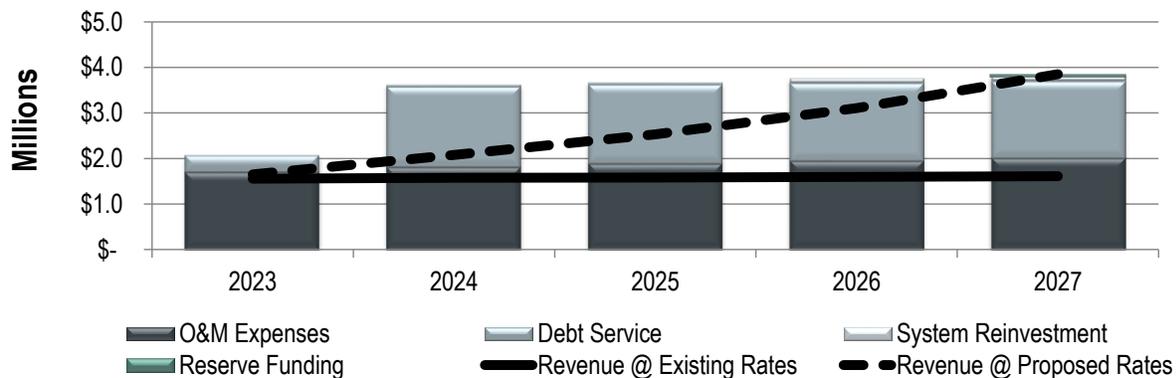
The City expects to spend \$19.0 million on capital projects from 2023 – 2027 including \$12.2 million in pump and force main improvements, \$4.0 million in wastewater treatment plant (WWTP) improvements, and \$2.8 million in collection and gravity main projects. The sewer capital funding plan envisions \$8.3 million in new debt to fund these projects, consisting of a PWTF loan of \$2.5 million for the Eagle Harbor sewer upgrades and a general obligation bond of \$5.8 million. This debt will add roughly \$700,000 in debt service to the annual revenue requirement.

IV.D. EVALUATION OF REVENUE SUFFICIENCY

IV.D.1. Water Financial Plan

Exhibit 4.5 summarizes the water utility’s financial plan.

Exhibit 4.5: Water Financial Plan Summary (\$000s)



	2023	2024	2025	2026	2027
Rate Revenue at Existing Rates	\$1,329	\$1,352	\$1,374	\$1,397	\$1,421
Ferncliff/Casey Street Rate Surcharges ¹	29	29	29	29	29
Other Operating Revenue	199	194	179	168	161
Total Revenue	\$1,557	\$1,575	\$1,582	\$1,594	\$1,611
Operating Expenses	\$1,501	\$1,597	\$1,657	\$1,708	\$1,761
Salaries/Benefits for Proposed Staff Additions	195	209	220	229	239
Debt Service	381	1,776	1,750	1,723	1,697
Rate-Funded System Reinvestment	-	50	50	100	100
Total Expenses	\$2,077	\$3,632	\$3,677	\$3,760	\$3,797
Net Cash Flow @ Current Rates	(\$520)	(\$2,058)	(\$2,095)	(\$2,167)	(\$2,186)
Annual Rate Increase	13.5% ²	25.0%	25.0%	25.0%	25.0%
Rate Revenue After Increases	\$1,434	\$1,918	\$2,438	\$3,099	\$3,939
Net Cash Flow After Increases	(\$427)	(\$1,554)	(\$1,148)	(\$653)	\$54
Ending Water Fund Balance	\$4,088	\$4,394	\$2,911	\$2,075	\$831
Target Water Fund Balance	\$457	\$589	\$706	\$723	\$752

¹The 25 properties in the Ferncliff and Casey Street Water Systems are assumed to pay a monthly rate surcharge of \$95.50 for 15 years based on a total cost per property of \$12,300 and an interest rate of 4.5% (based on current borrowing rates).

²Assumed to be effective June 1, 2023 and is additive to a 10.1% CPI adjustment that went into effect on January 1, 2023.

Exhibit 4.5 indicates that the water utility’s revenues at current rates do not fully cover the utility’s operating expenses. The water financial plan contemplates increasing water rate revenue levels by 25.0% per year through 2027 to cover the existing operating deficit (and keep up with anticipated cost inflation), fund the proposed staffing additions, cover the anticipated debt service payments, and generate funding for system reinvestment needs. This plan envisions using the existing Water Fund reserves to phase the necessary rate increases in over a five-year period – the water utility is projected to end 2027 with a fund balance of approximately \$831,000, which exceeds the combined operating/capital reserve target balance of \$752,000 by approximately \$79,000. This extra fund

balance provides some flexibility to absorb additional costs if recent inflationary trends persist beyond 2024.

Note that the rate increases shown in **Exhibit 4.5** are all-inclusive and would generally supersede the automated CPI adjustments provided for in City Ordinance No. 2022-05. The exception to this is 2023, where the City increased its water rates by 10.1% effective January 1, 2023 (as part of the inflationary rate adjustment policy specified in City Ordinance No. 2022-05) – **Exhibit 4.5** shows an additional increase of 13.5% proposed to go into effect on June 1, 2023, which would bring the cumulative increase for 2023 to 25.0%.

The recommended rate plan focuses on setting water rates for the 2023 – 2025 planning period – **Exhibit 4.5** shows projected rate increases for 2026 and 2027 based on the information that is currently available, but the City intends to revisit the need for those increases in another rate study that would take place in 2025.

The financial plan presented in **Exhibit 4.5** reflects the following input received from the City's Utility Advisory Committee (UAC):

- The UAC accepted the recommendation from City staff that the utility begin funding system reinvestment, increasing the annual funding level over time to reach full funding of annual depreciation expense through water rates.
- The UAC accepted the recommended staffing additions proposed by City staff, which as shown in **Exhibit 4.5** would increase the water utility's 2023 operating costs by approximately \$195,000 (approximately 15% of revenue at current rates).
- The UAC preferred a capital funding strategy of increased borrowing that would leave more of the Water Fund's cash available to help phase in the necessary rate increases. City staff prepared a number of scenarios with varying degrees of funding for the reservoir replacement project through general obligation bonds and loans from the General Fund, though the City's recent award of an additional \$9.5-million PWTF loan for the reservoir replacement project largely offset the need for those funding sources.

The rate study scope originally included a cost-of-service analysis that would determine an equitable allocation of the annual revenue requirement among the City's customer classes. Recognizing that shifting costs among classes during a period of significant revenue increases would worsen the rate impacts for some users, we recommend that the City adjust all water rates uniformly (as shown in **Exhibit 4.5**) and revisit the cost allocations in a future update. **Exhibit 4.6** provides an updated schedule of water rates based on this recommended strategy.

Exhibit 4.6: Water Rate Forecast

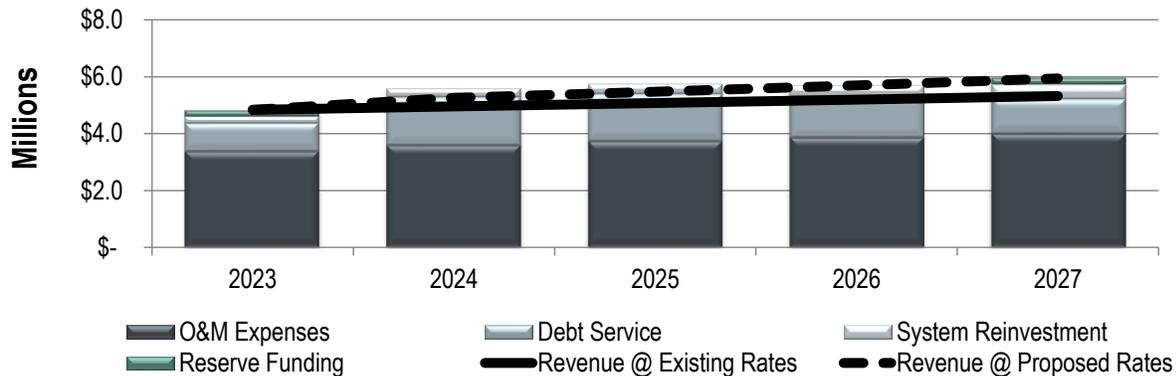
Monthly Water Rates	Existing	Proposed			Projected	
	Jan-May 2023	Jun-Dec 2023	2024	2025	2026	2027
Annual Water Revenue Adjustment	10.1%	13.5%	25.0%	25.0%	25.0%	25.0%
Single-Family Residential						
Monthly Base Rate						
Up to 3/4" Meter	\$13.98	\$15.87	\$19.84	\$24.80	\$31.00	\$38.75
1" Meter	\$27.57	\$31.30	\$39.13	\$48.91	\$61.13	\$76.42
1-1/2" Meter	\$50.26	\$57.06	\$71.33	\$89.16	\$111.45	\$139.31
Consumption Charge per ccf						
0 – 5 ccf	\$1.42	\$1.61	\$2.02	\$2.52	\$3.15	\$3.94
6 – 12 ccf	\$2.28	\$2.59	\$3.24	\$4.04	\$5.06	\$6.32
13 – 30 ccf	\$3.24	\$3.68	\$4.60	\$5.75	\$7.18	\$8.98
> 30 ccf	\$4.40	\$5.00	\$6.24	\$7.81	\$9.76	\$12.20
Single-Family Bill @ 7 ccf per Month	\$25.64	\$29.10	\$36.42	\$45.48	\$56.87	\$71.09
Change From Prior Year	+\$2.35	+\$3.46	+\$7.32	+\$9.06	+\$11.39	+\$14.22
Multi-Family Residential						
Monthly Base Rate per Dwelling Unit	\$6.04	\$6.86	\$8.57	\$10.71	\$13.39	\$16.74
Consumption Charge per ccf	\$1.24	\$1.41	\$1.76	\$2.20	\$2.75	\$3.44
Commercial						
Monthly Base Rate						
Up to 3/4" Meter	\$18.34	\$20.82	\$26.03	\$32.53	\$40.67	\$50.83
1" Meter	\$40.56	\$46.05	\$57.56	\$71.95	\$89.94	\$112.42
1-1/2" Meter	\$77.77	\$88.29	\$110.37	\$137.96	\$172.45	\$215.56
2" Meter	\$122.06	\$138.58	\$173.22	\$216.53	\$270.66	\$338.33
3" Meter	\$240.61	\$273.17	\$341.47	\$426.83	\$533.54	\$666.92
4" Meter	\$373.97	\$424.58	\$530.72	\$663.41	\$829.26	\$1,036.57
6" Meter	\$744.42	\$845.16	\$1,056.45	\$1,320.57	\$1,650.71	\$2,063.39
Consumption Charge per ccf	\$1.73	\$1.96	\$2.46	\$3.07	\$3.84	\$4.80
Irrigation						
Monthly Base Rate						
Up to 3/4" Meter	\$4.59	\$5.21	\$6.51	\$8.14	\$10.18	\$12.72
1" Meter	\$6.04	\$6.86	\$8.57	\$10.71	\$13.39	\$16.74
1-1/2" Meter	\$8.46	\$9.60	\$12.01	\$15.01	\$18.76	\$23.45
2" Meter	\$11.37	\$12.91	\$16.14	\$20.17	\$25.21	\$31.52
3" Meter	\$19.09	\$21.67	\$27.09	\$33.86	\$42.33	\$52.91
4" Meter	\$27.80	\$31.56	\$39.45	\$49.32	\$61.64	\$77.06
6" Meter	\$51.98	\$59.01	\$73.77	\$92.21	\$115.26	\$144.08
Consumption Charge per ccf	\$3.79	\$4.30	\$5.38	\$6.72	\$8.40	\$10.51

Exhibit 4.6 shows the proposed 2023 – 2025 water rates, also showing the projected 2026 – 2027 rates for reference. We recommend that the City conduct another rate study around 2025 to verify that the rates shown for 2026 – 2027 remain necessary and adequate.

IV.D.2. Sewer Financial Plan

Exhibit 4.7 summarizes the sewer utility’s financial plan.

Exhibit 4.7: Sewer Financial Plan Summary (\$000s)



	2023	2024	2025	2026	2027
Rate Revenue	\$4,541	\$4,640	\$4,742	\$4,846	\$4,954
Other Revenue	296	315	330	347	367
Total Revenue	\$4,837	\$4,955	\$5,072	\$5,193	\$5,321
Operating Expenses	\$3,092	\$3,285	\$3,414	\$3,531	\$3,652
Salaries/Benefits for Proposed Staff Additions	293	314	331	344	359
Debt Service	997	1,689	1,657	1,426	1,211
System Reinvestment	250	300	350	400	500
Total Expenses	\$4,632	\$5,588	\$5,752	\$5,701	\$5,722
Net Cash Flow @ Current Rates	\$205	(\$633)	(\$681)	(\$509)	(\$401)
Annual Rate Increase	10.1%	7.0%	2.0%	2.0%	2.0%
Rate Revenue After Increases	\$4,541	\$4,965	\$5,175	\$5,395	\$5,626
Net Cash Flow After Increases	\$205	(\$334)	(\$281)	(\$3)	\$217
Ending Sewer Fund Balance	\$5,589	\$9,313	\$2,022	\$1,082	\$1,978
Target Sewer Fund Balance	\$783	\$851	\$962	\$1,010	\$1,043

Exhibit 4.7 indicates that with the 10.1% sewer rate increase that went into effect on January 1, 2023 (consistent with the policy of automated CPI adjustments established by City Ordinance No. 2022-05), the sewer utility’s annual revenues are expected to be sufficient to cover the utility’s annual operating expenses and existing debt service commitments with about \$700,000 in annual revenue left over for other needs. **Exhibit 4.7** shows a cash-flow deficit beginning in 2024, when the sewer utility’s debt service is projected to increase by about \$700,000 due to the new debt issued as part of the capital funding strategy shown in **Exhibit 4.4**. Recognizing that the sewer utility’s existing debt obligations are projected to begin dropping off in 2026, the financial plan summarized in **Exhibit 4.7** envisions holding to the City’s annual CPI-adjustment policy and using the Sewer Fund’s reserves to absorb the cash-flow deficits projected for 2024 and 2025. Note that the rate increases shown in **Exhibit 4.7** for 2024 – 2027 were set to match the assumed CPI inflation rates shown in **Exhibit 4.2** – in practice, the City will calculate these adjustments based on actual CPI inflation.

The sewer utility is projected to end 2027 with a fund balance of roughly \$2.0 million, almost double the combined target balance of \$1.0 million. This extra fund balance provides some flexibility to absorb additional costs if recent inflationary trends persist beyond 2024.

The financial plan presented in **Exhibit 4.7** reflects the following input received from the City's Utility Advisory Committee (UAC):

- The UAC accepted the recommendation from City staff that the utility begin funding system reinvestment at a level of \$250,000 per year, increasing the annual funding level over time to reach full funding of annual depreciation expense through sewer rates.
- The UAC accepted the recommended staffing additions proposed by City staff, which as shown in **Exhibit 4.7** would increase the sewer utility's 2023 operating costs by approximately \$293,000 (approximately 6.5% of revenue at current rates).
- The UAC preferred that the sewer utility borrow funds to support its capital plan while retaining the CPI adjustments provided for in City policy. As shown in **Exhibit 4.4**, the sewer financial plan assumes \$2.5 million in Public Works Trust Fund (PWTF) loan proceeds for the Eagle Harbor sewer upgrades and an additional \$5.8 million in general obligation bond proceeds to support the completion of various sewer capital projects.

The rate study scope originally included a cost-of-service analysis that would determine an equitable allocation of the annual revenue requirement among the City's customer classes. Though the sewer rate revenue increases are not as large on a percentage basis as the proposed water rate revenue increases, the resulting dollar increases to customers' sewer bills are high enough that shifting costs among classes could worsen the rate impacts for some users. Recognizing the short-term impacts that the COVID-19 pandemic had on customer water usage (e.g. residential water usage was likely higher than normal due to the greater amount of telecommuting; commercial usage was likely lower than normal due to limited and modified business operations), we would hesitate to make material changes to how the City recovers costs from customer classes based on potentially skewed data. For these reasons, we recommend that the City adjust all sewer rates uniformly (as shown in **Exhibit 4.7**) and revisit the cost allocations in a future update. **Exhibit 4.8** presents the sewer rate forecast.

Exhibit 4.8: Sewer Rate Forecast

Monthly Sewer Rates	Existing	Projected			
	2023	2024	2025	2026	2027
Annual Sewer Revenue Adjustment	10.1%	7.0%	2.0%	2.0%	2.0%
Single-Family Residential (Winslow)					
Monthly Base Rate	\$47.94	\$51.30	\$52.32	\$53.37	\$54.44
Consumption Charge per 100 Cubic Feet (ccf) ¹	\$8.18	\$8.75	\$8.93	\$9.11	\$9.29
Sewer-Only Monthly Flat Rate per ERU	\$134.54	\$143.96	\$146.84	\$149.77	\$152.77
Multi-Family Residential (Winslow)					
Monthly Base Rate per Dwelling Unit	\$41.99	\$44.93	\$45.83	\$46.74	\$47.68
Consumption Charge per 100 Cubic Feet (ccf) ¹	\$8.18	\$8.75	\$8.93	\$9.11	\$9.29
Commercial (Winslow)					
Monthly Base Rate	\$147.41	\$157.73	\$160.88	\$164.10	\$167.38
Consumption Charge per 100 Cubic Feet (ccf)	\$11.12	\$11.90	\$12.14	\$12.38	\$12.63
Sewer-Only Monthly Flat Rate per ERU	\$180.69	\$193.34	\$197.21	\$201.15	\$205.17
South Island ²					
Monthly Base Rate – With Grinder Pump	\$31.69	\$33.91	\$34.59	\$35.28	\$35.98
Monthly Base Rate – No Grinder Pump	\$26.08	\$27.91	\$28.46	\$29.03	\$29.61

¹From mid-June to mid-September, residential users are billed for their average water usage from mid-December through mid-May.

²South Island users also pay KCSD's monthly rate (currently \$62.59 per ERU) for wastewater treatment.

Exhibit 4.8 shows the existing sewer rates and projected 2024 – 2027 sewer rates based on the assumed CPI inflation rates – as previously noted, the rates adopted by the City will reflect actual CPI inflation as specified in City Ordinance No. 2022-05. We recommend that the City conduct another rate study around 2025 to verify that the rates shown for 2026 – 2027 remain necessary and adequate.

From June – September, the City currently bills residential users for sewer service based on water used from mid-December through mid-May. With warm and dry summer conditions persisting into October in recent years, the City has received a number of complaints from customers about their sewer bills increasing significantly in October. **Exhibit 4.9** provides a three-year history of bimonthly water consumption for the City's customer base as a whole.

Exhibit 4.9: Billed Water Consumption by Bimonthly Billing Period (2019 – 2021)

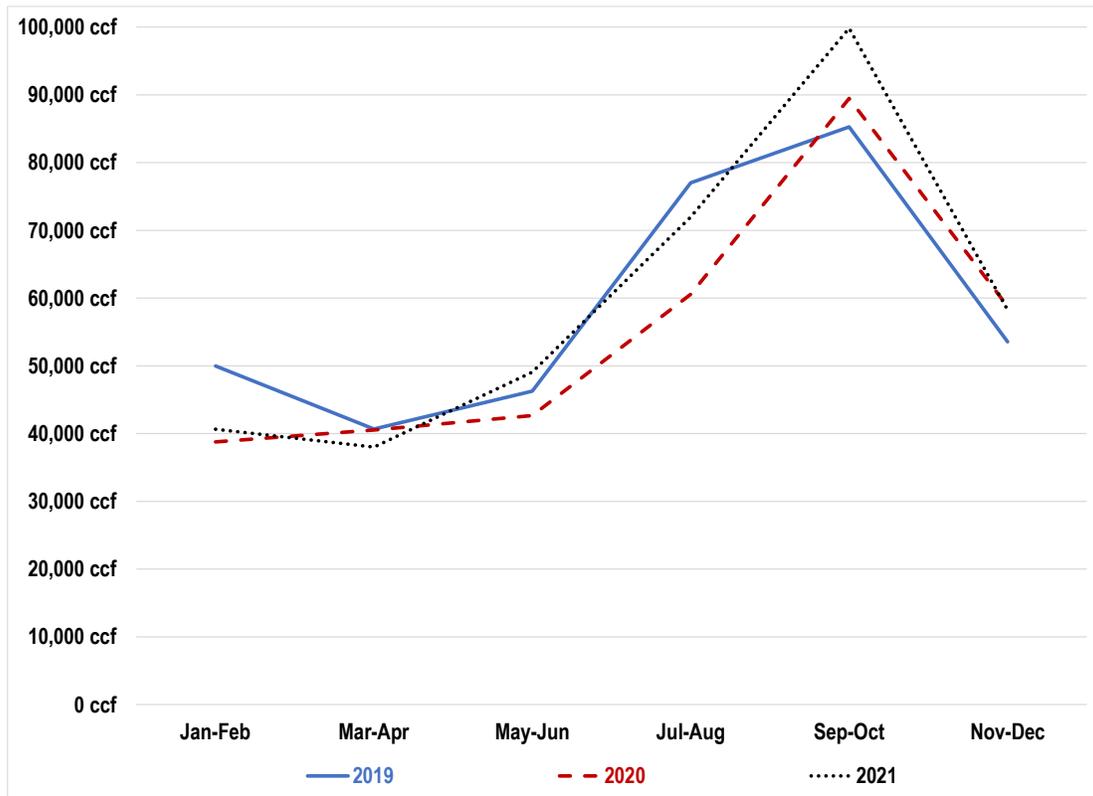


Exhibit 4.9 highlights the concern that the City’s customers have raised. The City’s current winter-averaging policy uses December – May water consumption as the basis for billing residential users for June – September, but then reverts to billing based on actual water usage in October. Given that the City bills residential users bimonthly, the bills sent to customers in October reflect water that was used in late August and September. The amount of billed consumption decreases significantly in the November billings, generally remaining in the winter-average range through May.

Based on the demand pattern shown in **Exhibit 4.9**, we would recommend that the City bill residential customers based on their winter-average water consumption year-round. In addition to addressing the issue of October bill spikes, this would improve revenue stability for the sewer utility. Given that the City already determines winter-average water consumption on an annual basis for the existing rate structure, this change would not increase (and could even decrease) the effort required to administer the rate structure. We recommend that the City bill single-family residential users that do not have a representative history of winter water consumption based on the median winter-average consumption per single-family account (currently estimated to be about 9 ccf per bimonthly billing period) until they establish a representative usage history. We would recommend billing multi-family users without a representative history based on 8 ccf per bimonthly billing period for each dwelling unit, given the median single-family consumption value and the existing policy for billing multi-family users (they pay approximately 88% of the single-family base rate per dwelling unit).

Section V. SPF UPDATE

V.A. OVERVIEW

Authorized by Section 35.92.025 of the Revised Code of Washington (RCW), the City imposes SPFs on new development to recover an equitable share of the cost of system infrastructure. SPFs promote equity between existing customers and growth, recognizing that existing customers have paid (and will continue to pay) for infrastructure that is oversized to serve growth. **Exhibit 5.1** summarizes the City’s existing SPFs, which were most recently updated in 2018.

Exhibit 5.1: Summary of Existing SPFs

Water SPF	Single-Family	Multi-Family	Commercial	Irrigation
5/8" Meter	\$3,806	\$4,030	\$4,030	\$3,357
3/4" Meter	\$5,709	\$6,045	\$6,045	\$5,036
1" Meter	\$9,515	\$10,075	\$10,075	\$8,394
1-1/2" Meter	\$19,029	\$20,150	\$20,150	\$16,787
2" Meter	\$30,447	\$32,240	\$32,240	\$26,860
3" Meter	\$60,893	\$64,480	\$64,480	\$53,720
4" Meter	\$95,145	\$100,750	\$100,750	\$83,937
6" Meter	\$190,291	\$201,499	\$201,499	\$167,875

Sewer SPF	Single-Family	Multi-Family	Commercial	
Winslow	\$8,187	\$5,079 per Unit	\$8,187 per ERU ¹	
South Island ²	\$3,751	\$2,327 per Unit	\$3,751 per ERU ¹	

¹The City defines an ERU as 20 fixture units for commercial users.

²South Island customers also pay a connection charge to KCSD for wastewater treatment, currently up to \$11,175.00.

V.B. GENERAL METHODOLOGY

The SPFs shown in **Exhibit 5.1** reflect an “average-cost” methodology, dividing the total cost of the system by the total capacity of the system to arrive at an average cost per equivalent unit of capacity (typically defined in terms of a single-family home). The UAC considered alternative methodologies during the 2018 review and concluded that the average-cost methodology was the best fit for the City as it typically results in a more moderate charge that remains more stable over time.

The updated SPF calculations are discussed in further detail below.

V.B.1. Existing Cost Basis

The existing cost basis includes the cost of existing facilities of general system benefit, such as storage reservoirs, transmission mains, and pump stations. It intends to recognize the net investment made in existing system assets by ratepayers, and includes the following components:

- **Original Cost of Existing Assets:** RCW 35.92.025 authorizes cities to impose “such reasonable connection charge as the legislative body of the city or town shall determine proper in order that such property owners shall bear their equitable share of the cost of such system.” This includes the documented (non-depreciated) cost of utility assets. The Washington State Supreme Court’s decision in *Boe v. Seattle* limits this cost to original/actual cost and precludes utilities from using current replacement costs as the basis for setting SPFs.
- **Plus – Interest Accrued on Existing Assets:** RCW 35.92.025 allows the SPF to include “interest charges applied from the date of construction of the water or sewer system until the connection, or for a period not to exceed ten years, whichever is shorter, at a rate commensurate with the rate of interest applicable to the city or town at the time of construction or major rehabilitation of the system, or at the time of installation of the lines to which the property owner is seeking to connect but not to exceed ten percent per year.”
- **Plus – Construction in Progress:** The existing cost basis can also include construction in progress, investments that the City has made in infrastructure that are neither booked as assets (having not yet been placed in service) nor included in its forward-looking capital improvement plan.
- **Less – Contributed Assets:** To be conservative, this analysis reflects the more stringent standard that RCW 57.08.005 (11) imposes on connection charges for special-purpose districts – specifically, the existing cost basis excludes assets that were donated or paid for by grants.
- **Less – Utility-Funded Meters & Services:** Recognizing that new development will generally have to pay for the meters and service lines for their properties, the cost basis does not include investments that the City has made in other customers’ meters and service lines.
- **Less – Net Outstanding Debt Principal:** Though not explicitly required by law, this analysis deducts the outstanding principal balance of the City’s water and sewer utility debt (net of available cash and investments) to avoid double charging growth for assets that they will pay for through rates.
- **Less – Provision for Asset Retirements:** Specific to the average-cost method, this adjustment estimates and deducts the cost of existing assets being replaced by the planned capital projects. It intends to avoid double charging customers for an asset and its replacement.

V.B.2. Future Cost Basis

The future cost basis includes costs associated with planned future capital projects, of which there are three main types:

- Projects that repair or replace existing infrastructure, which are most often needed because existing facilities have deteriorated due to use by existing customers. The average-cost method includes them in the cost basis but adjusts the existing cost basis as discussed above to avoid double charging customers for existing assets and their replacement.

- Projects upgrading the level of service for all customers to comply with regulatory requirements imposed by State/Federal agencies. The average-cost method includes these project costs in the future cost basis.
- Projects that increase system capacity to serve growth and would not be needed in the absence of growth. The “average cost” method includes these costs in the future cost basis.

Consistent with the methodology outlined for the existing cost basis, the future cost basis excludes:

- Costs that the City anticipates funding through grants or developer contributions, especially if those projects are contingent on receiving such funding
- Costs of installing/replacing meters and service lines

V.B.3. Functionalization of SPF Cost Basis

The water and sewer SPF calculations reflect a functionalization of allocable costs to improve equity.

Functionalization of Water SPF

The water SPF includes separate charges for water service and fire protection. The fire protection charge is based on an allocation of costs to fire protection, including both direct facilities (e.g. hydrants) and the oversizing of other facilities (e.g. mains, pumps, reservoirs) to accommodate fire flow. It is weighted to reflect the fire flow requirement applicable to each customer class and is the basis for class-specific water SPFs.

A fundamental question considered in this analysis relates to how costs are allocated to fire protection versus general water service. There are three conceptual perspectives:

- Water service is the primary function, with fire protection being a secondary function. This approach generally results in the lowest allocation to fire protection, with an allocation of only the incremental costs associated with installing or oversizing facilities to meet established fire flow requirements.
- Fire protection is the primary function, with water service being a secondary function. This approach generally results in the highest allocation to fire protection, with an allocation of all but the incremental costs associated with installing or oversizing facilities to meet peak demands above the established fire flow requirements.
- Water service and fire protection are functions of equal importance. This approach allocates costs proportionately between the two functions.

The 2018 analysis used the first approach, consistent with the prior (2008) rate study. The 2008 rate study adapted this approach in response to the Washington State Supreme Court’s decision in *Lane v. Seattle*, which defined fire protection as a general governmental service that could not be funded through water service rates. This decision led many cities in Washington to minimize the allocation of their water utility costs to fire protection in an attempt to minimize the impact of shifting costs to

their General Funds. However, legislation has since been passed that allows cities to once again recover the cost of fire protection through their water rates. In addition, recent discussions between King County and water utilities with facilities located in its rights-of-way have prompted us to reconsider how we allocate costs to fire protection. Though the City is not a party to King County’s franchise discussions, our assessment of cost-allocation methodology has led us to conclude that the proportional allocation method is a more defensible way to allocate costs between water service and fire protection. As a result, we have incorporated this methodology into the current SPF analysis.

The following principles guided the allocation of costs (by general asset category) between the water-service and the fire-protection components of the SPF:

- **Supply & Treatment:** Wells and other supply assets were not attributed to fire protection.
- **Pumping:** Booster pump stations and other pumping-related assets were allocated based on an allocation of pumping facilities between fire protection and supply capacity. Table 5.5 of the City’s 2017 Water System Plan shows that the total firm capacity of the City’s booster stations is 1,860 gallons per minute (gpm); Table 5.4 of the 2017 WSP indicates that 130 gpm, or 6.99% of the total firm capacity is needed for fire storage replenishment.
- **Storage:** The allocation of the City’s reservoirs to fire protection was based on an inventory of storage capacity outlined in the 2017 WSP, summarized in **Exhibit 5.2:**

Exhibit 5.2: Functional Allocation of Storage Capacity

Storage Function	Storage Capacity	Fire Protection Share
Fire Suppression Storage	540,000 Gallons	100.0%
Standby Storage	133,500 Gallons ¹	0.0%
Equalizing Storage	20,374 Gallons ²	0.0%
Operational Storage	233,226 Gallons	70.4% ³
Total	927,100 Gallons	70.4%

¹Based on the difference between total standby storage (673,500 gallons) and fire suppression storage, which is nested in the total standby storage capacity.

²Based on the difference between total storage above 30 psi (253,600 gallons) and operational storage.

³Attributable to general operations, operational storage is allocated proportionately to fire protection and water service based on the allocation of the other storage functions.

The 2018 analysis allocated 58.3% of the cost of reservoirs to fire protection. **Exhibit 5.2** indicates that based on a weighted average of storage capacity, 70.4% of the cost of the City’s reservoirs is allocable to fire protection. This increased allocation to fire protection is attributable to the recommended change to the cost-allocation methodology – specifically, allocating a proportionate share of operational storage capacity to fire protection increased the total share allocated to fire protection from 58.3% to 70.4%.

