BELLEVUE UTILITIES

2025-2034 PROPOSED CAPITAL INVESTMENT PROGRAM (CIP) PLAN

Environmental Services Commission (ESC)

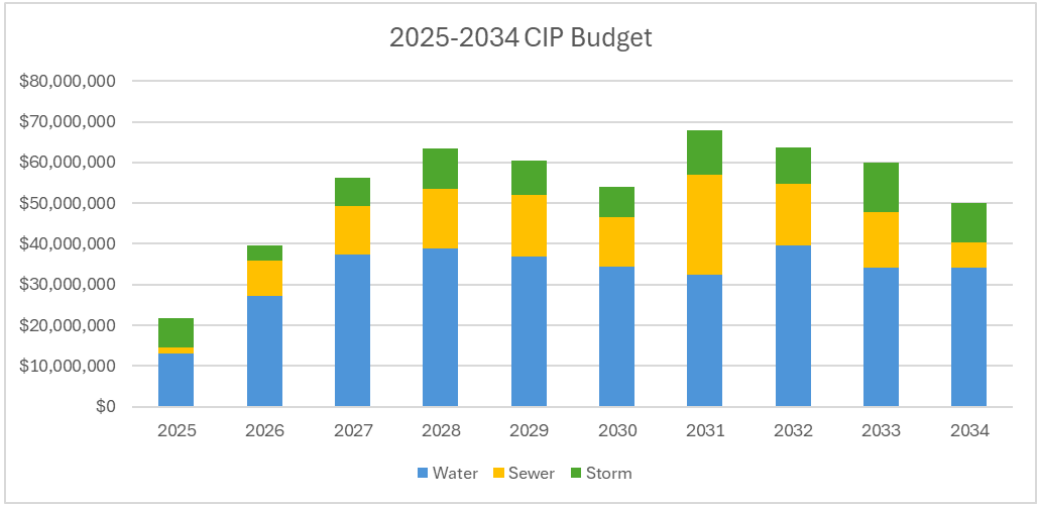
BUDGET BOOK

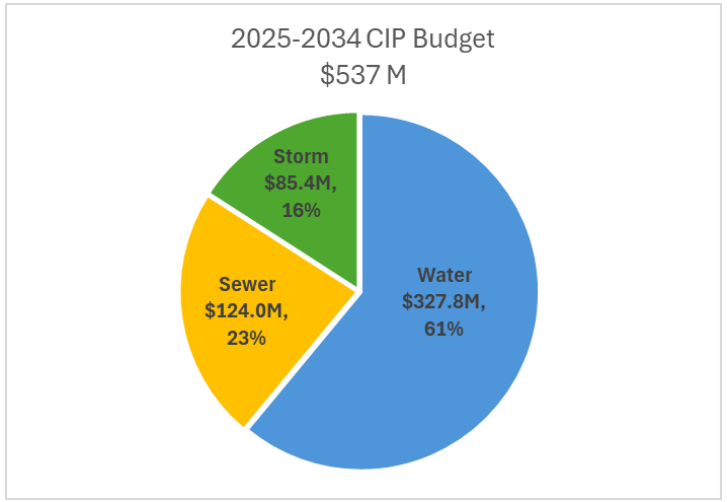
April 4, 2024

Pike's Peak Reservoir

Proposed 2025-2034 CIP Budget Summary

Fund	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
Water	$13,003,000	$27,164,000	$37,384,000	$38,745,000	$36,956,000	$34,484,000	$32,309,000	$39,541,000	$34,158,000	$34,058,000	$327,802,000
Sewer	$1,472,000	$8,753,000	$11,908,000	$14,779,000	$15,001,000	$12,179,000	$24,706,000	$15,250,000	$13,598,000	$6,368,000	$124,014,000
Storm	$7,313,000	$3,716,000	$7,051,000	$9,826,000	$8,565,000	$7,247,000	$10,953,000	$8,971,000	$12,256,000	$9,544,000	$85,442,000
Total	**$21,788,000**	**$39,633,000**	**$56,343,000**	**$63,350,000**	**$60,522,000**	**$53,910,000**	**$67,968,000**	**$63,762,000**	**$60,012,000**	**$49,970,000**	**$537,258,000**





CIP by Investment Area:

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total 2025-2034
R&R Aging Infrastructure	19,802,000	35,894,000	45,068,000	45,375,000	46,358,000	42,323,000	62,984,000	59,488,000	52,595,000	45,410,000	**455,297,000**
Capacity for Growth	1,128,000	2,075,000	4,067,000	13,041,000	11,606,000	5,534,000	-	-	-	-	**37,451,000**
Environmental Preservation	858,000	1,664,000	3,030,000	3,901,000	1,203,000	1,260,000	1,979,000	4,274,000	7,417,000	4,560,000	**30,146,000**
Operational Efficiency	-	-	4,178,000	1,033,000	1,355,000	4,793,000	3,005,000	-	-	-	**14,364,000**
All funds CIP Total	**21,788,000**	**39,633,000**	**56,343,000**	**63,350,000**	**60,522,000**	**53,910,000**	**67,968,000**	**63,762,000**	**60,012,000**	**49,970,000**	**$537,258,000**

BELLEVUE UTILITIES

2025-2034 CAPITAL INVESTMENT PROGRAM (CIP) PLAN

WATER FUND

PROPOSED BUDGET BY PROGRAM

Cherry Crest Water Pump Station

WATER FUND 2025-2034 CIP Proposed Changes

(Updated April 2, 2024)

Program Summary

Program Number	Description	Continued Program	2025-2034 Budget Request
W-16	Water Main Replacement	Yes	Yes
W-67	Pressure Reducing Valve (PRV) Station Rehabilitation	Yes	Yes
W-69	Minor (Small) Water Capital Improvement Projects	Yes	Yes
W-85	Reservoir Rehabilitation or Replacement	Yes	Yes
W-91	Water Pump Station Rehabilitation or Replacement	Yes	Yes
W-98	Replacement of Commercial Meter Vaults	Yes	Yes
W-99	Water Service Line and Saddle Replacement Program	Yes	No
W-103	Increase Drinking Water Storage Availability for West Operating Area	Yes	Yes
W-105	NE Spring Blvd	Yes	No
W-108	AMI Implementation	Yes	No
W-110	Water Supply Inlet Rehabilitation	Yes	Yes
W-111	Maintenance and Operations Facility - Water	Yes	Yes
W-112	Water System Capital Planning	Yes	Yes
W-115	SCADA Upgrade - Water	Yes	Yes
W-117	170th Pl. SE Pressure Improvements	Yes	Yes
W-118	Water Pressure and Capacity Improvements	Yes	Yes
W-119	Groundwater Well Improvements	Yes	Yes

W-120	Project and Portfolio Management System - Water	Yes	No

2025 – 2034 Proposed CIP Budget – Water

(as of April 2, 2024)