- **Transmission & Distribution:** The City sized its transmission and distribution system to meet peak water demands and accommodate the required level of fire flow. Not all mains are oversized for fire flow, however – mains that are too small (e.g. appurtenance piping) do not have the capacity for fire flow, and the City’s largest mains are generally supply transmission

mains that are not explicitly sized for fire flow. In the latter case, the water used for fire protection comes from the City’s reservoirs. This analysis assumes that if the City did not have to provide fire protection, 8” mains could be 6” mains, 10” mains could be 8” mains, and 12” mains could be 10” mains. This analysis estimated the fire protection share of mains based on estimated replacement cost, as shown below in **Exhibit 5.3**:

Exhibit 5.3: Functional Allocation of Water Mains

Diameter	Length	Replacement Cost per LF ¹	Estimated Replacement Cost	Fire Protection Share
< 4” Mains	5,753 LF	\$277	\$ 1,593,553	0.0%
4” Mains	25,683 LF	\$301	7,730,583	0.0%
6” Mains	35,482 LF	\$325	11,531,650	0.0%
8” Mains	144,335 LF	\$348	48,296,489	43.8%
10” Mains	8,458 LF	\$372	3,146,376	36.0%
12” Mains	40,450 LF	\$394	15,937,300	30.6%
Hydrants ²			1,275,043	100.0%
Meters & Services ³			657,049	0.0%
Total	260,161 LF		\$90,168,042	31.5%

¹Based on data from Table 9.1 of the 2017 Water System Plan and adjusted from 2018 to 2022 dollars based on the ENR CCI; values extrapolated for mains smaller than 6” in diameter.

²Estimated replacement cost of 360 hydrants at a cost of \$3,542 per hydrant. The cost per hydrant was estimated at \$2,500 in 2009 dollars and escalated to 2022 dollars using the ENR Construction Cost Index. This value is separated out of the estimated replacement cost of 8” mains.

³Estimated replacement cost of 3,092 meter and service equivalents (MSEs) at a cost of \$213 per MSE. The cost per MSE was estimated at \$150 in 2009 dollars and escalated to 2022 dollars using the ENR CCI. This value is separated out of the estimated replacement cost of 8” mains.

The 2018 analysis allocated 6.5% of the cost of mains to fire protection. **Exhibit 5.3** shows an allocation of 31.5% of the cost of mains to fire protection, reflecting the recommended change to the proportional allocation methodology.

- **Hydrants:** As hydrants are predominantly attributable to fire protection, this analysis assigned the total cost of these facilities to fire protection.
- **General/Other:** This analysis allocated a proportionate share of cost of assets not explicitly attributable to any of the functions specified above (e.g. land, buildings, telemetry) to fire protection based on the allocation of the existing asset costs assigned to other categories. **Exhibit 5.4** summarizes this allocation:

Exhibit 5.4: Functional Allocation of Water System Assets

Asset Category	Original Cost as of 12/31/2021	Fire Protection Share
Supply & Treatment	\$ 5,041,790	0.0%
Pumping	8,993	7.0%
Storage	1,134,804	70.4%
Transmission & Distribution	14,277,412	31.5%
Hydrants	54,862	100.0%
General/Other	1,176,727	26.1%
Total	\$21,694,589	26.1%

Exhibit 5.4 shows that based on the allocation of the categories other than general/other, 26.1% of the cost of existing assets was assigned to fire protection. This percentage was used to allocate a share of the general/other asset costs to fire protection – because these assets are not specifically related to providing fire protection, the 2018 analysis did not allocate any of these costs to fire protection. The 2018 analysis allocated a total of 8.2% of the cost of existing assets to fire protection, compared to 26.1% in the current analysis based on the proportionate allocation methodology.

Functionalization of Sewer SPF

The sewer SPF includes separate charges for collection and treatment. The collection charge applies to development in the Winslow and South Island service areas; because the City’s wastewater treatment facilities only serve Winslow, the treatment charge does not apply to South Island development (which instead pays charges imposed by KCSD for treatment service).

V.B.4. System Capacity

Given that the City’s customers can impose significantly different demands on the water and sewer systems, the calculation expresses the capacity of each system in terms of equivalent residential units (ERUs). The average-cost methodology divides the total cost of each system by the total number of capacity units (in ERUs) that it can serve to arrive at an average cost per ERU. Though the denominator includes both existing and future ERUs to determine the charge per ERU, existing customers have already paid the applicable SPFs and will pay for a proportionate share of any future costs through water rates.

Water System Capacity

The water SPF calculation defines ERUs based on meter capacity equivalents (MCEs), which quantify the maximum continuous flow capacity of each service connection. The general methodology for estimating the ERU capacity of the water system included two steps:

- 1. Convert the existing customer base into ERUs using current customer data.***

To assign MCEs to various connection sizes, this analysis uses a meter equivalency scale published by the American Water Works Association (3/4” × 3/4” standard). **Exhibit 5.5** summarizes the City’s existing water customer base:

Exhibit 5.5: Existing Water Customer Base (2022)

Meter Size	No. of MCEs	Single-Family	Multi-Family	Commercial	Irrigation	Total
3/4"	1.00	2,309	21	129	43	2,502
1"	1.67	37	15	49	13	114
1-1/2"	3.33	1	20	23	11	55
2"	5.33	1	38	33	9	81
3"	10.67	-	4	3	1	8
4"	16.67	-	3	2	-	5
6"	33.33	-	-	-	-	-
Total Meters		2,347	101	239	77	2,764
Total MCEs		2,378	406	529	159	3,472
Fire Flow Requirement		1,000 gpm	1,500 gpm	1,500 gpm	0 gpm	
Fire-Weighted MCEs		2,378	609	794	0	3,781

Based on the information presented in **Exhibit 5.5**, the existing customer base equates to 3,472 MCEs – this total is included in the denominator for the water-service portion of the SPF. The denominator for the fire-protection component of the SPF reflects a weighting of the existing MCE counts for applicable fire flow requirements:

- For single-family customers, this weighting factor is 1.00 since 1,000 gpm is the “base” level of fire flow.
- Irrigation meters are not assigned MCEs for the purpose of the fire protection component of the SPF, as there is no applicable fire flow requirement for irrigation users.
- For other customers, this weighting factor is 1.50 to recognize the higher fire flow requirement (1,500 gpm vs. 1,000 gpm).

The existing customer base equates to 3,781 MCEs for the fire protection component of the SPF.

2. Estimate existing utilization of system capacity.

Section 3.2.4 of the 2017 WSP indicates that the average consumption per single-family home is 152 gallons per day. With a projected 2022 annual water consumption of 358,790 ccf (based on actual 2021 customer data with an adjustment for assumed growth), this assumption equates to 4,837 demand-based ERUs.

3. Estimate potential system capacity available for growth.

City staff provided the ERU determination worksheet completed as part of the 2017 WSP, which summarized the physical capacity of the water system in ERUs for various system components. **Exhibit 5.6** summarizes this information, also equating it to potential growth in MCEs.

Exhibit 5.6: Water System Capacity

Water System Component	Source	Equalizing Storage	Standby Storage	Distribution
Physical Capacity in ERUs	7,964	5,200	12,190	7,700
Existing Utilization (Projected 2022 Demand)	4,837	4,837	4,837	4,837
Potential Growth in ERUs	64.6%	7.5%	152.0%	59.2%
Existing MCEs	3,472	3,472	3,472	3,472
Total MCEs with Potential Growth	5,716	3,732	8,750	5,527
Fire-Weighted MCEs	3,781	3,781	3,781	3,781
Total Fire-Weighted MCEs with Growth	6,225	4,065	9,528	6,019

Exhibit 5.6 indicates that equalizing storage is the primary constraint of the system, allowing approximately 7.5% growth in ERUs. This is used as the denominator of the storage component of the SPF calculation. The transmission/distribution, pumping, and hydrant components of the SPF use the potential growth in distribution ERUs (59.2%), while the supply component uses the potential growth in source ERUs (64.6%). The general/other component uses a weighted average of these growth percentages (weighted by the total costs assigned to each of the other components) to arrive at a potential growth estimate of 41.5%.

Note that the SPF calculation reflects an estimate of the potential growth that the water system can serve based on its capacity, which significantly exceeds the growth projected over the 2023 – 2027 CIP planning period.

Sewer System Capacity

Because water meter size is not as good of an indicator of wastewater flows as it is of potential water demand, the sewer system capacity estimate is derived from ERU estimates provided by the City. Specifically, the City has indicated future projections of 5,032 ERUs for the Winslow area and 480 ERUs for the South Island area. The collection portion of the sewer SPF uses the combined total of 5,512 ERUs; because the treatment portion of the sewer SPF only applies in the Winslow area, it only includes the ERU capacity for the Winslow area.

V.C. SPF CALCULATION

Exhibit 5.7 summarizes the updated SPF calculation for each utility:

Exhibit 5.7: Updated SPF Calculations

Water SPF Calculation	Supply	Pumping	Storage	Transmission & Distribution	Hydrants	General	Total
Existing Assets as of 12/31/21	\$4,733,457	\$ 8,993	\$ 1,029,205	\$14,069,738	\$54,862	\$1,176,252	\$21,072,508
Less: Contributed Assets	(364,016)	(692)	(79,149)	(4,232,778)	(4,219)	(397,461)	(5,078,315)
Plus: Construction in Progress	308,333	-	105,599	207,674	-	475	622,081
Less: Provision for Asset Retirements	(407,082)	-	(950,057)	(73,172)	-	-	(1,430,311)
Plus: Accrued Interest	2,471,452	3,942	-	5,321,076	29,158	326,525	8,152,153
Less: Net Outstanding Debt Principal	-	-	(13,645,636)	-	-	-	(13,645,636)
Capital Improvement Program	3,787,000	-	21,664,000	2,485,000	-	225,000	28,161,000
Less: Locally Funded Improvements ¹	-	-	-	(960,000)	-	-	(960,000)
Total Cost Basis	\$10,529,144	\$12,244	\$8,123,963	\$16,817,538	\$79,801	\$1,330,791	\$36,893,481
Allocation to Fire Protection	0.0%	7.0%	70.4%	31.5%	100.0%	26.1%	
Total Cost Allocated to Fire Protection	\$ -	\$856	\$5,721,422	\$5,308,745	\$79,801	\$347,754	\$11,458,578
Total Capacity in Fire-Weighted MCEs	6,225	6,019	4,065	6,019	6,019	5,634	
Fire-Protection SPF per MCE	\$ -	\$0	\$1,408	\$882	\$13	\$62	\$2,365
Total Cost Allocated to Water Service	\$10,529,144	\$11,388	\$2,402,542	\$11,508,793	\$ -	\$983,036	\$25,434,903
Total Capacity in MCEs	5,716	5,527	3,732	5,527	5,527	5,173	
Water-Service SPF per MCE	\$1,842	\$2	\$644	\$2,082	\$ -	\$190	\$4,760
Total SPF per MCE (Single-Family²)	\$1,842	\$2	\$2,051	\$2,964	\$13	\$252	\$7,125
Existing Water SPF per ERU	\$1,713	\$2	\$882	\$2,770	\$13	\$329	\$5,709

¹Portion of the Ferncliff water main extension proposed to be recovered through local surcharges to the property owners connecting to the main.

²Fire-protection SPF is multiplied by 1.5 for multi-family/commercial SPFs and excluded from irrigation SPFs.

Sewer SPF Calculation	Collection	Treatment	Total
Existing Assets as of 12/31/21	\$14,895,416	\$20,753,434	\$35,648,850
Less: Contributed Assets	(2,490,873)	(968,987)	(3,459,860)
Plus: Construction in Progress	1,236,516	41,070	1,277,586
Less: Provision for Asset Retirements	(1,797,873)	(403,794)	(2,201,668)
Plus: Accrued Interest	4,340,882	9,062,223	13,403,105
Less: Net Outstanding Debt Principal	(540,400)	(1,152,068)	(1,692,468)
Capital Improvement Program	15,771,000	3,987,000	19,758,000
Total Cost Basis	\$31,414,668	\$31,318,878	\$62,733,546
Total Capacity in ERUs	5,512	5,032	
Total SPF per ERU	\$5,699	\$6,224	\$11,923
Existing Sewer SPF per ERU	\$3,751	\$4,436	\$8,187

Exhibit 5.7 shows increases to both the water and sewer SPFs, which can be explained by the following factors:

- The total allocable system cost increased from \$32.7 million to \$36.9 million for the water utility and from \$47.3 million to \$62.7 million for the sewer utility. These increases are attributable to the addition of assets from 2018 – 2021, several years of interest accrual on existing assets, as well as increases in the forward-looking CIP for each utility. The water CIP notably increased due to an increase in the cost estimate of the reservoir replacement project from \$3.25 million in the 2018 analysis to \$21.6 million, though the debt issued to fund that project offsets the majority of the impact that the cost increase would otherwise have on the SPF. Other project cost estimates also increased due to recent inflationary trends.

- The estimates of system capacity generally decreased, increasing the cost per ERU.
 - » For the water utility, the key change was a decrease in the estimated system capacity attributable to equalizing storage limitations that were identified by the City after the 2018 analysis had been completed.
 - » For the sewer utility, City staff provided updated estimates of how many ERUs will be able to connect to each system. While the estimated ERU capacity of the South Island system increased from 423 to 480 ERUs, the estimated ERU capacity of the Winslow system decreased from 5,588 to 5,032 ERUs.

It is worth noting that the change in the methodology for allocating the water system’s costs to fire protection offset the increase in the system cost per MCE for single-family users and actually reduced the cost per MCE for irrigation users. With the increased allocation of costs to fire protection, multi-family and commercial water SPFs increased more than the SPFs applicable to other users. Without the change in the cost-allocation methodology, the updated water SPF would be \$7,214 per MCE instead of \$7,125 per MCE.

Exhibit 5.8 summarizes the updated schedule of SPFs:

Exhibit 5.8: Schedule of Updated SPFs

Water SPF	Single-Family		Multi-Family		Commercial		Irrigation	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
5/8" Meter	\$3,806	\$4,750	\$4,030	\$5,538	\$4,030	\$5,538	\$3,357	\$3,173
3/4" Meter	\$5,709	\$7,125	\$6,045	\$8,307	\$6,045	\$8,307	\$5,036	\$4,760
1" Meter	\$9,515	\$11,875	\$10,075	\$13,845	\$10,075	\$13,845	\$8,394	\$7,933
1-1/2" Meter	\$19,029	\$23,749	\$20,150	\$27,691	\$20,150	\$27,691	\$16,787	\$15,867
2" Meter	\$30,447	\$37,999	\$32,240	\$44,305	\$32,240	\$44,305	\$26,860	\$25,387
3" Meter	\$60,893	\$75,998	\$64,480	\$88,610	\$64,480	\$88,610	\$53,720	\$50,773
4" Meter	\$95,145	\$118,746	\$100,750	\$138,453	\$100,750	\$138,453	\$83,937	\$79,334
6" Meter	\$190,291	\$237,492	\$201,499	\$276,905	\$201,499	\$276,905	\$167,875	\$158,667

Sewer SPF	Single-Family		Multi-Family (per Unit)		Commercial (per ERU ¹)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Winslow	\$8,187	\$11,923	\$5,079	\$7,397	\$8,187	\$11,923
South Island ²	\$3,751	\$5,699	\$2,327	\$3,536	\$3,751	\$5,699

¹The City defines an ERU as 20 fixture units for commercial users.

²South Island customers also pay a connection charge to KCSD for wastewater treatment, currently up to \$11,175.00.



City of Bainbridge Island
Water Rate and SPF Model
Capital Improvement Program

Capital Realization Factor 100%

No	Function	Description	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Useful Life (Years)	% Utility Funded
1	Storage	Winslow Water Tank Replacement	\$ 80,000	\$ 850,000	\$ 10,267,000	\$ 10,467,000							50	100%
2	General	Emergency Generator		70,000	155,000								50	100%
3	Supply & Treatment	Water Treatment Improvements					415,000	1,015,000					50	100%
4	Transmission & Distribution	Winslow Way West				75,000	300,000						50	100%
5	Transmission & Distribution	Fire Flow and Pipeline Improvements		169,000	431,000								50	100%
6	Transmission & Distribution	Ferncliff Main Extension	60,000	1,450,000									50	36%
7	Supply & Treatment	Booster Pump Upgrade		168,000									50	100%
8	Supply & Treatment	Winslow Supply Well			208,000		17,000	840,000					50	100%
9	Supply & Treatment	Sands Avenue Well Rehabilitation		375,000									50	100%
10	Supply & Treatment	Fletcher Bay Well Rehabilitation		212,000									50	100%
11	Supply & Treatment	Head of the Bay Well Rehabilitation			312,000								50	100%
12	Supply & Treatment	Taylor Well	225,000										50	100%
13		Long-Term Replacement Projects							300,000	388,350	471,298	549,085	50	100%
Total Capital Projects			\$ 365,000	\$ 3,294,000	\$ 11,373,000	\$ 10,542,000	\$ 732,000	\$ 1,855,000	\$ 300,000	\$ 388,350	\$ 471,298	\$ 549,085		
Total Upgrade/Expansion Projects			60,000	1,688,500	578,500	37,500	167,000	840,000	-	-	-	-		
Total R&R Projects			305,000	1,605,500	10,794,500	10,504,500	565,000	1,015,000	300,000	388,350	471,298	549,085		
Projects by Grants / Developer Donations			38,146	921,854	-	-	-	-	-	-	-	-		
Projects by Enterprise Fund			326,854	2,372,146	11,373,000	10,542,000	732,000	1,855,000	300,000	388,350	471,298	549,085		



City of Bainbridge Island
Sewer Rate and SPF Model
Capital Improvement Program

No	Function	Description	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Useful Life (Years)	% Utility Funded
1	Pumping	Rehabilitate Pumps (Sunday Cove)	\$ -	\$ 50,000	\$ 450,000	\$ 450,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30	100%
2	Pumping	Pump Station & Force Main (Wood Avenue)	-	50,000	-	3,925,000	-	-	-	-	-	-	50	100%
3	Pumping	Rehabilitate Pump Station (Lower Lovell)	-	25,000	800,000	800,000	-	-	-	-	-	-	50	100%
4	Pumping	Madison Avenue Reconstruction Project	-	807,000	-	-	-	-	-	-	-	-	50	100%
5	Pumping	Hawley/Irene Grinders	-	396,000	-	-	-	-	-	-	-	-	50	100%
6	Treatment	Wastewater Treatment Plant (WWTP) Upgrades	10,000	990,000	610,000	-	-	-	-	-	-	-	50	100%
7	Pumping	Ferry Terminal Pump Station Relocation	-	-	-	-	-	150,000	700,000	-	-	-	50	100%
8	Pumping	Wing Point Pump Replacement	-	100,000	650,000	650,000	-	-	-	-	-	-	50	100%
9	Pumping	Hawley Pump	-	124,000	320,000	320,000	-	-	-	-	-	-	50	100%
10	Pumping	North Town Woods Pump	-	118,000	262,000	262,000	-	-	-	-	-	-	50	100%
11	Pumping	Woodward Pump	-	133,000	-	317,000	317,000	-	-	-	-	-	50	100%
12	Pumping	Rehabilitate Pump Station (Island Terrace)	-	180,000	-	272,000	272,000	-	-	-	-	-	50	100%
13	Collection	Install Gravity Sewers (Sunday Cove)	-	10,000	11,000	1,600,000	-	-	-	-	-	-	50	100%
14	Treatment	Extend WWTP Outfall	-	150,000	150,000	100,000	1,800,000	-	-	-	-	-	50	100%
15	Collection	Fernclyff Ave Conveyance Upgrades	-	-	-	-	250,000	1,000,000	-	-	-	-	50	100%
16	Treatment	WWTP Air Gap	-	177,000	-	-	-	-	-	-	-	-	50	100%
17		Long-Term Replacement Projects	-	-	-	-	-	-	-	700,000	800,000	900,000	50	100%
Total Capital Projects			\$ 10,000	\$ 3,310,000	\$ 3,253,000	\$ 8,696,000	\$ 2,639,000	\$ 1,150,000	\$ 700,000	\$ 700,000	\$ 800,000	\$ 900,000		
Total Upgrade/Expansion Projects			-	678,000	80,500	2,812,500	1,150,000	1,150,000	700,000	-	-	-		
Total R&R Projects			10,000	2,632,000	3,172,500	5,883,500	1,489,000	-	-	700,000	800,000	900,000		
Projects by Grants / Developer Donations			-	-	-	-	-	-	-	-	-	-		
Projects by Enterprise Fund			10,000	3,310,000	3,253,000	8,696,000	2,639,000	1,150,000	700,000	700,000	800,000	900,000		
Total Treatment-Related			-	815,000	582,000	582,000	-	-	-	-	-	-		

MEMORANDUM

TO: City Council

FROM: Utility Advisory Committee

DATE: March 25, 2023 DRAFT

SUBJECT: Recommendation Regarding Revision to Water and Sewer Rates and System Participation Fees

The City provides water and sewer service to approximately one-third of the residents of Bainbridge Island. It provides water to approximately 2,600 customers in Winslow and Fletcher Bay and 70 customers in Rockaway Beach. The City also provides sewer service to about 2,300 customers in Winslow and almost 300 customers in southern Bainbridge Island.

The City charges System Participation Fees (SPFs) to new customers connecting to the water and/or sewer systems, and then charges rates for usage of water or sewer service.

The City's staff, a technical consultant, and the City's Utility Advisory Committee (UAC) have recently studied the rates and fees charged by the City's water and sewer utilities. As is normal for this process, the consultant prepared an extensive analysis and recommendation to adjust (in this case, increase) the rates and SPFs for both utilities. The consultant's report has been provided to the Council along with a staff memo.

The UAC spent significant portions of six meetings devoted to this topic. This memorandum provides the UAC's comments and a recommendation to approve the rates and SPFs as submitted by the staff and the consultant.

A. Context for Current Rate Study

It is standard practice for utility systems to conduct studies of their rates, charges, and fees at periodic intervals. That is done to ensure they provide

adequate revenue for the utilities, and that the rates, charges, and fees are in conformance with state law.

The last rate study was undertaken in 2018, which was the first to have been conducted in a very long time. That rate study concluded that relatively modest increases in revenue were needed for both utilities, and that rate adjustments in greater or lesser percentages were needed for specific classes of customers (e.g., larger increases for residential customers and lesser increases for commercial and multi-family customers). The 2018 study also concluded that a significant increase in SPFs for new development was warranted.

The recommendations were approved by the City Council in 2019 and implemented thereafter.

B. Water Utility

The Winslow/Fletcher Bay and Rockaway Beach water systems serve 2,670 single family residential, multi-family residential, commercial, and irrigation customers. The rates currently in place are significantly lower than comparable systems in the region, primarily because a policy decision was made to reduce rates by 45% in 2012 (Ordinance 2011-26) and by an additional 30% in late 2013 (Ordinance 2013-22). As a result of these reductions, while able to fund current operations and maintenance, the City's water rates have been inadequate to fund ongoing and planned capital investments.

Currently, the water utility has annual revenue of approximately \$1.3 million and operating expenses of \$1.5 million, for an annual net deficit in cash flow of roughly \$200,000. The water utility has reserves of \$5.7 million, and no debt service.

As explained in the staff report, the water system now faces substantial increased costs for replacement of the Winslow Water Tank (formerly known as the High School Reservoir) which was far in excess of what was projected during the 2018 rate study, and for related staffing increases. As a result, it is expected that annual operating expenses will increase to \$1.7 million, and the water utility will have to make annual debt payments of \$1.7 million, for a projected annual net deficit in cash flow of \$2.1 million.

While these large increases are unfortunate, it is the result of a combination of circumstances. First, the Winslow Water Tank, the primary storage facility for the Winslow Water System, must be replaced for several reasons (system operational needs, seismic upgrade, and approaching end of its planned 67-year useful life). Second, the recent surge in engineering and construction costs have significantly increased projected prices. And finally, the utility reserves have been diminished per the 2011 and 2013 rate reduction decisions, such that increased funding is now imperative to ensure operational and financial sustainability.

It should be noted that the Winslow Water Tank project was included in the Capital Improvement Plan forecast in the 2018 study, but the volatility in the design and construction market we are now experiencing was unforeseen five years ago. Moreover, at that time there was strong customer and Council interest in maintaining low rates.

Fortunately, the City staff has procured two State Public Works Trust Fund (PWTF) 20-year loans at very low interest rates, which will allow the overall cost of the project to be spread over 20 years.

The consultant has proposed increases in water rates in upcoming years to provide additional revenue of approximately \$2.5 million per year to cover the debt service and increased expenses. In the end, the projected water rates in upcoming years, though increasing significantly from their current number, will remain within the range of rates charged by comparable utilities.

The rationale used to allocate costs to each class of customer in 2018 is still considered sound for the current rate study; hence there was no need to re-evaluate definitions and cost shares among rate classes in the present exercise.

C. Sewer Utility

The City's sewer utility consists of two systems. The Winslow system serves approximately 2,300 customers, with treatment of effluent provided at the City's Winslow Wastewater Treatment Plant (WWTP). The South Island system serves

almost 300 customers, with treatment provided by Kitsap County Sewer District #7 (Ft. Ward). Rates are higher than the average of comparable facilities in the region, primarily the result of a limited customer base for the required treatment facilities.

Currently, the sewer utility has annual revenue of approximately \$4.5 million, operating expenses of \$3.1 million, and debt payments of \$1.0 million (excluding a loan repaid exclusively through assessments charged in the South Island system), for an annual net surplus in cash flow of roughly \$400,000. The sewer utility has reserves of \$4.8 million. With recommended staffing additions, the sewer utility's annual operating expenses are expected to increase to \$3.4 million. This would decrease the annual net surplus in cash flow to around \$100,000.

The sewer utility has a somewhat "normal" Capital Improvement Plan which is the driver of projected increased future costs and therefore rates. This includes improvements to the WWTP and a major reconstruction of the Lower Lovell beach sewer main.

Again, the City staff has obtained a State PWTF loan for \$2.5 million, which will help modulate the impact of the projects on the rates. The sewer capital funding plan envisions the City issuing a general obligation bond of \$5.8 million, which together with the PWTF loan is expected to increase the sewer utility's annual debt service by approximately \$700,000. This additional cost would result in an annual net deficit in cash flow of about \$600,000 for the sewer utility.

Accordingly, the consultant has proposed increases in sewer rates in upcoming years to provide additional revenue of approximately \$671,000 per year to cover the increased costs and debt service.

D. SPFs

SPFs are a new customer's "buy-in" to the utility, and are based on the customer's share of the cost of the current plus planned infrastructure divided by the number of potential new customers.

An increase is recommended for the City's water SPFs, mainly attributed to the large increase in the water capital plan (i.e., Winslow Water Tank Replacement Project). In addition, the City's estimate of the capacity of the water system has decreased since the 2018 study. Nevertheless, the proposed water SPF remains within the range of charges imposed by the surveyed jurisdictions.

On the other hand, the proposed sewer SPF is relatively high compared to most of the other comparable jurisdictions. A major explanation for this is the limited economy of scale in the Winslow system; larger systems can have lower SPFs per unit because they can spread their total infrastructure cost across a greater number of units. Hence, the nearly doubling of the City's sewer capital plan (from \$10.1 million to an estimated \$19.8 million), results in proportionately higher SPFs per equivalent unit.

E. Recommendation

The UAC recommends approval of the consultant's recommended rates and SPFs.

The UAC further recommends that an updated rate study be conducted in 2025 to determine how water rates and SPFs should be adjusted based on the updated costs of the Winslow Water Tank.

Charles Averill, Co-Chair
Svend Brant-Erichsen
Susan Hume
Sheina Hughes
Ted Jones, Co-Chair
Andy Maron
Martin Pastucha

Water and Sewer Utility Rate Study Recommendations

Christopher Wierzbicki, PE
Public Works Director
April 4, 2023



Agenda

- Provide a high-level overview of the following:
 - Water and sewer system needs
 - Water and sewer recommended rate revenue increases and strategy
 - Ferncliff main extension funding recommendation
 - Sewer bill averaging policy recommendation

Future Meeting Actions

1. Adopt projected water and sewer utility rate revenue increases
2. Adopt associated water and sewer Capital Improvement Plan
3. Move forward with Ferncliff main extension project
4. Adopt new policy on sewer bill averaging

Executive Summary – Part 1

1. Current water rate revenue does not address system needs

A 13.5% rate revenue increase is recommended this year, with 25% annual increases for at least the next 2 years

2. Current sewer rate revenue adequately addresses system needs

Inflationary rate revenue increases are recommended for the next 3 years

Executive Summary – Part 2

3. Ferncliff water main extension is recommended with shared costs between current and future customers, as well as grant savings
4. In recognition of climate changes, the City should calculate sewer bills based on winter-average usage year-round (not just in the summer)

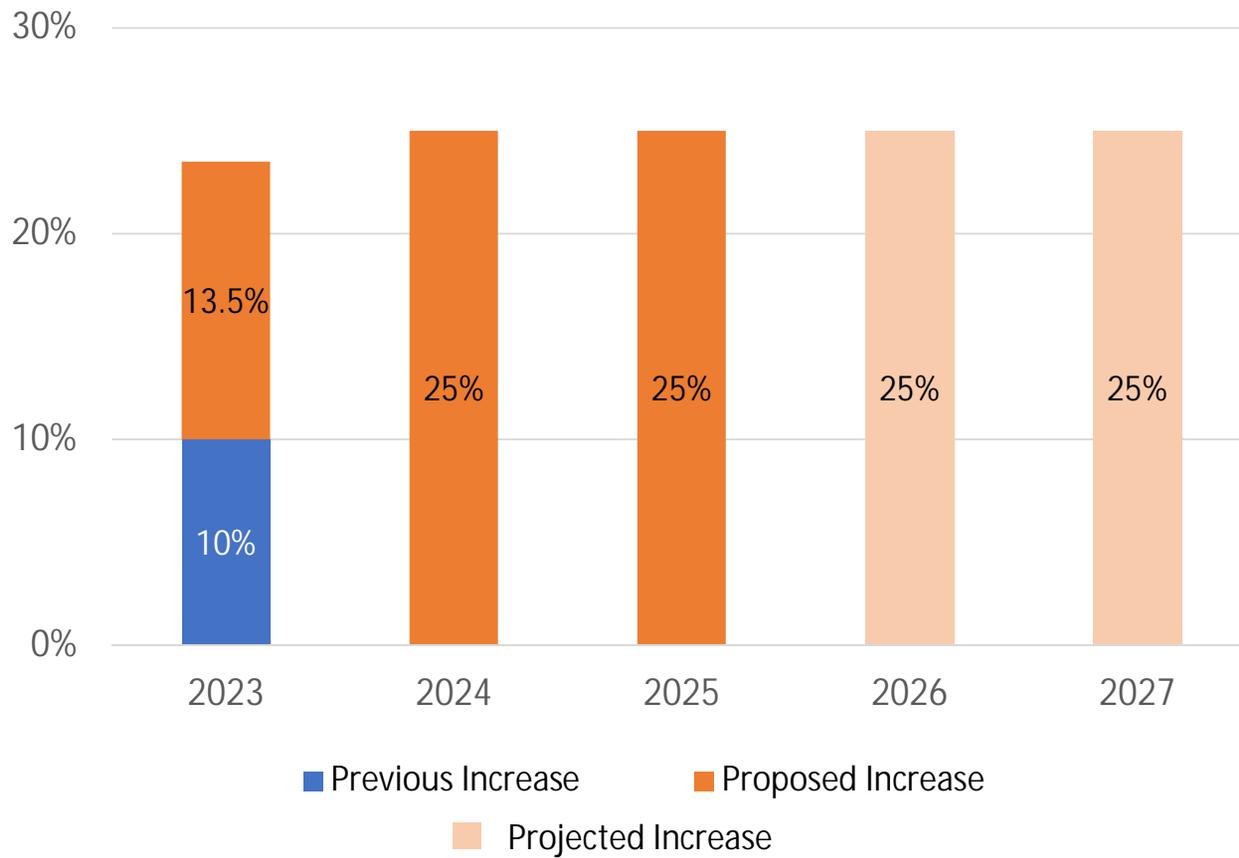
Utility Advisory Committee (UAC) Support

- Rate study discussed at 8 meetings; August –March
- 50-60 volunteer committee hours
- The UAC provided input and support for the final recommendations

Water Rate Recommendations



Water Utility – Proposed rate revenue increases (usage)