CIP PLAN	DESCRIPTION	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
W-16	Water Main Replacement	9,971,000	20,445,000	21,639,000	19,443,000	17,862,000	18,395,000	18,950,000	19,518,000	20,103,000	20,705,000	**187,031,000**
W-67	Pressure Reducing Valve (PRV) Station Rehabilitation	-	461,000	1,835,000	1,891,000	1,946,000	2,005,000	2,066,000	2,127,000	2,192,000	2,256,000	**16,779,000**
W-69	Minor (Small) Water Capital Improvement Projects	-	-	-	-	-	-	14,000	106,000	292,000	-	**412,000**
W-85	Reservoir Rehabilitation or Replacement	-	1,163,000	1,678,000	1,742,000	398,000	466,000	2,646,000	2,724,000	839,000	1,252,000	**12,908,000**
W-91	Water Pump Station Rehabilitation or Replacement	925,000	715,000	630,000	752,000	3,139,000	4,616,000	5,190,000	6,045,000	2,081,000	5,864,000	**29,957,000**
W-98	Replacement of Large Commercial Meter Vaults	115,000	401,000	1,223,000	377,000	1,162,000	684,000	-	-	-	-	**3,962,000**
W-103	Increase Drinking Water Storage for West Operating Area	722,000	1,475,000	3,039,000	12,520,000	10,747,000	5,534,000	-	-	-	-	**34,037,000**
W-110	Water Supply Inlet Rehabilitation	-	-	-	248,000	473,000	498,000	878,000	3,171,000	3,144,000	3,981,000	**12,393,000**
W-111	Maintenance and Operations Facility - Water	-	-	2,842,000	340,000	493,000	1,268,000	1,306,000	-	-	-	**6,249,000**
W-112	Water System Capital Planning	361,000	328,000	107,000	-	-	-	-	-	-	-	**796,000**
W-115	SCADA Upgrade - Water	524,000	420,000	-	-	-	-	-	-	-	-	**944,000**
W-117	170th Pl. SE Pressure Improvements	288,000	-	-	-	-	-	-	-	-	-	**288,000**
W-118	Water Pressure and Capacity Improvements	-	1,257,000	2,954,000	1,076,000	-	-	-	-	-	-	**5,287,000**
W-119	Groundwater Well Improvements	97,000	499,000	1,437,000	356,000	736,000	1,018,000	1,259,000	5,850,000	5,507,000	-	**16,759,000**
	Total Water CIP	**13,003,000**	**27,164,000**	**37,384,000**	**38,745,000**	**36,956,000**	**34,484,000**	**32,309,000**	**39,541,000**	**34,158,000**	**34,058,000**	**327,802,000**

CIP by Investment Area:

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
R&R Aging Infrastructure	12,281,000	25,689,000	31,503,000	25,885,000	25,716,000	27,682,000	31,003,000	39,541,000	34,158,000	34,058,000	**287,516,000**
Capacity for Growth	722,000	1,475,000	3,039,000	12,520,000	10,747,000	5,534,000	-	-	-	-	**34,037,000**
Operational Efficiency	-	-	2,842,000	340,000	493,000	1,268,000	1,306,000	-	-	-	**6,249,000**
Water CIP Total	**13,003,000**	**27,164,000**	**37,384,000**	**38,745,000**	**36,956,000**	**34,484,000**	**32,309,000**	**39,541,000**	**34,158,000**	**34,058,000**	**327,802,000**

W-16 Water Main Replacement

Description and Scope

This program focuses on replacing water mains that have reached their useful life, with the goal of reducing risk. Additional benefits include increasing the firefighting flow available to neighborhoods, improving reliability with additional valves (to limit service shutdowns), and improving earthquake resiliency with more robust pipes. This investment funds pipeline replacement at a rate of 5 miles/year, adjusted with inflation. At that rate, water pipes will need to last on average 100-125 years to sustainably maintain the entire 608-mile water distribution system. Pipes are prioritized for replacement based on risk of failure (likelihood and consequence), break history, potential for cost savings or reduced neighborhood impacts by coordinating with other construction projects (e.g., planned street overlays), and opportunities to address level of service deficiencies (low flow or pressure) or vulnerable pipes in poor soils.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-16	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$11.954	$12.525	$19.447	$16.158	$17.351	$16.329	$17.766	-	-	-	-	-	$111.530	-
Proposed ($M)	-	-	$9.971	$20.445	$21.639	$19.443	$17.862	$18.395	$18.950	$19.518	$20.103	$20.705	$126.705	$187.031
Difference ($M)	$(11.954)	$(12.525)	$(9.476)	$4.287	$4.288	$3.114	$0.096	$18.395	$18.950	-	-	-	$15.175	-

Proposed Changes

Cost:

- The primary change is recent cost spikes caused by labor shortages and supply chain problems. The typical cost per foot to install water mains in Bellevue has increased roughly 20% from 2022 to early 2024.

Scope:

- The overall target of 5 miles per year has not changed. Locations are identified based on the criteria above.

Schedule:

- The timeline for annual water main replacement projects from 2022-2024 has extended with construction expenditures continuing through 2025-2027.
- Kelsey Creek at Lake Hills Blvd “Ballfield” Project was previously scheduled with construction in 2024-2025 but now the schedule is projected for construction in 2026-2027.

- The annual programmatic water main replacement work is now projected with a longer implementation schedule, with design starting earlier and construction spread over multiple years. This change intends to address unanticipated delays due to easement acquisition challenges experienced with the 2022-2024 watermain replacement projects.

W-67 Pressure Reducing Valve (PRV) Station Rehabilitation

Description and Scope

This ongoing program rehabilitates or replaces aging, obsolete pressure reducing valve (PRV) stations throughout the water service area. Because of the hilly topography of our city, Bellevue has more than 130 PRVs in the 69 pressure zones throughout the city. The number of PRV stations that are rehabilitated varies from year to year based on the annual program budget and the rehabilitation costs, but over the long term should average about 6 PRVs per year to sustainably rehabilitate over 150 stations on a roughly 25-year cycle. Prioritization criteria include access requirements, safety, maintenance history, age, and efficiencies gained with overlapping or adjacent projects.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-67	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.800	$0.823	$1.093	$1.348	$3.124	$0.948	$0.796	-	-	-	-	-	$8.932	-
Proposed ($M)	-	-	-	$0.461	$1.835	$1.891	$1.946	$2.005	$2.066	$2.127	$2.192	$2.256	$10.204	$16.779
Difference ($M)	$(0.800)	$(0.823)	$(1.093)	$(0.887)	$(1.289)	$0.943	$1.150	$2.005	$2.066	-	-	-	$1.272	-

Proposed Changes

Cost:

- Construction cost escalation has increased cost estimates significantly.

Scope:

- Funding levels continue to include a sustained rate of three PRV replacements per year. Current funding levels for 3 PRVs per year will need to be increased in future budget cycles to meet the long-term renewal and replacement target.
- Implementation of new system-wide “Smart Water” remote flow and pressure sensors is no longer proposed due to technological hurdles encountered when researching options for pilot test sites.

Schedule:

- Annual programmatic budget is now spread over three years instead of two years to reflect the schedule more accurately for design, procurement, and construction phase work.

W-69 Minor (Small) Water Capital Improvement Projects

Description and Scope

This ongoing program pays for small improvements to Bellevue's water system to resolve deficiencies, improve efficiencies, or resolve maintenance problems, often in conjunction with other programs such as the Transportation overlay program. Projects are prioritized based on criteria including public safety/property damage, maintenance frequency, operator safety, environmental risk, reliability and efficiency gains, coordination with other city projects or development activity, and level of service impact.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-69	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	-	-	-	-	$0.209	-	-	-	-	-	$0.209	-
Proposed ($M)	-	-	-	-	-	-	-	-	$0.014	$0.106	$0.292	-	$0.014	$0.412
Difference ($M)	-	-	-	-	-	-	$(0.209)	-	$0.014	-	-	-	$(0.195)	-

Proposed Changes

Cost:

- Recent inflation has been incorporated into project estimates.

Scope:

- A project to install an additional PRV and check valve in the Pikes Peak area has been deferred due to resource prioritization.
- A project to install bypass piping around a PRV station in the Cougar Mountain area has been deferred due to resource prioritization.

Schedule:

- Two projects proposed in 2023-2029 have been re-scheduled to fit available staffing resources.

W-85 Reservoir Rehabilitation or Replacement

Description and Scope

This program funds recoating, rehabilitation, seismic retrofits and/or replacement of drinking water reservoirs for reliable operation. Bellevue operates and maintains 24 active drinking water reservoirs and shares partial ownership (and access to water) in 4 other reservoirs maintained and operated by neighboring utilities.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (Includes inflation)

W-85	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.750	$3.488	$1.257	$1.086	$0.794	$3.633	$0.710	-	-	-	-	-	$11.718	-
Proposed ($M)	-	-	-	$1.163	$1.678	$1.742	$0.398	$0.466	$2.646	$2.724	$0.839	$1.252	$8.093	$12.908
Difference ($M)	$(0.750)	$(3.488)	$(1.257)	$0.077	$0.884	$(1.891)	$(0.312)	$0.466	$2.646	-	-	-	$(3.625)	-

Proposed Changes

Cost:

- Cost estimates for planned projects have been updated based upon recent cost escalation.

Scope:

- Seismic retrofit and re-coating of the 11-million-gallon South Reservoir in Kirkland is now proposed as replacement with a new larger reservoir. This reservoir is jointly owned with Redmond and Kirkland (Bellevue share 13.4%) per 1997 agreement dividing Rose Hill Water District into 3 municipalities.
- Somerset 3 Reservoir Decommissioning has been deferred to beyond 2034 due to resource prioritization.
- Somerset 2 Reservoir Rehabilitation has been added to coordinate work proposed for the Somerset 2 Pump Station project.
- Cherry Crest Reservoir Roof Improvements has been added as a new project starting in 2023. Project will provide additional sealing of roof to ensure it is sealed from rainwater intrusion.
- A new W-85 Program Management budget item has been added to provide budget for long term planning, comprehensive coordination, and prioritization of reservoir R&R work.

Schedule:

- Horizon View 2 Reservoir Replacement construction schedule has extended to be completed in 2025-2026 due to procurement timelines associated with the Horizon View 2 Pump Station construction that needs to be completed prior to the reservoir.
- Clyde Hill 465 Standpipe Repairs schedule has extended to have construction complete in 2025.
- Clyde Hill 390 Reservoir Seismic Upgrades has been deferred to start in 2027 to coordinate with the adjacent Clyde Hill Pump Station improvements project and implement jointly.
- Clyde Hill 340 Reservoirs Replacement has been deferred to start in 2031 and NE40th Reservoir Safety & Sanitary Improvements has been deferred to start in 2033 to balance staff resource availability.

W-91 Water Pump Station Rehabilitation or Replacement

Description and Scope

This program was established in 2005 to rehabilitate or replace drinking water pump stations. Bellevue operates and maintains 21 pump stations and shares partial ownership in a separate pump station operated by Coal Creek Utility District. Based on the need and condition assessment of each pump station, investments can range from basic improvements to complete reconstruction. The rehabilitation work may include capacity, safety and reliability improvements, new mechanical and electrical equipment, on-site emergency power generation, and seismic retrofits.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (Includes inflation)

W-91	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$4.462	$2.682	$1.786	$0.410	$0.422	-	$0.418	-	-	-	-	-	$10.180	-
Proposed ($M)	-	-	$0.925	$0.715	$0.630	$0.752	$3.139	$4.616	$5.190	$6.045	$2.081	$5.864	$15.967	$29.957
Difference ($M)	$(4.462)	$(2.682)	$(0.861)	$0.305	$0.208	$0.752	$2.721	$4.616	$5.190	-	-	-	$5.787	-

Proposed Changes

Cost:

- Cost estimates for planned projects have been updated based upon recent cost escalation.

Scope:

- Scope maintains an average of one pump station every other year. Four new projects have been added in 2030-2033 timeframe. These are -
    - Parksite PS Replacement
    - NE40th Reservoir PS Rehabilitation
    - 670 PS Rehab / Replacement
    - Somerset Inlet PS Rehabilitation
- Funding for design and construction for Somerset 2 PS Rehabilitation project has been added now that the pump station siting study is complete.
- Added funding for Horizon View 3 Reliability Improvements project, which is currently under construction. This project was initiated to address an emergent need that was discovered after a series of power supply failures after adoption of the 2023-2029 CIP Budget.

- A new W-91 Program Management budget item has been added to provide budget for long term planning, comprehensive coordination, and prioritization of water pump station R&R work.

Schedule:

- Clyde Hill PS schedule has been moved up two years to coordinate with adjacent Clyde Hill 390 Reservoir work and improve efficiency.
- The Water Pump Station Condition Assessment project has been deferred until 2030 to balance resourcing and allow the Inlet Station Condition Assessment to occur first.
- Cougar Mountain 1 Pump Station Rehabilitation construction schedule has extended into 2025 due to procurement timelines.

W-98 Replacement of Large Commercial Water Meter Vaults

Description and Scope

This program systematically replaces aging, obsolete vaults housing high-volume commercial water meters (3" and larger). Due to their location and condition, these meters pose safety and access concerns and are generally beyond the ability of O&M crews to replace. Improved performance accuracy is a secondary benefit of the program. This ongoing program replaces approximately 6 commercial meter vaults per design / construction package.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-98	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.503	$0.389	$0.541	$1.311	$0.045	$0.417	-	-	-	-	-	-	$3.206	-
Proposed ($M)	-	-	$0.115	$0.401	$1.223	$0.377	$1.162	$0.684	-	-	-	-	$3.962	$3.962
Difference ($M)	$(0.503)	$(0.389)	$(0.426)	$(0.910)	$1.178	$(0.040)	$1.162	$0.684	-	-	-	-	$0.756	-

Proposed Changes

Cost:

- Cost estimates for planned projects have been updated from 2021 dollars to 2023 dollars based upon recent escalation.

Scope:

- A new project has been added in 2028 to replace additional meter vaults.

Schedule:

- At Bellefield Office Park, replacement of 13 individual building meters with two master meters is proposed. This project has been rescheduled to start in 2028.
- The schedule for meter vault replacement design and construction projects has been updated with a three-year duration instead of two years, to account for longer time needed for easement acquisition.

W-103 Increase Drinking Water Storage Availability for West Operating Area

Description and Scope

This CIP Plan increases the drinking water storage available for planned population growth in Downtown, Bel-Red, and Wilburton areas. System improvements completed in 2021-2022 provided access to additional water storage to meet the need for near-term growth. The proposed project includes design and construction of a new reservoir and associated infrastructure. This will provide additional water storage required to meet the need of long-term growth projected in that area. The schedule to complete the new reservoir is accelerated from 2034 to 2030 due to recent growth and planned rezoning that will increase density further in the downtown corridor.