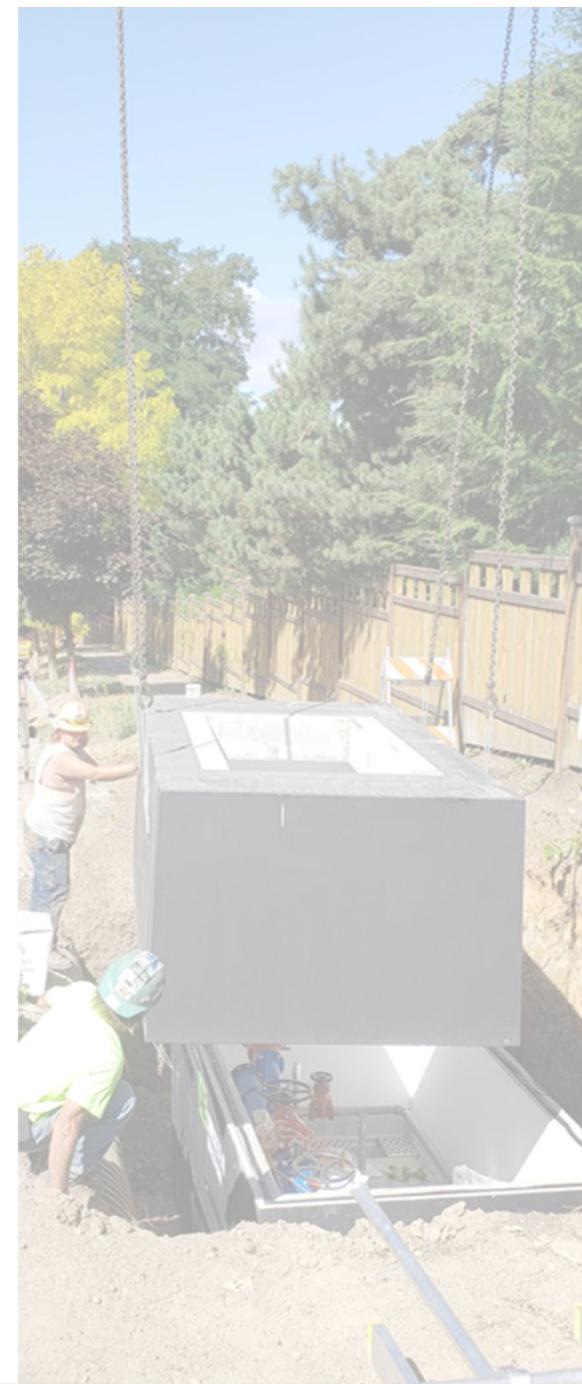
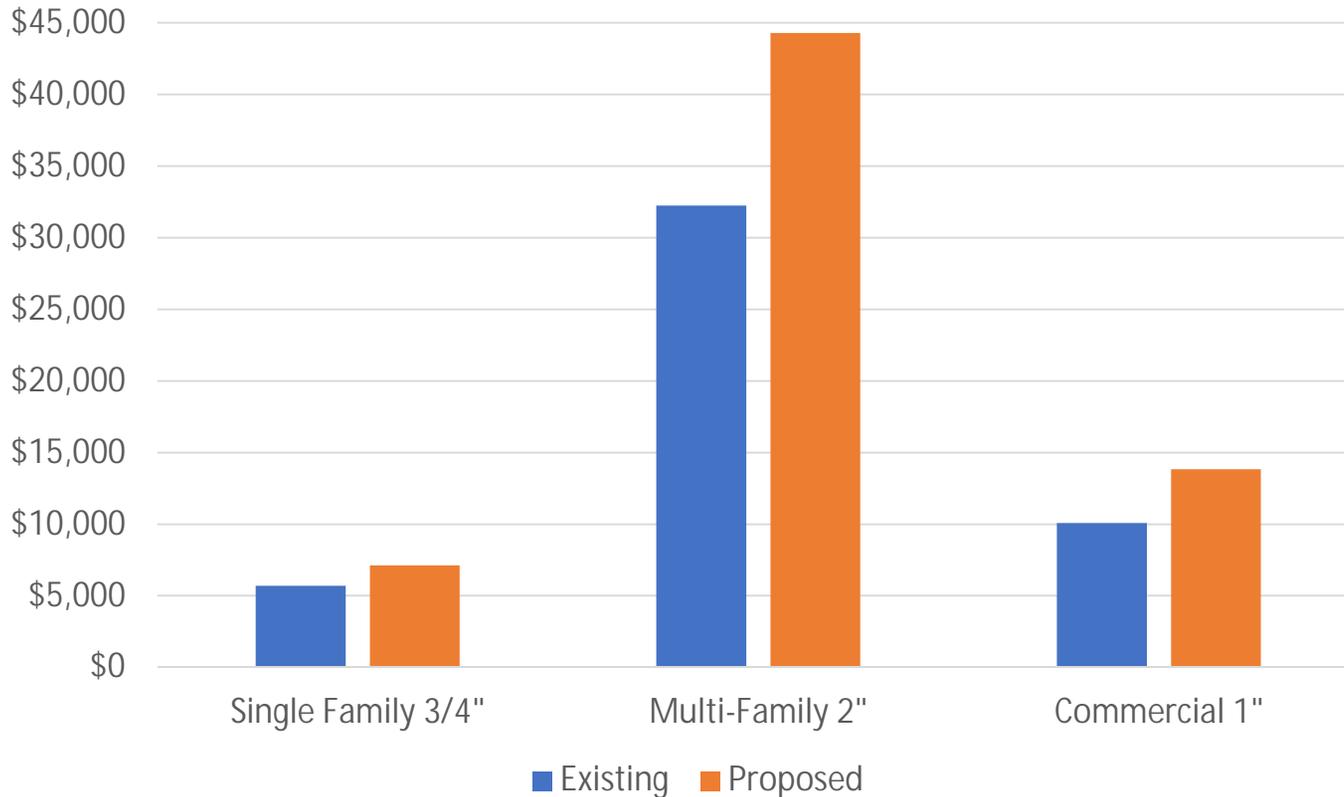
Water Utility – How will usage rates compare?

Exhibit 1.3: Monthly Single-Family Water Bill Comparison (3/4" Meter, 7 ccf)



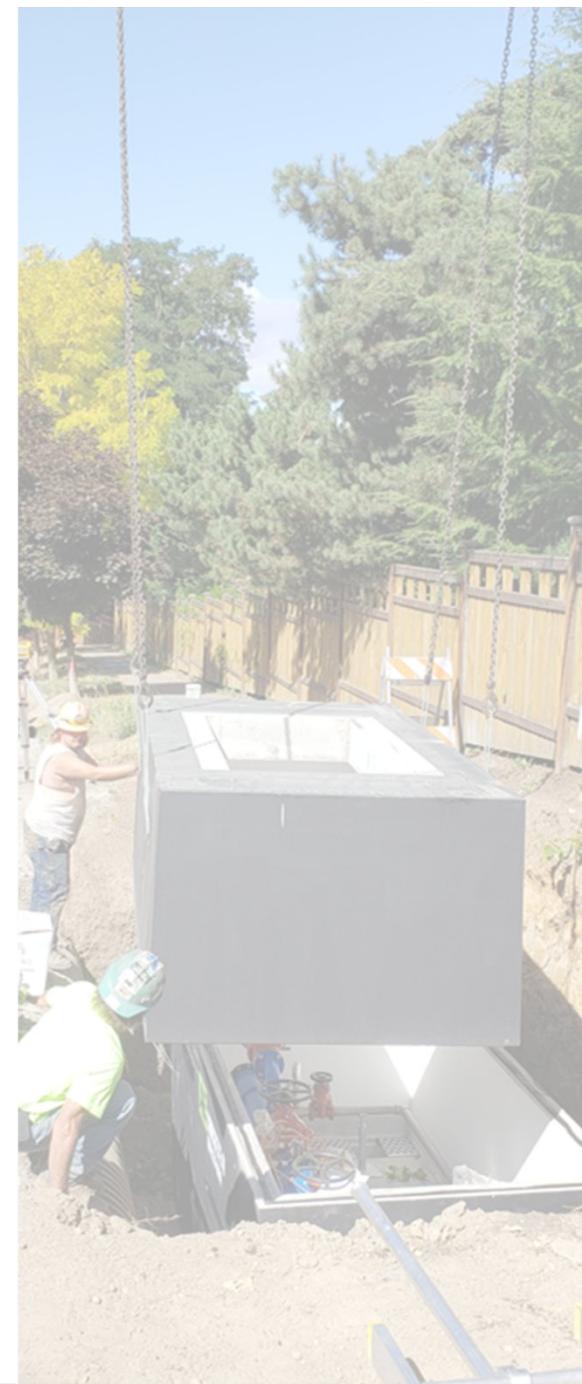
Water Utility – Proposed System Participation Increases

System Participation Fees



Water Utility – How will system participation fees compare?

Exhibit 1.9: Comparison of 2023 Water SPF per Equivalent Unit



Water Utility – Financial Plan

- Retain current rate structure (who pays how much)
- Use existing reserves to spread rate increases out over at least 5 years
- Support capital needs with:
 - State Public Works Trust fund loans (\$20.9M)
 - \$2.5M general obligation bond in 2024



Water Utility - Why are rate revenue increases necessary?

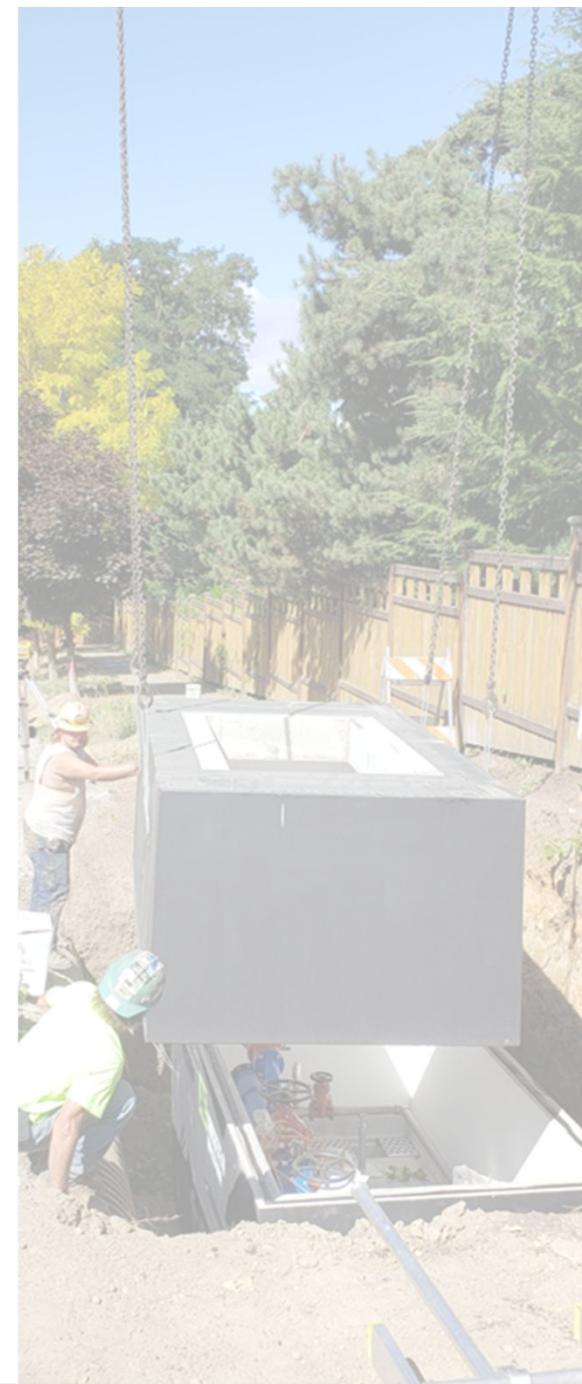
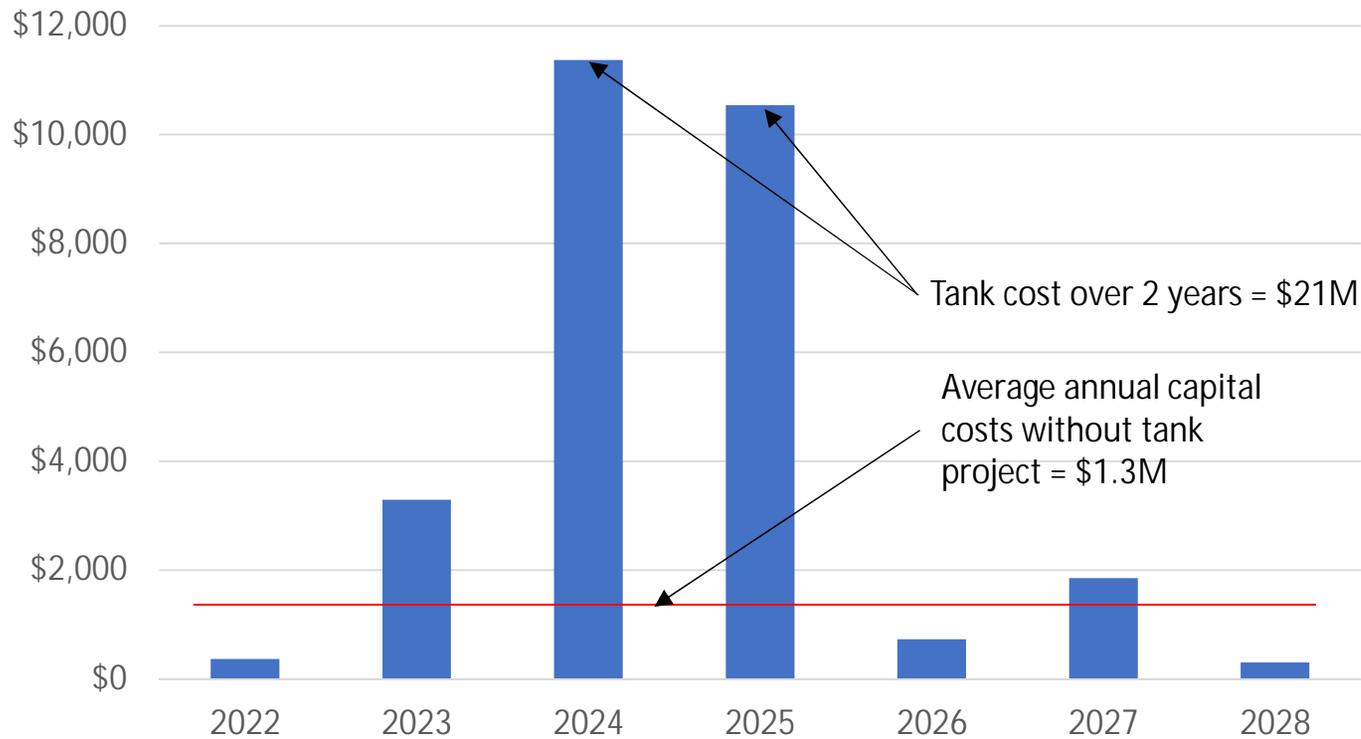
1. Cost of the Winslow Water Tank Replacement Project - \$20-25M
2. Historically low rates
3. System vulnerability due to age and maintenance deferral



Water Utility – Water Tank Costs

Tank costs are driving higher than average spending

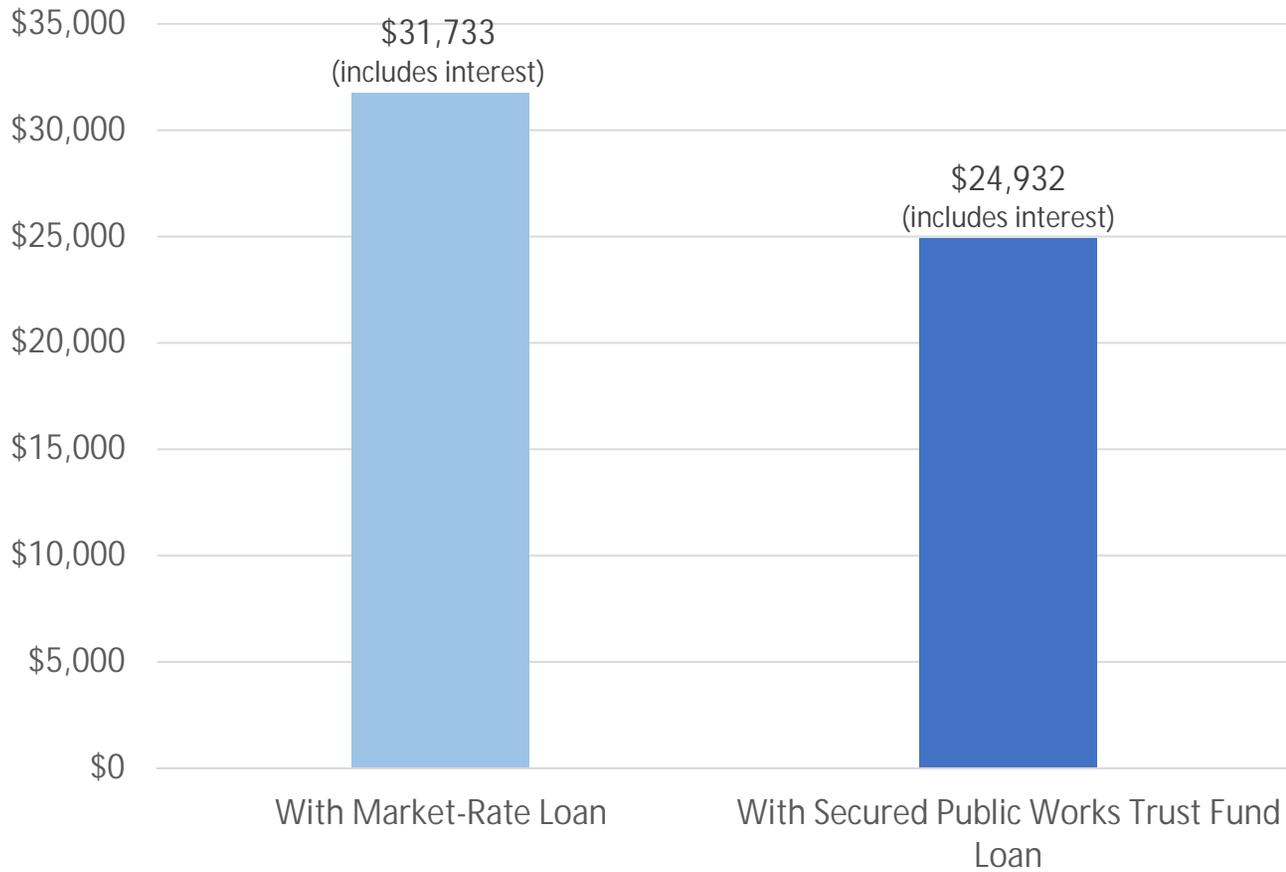
Capital Improvement Costs 2022-2028



Water Utility – Total Cost of Water Tank (with financing)

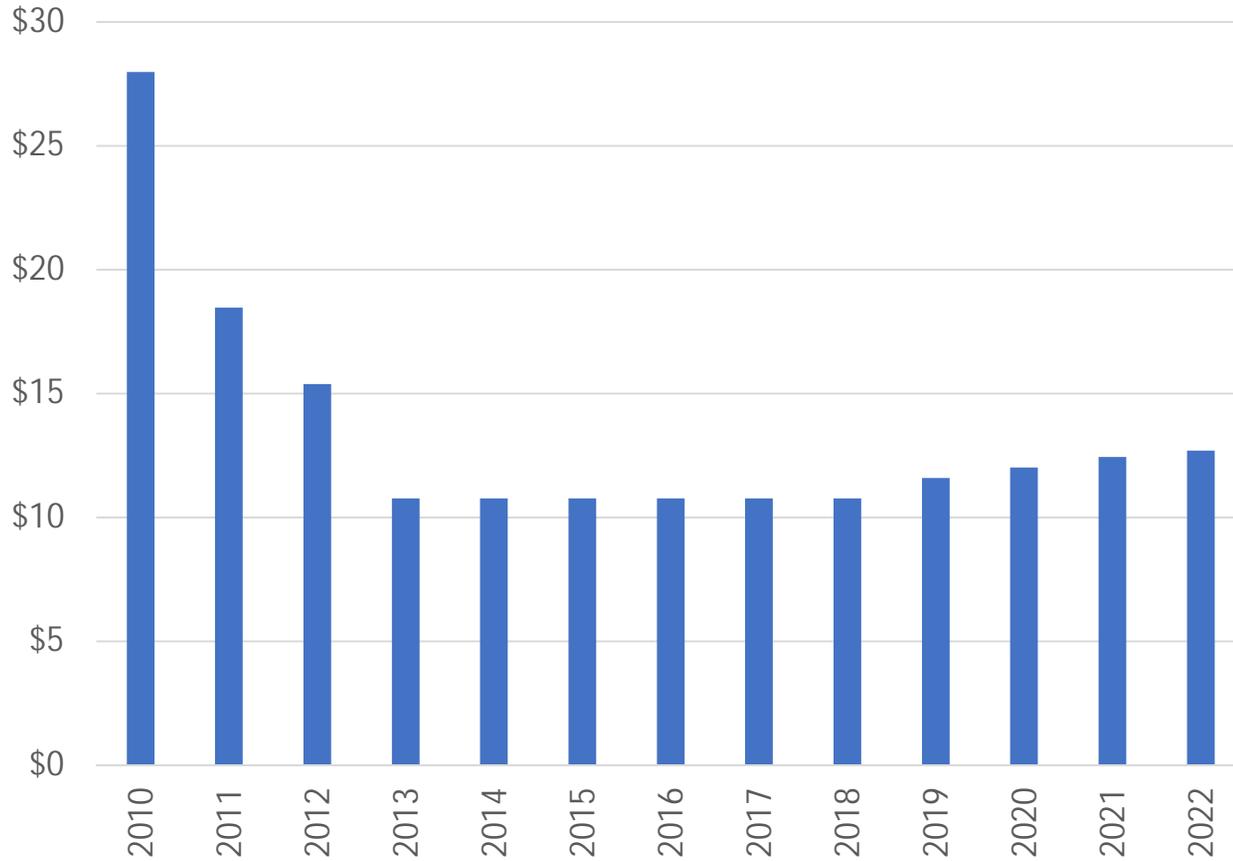
Secured loans are saving the city \$6M

Water Tank Trust Fund Loan Savings



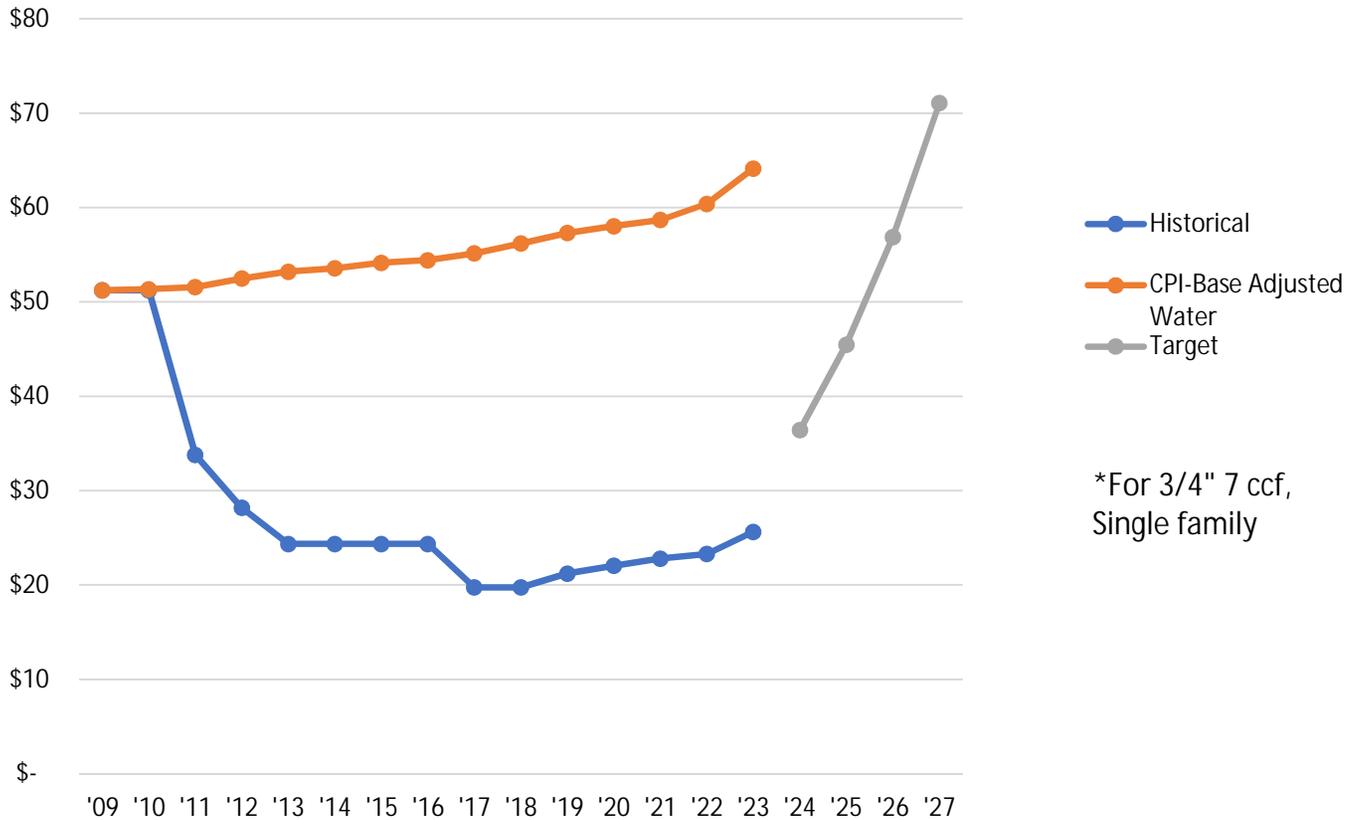
Water Utility – Rates were lowered and not raised for inflation

Residential Base Rates 2010-2022



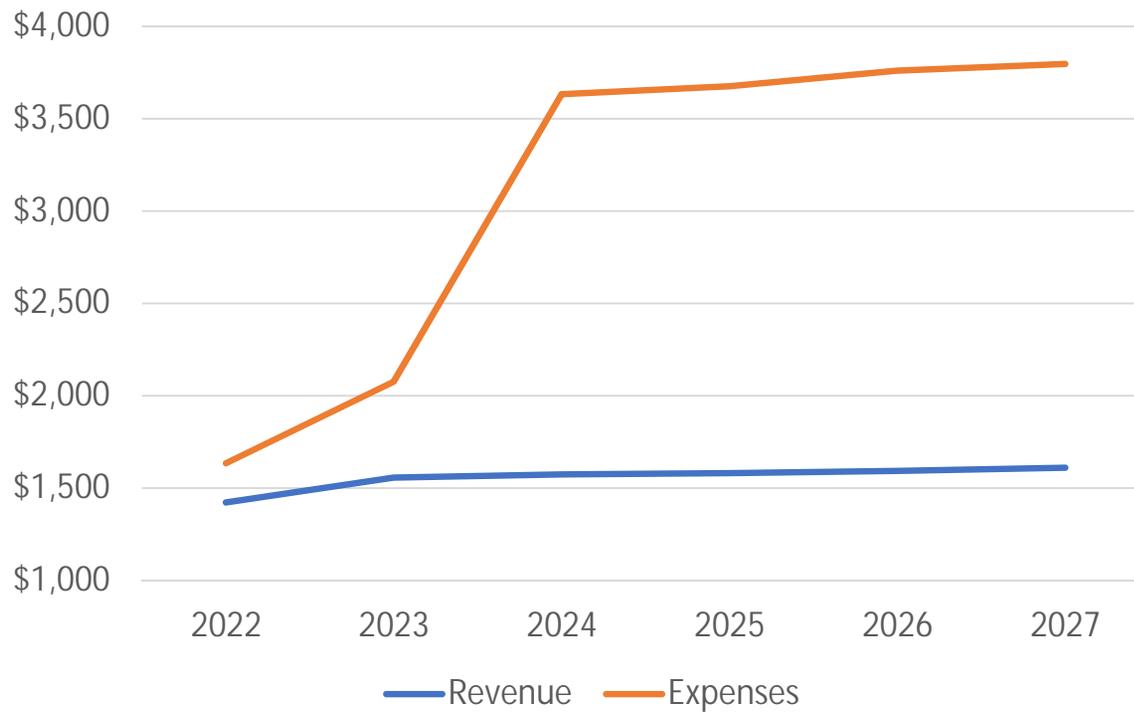
Water Utility – If rates were raised for inflation annually, there would not be a need for a large increase

Actual vs Inflation-Adjusted Monthly Bill*



Water Utility – Current revenue cannot keep up with expenses

Water Revenue vs. Expenses Without Rate Increases (thousands)



Water Utility - System age and deferred maintenance drives the need for additional spending

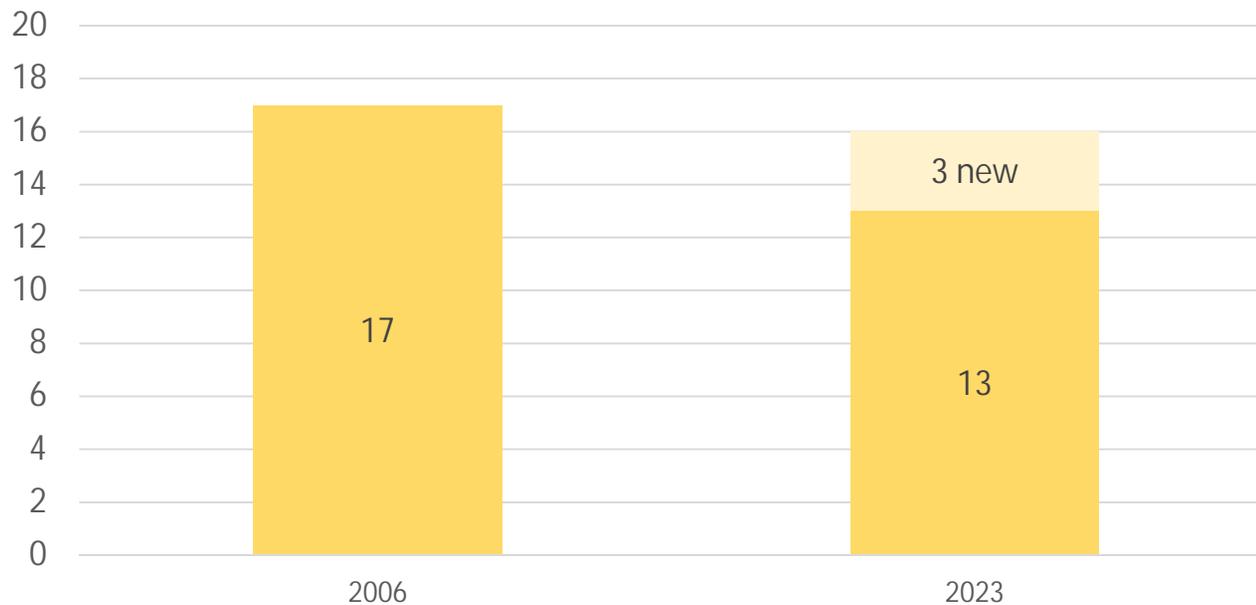
- 15% of mains past useful life in 10 years (3.5 miles)
- 100% of booster pumps past useful life
- 60% of wells past useful life
- 3 new staff (water, sewer, stormwater) proposed to address maintenance, regulatory and capital needs



Water and Sewer Utility – Current staffing is historically low, and needs are greater

- Rates include 3 new utility staff positions (water, sewer, stormwater):

Utility Operations Staffing Levels
(full time equivalents)