PROJECT NEED: Capacity for Growth

Proposed Budget (Includes inflation)

W-103	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	$0.400	$1.099	$1.755	$0.962	-	-	-	-	-	-	$4.216	-
Proposed ($M)	-	-	$0.722	$1.475	$3.039	$12.520	$10.747	$5.534	-	-	-	-	$34.037	$34.037
Difference ($M)	-	-	$0.322	$0.376	$1.284	$11.558	$10.747	$5.534	-	-	-	-	$29.821	-

Proposed Changes

Scope:

- The 2029-2029 CIP Budget only included funding for the design phase of the proposed West Operating Area Reservoir project. The sitting study has been recently completed selecting the Meydenbauer Reservoir site as the preferred location. The proposed projects will design and construct a new 6 MG reservoir, a new pump station, and approximately one mile of transmission main to provide a seismically resilient connection to adjacent pressure zone. Estimated construction costs for the new facilities have been added to the proposed budget.

W-110 Water Supply Inlet Rehabilitation

Description and Scope

This program is for the renewal and replacement of water supply Inlet stations, where Bellevue draws water from the regional water transmission system. Bellevue manages 14 inlet stations, and shares ownership in 3 other inlet stations operated by adjacent utilities. Projects are proposed to maintain reliability, improve safety, reduce risk, and renew aging infrastructure.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-110	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.175	$0.129	-	-	-	-	-	-	-	-	-	-	$0.304	-
Proposed ($M)	-	-	-	-	-	$0.248	$0.473	$0.498	$0.878	$3.171	$3.144	$3.981	$2.097	$12.393
Difference ($M)	$(0.175)	$(0.129)	-	-	-	$0.248	$0.473	$0.498	$0.878	-	-	-	$1.793	-

Proposed Changes

Scope:

- Replacement of Enatai Inlet Station was completed in 2021, using delayed funds from 2019-2020.
- Factoria Inlet (Inlet 11) has been identified as a priority for replacement by O&M due to access and maintenance concerns. Work for replacement of this inlet station is scheduled to start in 2029.
- Eastgate Inlet was identified as a new project for CIP W-110, scheduled to start in 2030 to correspond with the adjacent Parksite Pump Station replacement project (CIP W-91).
- A comprehensive Inlet Station Condition Assessment is planned to start in 2027 to identify future priorities.

Schedule:

- NE 40th Inlet Meter Abandonment was previously budgeted in 2023-2024 and is now anticipated to extend into 2025.

W-111 Maintenance and Operations Facility

Description and Scope

As the City of Bellevue continues to grow, there is a critical need for long range operational facilities planning to ensure that the Utilities Department (Utilities) can meet the community's current and future needs in an efficient and timely manner. The current service locations are functioning at or near capacity, and there is a significant risk that they will not be sufficient to meet Utilities' growing operational needs. To address this, Utilities developed a long-range Operations and Maintenance (O&M) Facilities Plan.

Based on the recommendation of the O&M Facilities Plan, property acquisition, design, and construction were funded through the Council adopted 2019-2025, 2021-2027, and 2023-2029 CIP budgets, with $18M of funding split between the water and sewer funds ($9M each).

PROJECT NEED: Operational Efficiencies

Proposed Budget (includes inflation)

W-111	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	$2.466	$1.401	-	-	-	-	-	-	-	-	$3.867	-
Proposed ($M)	-	-	-	-	$2.842	$0.340	$0.493	$1.268	$1.306	-	-	-	$6.249	$6.246
Difference ($M)	-	-	$(2.466)	$(1.401)	$2.842	$0.340	$0.493	$1.268	$1.306	-	-	-	$2.382	-

Proposed Changes

Cost:

- Additional funding is proposed to account for inflationary increases for the design/construction and land acquisition.

Schedule:

- Due to the delay in selecting a site, the land acquisition is rescheduled to 2027, followed by construction from 2027 through 2031.

W-112 Water System Capital Planning

Description and Scope

This program funds early capital project planning, which is applicable to both existing CIP programs and future capital projects yet to be identified. The proposed budget includes a new Water System Plan, which is required every ten years by the Washington State Department of Health and Bellevue City Code. The proposed budget also includes funding to support work activities to seek grants from the Federal Emergency Management Agency for seismic mitigation projects.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-112	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	$0.286	$0.404	$0.200	-	-	-	-	-	-	-	-	$0.890	-
Proposed ($M)	-	-	$0.361	$0.328	$0.107	-	-	-	-	-	-	-	$0.796	$0.796
Difference ($M)	-	$(0.286)	$(0.043)	$0.128	$0.107	-	-	-	-	-	-	-	$(0.094)	-

Proposed Changes

Cost:

- Minor cost adjustments to support proposed projects.

W-115 SCADA Upgrades

Description and Scope

The City of Bellevue Utilities Department utilizes a supervisory control and data acquisition (SCADA) system to control and monitor the potable water, wastewater, and storm water systems. Since the initial installation in the 1970s, this system has utilized leased copper telephone lines as the SCADA communications media. With age, the copper phone lines used for communicating vital control logic and retrieving precious data have become increasingly unreliable. As the telecommunication providers transition their core business away from copper telephone lines towards fiber-optic cable and cellular networks, the city faces increasing communications outages. Any break in communications within our SCADA network increases the risk and cost of providing essential Utility services to our customers. More than ever, it is incumbent upon the Utility to modernize our SCADA communications network to a more reliable medium.

The projects under the SCADA Infrastructure Upgrades program will improve the reliability and security of the SCADA system across 32 potable water sites, 48 wastewater sites and 11 storm water sites. These projects will install a private, secure cellular and fiber-optic communications network and optimize the operation of the three utilities. Additionally, these upgrades will allow SCADA operators to leverage cutting-edge technology to improve the quality of service and reduce risks to the environment.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-115	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.614	$0.316	$0.232	-	-	-	-	-	-	-	-	-	$1.162	-
Proposed ($M)	-	-	$0.524	$0.420	-	-	-	-	-	-	-	-	$0.944	$0.944
Difference ($M)	$(0.614)	$(0.316)	$0.292	$0.420	-	-	-	-	-	-	-	-	$(0.218)	-

Proposed Changes

Cost:

- Costs have increased due to inflationary factors for materials, however some cost savings also realized from performing work with in-house resources.

Schedule:

- Due to global supply chain shortages in the microprocessor industry, the SCADA projects have experienced schedule delays.

W-117 170th Pl SE Pressure Improvements

Description and Scope

This project is the final phase of improvements to address low pressure deficiencies in the Sammamish 270 pressure zone (SA270), and specifically on 170th Pl SE, as identified in the 2016 Water System Plan (p. 4-21). Water mains installed on 170th Pl SE circa 1980 have never provided the minimum 30 psi pressure established by the City and required by the WA State Department of Health, due to high elevation relative to West Lake Sammamish Pkwy and SA270. This project will install water main and a pressure-reducing valve (PRV) station in an existing driveway across Weowna Park to provide higher-pressure water on 170th Pl SE.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-117	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.617	$0.477	$0.273	-	-	-	-	-	-	-	-	-	$1.367	-
Proposed ($M)	-	-	$0.288	-	-	-	-	-	-	-	-	-	$0.288	$0.288
Difference ($M)	$(0.617)	$(0.477)	$0.015	-	-	-	-	-	-	-	-	-	$(1.079)	-

Proposed Changes

Cost

- Costs have increased due to construction market escalation.