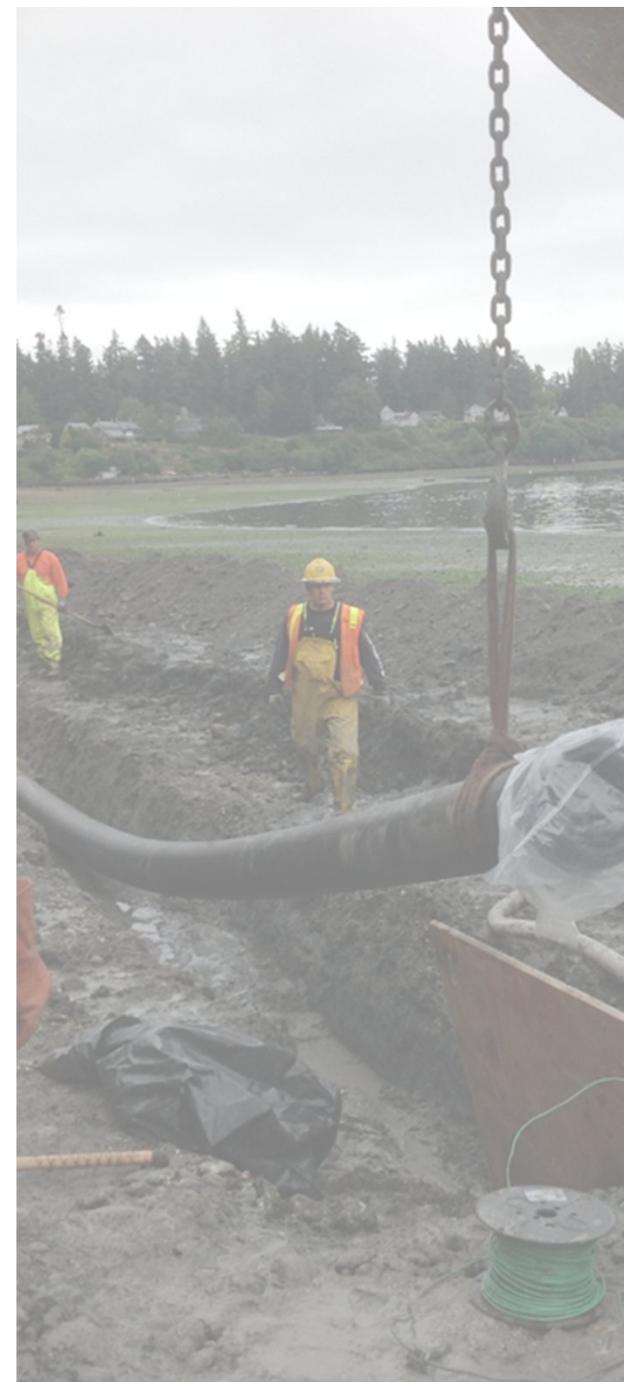


Other Considerations

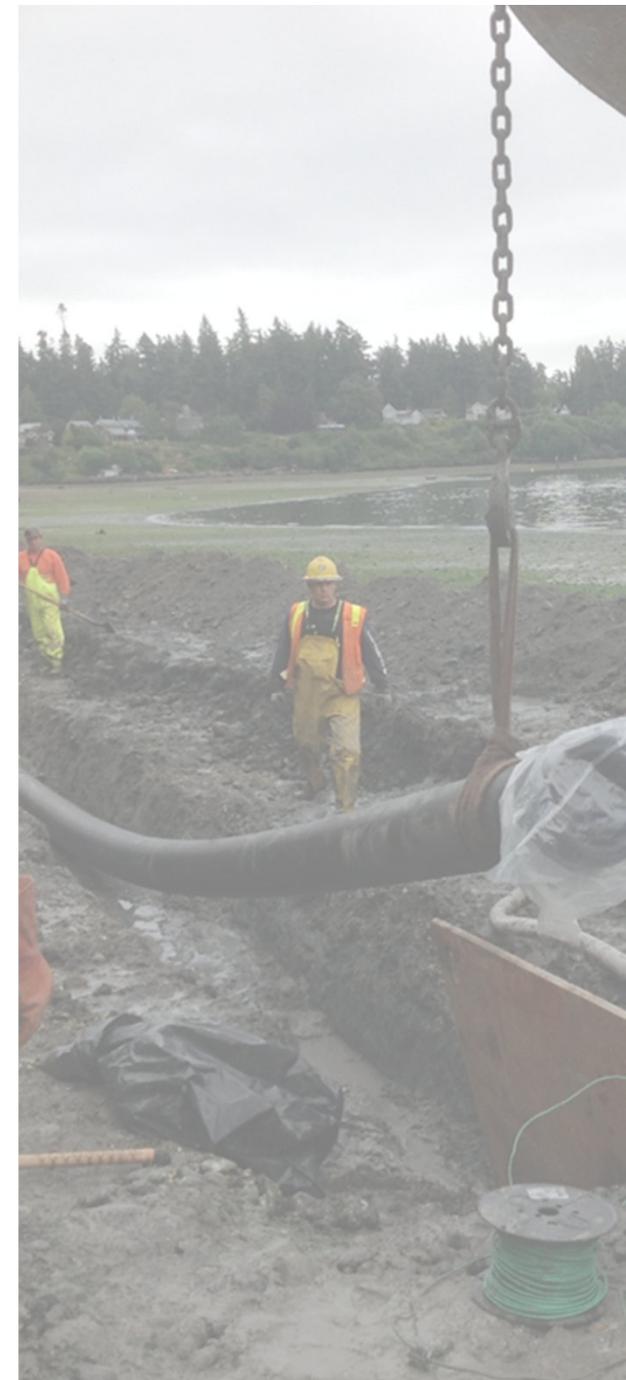
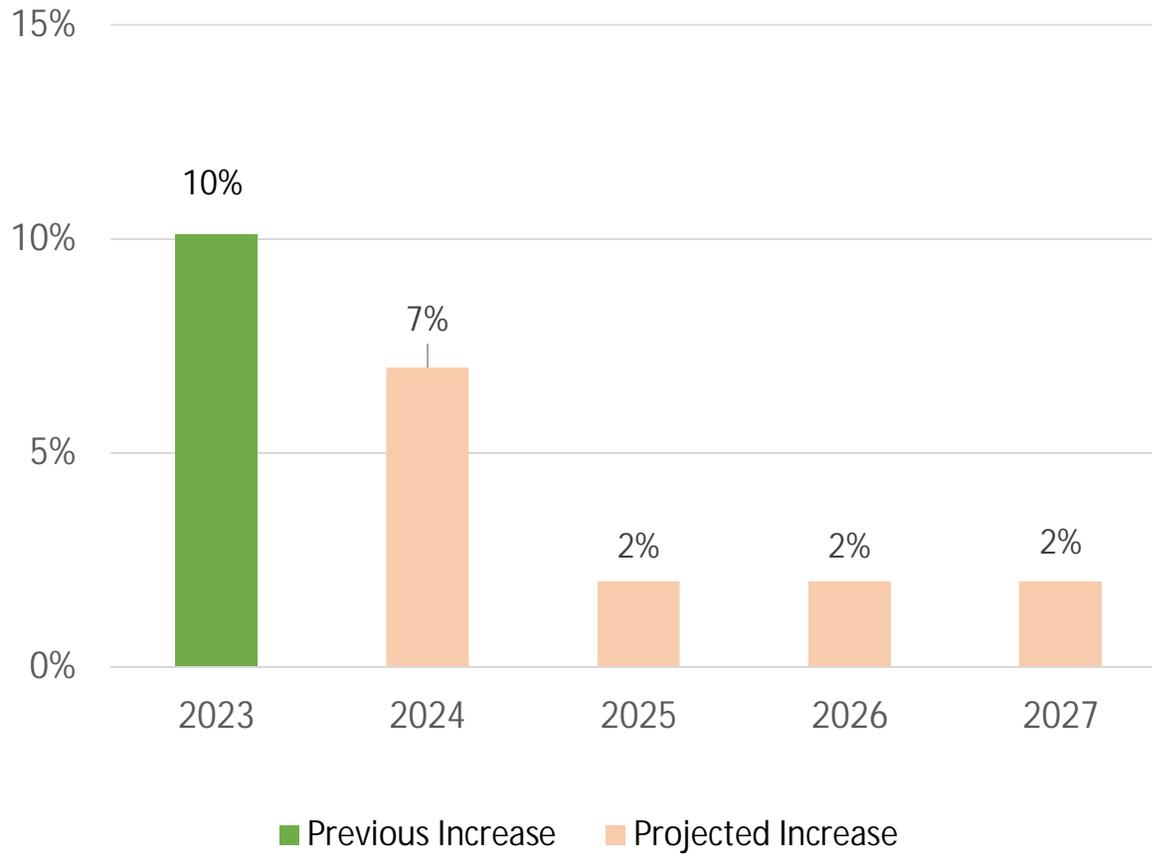
- The city currently offers a 50% discount on water (and sewer) rates to income-qualified seniors and disabled customers
- The city has a tiered water rate structure to moderately incentivize conservation



Sewer Rate Recommendations

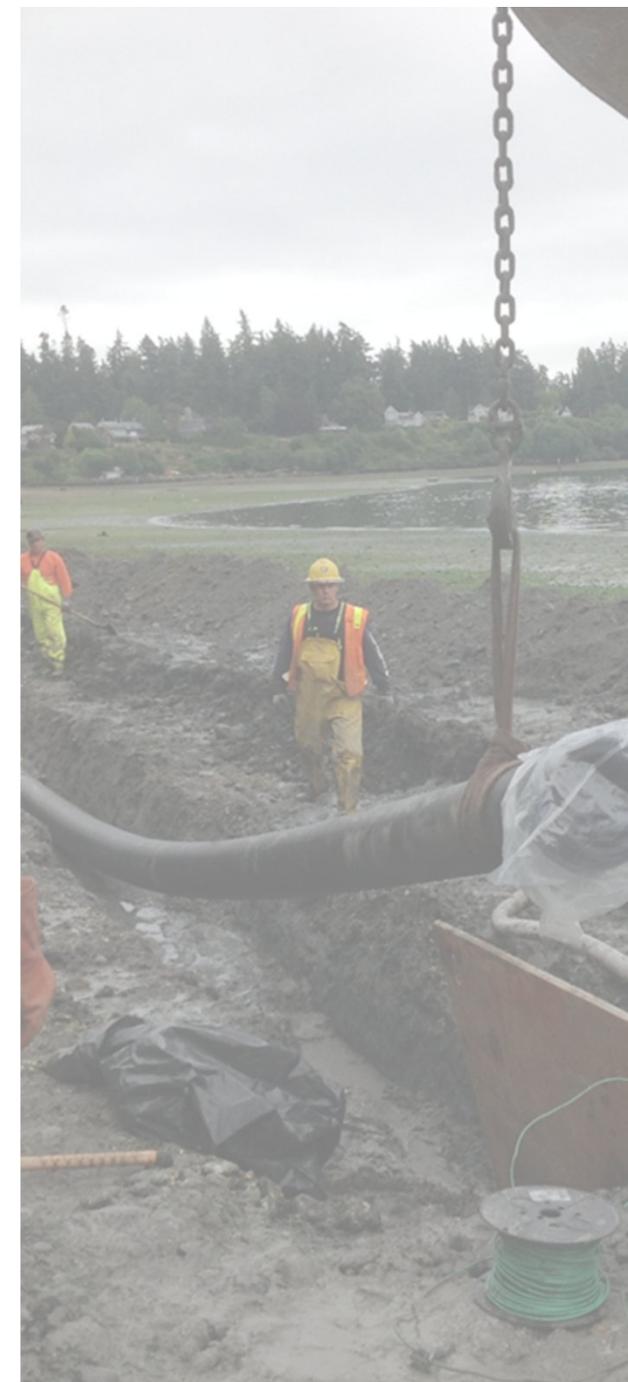
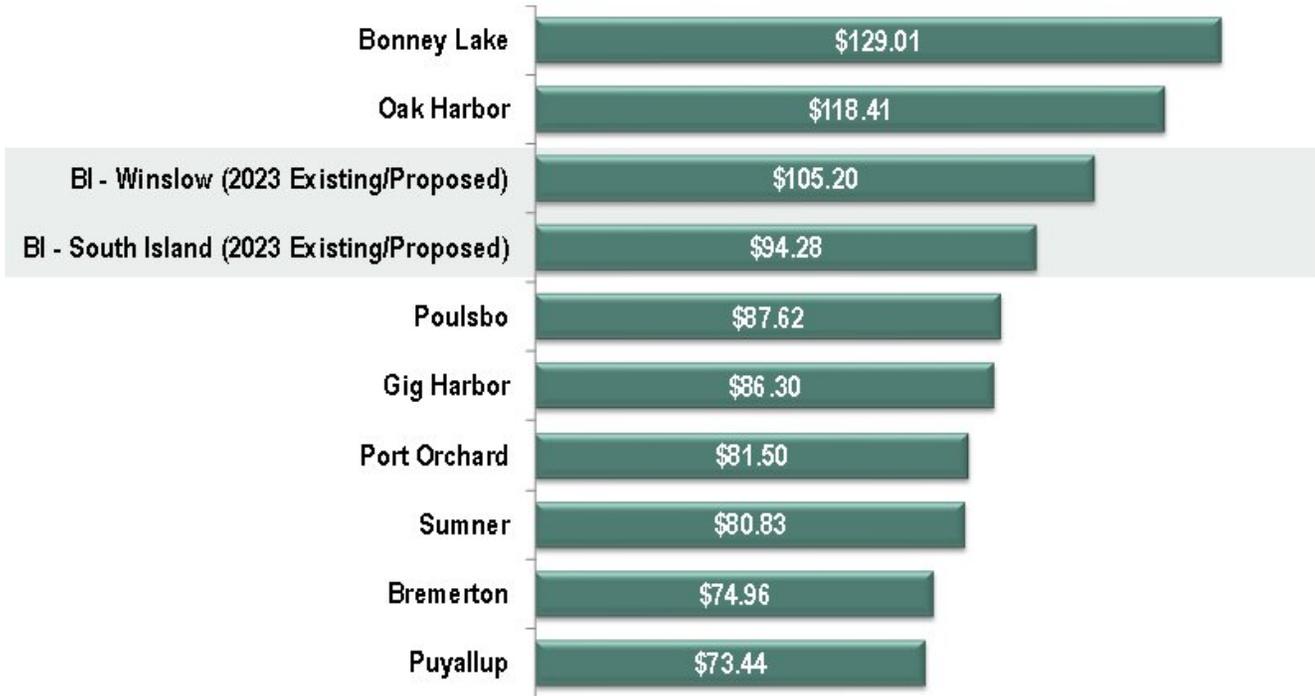


Sewer Utility – Proposed inflationary adjustments



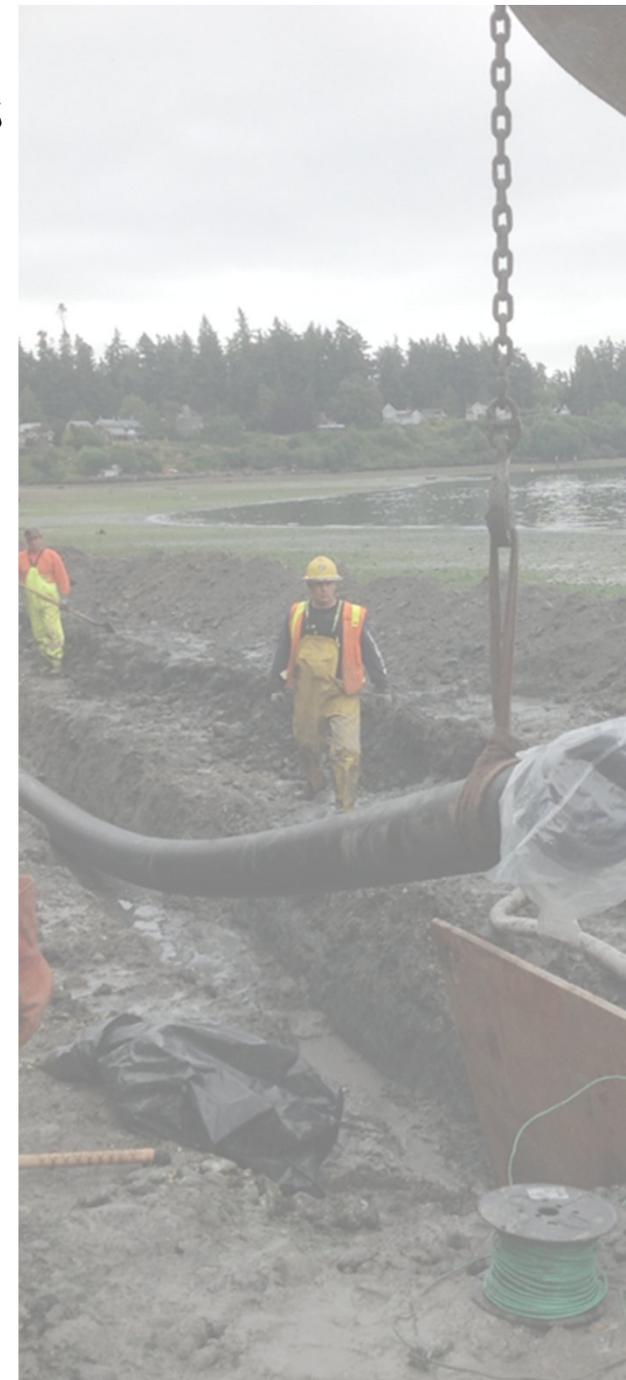
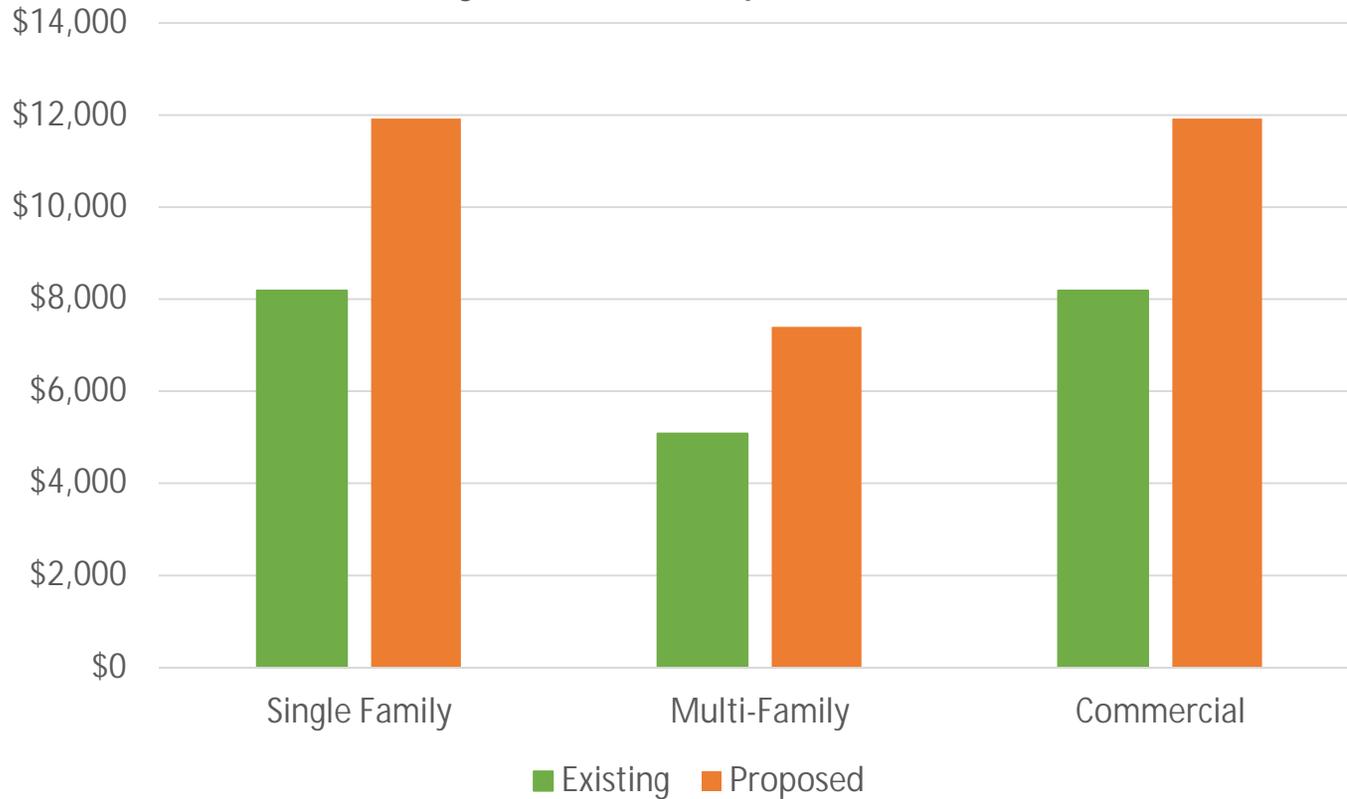
Sewer Utility – How will sewer bills compare?

Exhibit 1.6: Monthly Single-Family Sewer Bill Comparison (3/4” Meter, 7 ccf)



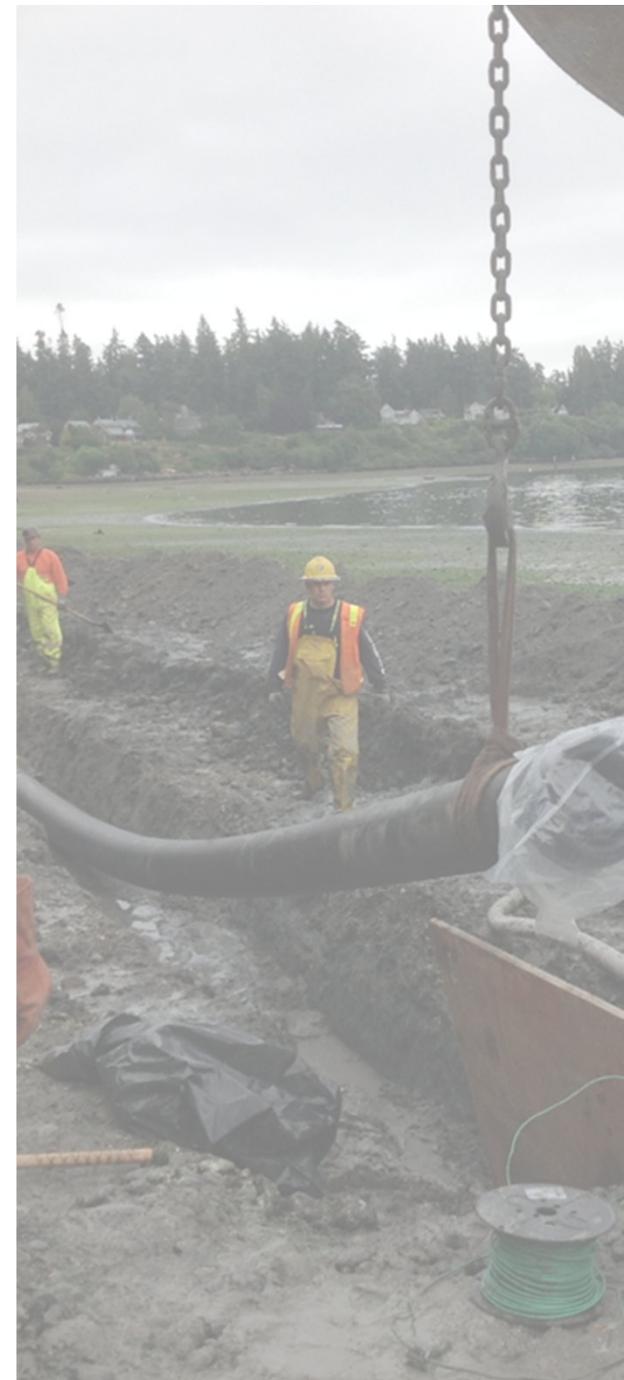
Sewer Utility – Proposed System Participation Fee Increases

System Participation Fees



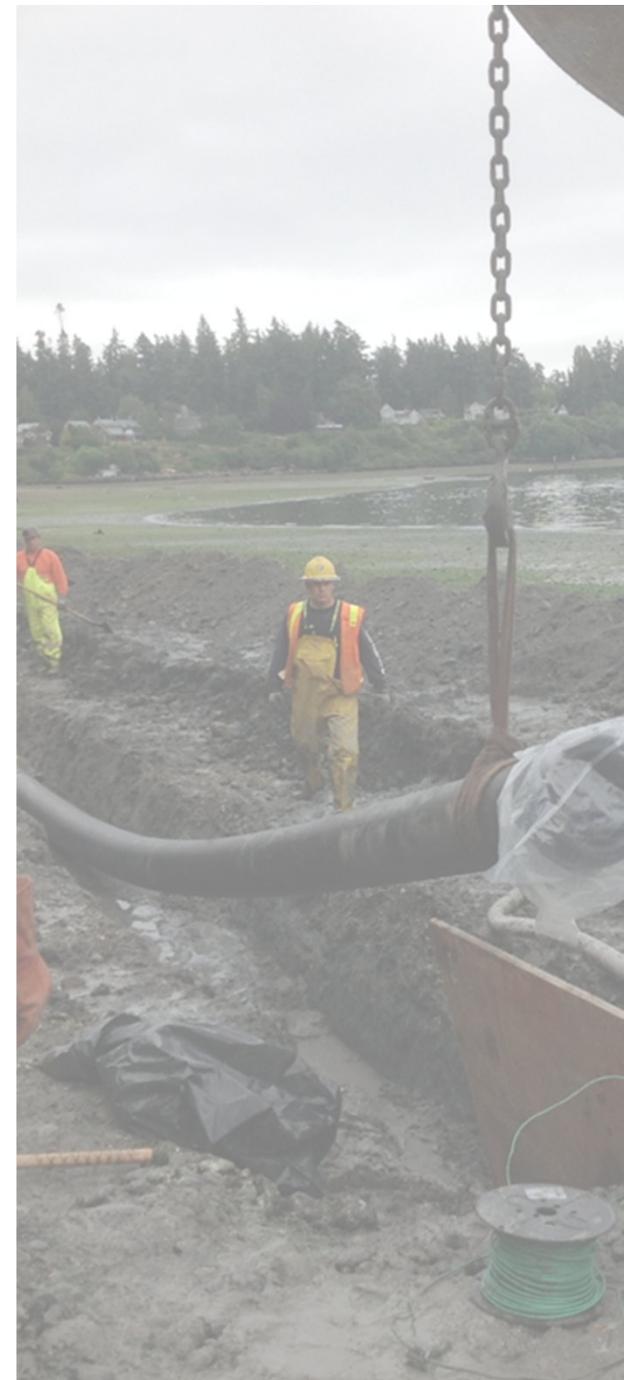
Sewer Utility – How will system participation fees compare?

Exhibit 1.11: Comparison of 2023 Sewer SPF per Equivalent Unit



Sewer Utility – Financial Plan

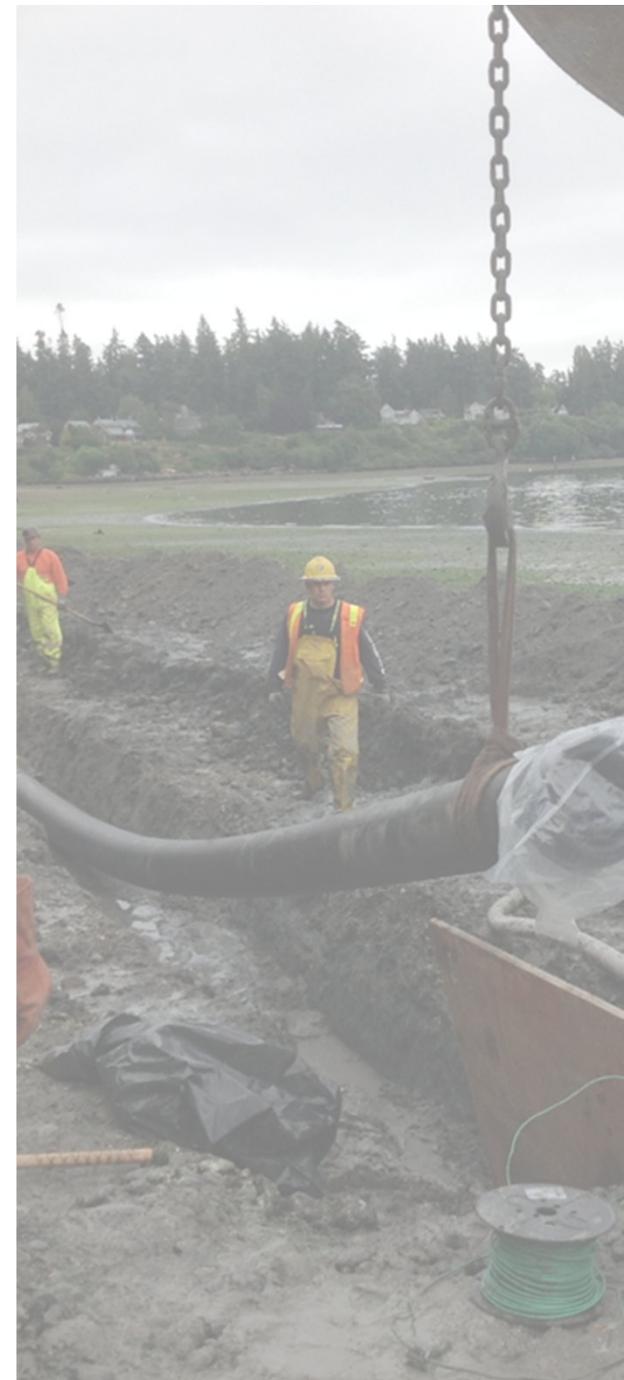
- Retain existing rate structure (who pays how much)
- Support capital needs with:
 - State Public Works Trust fund loan (\$2.5M)
 - Issue \$5.8M general obligation bond in 2024 to keep rates lower



Sewer Utility

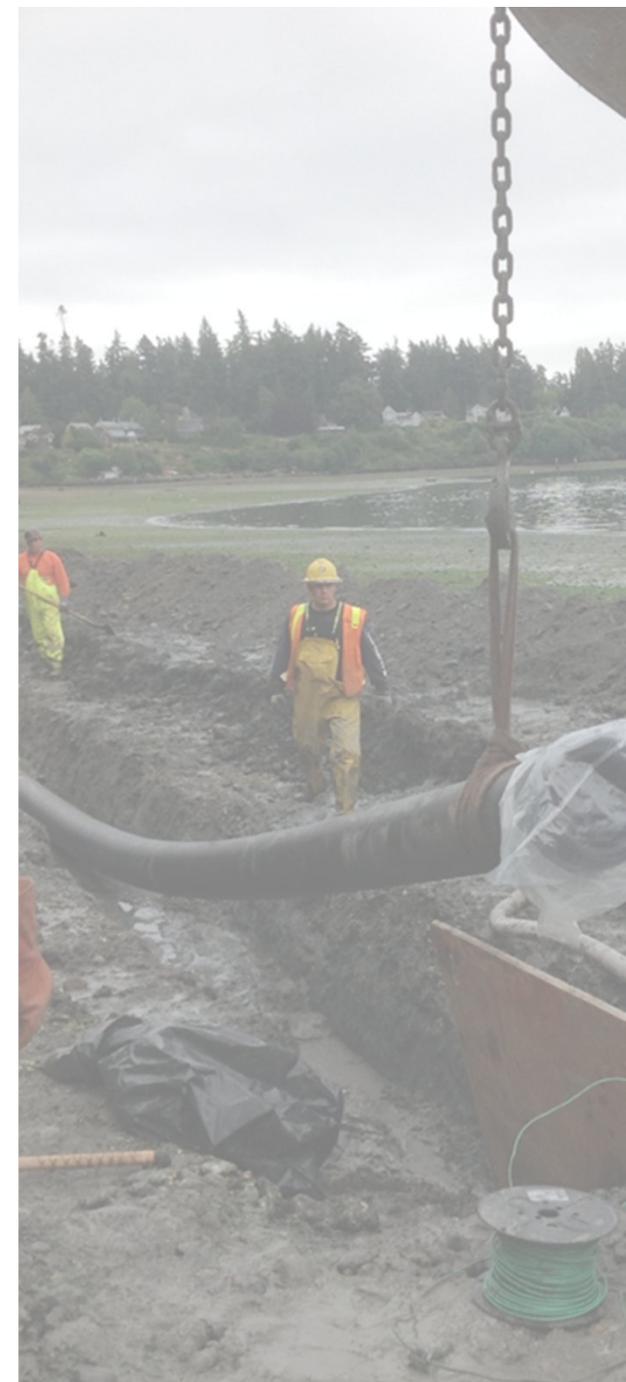
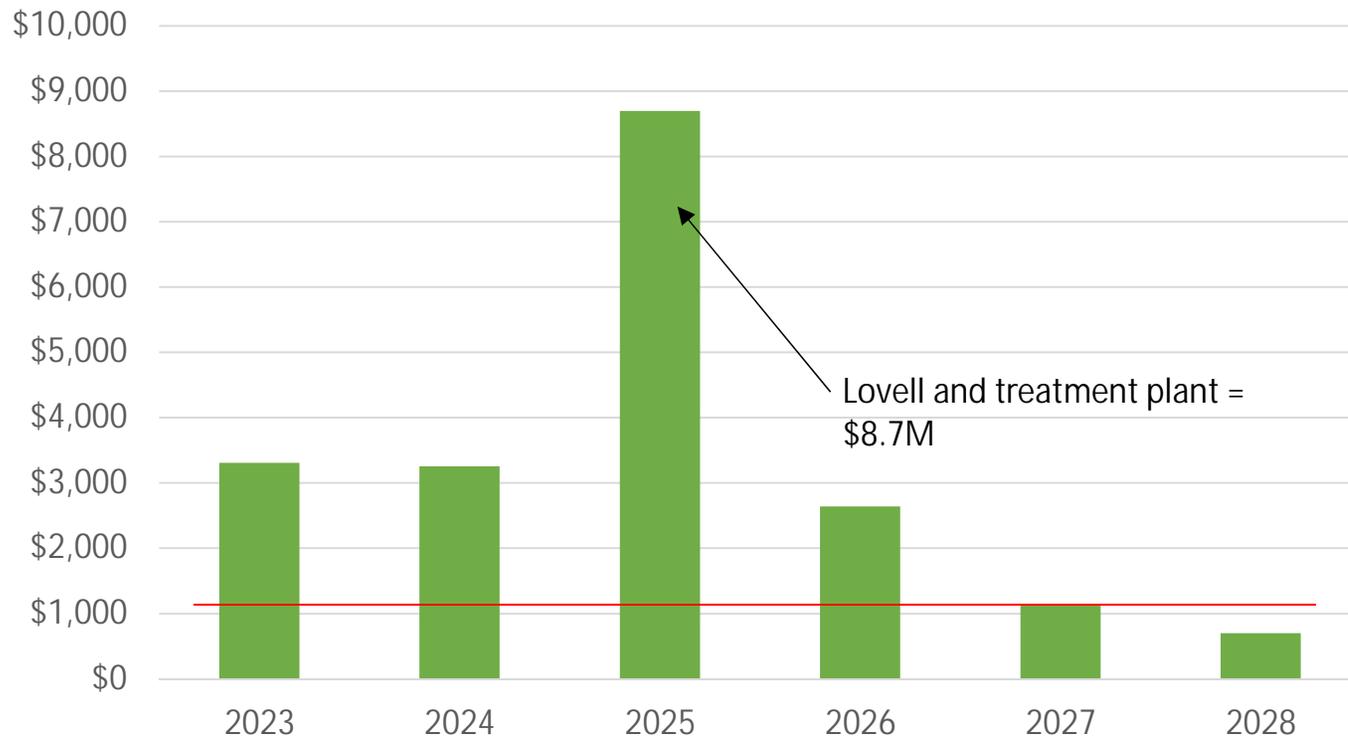
Why are rate revenue increases necessary?