W-118 Water Pressure and Capacity Improvements (previously known as 'Somerset Highlands Pressure & Flow Improvements' in 2023-2029 CIP Budget)

Description and Scope

This program is proposed to address level of service deficiencies identified in the 2016 Water System Plan. During a fire event in Somerset Highlands, when high flows are drawn from local hydrants, customers at high elevations are likely to lose water service due to capacity bottlenecks. This loss of pressure would also create water quality risks, which may require boil water notice over a larger area to avoid contamination. Existing capacity was acceptable during original construction (late 1960s), but the flow available is inadequate based on City policy and current Washington State Department of Health minimum requirements. The proposed improvements will add capacity to meet the minimum level of service and resolve these deficiencies. A subset of the SS1000 zone will be converted to a new SS1025 Zone via a new PRV and transmission main connection to the HV1175 Zone.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-118	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.440	$0.906	$2.435	$2.000	-	-	-	-	-	-	-	-	$5.781	-
Proposed ($M)	-	-	-	$1.257	$2.954	$1.076	-	-	-	-	-	-	$5.287	$5.287
Difference ($M)	$(0.440)	$(0.906)	$(2.435)	$(.743)	$2.954	$1.076	-	-	-	-	-	-	$(0.494)	-

Proposed Changes

Cost:

- Cost estimates have increased due to construction market escalation.

Scope:

- A SS1000/SS1025 check valve will now be included in the design to provide supply redundancy to the newly created SS1025 Zone in the event of a PRV failure.

Schedule:

- The schedule has extended due to additional time needed for coordination regarding individual service PRVs.

W-119 Groundwater Well Improvements

Description and Scope

Bellevue Utilities maintains four groundwater wells for municipal water purposes, including non-potable or potable uses, and emergency water supplies. These wells were the sole supply of water to the Lake Hills and Crossroads neighborhoods in the 1950s and 1960s, before purchasing water from Seattle. This program is proposed to fund projects that maintain readiness, protect water quality, and optimize use of groundwater. Well assessment and rehabilitation work will restore and maintain well condition and yield. Improvements at the Crossroads site will increase access to groundwater for irrigation and tanker truck filling, improve well head protection measures, and improve response time and capacity to augment normal supplies in an emergency. An emergency well siting study will evaluate option to install additional, emergency-only wells throughout the service area, as recommended by the City's Emergency Water Supply Master Plan.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

W-119	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	$0.360	$1.919	$0.923	$1.734	$7.899	-	-	-	-	-	$12.835	-
Proposed ($M)	-	-	$0.097	$0.499	$1.437	$0.356	$0.736	$1.018	$1.259	$5.850	$5.507	-	$5.402	$16.759
Difference ($M)	-	-	$(0.263)	$(1.420)	$0.514	$(1.378)	$(7.163)	$1.018	$1.259	-	-	-	$(7.433)	-

Proposed Changes

Cost

- Cost estimates for planned projects have been updated from 2021 dollars to 2023 dollars based upon recent escalation.

Schedule

- Schedule of the four previously budgeted projects has been adjusted to balance resources.
- The schedule of the Crossroads Wells Rehabilitation has been adjusted to finish in 2027.
- The Crossroads Well improvements start date has been revised to 2028, after completion of the well rehabilitation work.
- The Emergency Well Siting Study start date has been shifted to 2029.
- The Samena Wells Rehabilitation start date has been moved to 2029.

BELLEVUE UTILITIES

2025-2034 CAPITAL INVESTMENT PROGRAM (CIP) PLAN

SEWER FUND

PROPOSED BUDGET BY PROGRAM

Bellefield Sewer Pump Station

SEWER FUND
2025-2034 CIP Proposed Changes
(Updated April 2, 2024)

Program Summary

Program Number	Description	Continued Program	2025-2034 Budget Request
S-16	Sewer Pump Station & Force Main Improvements	Yes	Yes
S-24	Sewer System Pipeline Repairs & Replacement	Yes	Yes
S-32	Minor (Small) Sewer Capital Improvements and Projects	Yes	Yes
S-58	Lake Washington Sewer Lake Line Program	Yes	Yes
S-66	Sewer System Pipeline Repairs and Replacement	Yes	Yes
S-108	AMI Implementation	Yes	No
S-111	Maintenance and Operations Yard	Yes	Yes
S-112	Sewer Planning Program	Yes	Yes
S-115	SCADA System Upgrade	Yes	Yes
S-116	Permit Compliance Monitoring	Yes	Yes
S-117	Septic Systems Sewer Extensions	Yes	Yes

S-120	Project and Portfolio Management System - Sewer	Yes	No

2025 – 2034 Proposed CIP Budget – Sewer

(as of April 2, 2024)

CIP PLAN	DESCRIPTION	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
S-16	Sewage Pump Station & Force Main Improvements	-	-	2,733,000	7,372,000	8,866,000	2,931,000	15,482,000	7,472,000	410,000	364,000	**45,630,000**
S-24	Sewer System Pipeline Repairs and Replacement	-	4,720,000	5,221,000	5,032,000	3,905,000	3,952,000	5,211,000	5,369,000	5,528,000	5,693,000	**44,631,000**
S-32	Minor (Small) Sewer Capital Improvements Projects	59,000	256,000	-	-	-	-	-	-	-	-	**315,000**
S-58	Lake Washington Sewer Lake Line Program	-	-	-	-	456,000	1,651,000	1,915,000	1,999,000	7,660,000	311,000	**13,992,000**
S-66	Sewer System Pipeline Repairs and Replacement	-	1,573,000	1,544,000	1,085,000	-	-	-	-	-	-	**4,202,000**
S-111	Maintenance and Operations Facility	-	-	1,336,000	693,000	862,000	3,525,000	1,699,000	-	-	-	**8,115,000**
S-112	Sewer Planning Program	763,000	730,000	-	-	-	97,000	399,000	410,000	-	-	**2,399,000**
S-115	SCADA System Upgrade	244,000	874,000	-	-	-	-	-	-	-	-	**1,118,000**
S-116	Permit Compliance Monitoring	-	-	46,000	76,000	53,000	23,000	-	-	-	-	**198,000**
S-117	Septic Systems Sewer Extensions	406,000	600,000	1,028,000	521,000	859,000	-	-	-	-	-	**3,414,000**
	Total Sewer CIP	**1,472,000**	**8,753,000**	**11,908,000**	**14,779,000**	**15,001,000**	**12,179,000**	**24,706,000**	**15,250,000**	**13,598,000**	**6,368,000**	**124,014,000**

CIP by Investment Area:

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
R&R Aging Infrastructure	1,066,000	8,153,000	9,544,000	13,565,000	13,280,000	8,654,000	23,007,000	15,250,000	13,598,000	6,368,000	**112,485,000**
Capacity for Growth	406,000	600,000	1,028,000	521,000	859,000	-	-	-	-	-	**3,414,000**
Environmental Preservation	-	-	-	-	-	-	-	-	-	-	**-**
Operational Efficiency	-	-	1,336,000	693,000	862,000	3,525,000	1,699,000	-	-	-	**8,115,000**
Sewer CIP Total	**1,472,000**	**8,753,000**	**11,908,000**	**14,779,000**	**15,001,000**	**12,179,000**	**24,706,000**	**15,250,000**	**13,598,000**	**6,368,000**	**124,014,000**