1. Cost of Lovell sewer improvements and maintaining the wastewater treatment plant
2. System vulnerability due to age and maintenance deferral

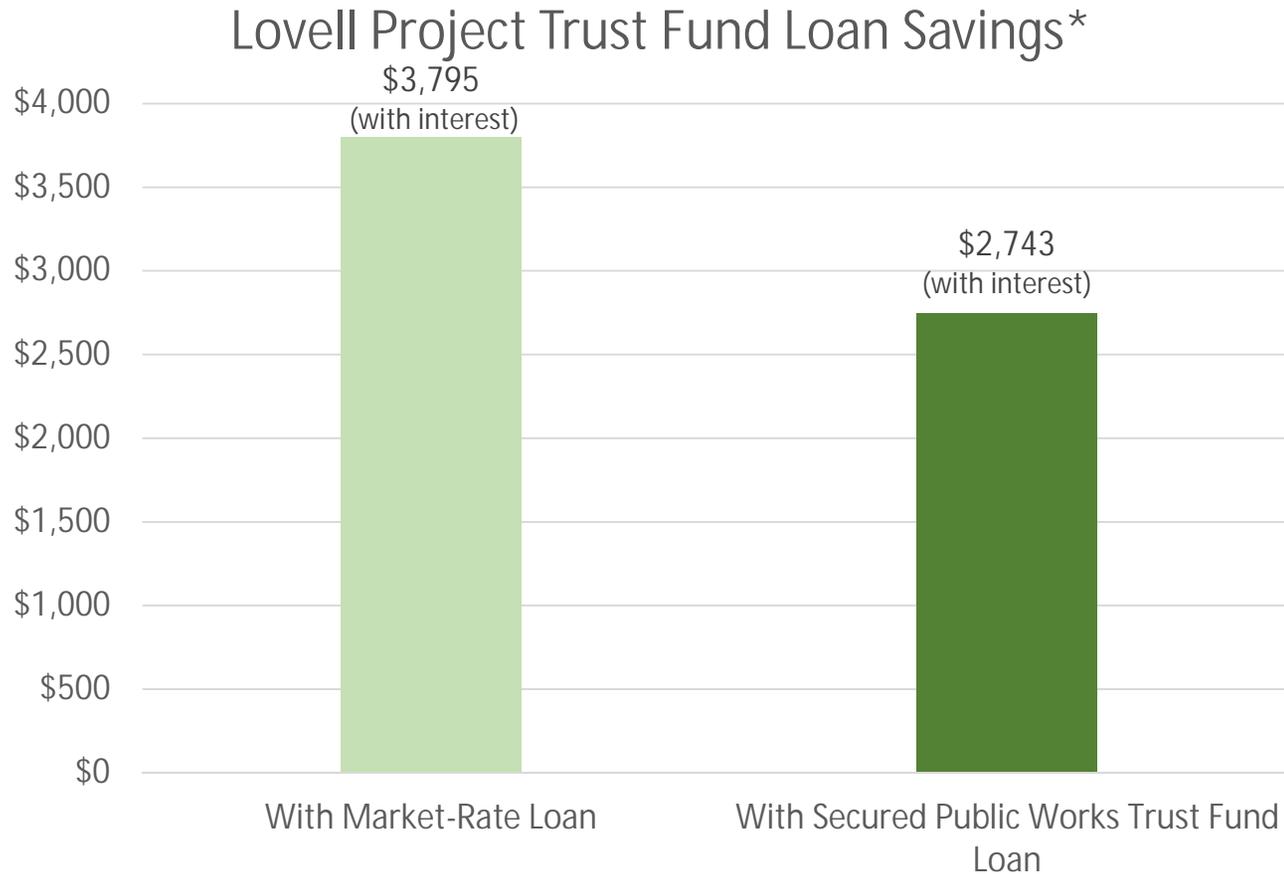


Sewer Utility – Large projects planned in the next biennium

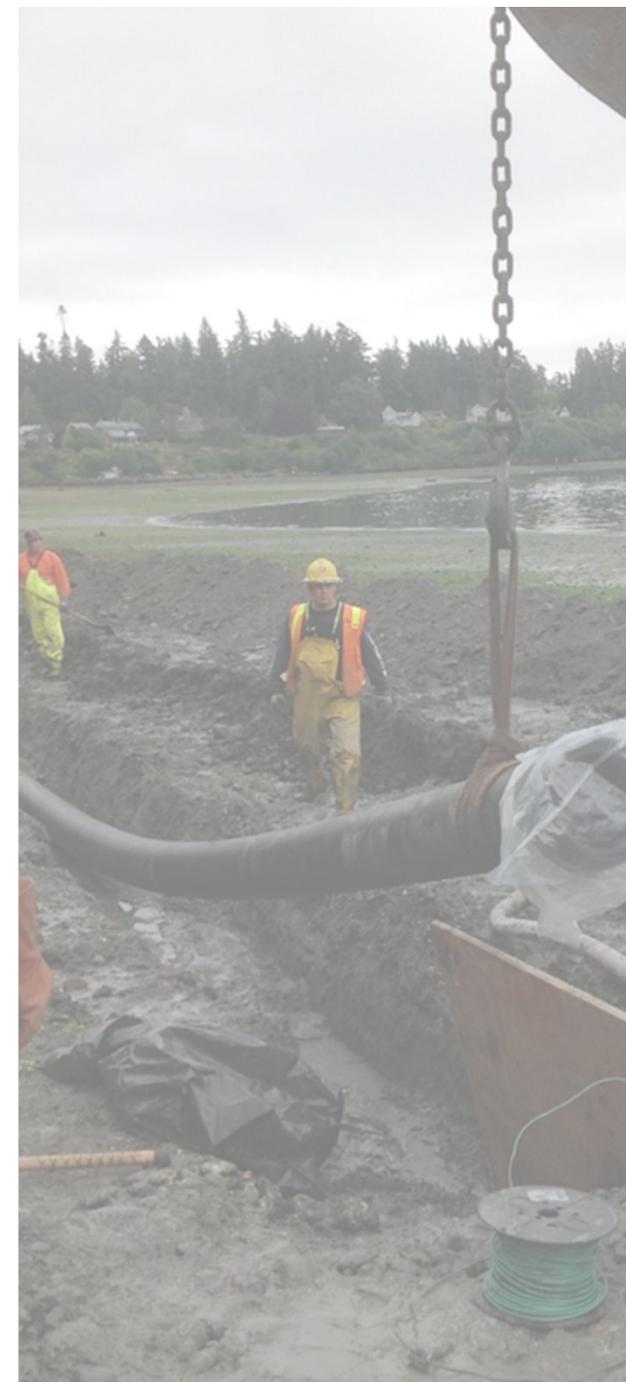
Capital Improvement Costs 2022-2028



Sewer Utility – Secured loans are saving the city \$1M

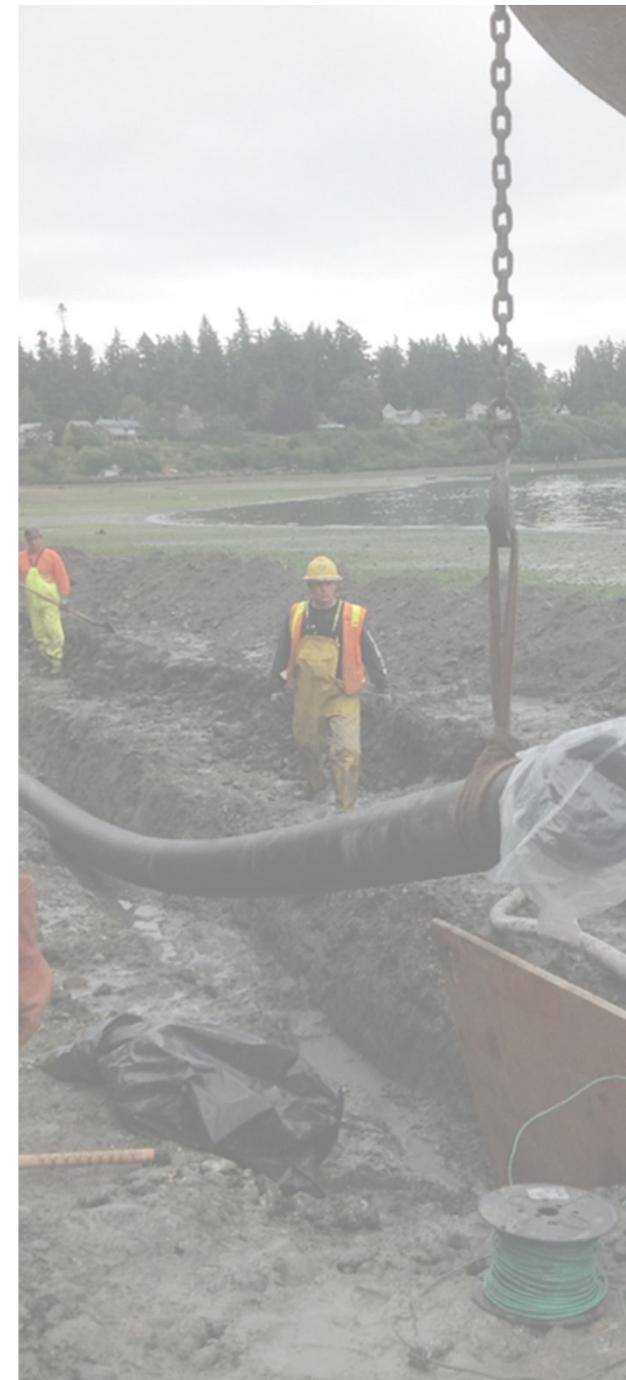
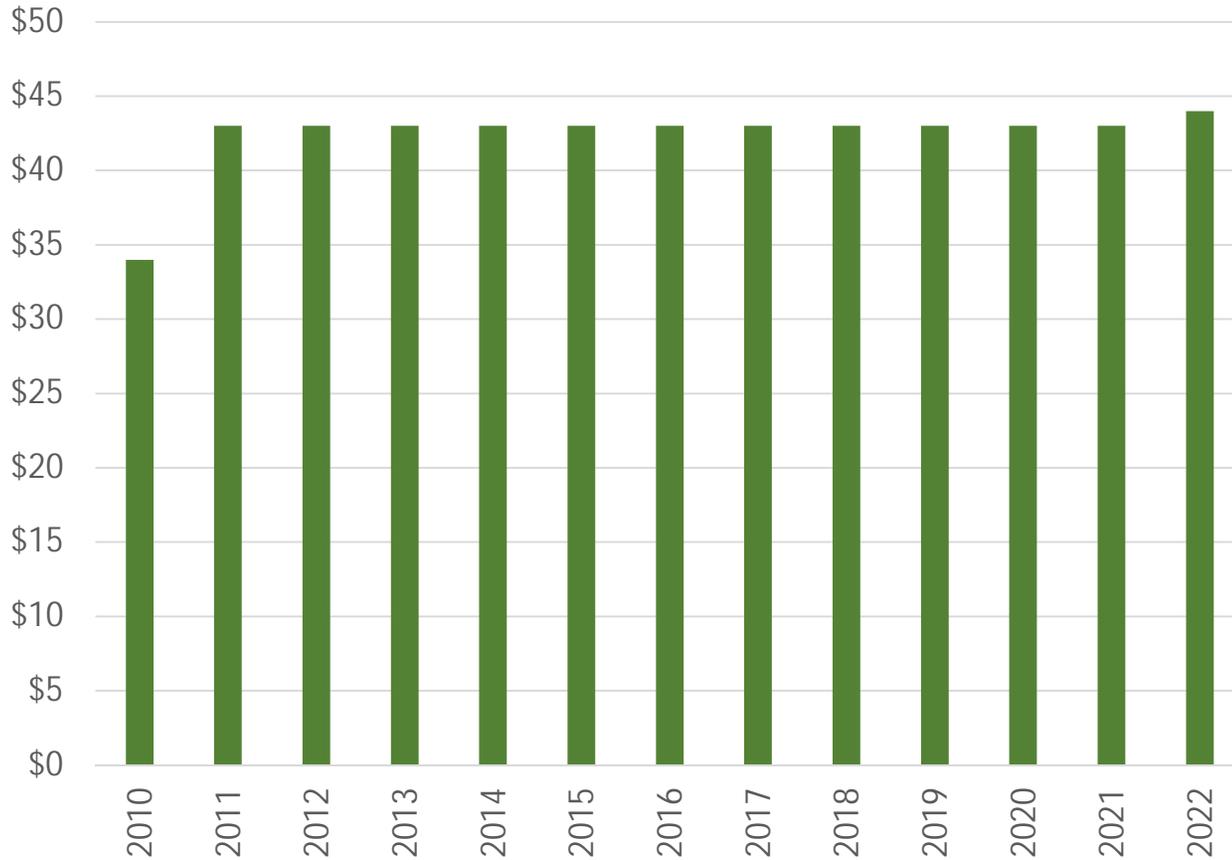


* Represents only the borrowed portion of the entire project cost



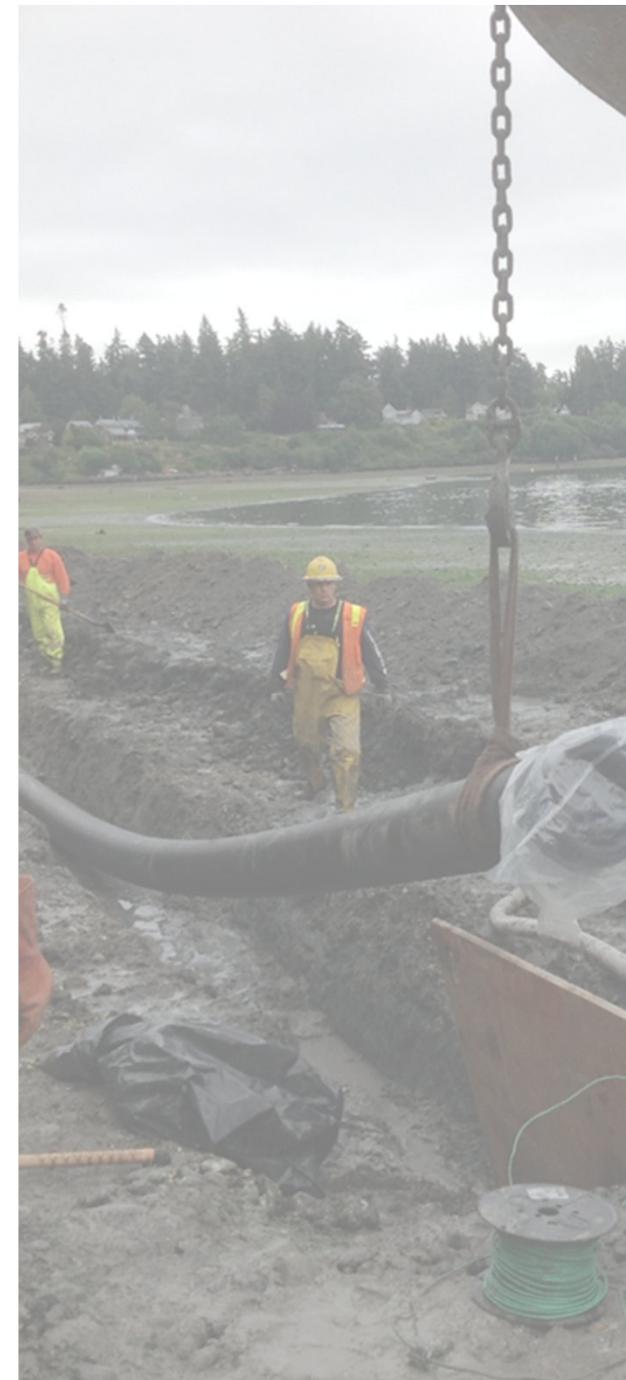
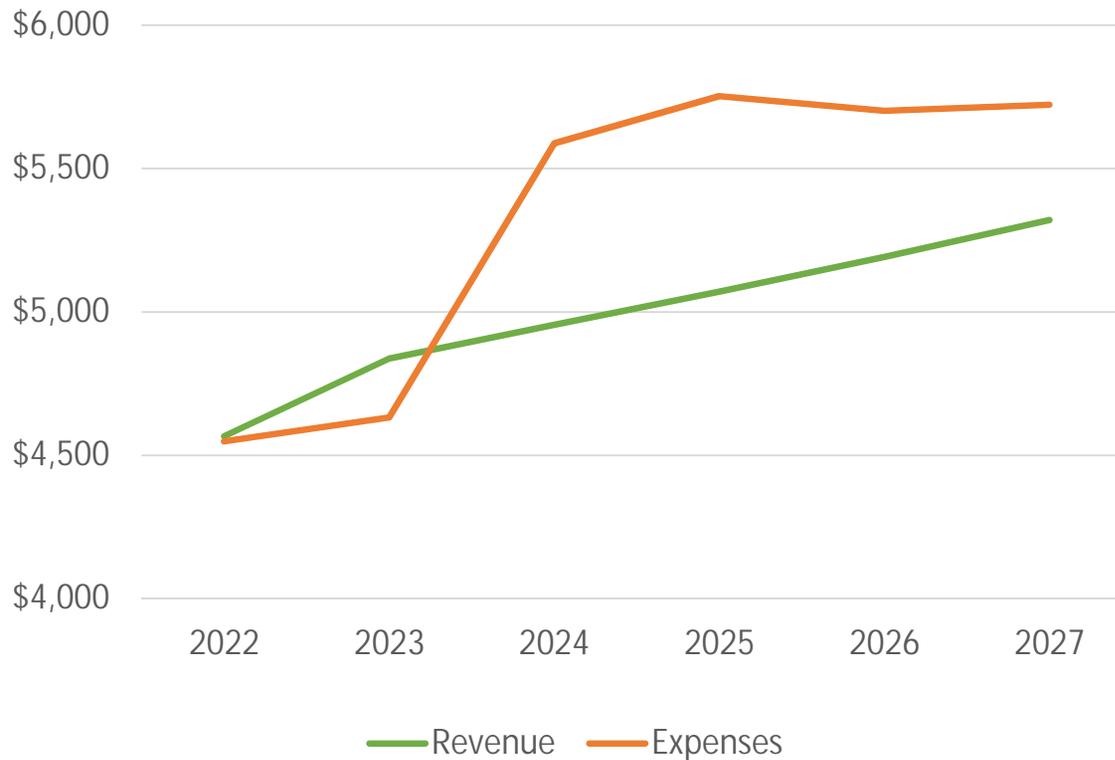
Sewer Utility – Rates were not increased for inflation

Residential Base Rates 2010-2022



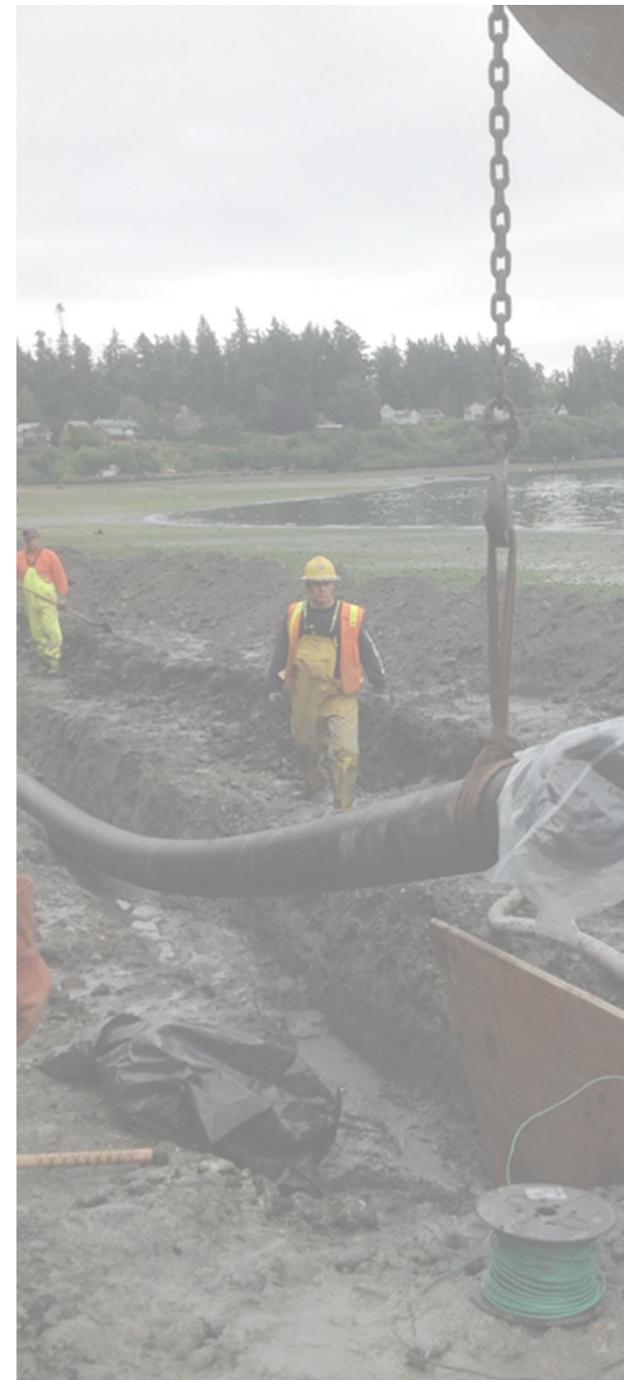
Sewer Utility – Current revenue cannot keep up with expenses

Sewer Revenue vs. Expenses Without Rate Increases (thousands)

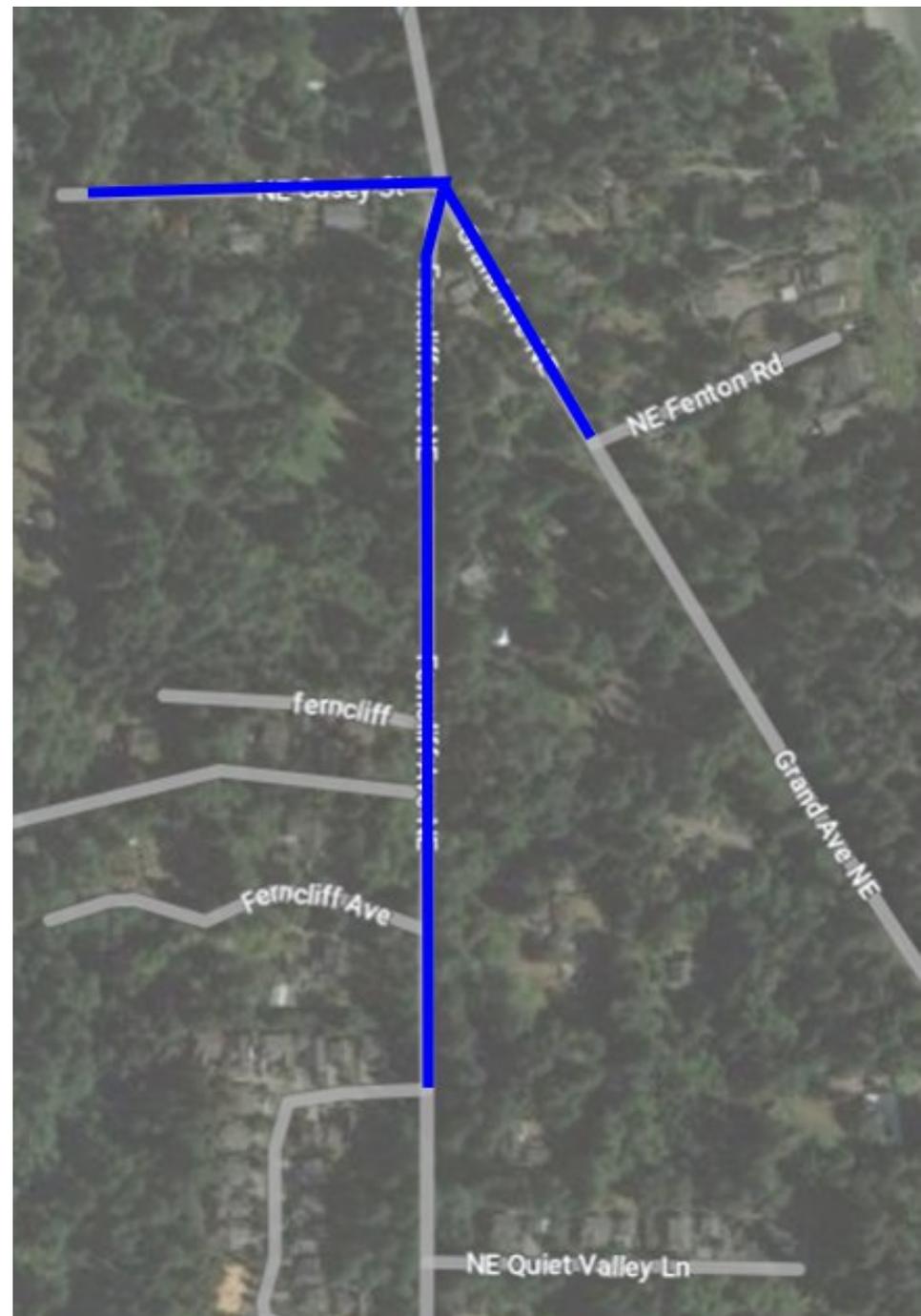


Sewer Utility System age and deferred maintenance drives the need for additional spending

- 90% of pipes uninspected
- 50% of pumps past useful life in 5 years
- 55% of manholes past useful life in 5 years
- Treatment plant capacity upgrades required to meet state regulations
- Evaluation of wastewater beneficial re-use
- 3 new staff (water, sewer, stormwater)