S- 16 Sewer Pump Station & Force Main Improvements

Description and Scope

This ongoing program funds rehabilitation of the 47 pump stations and associated force mains in Bellevue's wastewater system. Stations are prioritized based on the risk and likelihood of failure, maintenance and operations experience, age of pump station, and coordination with other projects.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

S-16	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$1.478	$5.937	$3.577	$3.032	$5.531	$1.725	$2.017	-	-	-	-	-	$23.297	-
Proposed ($M)	-	-	-	-	$2.733	$7.372	$8.866	$2.931	$15.482	$7.472	$0.410	$0.364	$37.384	$45.630
Difference ($M)	$(1.478)	$(5.937)	$(3.577)	$(3.032)	$(2.798)	$5.647	$6.849	$2.931	$15.482	-	-	-	$14.087	-

Proposed Changes

The total proposed budget for the 10 years includes the rehabilitation and/or replacement of 9 wastewater pressure system (pump station and force main) projects, a new minor pump station rehabilitation program and four planning projects. The proposed budget is an increase over the adopted budget, due to the addition of four major pump stations for construction during the 10 years.

Scope:

- Construction for 4 pump stations have been added to this 10-year budget which includes 2 of the highest capacity stations in Bellevue's wastewater system: Pump Station #12 & Force Main and Newport Pump Station.
    - Newport pump station is one of Bellevue's highest capacity stations and is anticipated to be completely replaced. Newport Pump Station's force main is one of Bellevue's largest diameter and longest wastewater force mains at 8" diameter and approximately 4,600 Feet long. The force main currently runs under I-405. A business case analysis will need to be performed to determine the best option and location for replacement of this system prior to design and construction. All are anticipated to occur within the 10 years.
    - Pump Station #12 is an existing project that was newly scoped and added to the CIP in 2019 due to 2 emergencies in the system, that identified a need to prioritize the rehabilitation of the pump station and replacement of the force main. This project is anticipated to be under construction in 2024-2025.

- A new Minor Pump Station Rehabilitation program has been added with 3 projects: Generator, Pump Replacement and Electrical/SCADA. This will align with Asset Management's R&R program's recommendations to upgrade components of pump stations to extend the life of the pump station.
- 4 new planning projects: Pump Station Condition Assessment Phase II & Wet well lining investigation, and 2031 Force Main Condition Assessment and Fairweather Basin Study have been added to the 10 years to continue to assess and plan CIP projects for the pump and force main systems.

Cost:

- Recent inflation has been incorporated into project estimates.

S-24 Sewer System Pipeline Repair and Replacement

Description and Scope

This program funds repairs or replacements of sewer pipes. Sewer pipe defects are identified from the Utility's infrastructure condition assessment (video) program and problem areas identified from operations and maintenance efforts. Projects are also added to address utilities needing replacement or relocation driven by projects being done by groups outside of Bellevue Utilities. These groups include WSDOT, Sound transit, Developers, etc. Pipes are prioritized for repair based on risk of failure (likelihood and consequence), failure history, and to coordinate with other construction such as planned street overlays, which reduces restoration costs.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes Inflation)

S-24	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$3.590	$2.799	$7.330	$3.773	$3.281	$3.370	2.701	-	-	-	-	-	$26.844	-
Proposed ($M)	-	-	-	$4.720	$5.221	$5.032	$3.905	$3.952	$5.211	$5.369	$5.528	$5.693	$28.041	$44.631
Difference ($M)	$(3.590)	$(2.799)	$(7.330)	$0.947	$1.940	$1.662	$1.204	$3.952	$5.211	-	-	-	$1.197	-

Proposed Changes

Scope:

- Additional annual program years for 2031-2035 have been added for the Annual Sanitary Sewer Defect Repair Programs. Funding for pipe defect repair increased to perform additional scope that is aligned with the need identified by asset management.
- Two new projects have been added to address replacement or relocation driven by projects by other agencies: WSDOT SR-520/124th Ave NE Interchange Improvements and Redmond Joint Use NE24th Street Sewer. These projects are anticipated to be completed by 2030.

Schedule:

- Schedule delay for WSDOT Sunset Creek Sewer Relocation project pushed construction through 2025-2027.

Cost:

- Recent inflation has been incorporated into project estimates.

S-32 Minor (Small) Sewer Capital Improvements and Projects

Description and Scope

This ongoing program pays for minor improvements to Bellevue's sewer system to resolve deficiencies, improve efficiencies, or resolve maintenance problems, often in conjunction with other programs such as the Transportation overlay program. The program also investigates the feasibility of possible sewer extensions. Projects are prioritized based on criteria including public safety/property damage, maintenance frequency, operator safety, environmental risk, reliability and efficiency gains, coordination with other city projects or development activity, and level of service impact.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

S-32	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.258	-	-	-	-	-	-	-	-	-	-	-	$0.258	-
Proposed ($M)	-	-	$0.059	$0.256	-	-	-	-	-	-	-	-	$0.315	$0.315
Difference ($M)	$(0.258)	-	$0.059	$0.256	-	-	-	-	-	-	-	-	$0.057	-

Proposed Changes

This program has one project, 2 Enatai, that is scheduled for completion in 2026.

Scope:

- 2 Enatai has increased in scope due to easement issues and construction challenges.

S-58 Lake Washington Sewer Lake Line Program

Description and Scope

This program is for the development of the Lake Line Management Plan and the recommended projects from the plan. The management plan will analyze the condition assessment and other available data on the Lake Washington Lake Lines, to develop a strategy for the rehabilitation, replacement, or continued condition assessment of the Lake Washington Lake Lines. Recommended projects from the management plan will include policy and financial studies along with rehabilitation & replacement projects, condition assessment and an emergency plan.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

S-58	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.675	$0.041	$0.119	$0.219	$0.945	$1.159	$1.146	-	-	-	-	-	$4.304	-
Proposed ($M)	-	-	-	-	-	-	$0.456	$1.651	$1.915	$1.999	$7.660	$0.311	$4.022	$13.992
Difference ($M)	$(0.675)	$(0.041)	$(0.119)	$(0.219)	$(0.945)	$(1.159)	$(0.690)	$1.651	$1.915	-	-	-	$(0.282)	-

Proposed Changes

Scope:

- Projects have been added to align with the anticipated Lake Line Management Plan recommendations and are replacing five service areas from the adopted budget:
  - Planning projects:
    - Emergency Plan to be ready to respond to an emergency breakage of lake line pipe
    - Financial and Policy Study
  - Business Case Analysis and pre-design work for Lake Line replacement project in the highest prioritized service area
  - An Early Action Project to increase operational effectiveness of lake line such as building an access point to facilitate cleaning of the lake lines as recommended by the Lake Line Management Plan
  - A condition assessment project will continue to assess the condition of portions of the lake lines.

S-66 Sewer System Pipeline Repair and Replacement

Description and Scope

This program replaces poor condition sewer pipe throughout the service area. Pipes are replaced when life cycle cost analysis indicates replacement is more economical than continuing to make point repairs. Replacement methods may include trenchless rehabilitation techniques such as cured-in-place pipe, and pipe bursting, and/or open trench replacement. Sewer System Pipeline Repair, which repairs pipes to extend their service life. This program implements Bellevue's asset management program strategy to meet expected and required customer service levels at the lowest life cycle cost.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes Inflation)

S-66	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.558	$0.071	$0.270	$0.839	$0.216	-	-	-	-	-	-	-	$1.954	-
Proposed ($M)	-	-	-	$1.573	$1.544	$1.085	-	-	-	-	-	-	$4.202	$4.202
Difference ($M)	$(0.558)	$(0.071)	$(0.270)	$0.734	$1.328	$1.085	-	-	-	-	-	-	$2.248	-

Proposed Changes

Schedule:

- The Bogline Project has schedule delays and is now anticipated to complete construction in 2027.

Cost:

- Contractor estimates for the Ballpark-Kelsey Creek/Lake Hills Boulevard Culvert Sewer Line Replacement project is higher than the cost, estimated 2 years ago, and now includes full length bypass and side sewer bypass pumps.

S-111 Maintenance and Operations Facility

Description and Scope

As the City of Bellevue continues to grow, there is a critical need for long range operational facilities planning to ensure that the Utilities Department (Utilities) can meet the community's current and future needs in an efficient and timely manner. The current service locations are functioning at or near capacity, and there is a significant risk that they will not be sufficient to meet Utilities' growing operational needs. To address this, Utilities developed a long-range Operations and Maintenance (O&M) Facilities Plan.

Based on the recommendation of the O&M Facilities Plan, property acquisition, design, and construction were funded through the Council adopted 2019-2025 and 2021-2027 CIP budgets, with $16M of funding split between the water and sewer funds ($8M each).

PROJECT NEED: Operational Efficiencies

Proposed Budget (includes inflation)

S-111	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	$3.315	$2.779	-	-	-	-	-	-	-	-	$6.094	-
Proposed ($M)	-	-	-	-	$1.336	$0.693	$0.862	$3.525	$1.699	-	-	-	$8.115	$8.115
Difference ($M)	-	-	$(3.315)	$(2.779)	$1.336	$0.693	$0.862	$3.525	$1.699	-	-	-	$2.021	-

Proposed Changes

Changes due to delay in selecting a site, the land acquisition funding has moved to 2027, followed by construction funding from 2027 through 2031. Additional funding is proposed to account for inflationary increases for land acquisition, design and construction.

S-112 Sewer Planning Program

Description and Scope

This program is for sewer planning projects, condition assessments of the sewer facilities and systems, alternatives analyses and programmatic capital planning for the wastewater sewer system.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

S-112	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	$1.366	$0.397	-	-	-	-	-	-	-	-	$1.763	-
Proposed ($M)	-	-	$0.763	$0.730	-	-	-	$0.097	$0.399	$0.410	-	-	$1.989	$2.399
Difference ($M)	-	-	$(0.603)	$0.333	-	-	-	$0.097	$0.399	-	-	-	$0.226	-

Proposed Changes

Scope:

- The WSDOT I-90 Franchise Consolidation project has increased scope.

Schedule:

- The Collection System Seismic Vulnerability Assessment was included in the 2019-2027 budget and is now scheduled to start in 2030. This project will perform an assessment of wastewater collection system seismic vulnerabilities, develop post-event level of service goals, and recommend mitigation actions.

Cost:

- Recent inflation has been incorporated into project estimates.

S-115 SCADA System Upgrade

Description and Scope

The City of Bellevue Utilities Department utilizes a supervisory control and data acquisition (SCADA) system to control and monitor the potable water, wastewater and storm water systems. Since the initial installation in the 1970s, this system has utilized leased copper telephone lines as the SCADA communications media. With age, the copper phone lines used for communicating vital control logic and retrieving precious data have become increasingly unreliable. As the telecommunication providers transition their core business away from copper telephone lines towards fiber-optic cable and cellular networks, the City faces increasing communications outages. Any break in communications within our SCADA network increases the risk and cost of providing essential Utility services to our customers. More than ever, it is incumbent upon the Utility to modernize our SCADA communications network to a more reliable medium.

The family of projects under the SCADA Infrastructure Upgrades program will improve the reliability and security of the SCADA system across 32 potable water sites, 48 wastewater sites and 11 storm water sites. These projects will install a private, secure cellular and fiber-optic communications network and optimize the operation of the cities three utilities. Additionally, these upgrades will allow SCADA operators to leverage cutting-edge technology to improve the quality of service and reduce risks to the environment.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

S-115	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$1.120	-	$2.190	$1.257	-	-	-	-	-	-	-	-	$4.567	-
Proposed ($M)	-	-	$0.244	$0.874	-	-	-	-	-	-	-	-	$1.118	$1.118
Difference ($M)	$(1.120)	-	$(1.946)	$(0.383)	-	-	-	-	-	-	-	-	$(3.449)	-

Proposed Changes

Scope and Cost:

- Adjustment of scope of work and cost savings from performing work with in-house resources.

Schedule:

- Project will finish ahead of schedule.

S-116 Permit Compliance Monitoring

Description and Scope

This program is for projects that are constructed in or near critical areas (streams, wetlands, steep slopes or floodplains) or critical area buffers. The projects require, by permit from a variety of natural resource agencies, re-planting and monitoring of native vegetation after construction of capital projects.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

S-116	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.051	$0.037	$0.038	$0.039	$0.041	$0.042	$0.043	-	-	-	-	-	$0.291	-
Proposed ($M)	-	-	-	-	$0.046	$0.076	$0.053	$0.023	-	-	-	-	$0.198	$0.198
Difference ($M)	$(0.051)	$(0.037)	$(0.038)	$(0.039)	$0.005	$0.034	$0.010	$0.023	-	-	-	-	$(0.093)	-

Proposed Changes

Scope:

- Minor scope adjustment for projects that will be completed in 2027-2029.

S-117 Septic Systems Sewer Extensions

Description and Scope

This program is to evaluate, design and construct wastewater sewer extensions in locations in the Bellevue Utilities service area, where customers are still on septic systems. This program is driven by customer requests for future sewer service in certain neighborhoods.

PROJECT NEED: Capacity for Growth

Proposed Budget (includes inflation)

S-117	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	$0.211	$1.226	$4.505	$1.463	$0.292	0.292	-	-	-	-	-	$7.989	-
Proposed ($M)	-	-	$0.406	$0.600	$1.028	$0.521	$0.859	-	-	-	-	-	$3.414	$3.414
Difference ($M)	-	$(0.211)	$(0.820)	$(3.905)	$(0.435)	$0.229	$0.567	-	-	-	-	-	$(4.575)	-

Proposed Changes

Scope:

- One pilot project is proposed at SE 42nd Street to be completed through construction.
- Scope adjusted for projects at 4 different neighborhoods, which will be evaluated through Business Case Analysis to determine the scope of work and cost estimates.
- Funding included to advance one of these four projects through design.