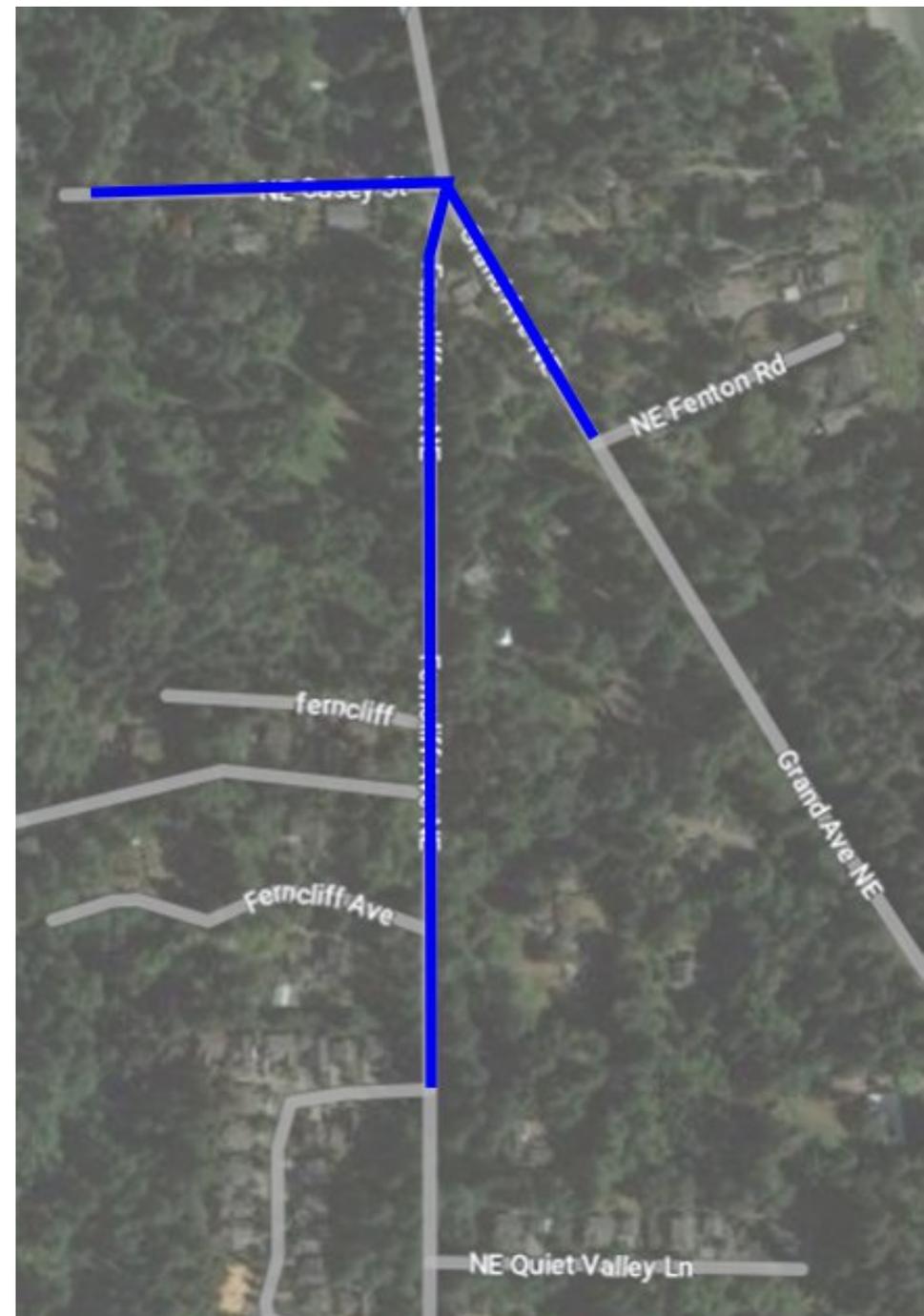


- Ferncliff Water Main Extension
- Sewer Averaging

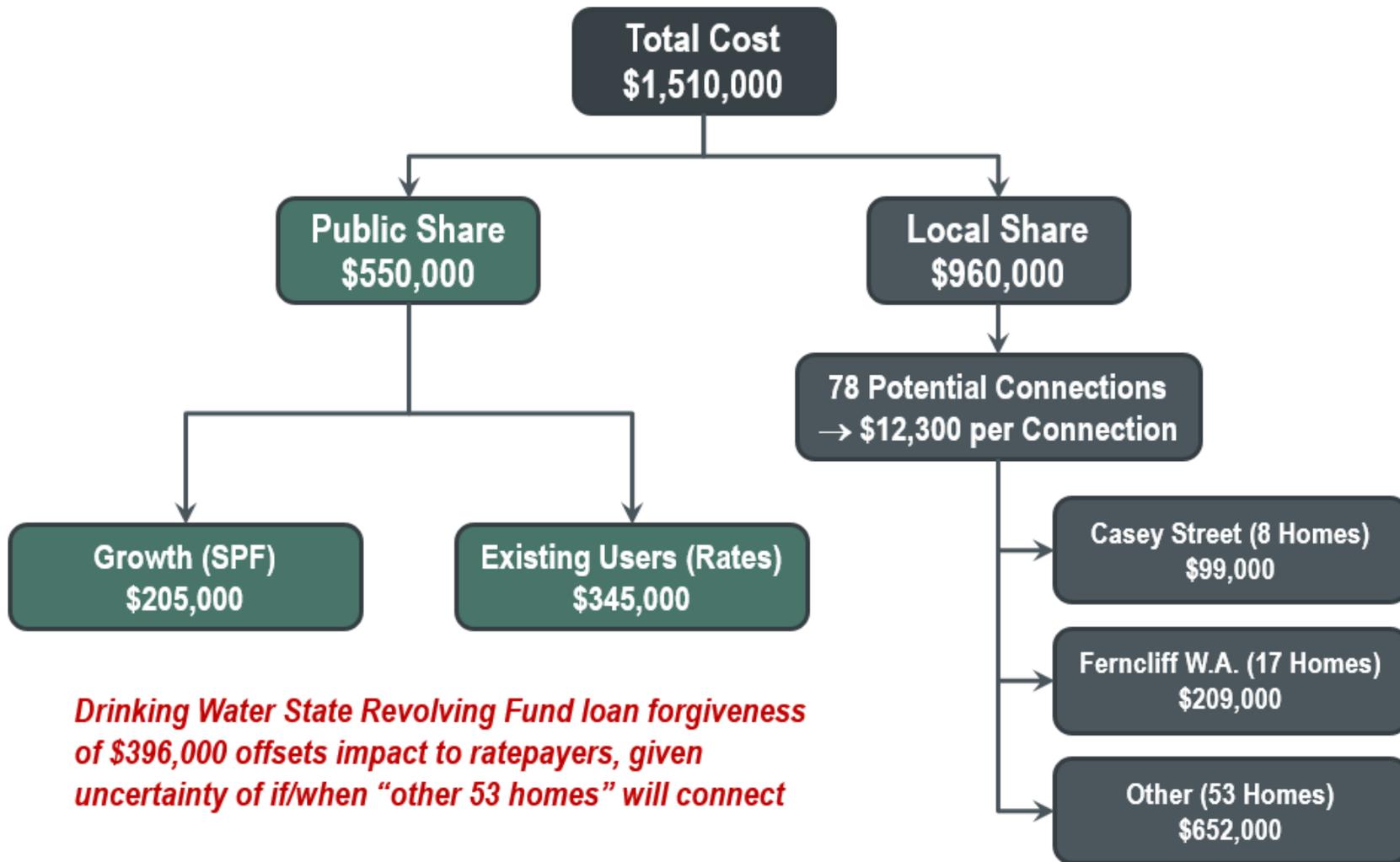


Ferncliff Main Extension

- Estimated cost of construction = \$1.5M
- A Department of Health Drinking Water Loan was secured for the project:
 - \$800K @ 20-years 1.75% interest
 - 50% forgiveness (\$400K)
 - Deadline for project start is July 2023

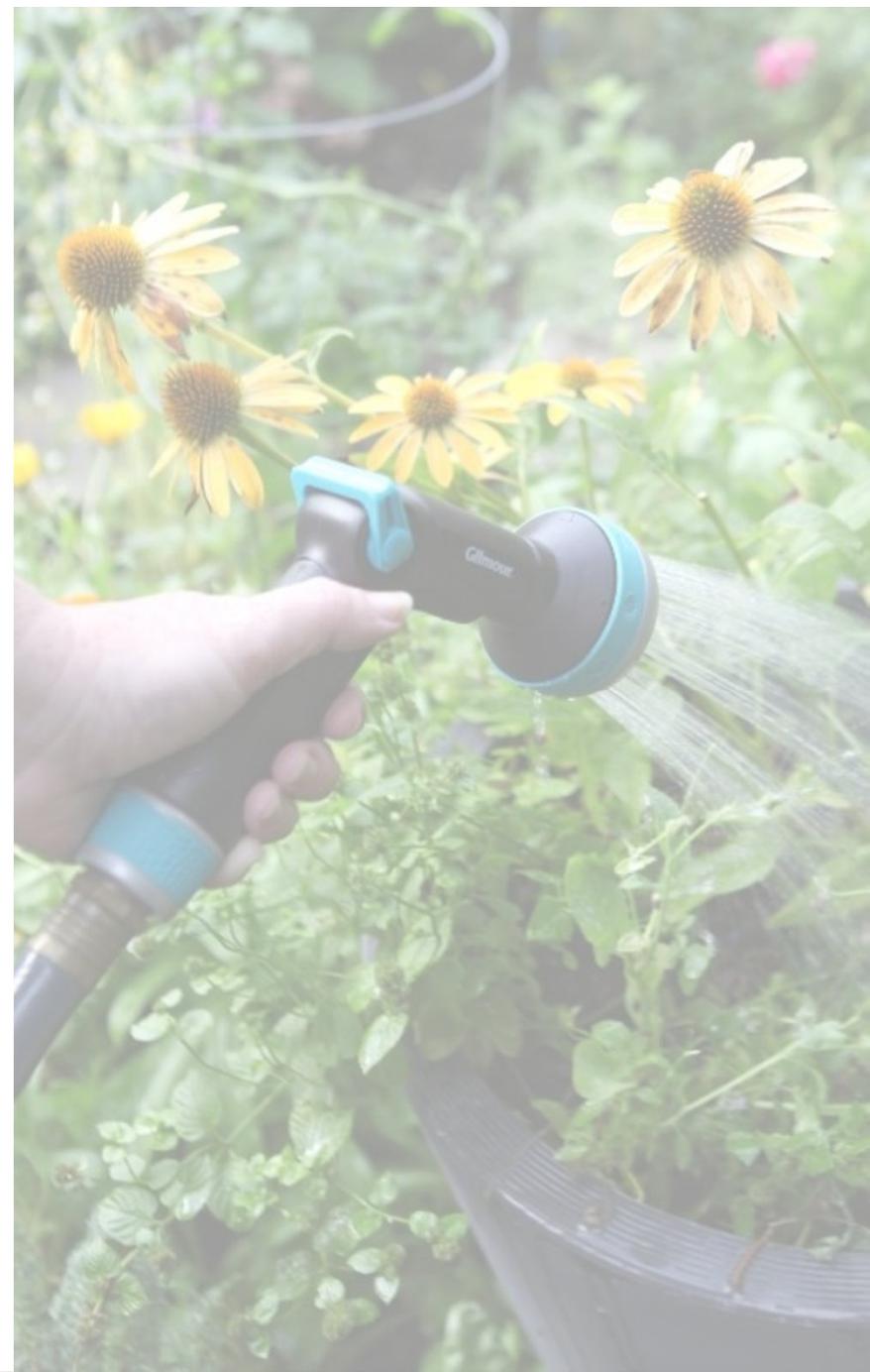


Ferncliff Main Extension



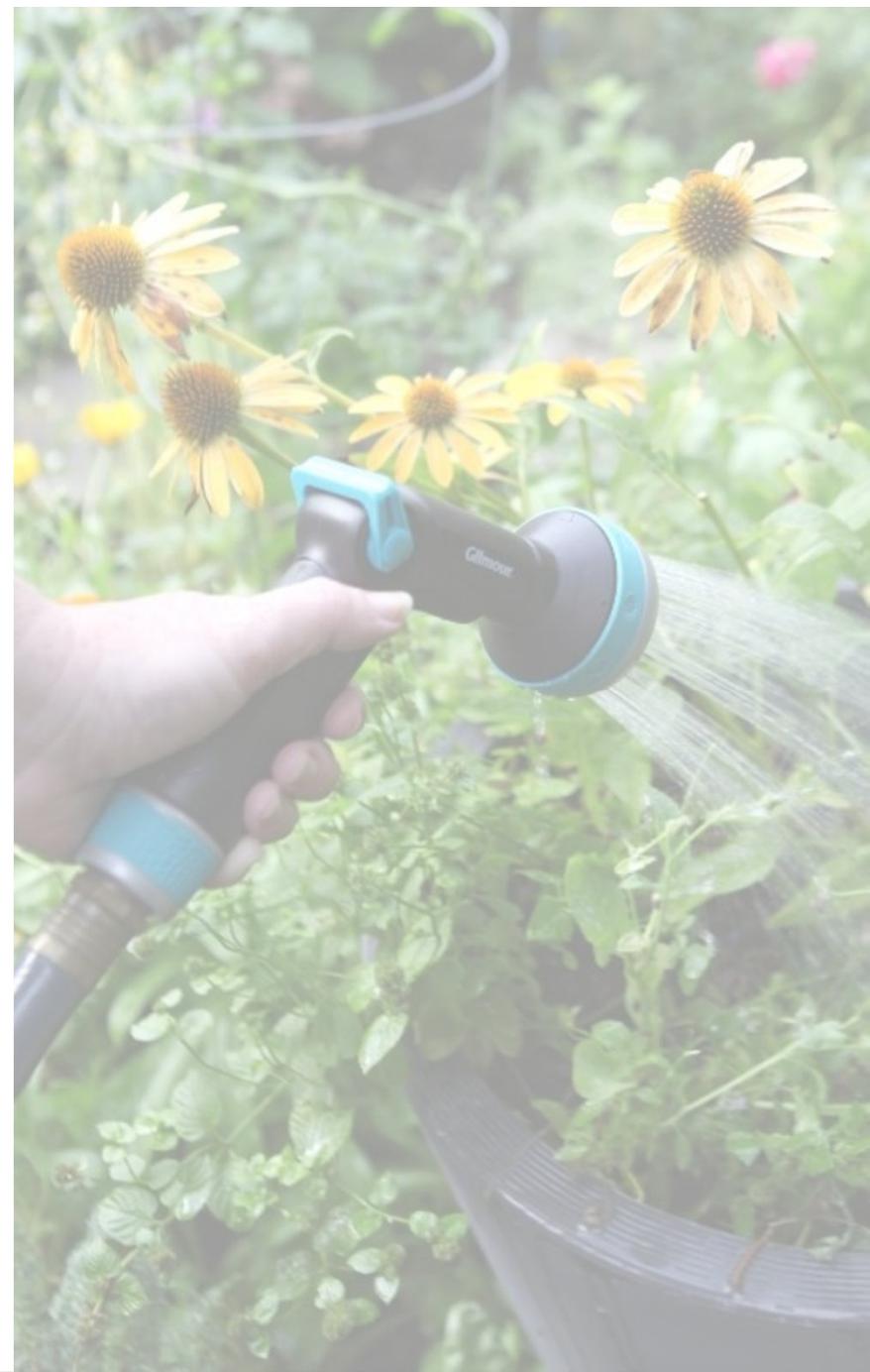
Sewer Bill Averaging - Current

- From June – Sept the city bills sewer customers according to the winter water usage
- We use winter water usage to estimate wastewater flows generated by customers so irrigation use does not inflate sewer bills



Sewer Bill Averaging - Recommendation

- Due to a changing climate, October 2022 sewer bills were very high due to dry conditions
(customers were charged sewer bills that included high irrigation water usage)
- To correct for this issue in the future, report recommends moving to year-round winter-water-usage sewer bills (typical for most cities)
- Staff will be bringing forward a credit for the October 2022 sewer bills



Next Steps

1. Consider comments/recommendations from the city council
2. Finalize any recommendations
3. Adopt water and sewer rate rates (April)
4. Adopt revisions to the water and sewer Capital Improvement Plan
5. Adopt a resolution regarding winter-average usage year round
6. Authorize a customer credit for October 2022 water and sewer bills

Water and Sewer Utility Rate Revenue Study

Q&A

Christopher Wierzbicki, PE
Public Works Director
August 9, 2022





CITY OF
BAINBRIDGE ISLAND

City Council Study Session Agenda Bill

MEETING DATE: April 4, 2023

ESTIMATED TIME: 20 Minutes

AGENDA ITEM: (7:10 PM) Review Madison Bundled Project 100% Design - Public Works,

SUMMARY: Staff will present an overview of the Madison Bundled Project 100% design.

AGENDA CATEGORY: Discussion

PROPOSED BY: Public Works

RECOMMENDED MOTION: Discussion only.

COMMUNITY ENGAGEMENT AND OUTREACH:

FISCAL IMPACT:

Amount:	N/A
Ongoing Cost:	N/A
One-Time Cost:	N/A
Included in Current Budget?	Yes

BACKGROUND: The Madison Avenue Bundled Project includes a suite of non-motorized, street and utility improvements between Winslow Way and State Route 305. The project is partially funded with a \$1.4M federal transportation grant, which has a deadline of June 1, 2023 for "obligation" - the date on which the plans and specifications need to be approved by the Washington State Department of Transportation (WSDOT).

Staff and the consultant, Toole Design, are presently working to secure the necessary temporary construction easements. The 100% design plans are completed and ready to submit to WSDOT by the June 1 deadline, with a bid advertisement scheduled for later in June.

A copy of the project striping plans and street sections are attached to this agenda item for review.

ATTACHMENTS:

[Madison Bundled Project Final Plans Striping Sections.pdf](#)

[Presentation Madison Ave Bundled Project Update 100% Plans 040423.pptx](#)

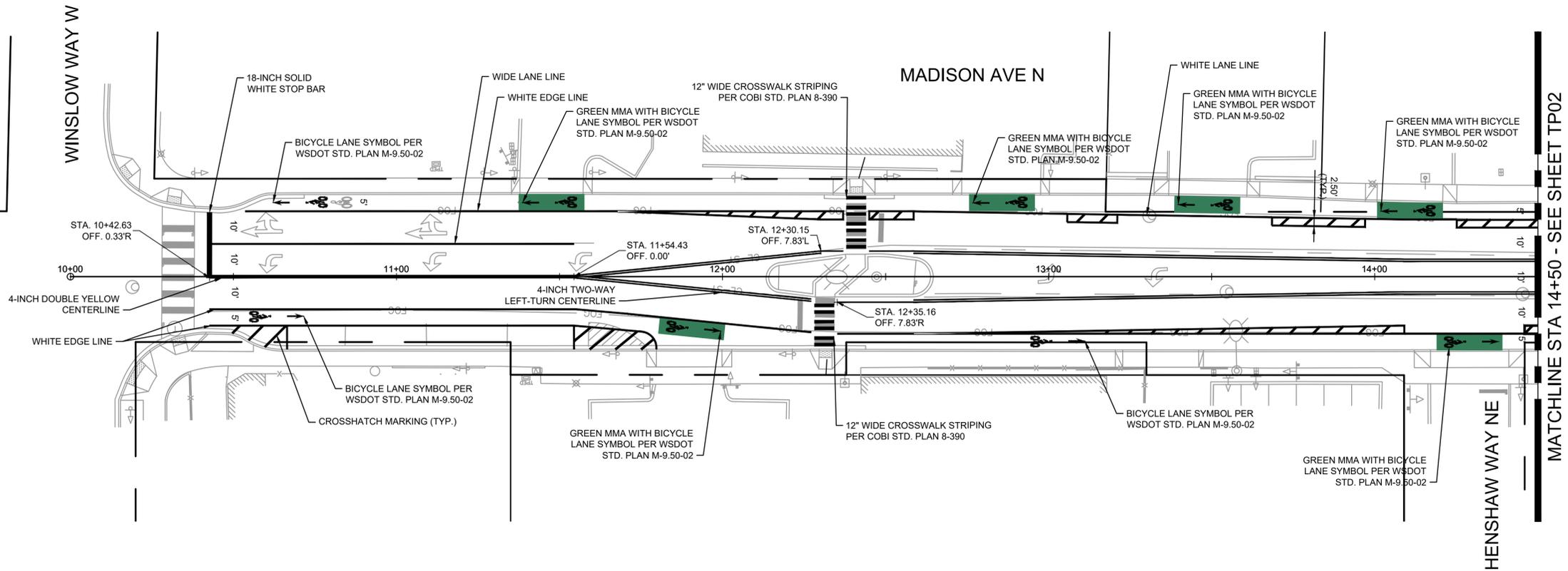
FISCAL DETAILS: Capital Improvement Project #1088

The total budget for this project is \$6,547,000 and is funded with the following resources:

General fund - \$209,000, Transportation Benefit Fund - \$885,000, Real Estate Excise Tax - \$1,236,000, American Rescue Plan (ARPA) - \$2 million, Sewer \$807,000 and Federal Transportation Project Grant - \$1,410,000

Fund Name(s):

Coding:



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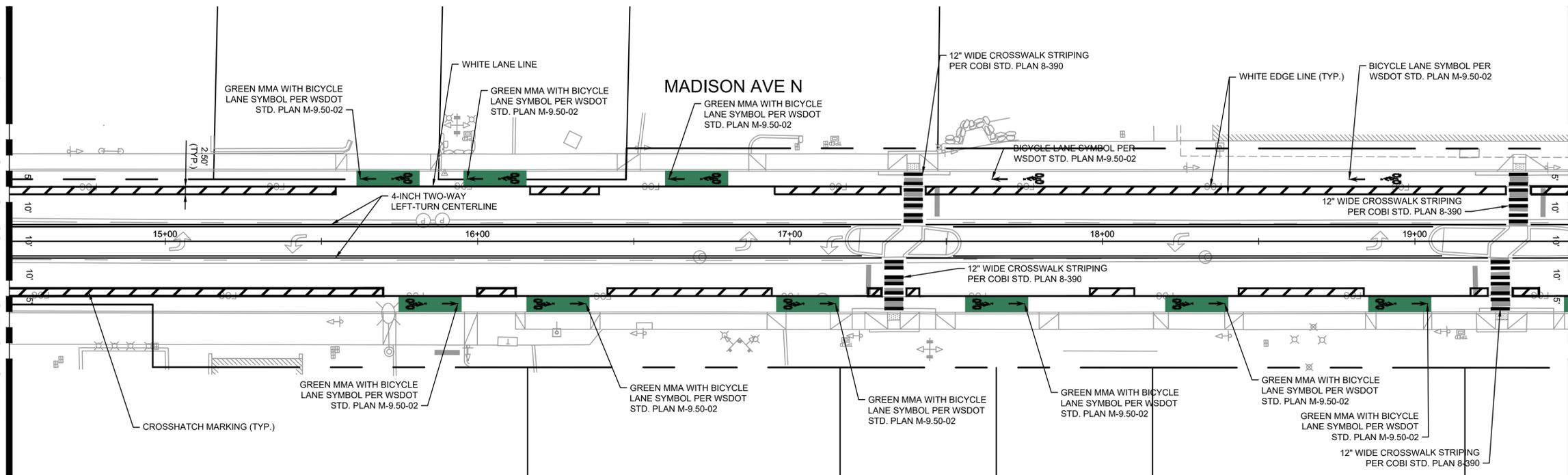
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TRAFFIC	PROJECT NO.	70178
SIGNING AND STRIPING PLANS	DATE	08.03.2022
	DRAWING NO.	TP01
	SHEET NO.	84 OF 106

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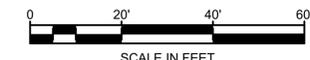
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MATCHLINE STA 19+50 - SEE SHEET TP03



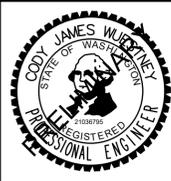
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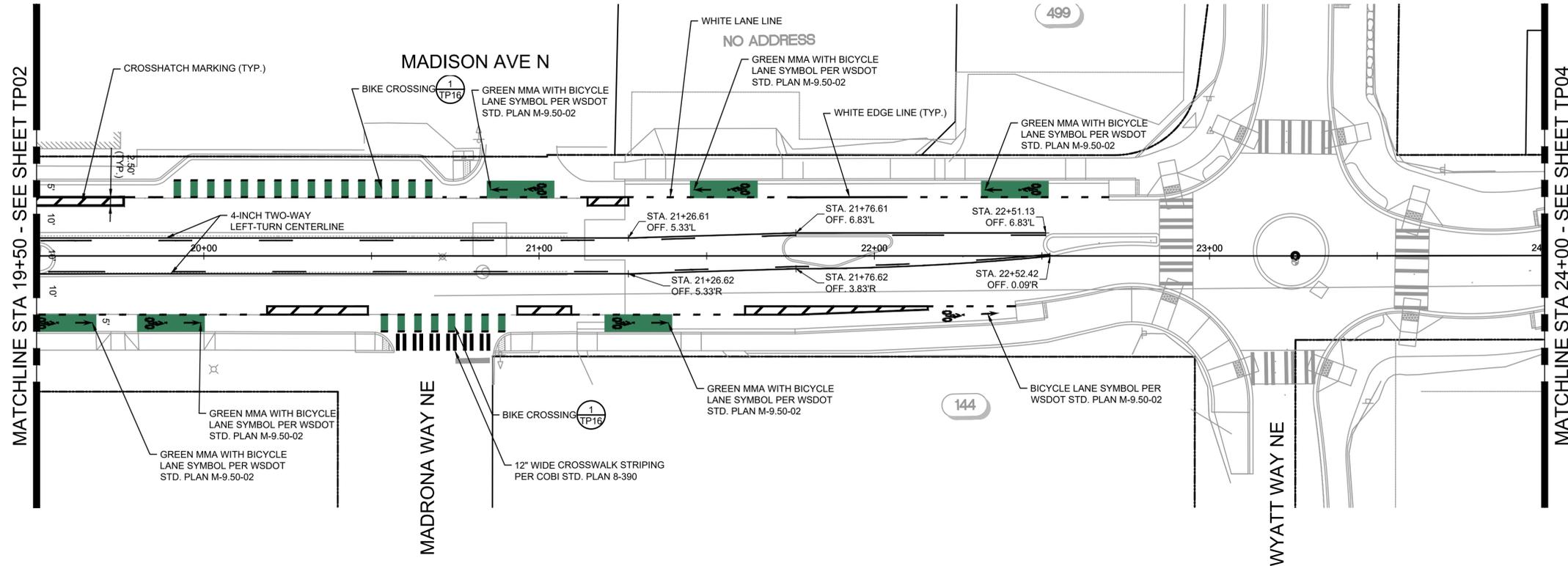
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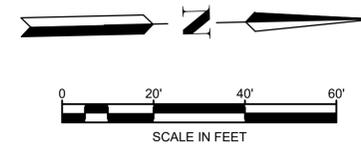
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SHEET NO.	85 OF 108

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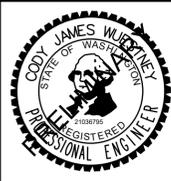
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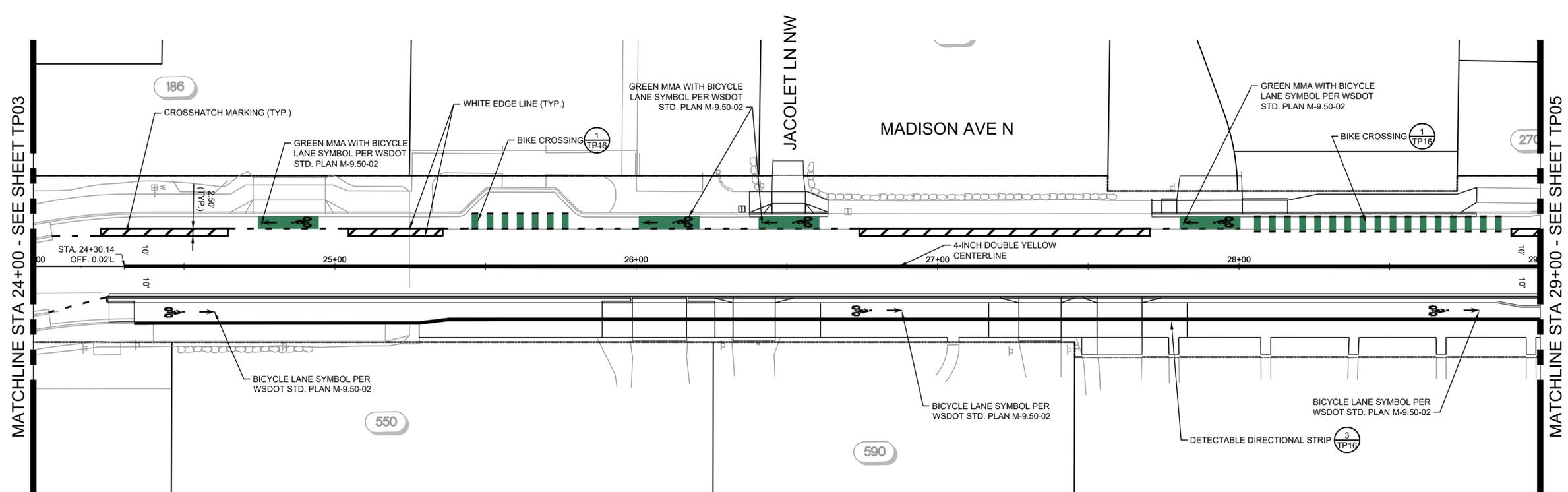
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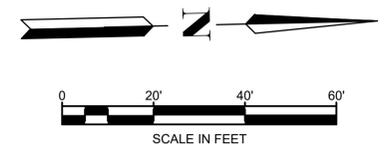
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MATCHLINE STA 29+00 - SEE SHEET TP05



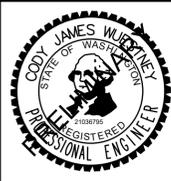
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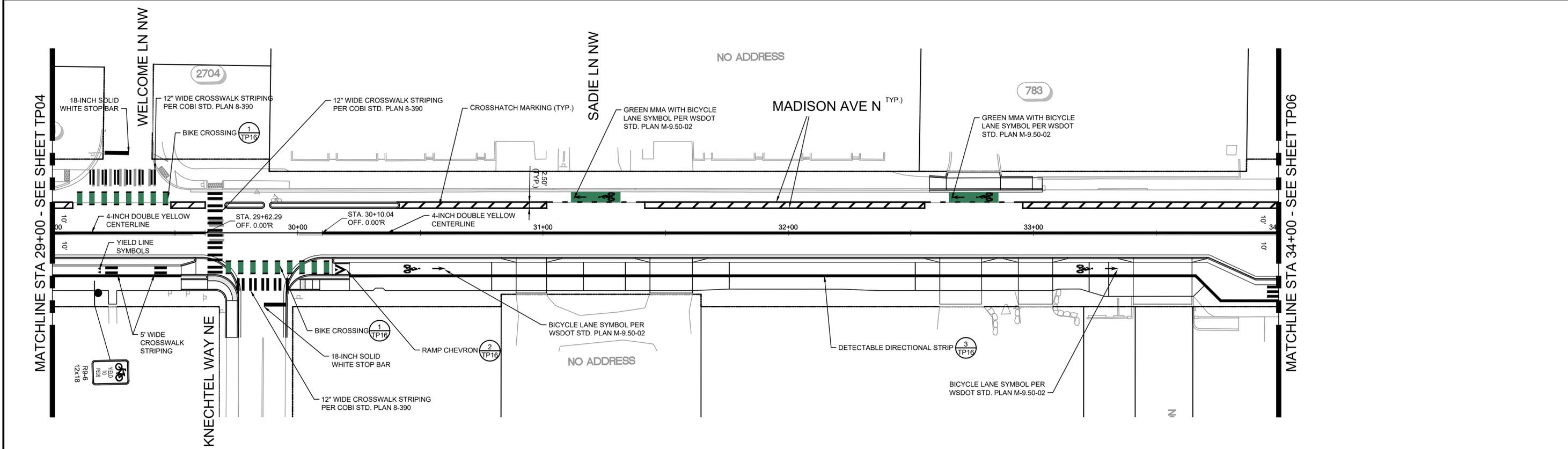
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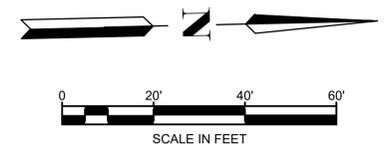
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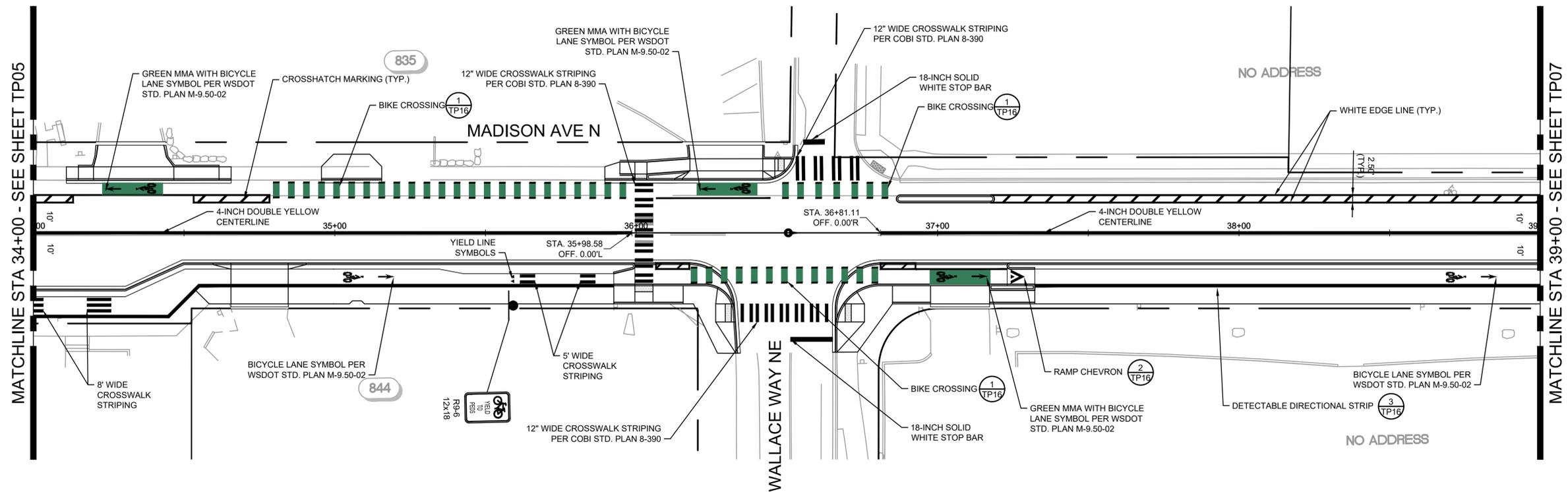
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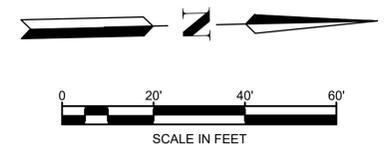
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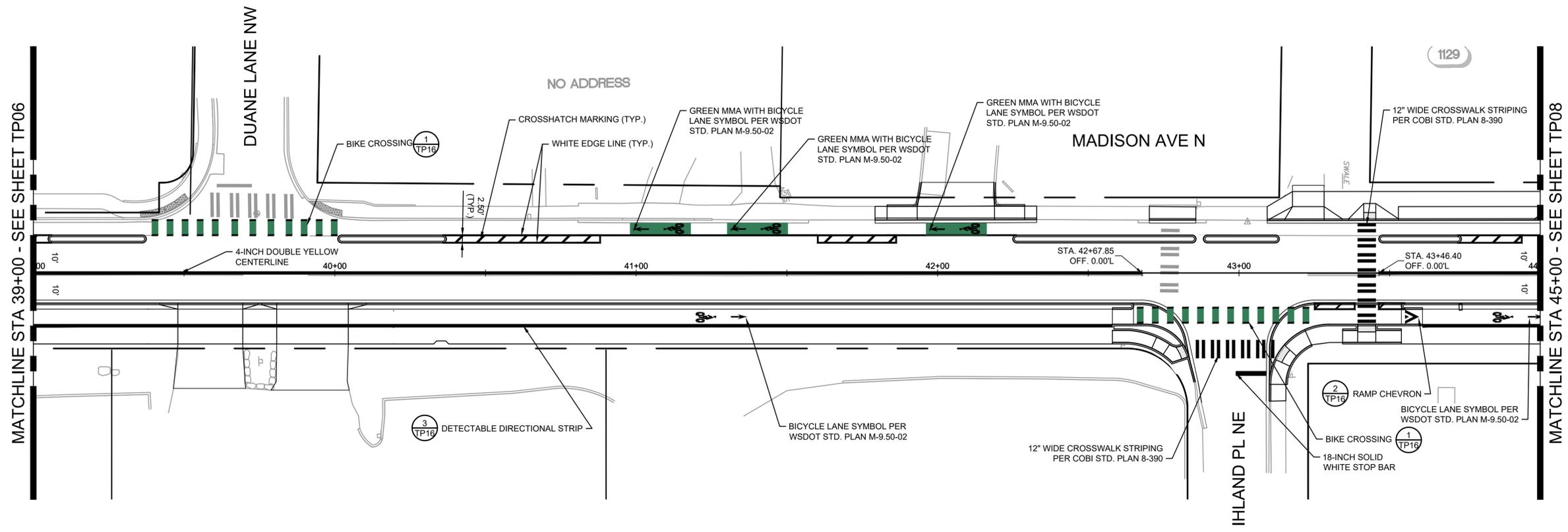
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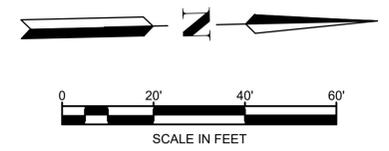
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3. REMOVE EXISTING PAVEMENT MARKINGS WHERE NEW PAVEMENT MARKINGS ARE SHOWN AND ROAD RECONSTRUCTION IS NOT SHOWN.



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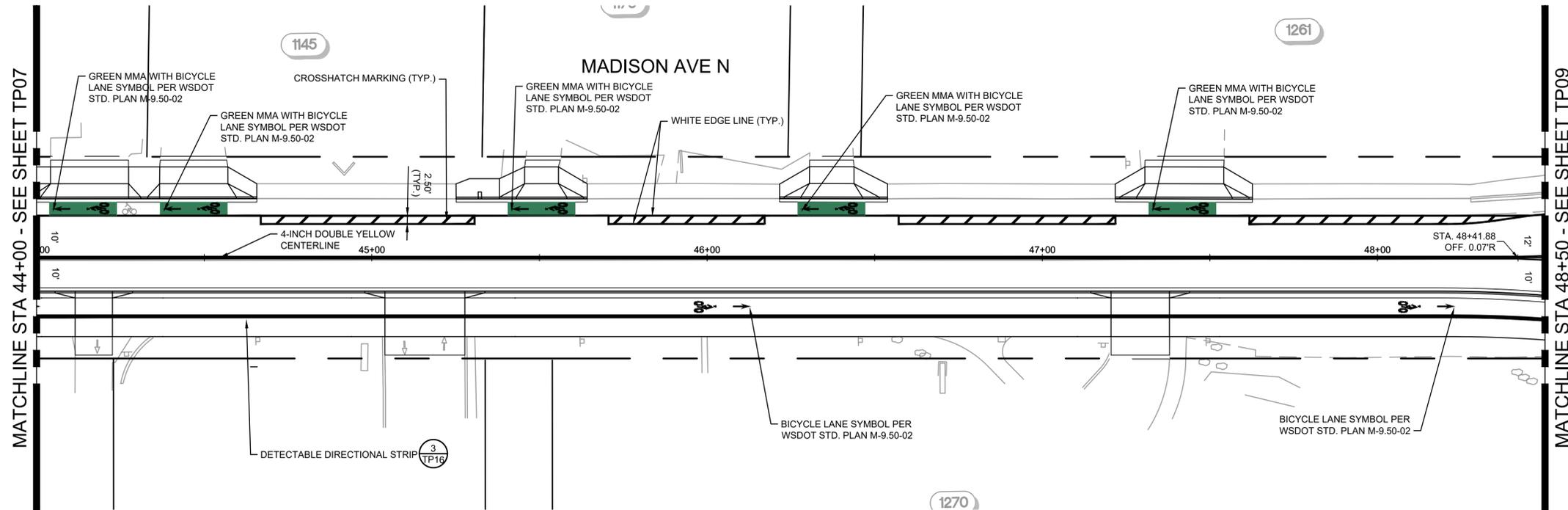
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CITY OF BAINBRIDGE ISLAND

TRAFFIC

**SIGNING AND STRIPING
PLANS**

PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP07
SHEET NO.	90 OF 108

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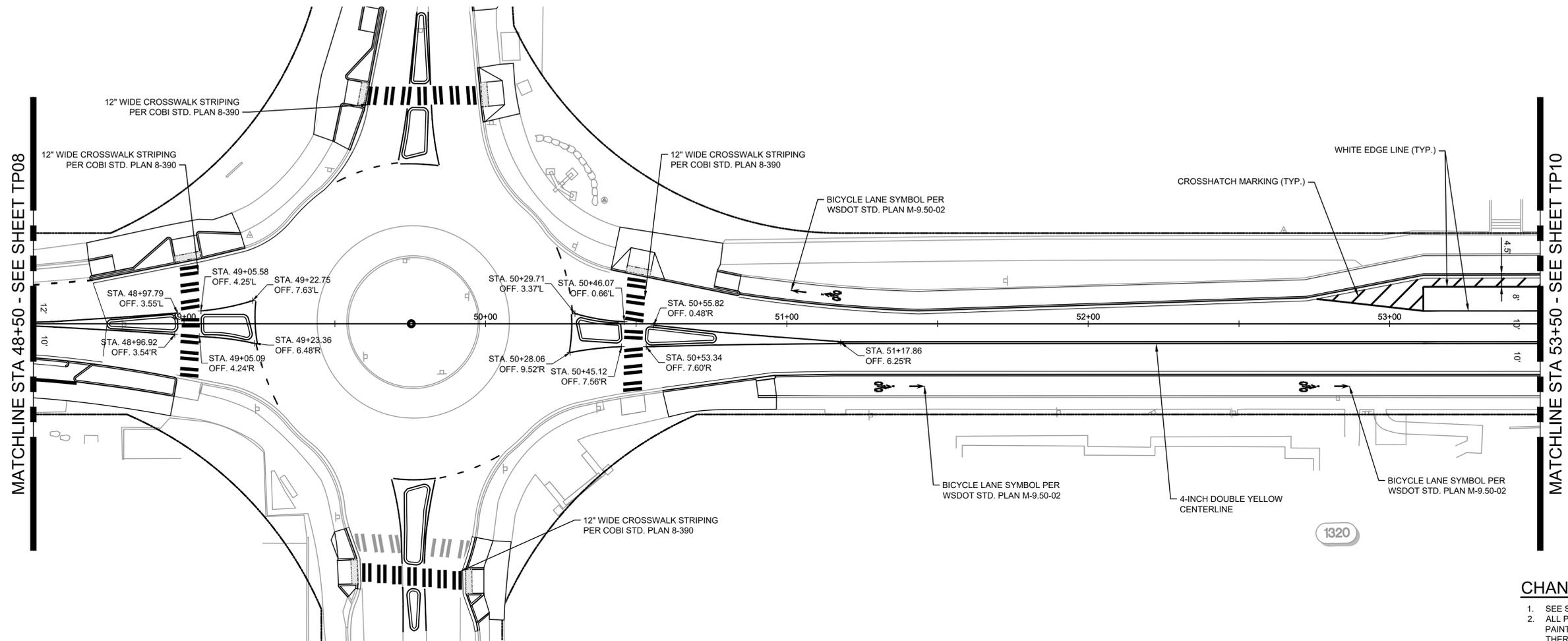
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**SIGNING AND STRIPING
PLANS**

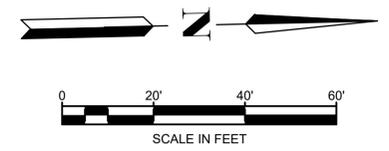
PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP08
SHEET NO.	91 OF 108

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CHANNELIZATION AND SIGNING NOTES:

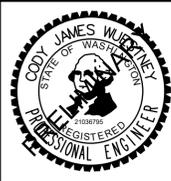
1. SEE SHEET G2 FOR GENERAL NOTES AND LEGEND.
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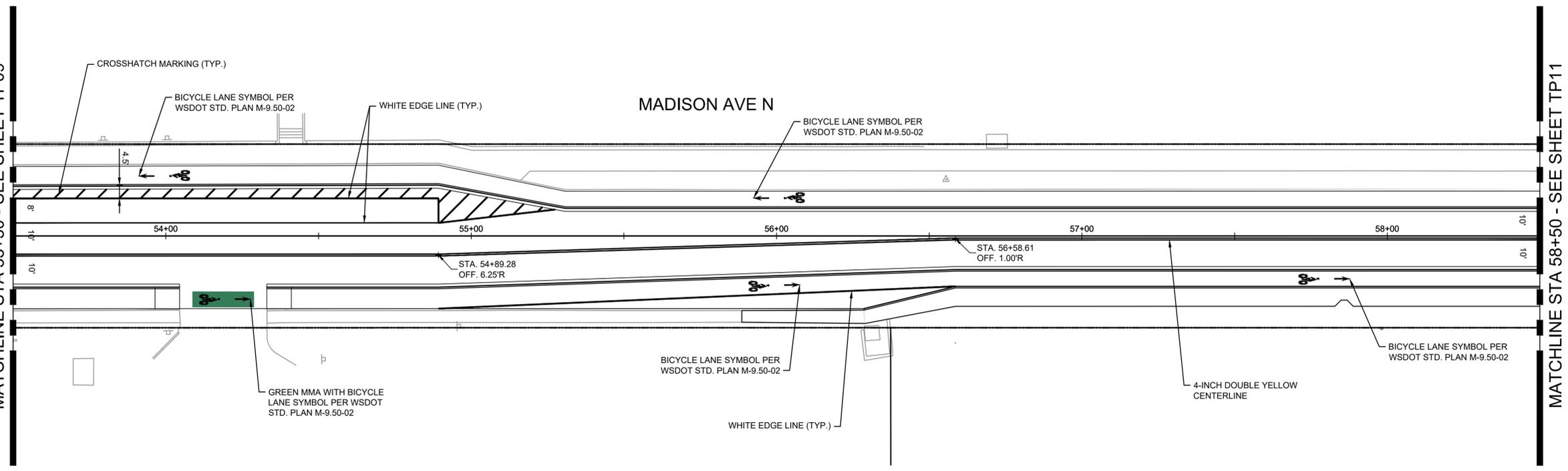
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TRAFFIC
SIGNING AND STRIPING PLANS

PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP09
SHEET NO.	92 OF 106

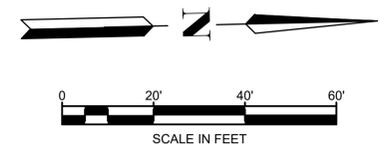
MATCHLINE STA 53+50 - SEE SHEET TP09



MATCHLINE STA 58+50 - SEE SHEET TP11

CHANNELIZATION AND SIGNING NOTES:

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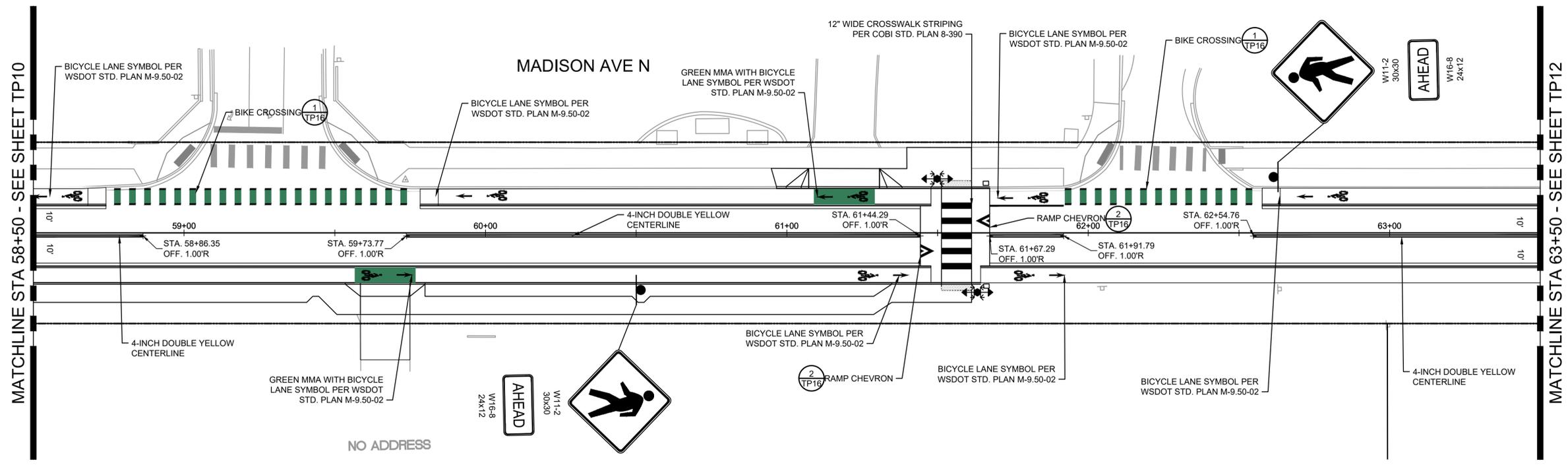
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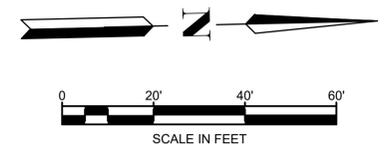
TRAFFIC	PROJECT NO.	70178
SIGNING AND STRIPING PLANS	DATE	08.03.2022
	DRAWING NO.	TP10
	SHEET NO.	93 OF 106

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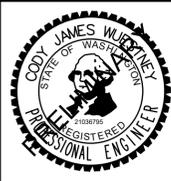
CHANNELIZATION AND SIGNING NOTES:

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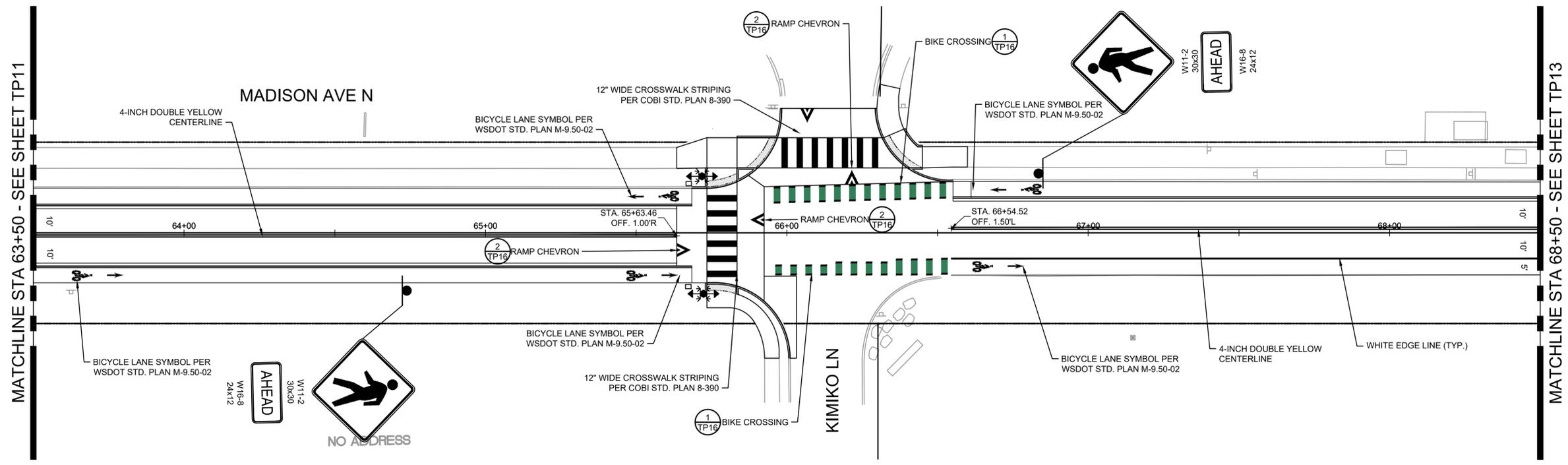
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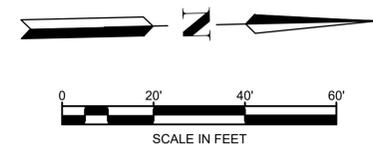
PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP11
SHEET NO.	94 OF 106

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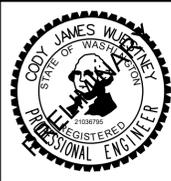
CHANNELIZATION AND SIGNING NOTES:

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APVD	CSS	NO.	DATE
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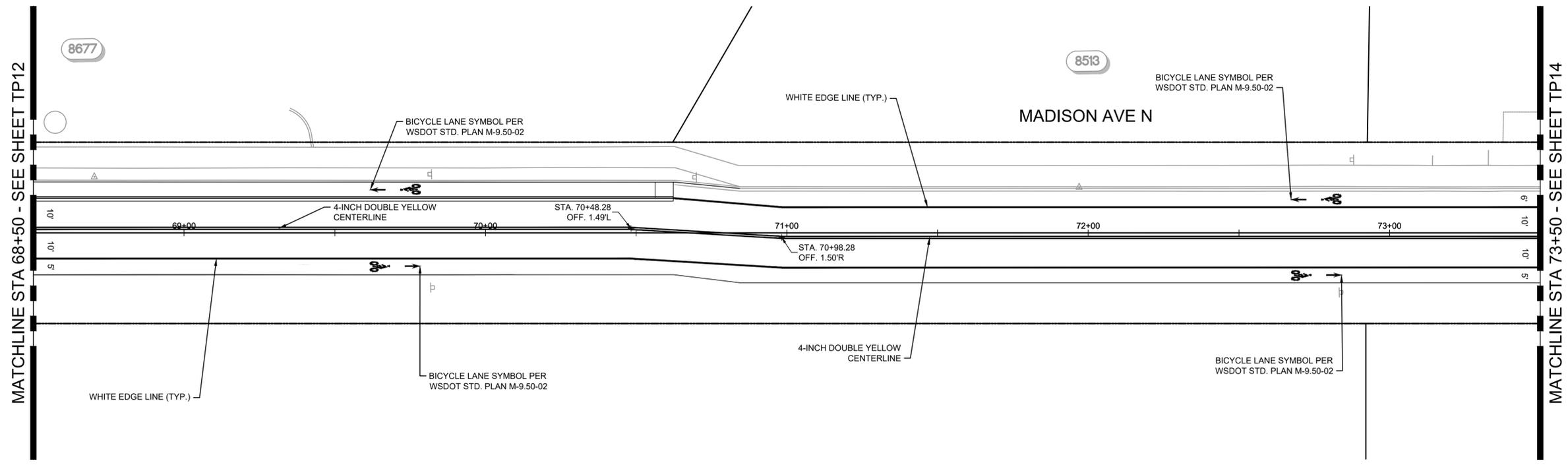
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SIGNING AND STRIPING PLANS	

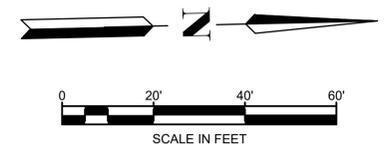
PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP12
SHEET NO.	95 OF 108

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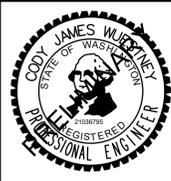
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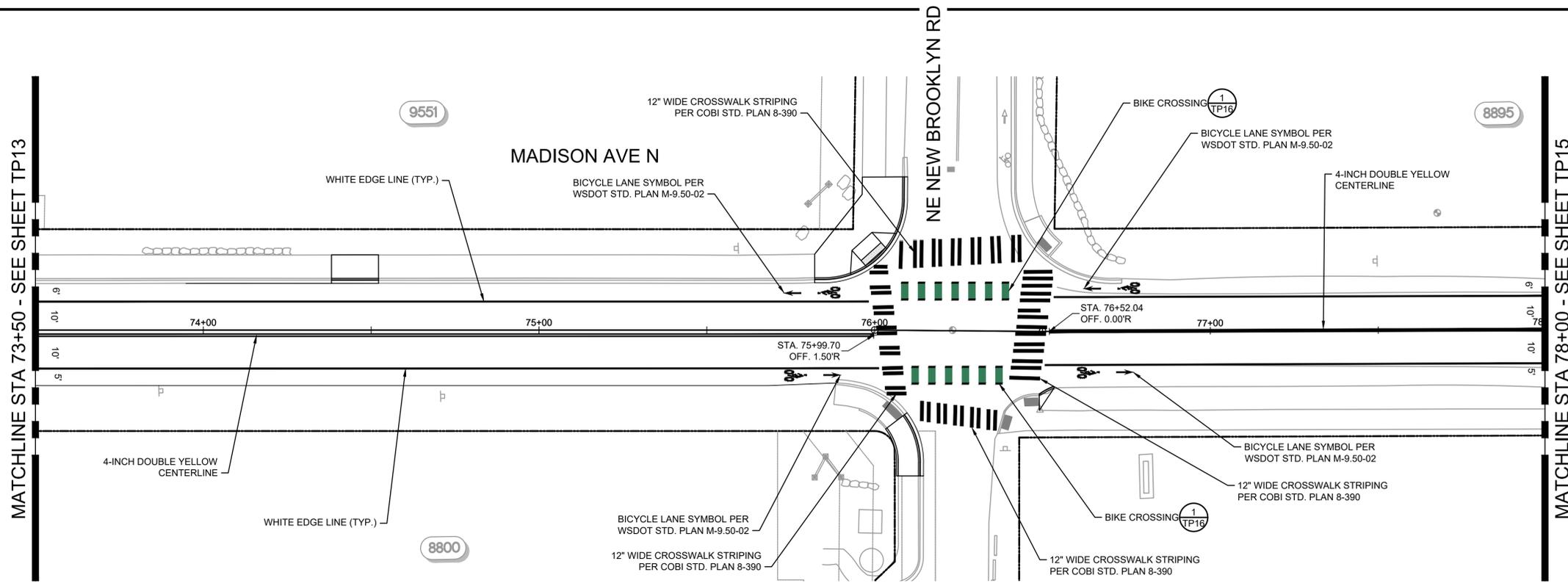
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SIGNING AND STRIPING PLANS	

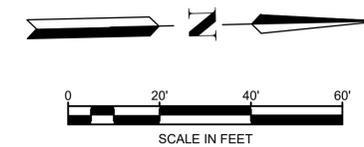
PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP13
SHEET NO.	96 OF 106

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CHANNELIZATION AND SIGNING NOTES:

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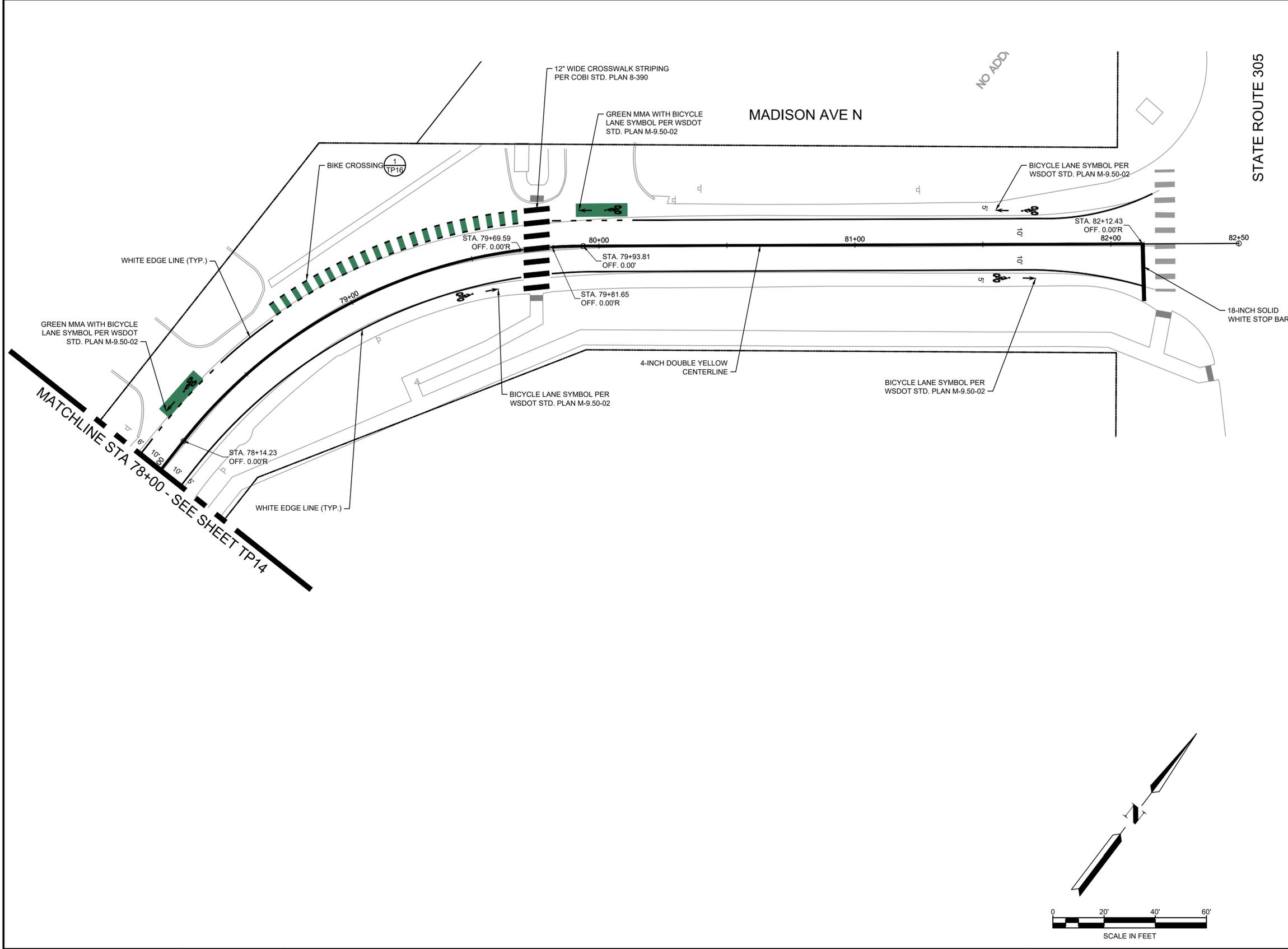
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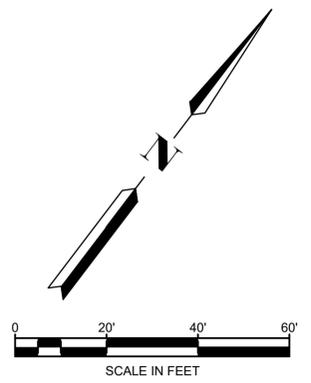
PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP14
SHEET NO.	97 OF 108

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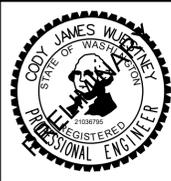
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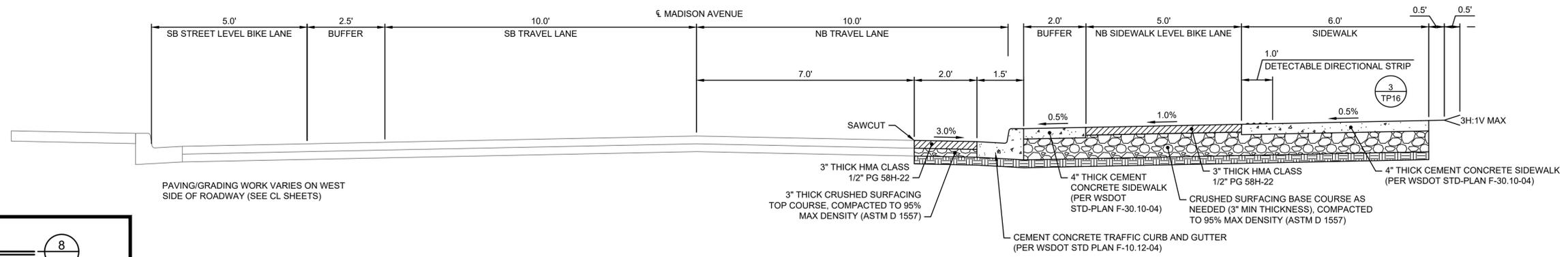
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**SIGNING AND STRIPING
PLANS**

PROJECT NO.	70178
DATE	08.03.2022
DRAWING NO.	TP15
SHEET NO.	98 OF 108

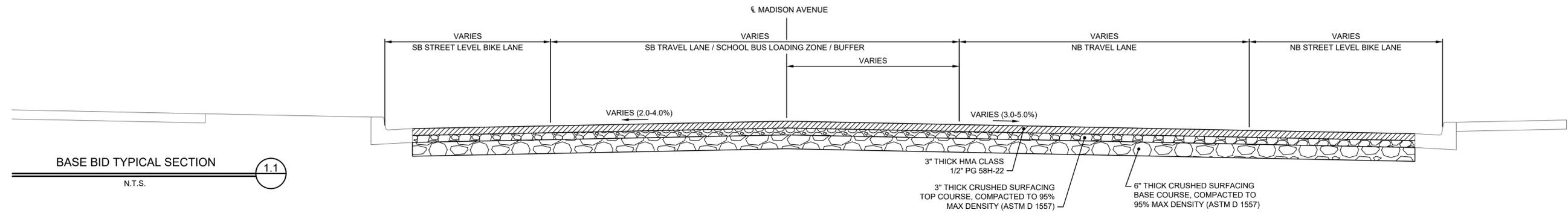
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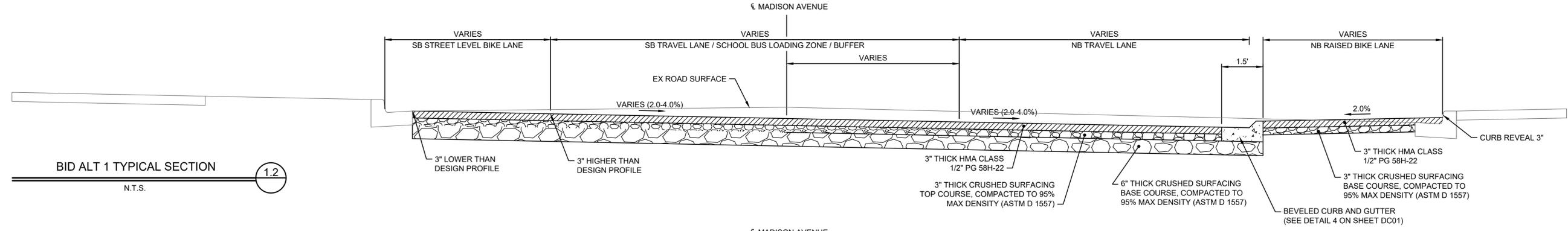
TYPICAL SECTION
N.T.S. **8**

DESIGN PROFILE

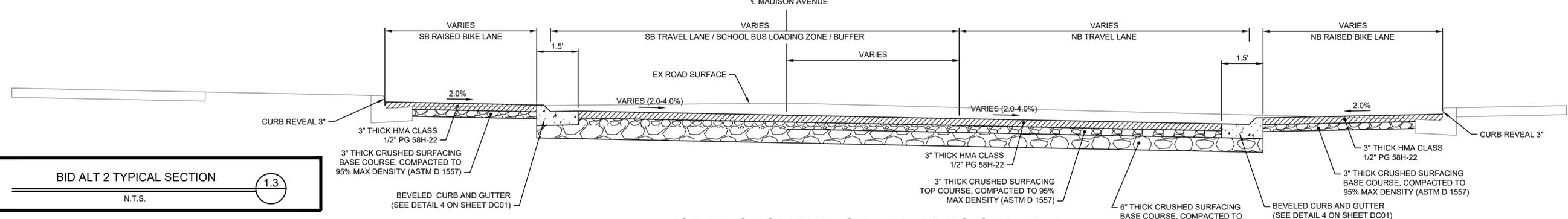
CENTRAL SEGMENT: STA 24+25 TO STA 48+75



BASE BID TYPICAL SECTION
N.T.S. **1.1**



BID ALT 1 TYPICAL SECTION
N.T.S. **1.2**



BID ALT 2 TYPICAL SECTION
N.T.S. **1.3**

DESIGN PROFILE

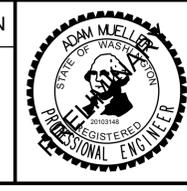
NORTH SEGMENT: STA 51+00 TO STA 56+25



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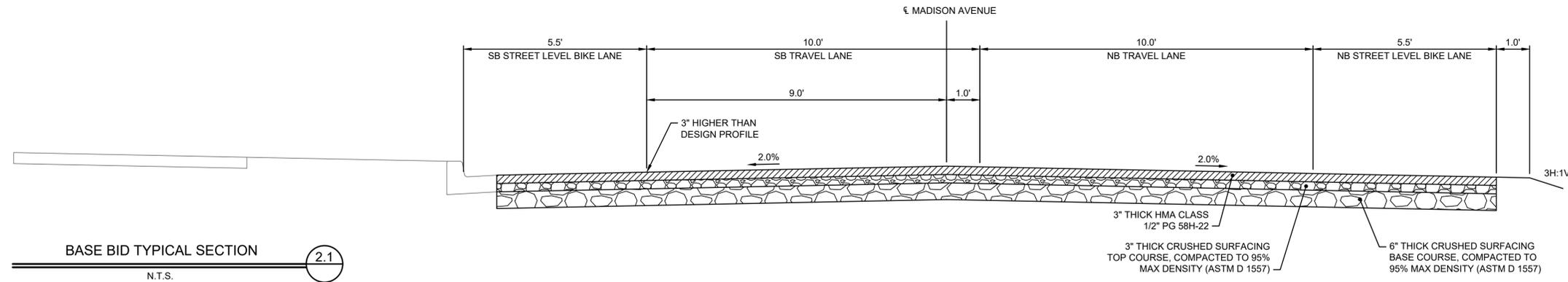
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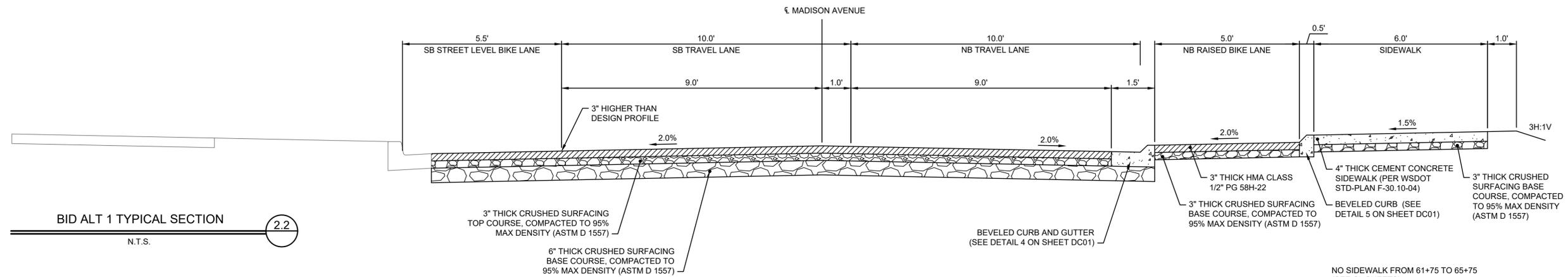
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CITY OF BAINBRIDGE ISLAND

TYPICAL ROADWAY SECTIONS

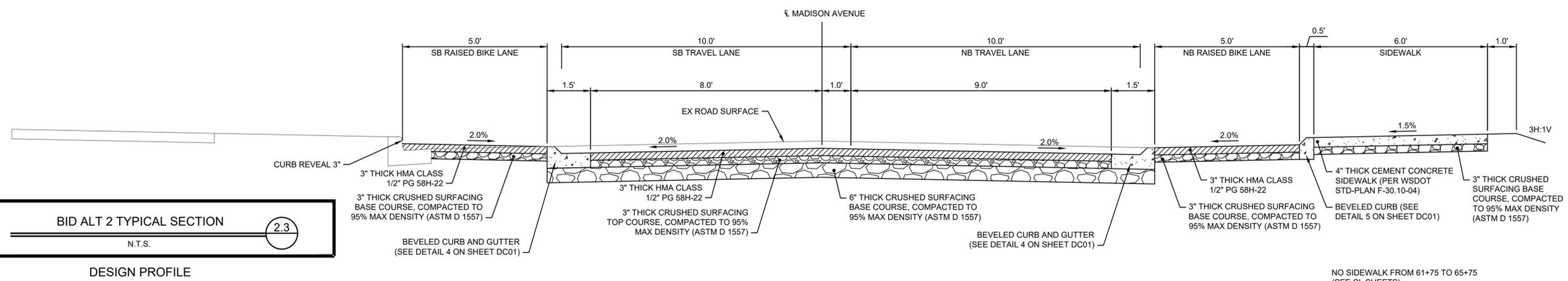
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DATE	11.01.2022
DRAWING NO.	CT01
SHEET NO.	26 OF 108



BASE BID TYPICAL SECTION 2.1
N.T.S.



BID ALT 1 TYPICAL SECTION 2.2
N.T.S.



BID ALT 2 TYPICAL SECTION 2.3
N.T.S.

DESIGN PROFILE

NORTH SEGMENT: STA 56+25 TO STA 65+75



NO SIDEWALK FROM 61+75 TO 65+75 (SEE CL SHEETS)

NO SIDEWALK FROM 61+75 TO 65+75 (SEE CL SHEETS)

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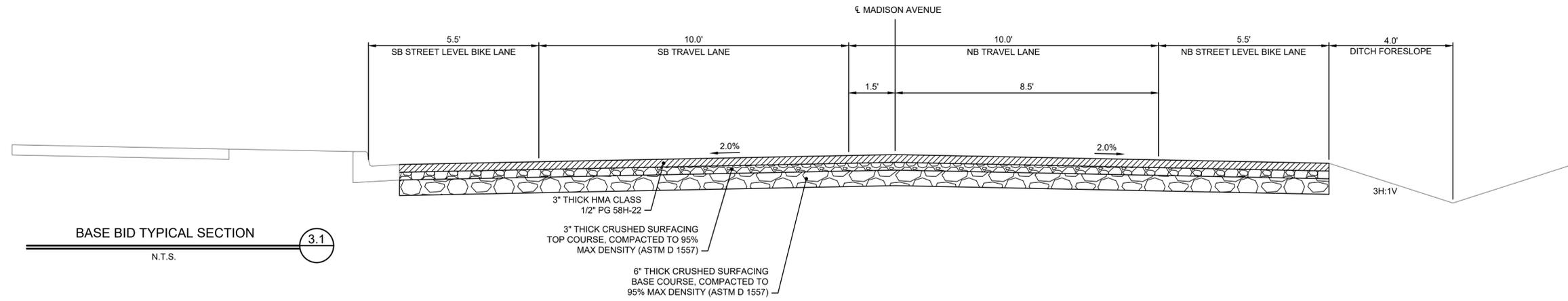
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CITY OF BAINBRIDGE ISLAND

CT02

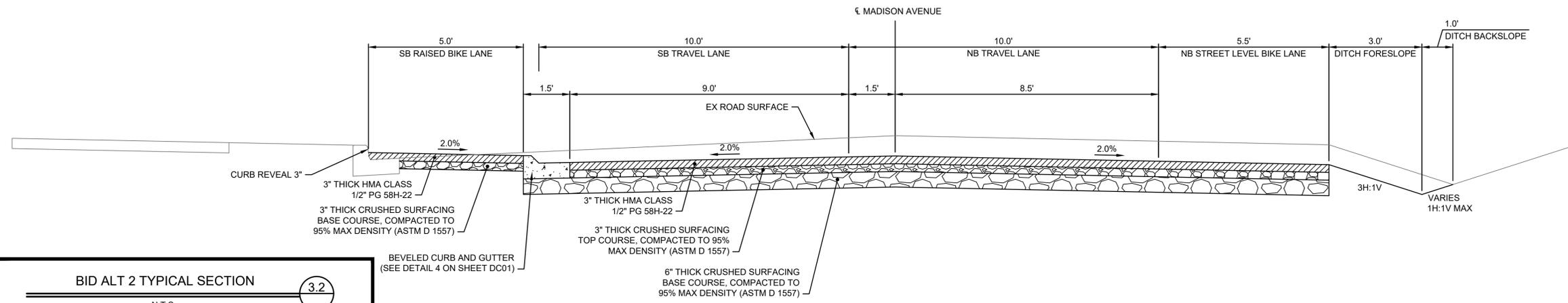
TYPICAL ROADWAY SECTIONS

PROJECT NO.	70178
DATE	11.01.2022
DRAWING NO.	CT02
SHEET NO.	27 OF 108

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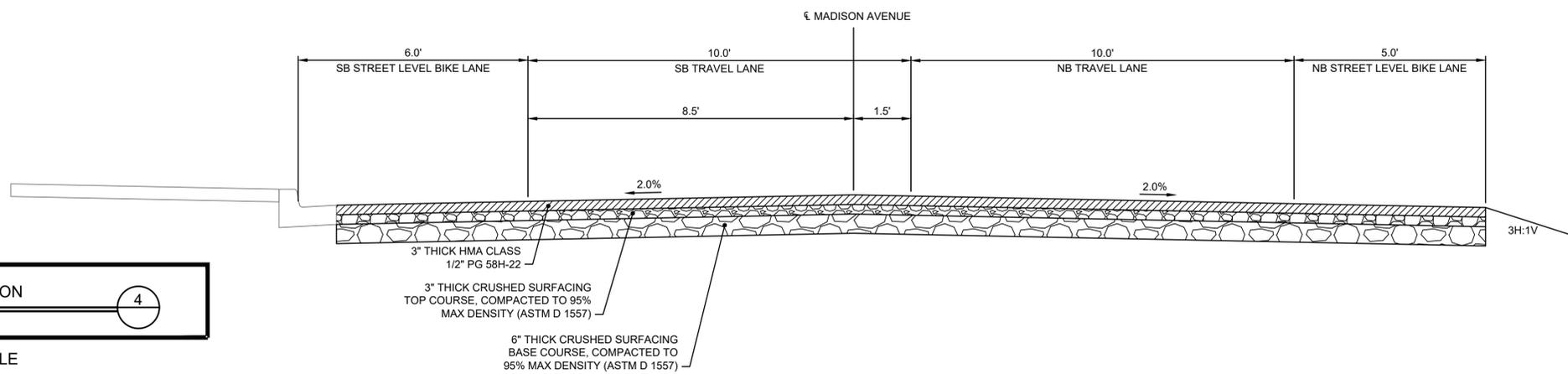
BASE BID TYPICAL SECTION
N.T.S. 3.1



BID ALT 2 TYPICAL SECTION
N.T.S. 3.2

DESIGN PROFILE

NORTH SEGMENT: STA 66+50 TO STA 70+50



TYPICAL SECTION
N.T.S. 4

DESIGN PROFILE

NORTH SEGMENT: STA 70+50 TO STA 76+00



90% DESIGN SUBMISSION
PRELIMINARY - NOT FOR CONSTRUCTION

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON, LICENSE NO. _____ EXPIRATION DATE: _____



REUSE OF DOCUMENTS
ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	ALM				
DR	ALM				
CHK	DD				
APVD	CSS	NO.	DATE	REVISION	BY APVD

TOOLE DESIGN
720 3RD AVENUE, SUITE 2020, SEATTLE, WA 98104
PHONE: 206.297.1601
FAX: 301.927.2800
www.tooledesign.com

**MADISON AVE
NON-MOTORIZED
IMPROVEMENTS (WINSLOW
WAY TO SR 305)**
CITY OF BAINBRIDGE ISLAND

TYPICAL ROADWAY SECTIONS

PROJECT NO.	70178
DATE	11.01.2022
DRAWING NO.	CT03
SHEET NO.	28 OF 108

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Madison Ave Bundled Project 100% Design Plans

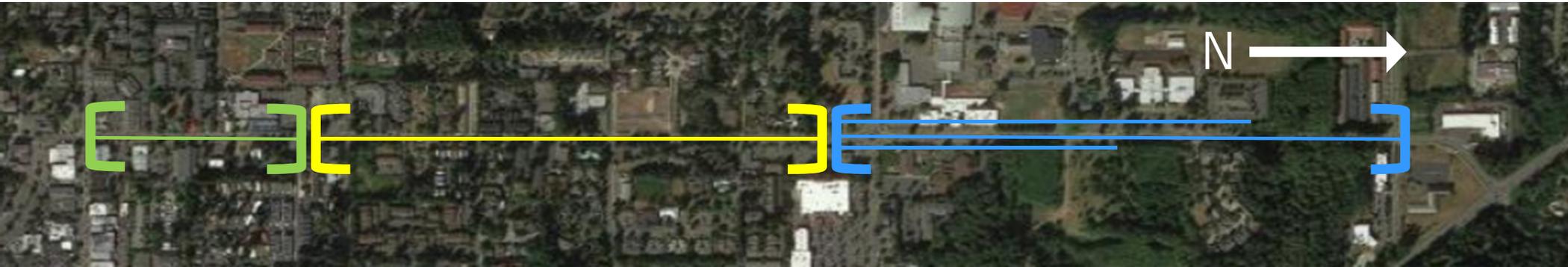
City of Bainbridge Island
Public Works Department
April 4, 2023



Agenda

- Project scope
- Project schedule
- Review 100% design plans
 - Base Project
 - Added Alternative 1
 - Added Alternative 2
 - Added Alternative 3
- Next steps

Project Scope

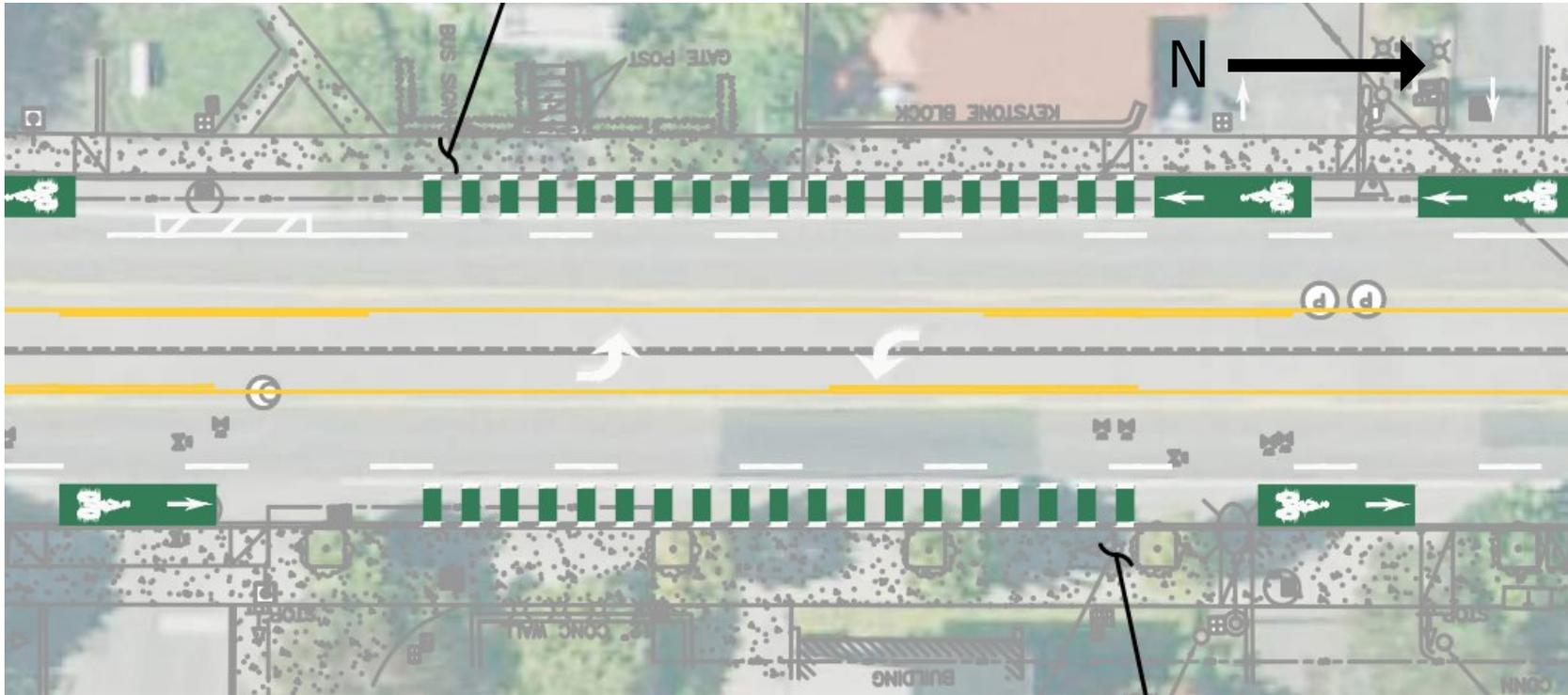


- Winslow-to Wyatt (Alt 1)
- Green striped bike lanes and crossings
- Wyatt to High School (Base Project)
- West-side sidewalk widening and raised bike lane
- East-side protected street-level bike lane and sidewalk improvements
- High School to New Brooklyn
- Sewer force-main (base)
- Pavement restoration (base)
- Raised crosswalks (base)
- West side sidewalk infill and raised bike lane (Alt 2)
- East side raised bike lane (Alt 3)

Project Schedule

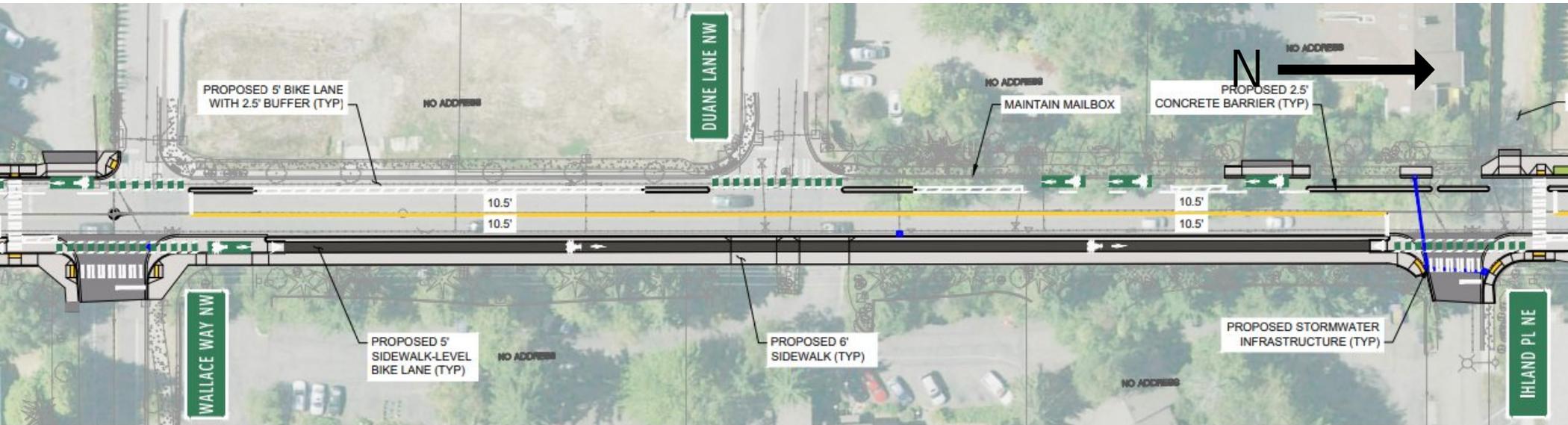
- Design plans completed
- April – Complete right-of-way negotiation
- May 1 – submit plans to Washington State Department of Transportation (WSDOT) for federal grant obligation
- June 1 – grant obligation deadline
- June/July – bid and award construction contract
- Late Summer – begin construction

Project Design – South Segment (Alternative 3)

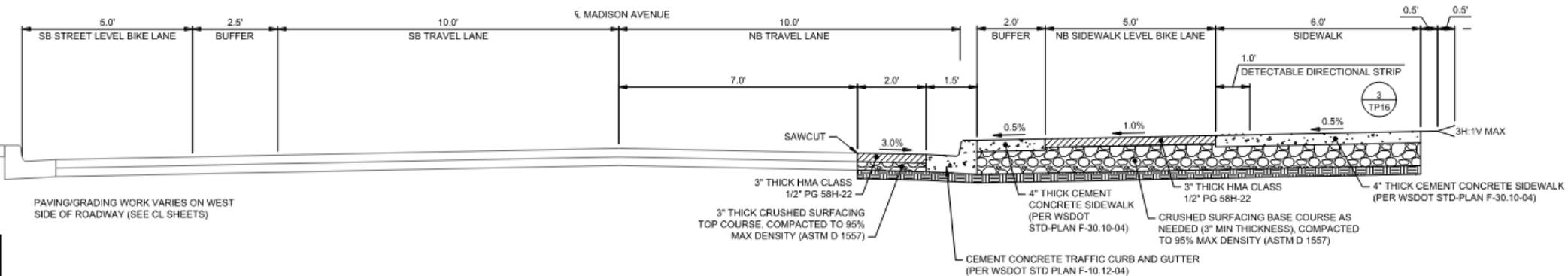


- Paint and lane narrowing only

Project Design – Central Segment Base Project



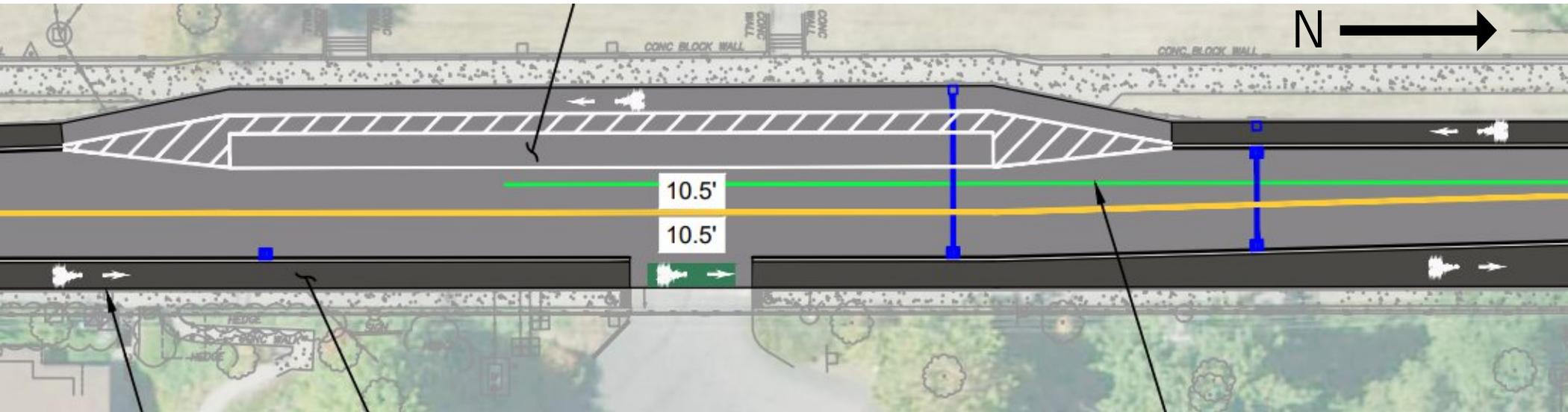
- Core project area
- East-side sidewalk widening, protected bike lanes, paint
- West side buffer islands, accessibility improvements, paint



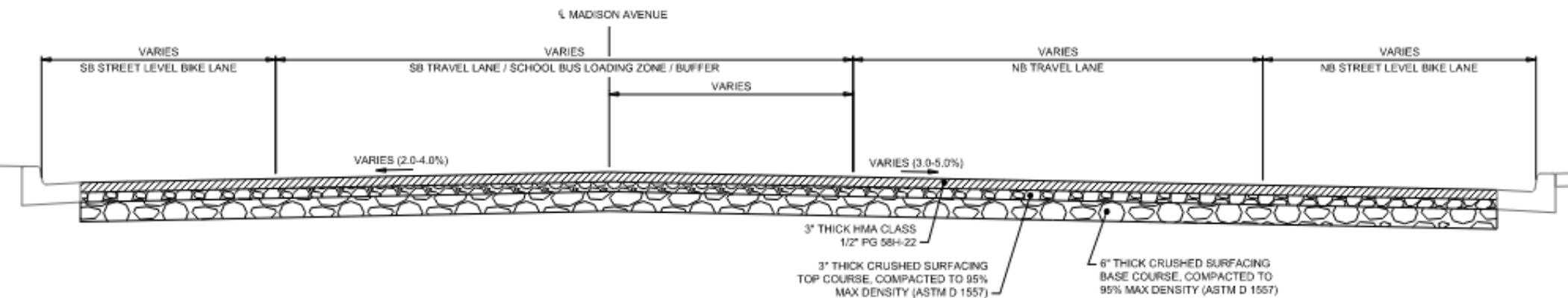
Madison Ave. Bundled Project

April 4, 2023

Project Design – North Segment Base Project



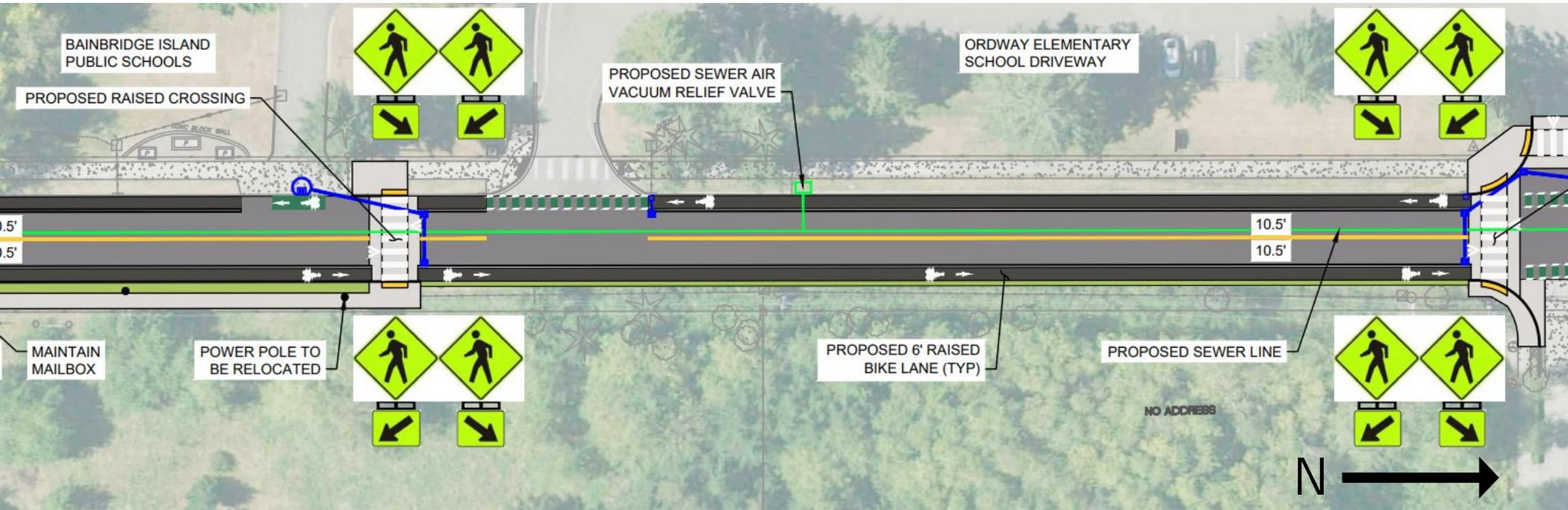
- Pavement restoration
- Sewer force-main improvements



Madison Ave. Bundled Project

April 4, 2023

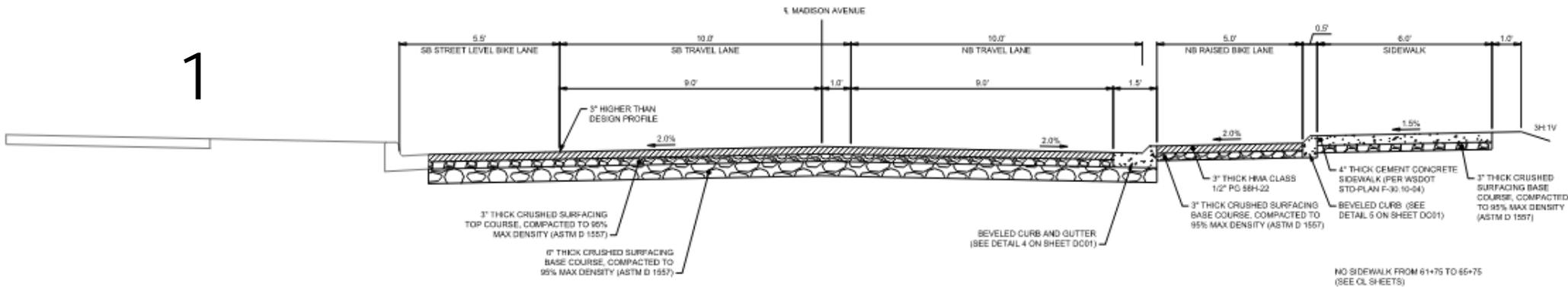
Project Design – North Segment Added Alternative 2



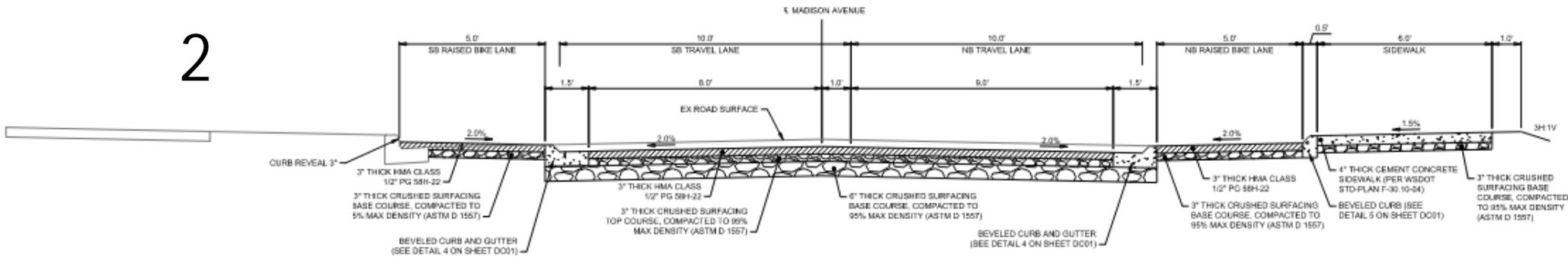
- All of the Base project improvements
- +
- West-side raised bike lane High School Road to JCLS Church

Project Design – North Segment Added Alternative 2 and 3 Sections

1



2



Next Steps - Council

- Contract award and consider alternatives for inclusion in the contract
- Public engagement with business owners regarding construction impacts

Madison Ave Bundled Project 100% Design Plans

City of Bainbridge Island
Public Works Department
April 4, 2023