BELLEVUE UTILITIES

2025-2034 CAPITAL INVESTMENT PROGRAM (CIP) PLAN

STORM AND SURFACE WATER FUND

PROPOSED BUDGET BY PROGRAM

Coal Creek Parkway Culvert

STORM AND SURFACE WATER FUND
2025-2034 CIP Proposed Changes

(Updated April 2, 2024)

Program Summary

Program Number	Description	Continued Program	2025-2034 Budget Request
D-64	Storm Water System Conveyance Infrastructure Rehabilitation	Yes	Yes
D-81	Fish Passage Improvement Program	Yes	Yes
D-86	Stream Channel Modification Program	Yes	Yes
D-94	Flood Control Program	Yes	Yes
D-109	Storm Water Quality Retrofit Program	Yes	Yes
D-112	Storm and Surface Water Planning Program	Yes	Yes
D-114	Factoria/Richards Creek Flood Reduction	Yes	No
D-115	SCADA Upgrade - Storm	Yes	Yes
D-116	Post Construction Monitoring and Maintenance Program	Yes	Yes
D-120	Project and Portfolio Management System – Drainage	Yes	No

2025 – 2034 Proposed CIP Budget – Storm

(as of April 2, 2024)

CIP PLAN	DESCRIPTION	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
D-64	Stormwater Conveyance Infrastructure Rehabilitation	6,449,000	1,671,000	3,892,000	5,782,000	7,236,000	5,918,000	8,974,000	4,697,000	4,839,000	4,984,000	**54,442,000**
D-81	Fish Passage Improvement Program	835,000	1,229,000	507,000	2,087,000	-	276,000	969,000	940,000	2,661,000	4,361,000	**13,865,000**
D-86	Stream Channel Modification Program	-	368,000	1,534,000	-	-	-	-	-	-	-	**1,902,000**
D-94	Flood Control Program	-	-	900,000	626,000	537,000	830,000	855,000	2,818,000	4,234,000	-	**10,800,000**
D-109	Stormwater Quality Retrofit Program	-	-	89,000	851,000	261,000	95,000	155,000	516,000	522,000	199,000	**2,688,000**
D-112	Storm and Surface Water Planning Program	23,000	67,000	-	337,000	405,000	59,000	-	-	-	-	**891,000**
D-115	SCADA Upgrade - Storm	6,000	381,000	-	-	-	-	-	-	-	-	**387,000**
D-116	Post Construction Monitoring and Maintenance	-	-	129,000	143,000	126,000	69,000	-	-	-	-	**467,000**
	Total Storm CIP	**7,313,000**	**3,716,000**	**7,051,000**	**9,826,000**	**8,565,000**	**7,247,000**	**10,953,000**	**8,971,000**	**12,256,000**	**9,544,000**	**85,442,000**

CIP by Investment Area:

Description	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2025-2034
R&R Aging Infrastructure	6,455,000	2,052,000	3,892,000	5,782,000	7,236,000	5,918,000	8,974,000	4,697,000	4,839,000	4,984,000	**54,829,000**
Environmental Preservation	858,000	1,664,000	3,159,000	4,044,000	1,329,000	1,329,000	1,979,000	4,274,000	7,417,000	4,560,000	**30,613,000**
Storm CIP Total	**7,313,000**	**3,716,000**	**7,051,000**	**9,826,000**	**8,565,000**	**7,247,000**	**10,953,000**	**8,971,000**	**12,256,000**	**9,544,000**	**85,442,000**

D-64 Storm Water System Conveyance Infrastructure Rehabilitation

Description and Scope

This ongoing program repairs defective storm drainage pipelines, culverts and ditches identified as part of the Utility's condition assessment program or other means. Most of the projects involve lining or replacing pipes with repairable defects. Projects are prioritized based on the severity of deterioration, the risk and consequence of failure, and coordination with planned street improvement projects.

The program also includes replacing and upgrading existing stormwater assets that are beyond repair. As the stormwater system ages, the need to address additional pipe defects will increase in future. The Utilities' Asset Management Program is evaluating when system replacement will incur a significant increase to the budget.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

D-64	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$3.822	$1.840	$2.772	$2.843	$2.909	$2.660	$2.946	-	-	-	-	-	$19.792	-
Proposed ($M)	-	-	$6.449	$1.671	$3.892	$5.782	$7.236	$5.918	$8.974	$4.697	$4.839	$4.984	$39.922	$54.442
Difference ($M)	$(3.822)	$(1.840)	$3.677	$(1.172)	$0.983	$3.122	$4.290	$5.918	$8.974	-	-	-	$20.130	-

Proposed Changes

Scope:

- Budget for the annual Trenchless and Dig and Repair Program increased by $7.0 M, because of the need to address additional defects found from an increased level of pipe condition assessment work.
- Supplement the program budget to accommodate the cost of the Emergency Lakemont Culvert Projects currently in construction.
- Two new projects have been added to the program, including CCTV Effort for Culverts and Gravity Mains ($6.3M), and Phase 2 of the Lakemont Culvert Emergency Project ($4.5 M).

D-81 Fish Passage Improvement Program

Description and Scope

This ongoing program provides funding to remove fish passage barriers such as impassable culverts, debris jams, or accumulated sediment, allowing access to critical spawning and rearing habitat for salmon populations. Typical projects include culvert replacement or modification, debris removal, or installation of logs and boulders to improve access at low stream flows. Grant money is pursued to supplement Bellevue's investment whenever possible.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes Inflation)

D-81	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.290	$0.296	$1.912	$0.111	$0.057	$0.029	$0.029	-	-	-	-	-	$2.724	-
Proposed ($M)	-	-	$0.835	$1.229	$0.507	$2.087	-	$0.276	$0.969	$0.940	$2.661	$4.361	$5.903	$13.865
Difference ($M)	$(0.290)	$(0.296)	$(1.077)	$1.118	$0.450	$2.058	$(0.029)	$0.276	$0.969	-	-	-	$3.179	-

Proposed Changes

Scope:

- A new project, Kelsey Creek Lake Hills Connector Barrier Correction Phase 2 – Design and Construction ($9 M), has been added to the program.
- The Watershed Management Plan, scheduled to be completed in 2024, will help identify future fish passage improvement projects.

Schedule:

- The schedules of two existing projects, Lower Vasa Creek Fish Passage Mitigation and Kelsey Creek Lake Hills Connector Barrier Correction Phase 1 – BCA, were delayed by a year. However, there is no additional budget request for these projects in the proposed budget cycle.

D-86 Stream Channel Modification Program

Description and Scope

This ongoing program resolves unstable stream sections that reduce salmon spawning or rearing habitat or increase Bellevue Utilities maintenance requirements. Stream stability problems include stream sections with excessive erosion or sediment deposition. Stabilizing the stream channel primarily consists of placing large woody debris and boulders in the channel, and re-vegetating stream banks, commonly called bioengineering.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes Inflation)

D-86	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	-	$6.072	$3.963	$0.145	$0.346	$0.400	-	-	-	-	-	$10.926	-
Proposed ($M)	-	-	-	$0.368	$1.534	-	-	-	-	-	-	-	$1.902	$1.902
Difference ($M)	-	-	$(6.072)	$(3.595)	$1.389	$(0.346)	$(0.400)	-	-	-	-	-	$(9.024)	-

Proposed Changes

Scope:

- The Kelsey Creek at Glendale project, which was budgeted at $9.0 M in the 2023-29 budget cycle, is no longer required and has been removed from the program in this budget cycle.
- Design and construction schedule and dollars ($2.4 M) has been added to the Coal Creek Offsite Sediment Pond Improvement project.

Schedule:

- Two projects (Coal Creek Upstream Habitat Improvement and Relic Instream Detention Structure Removal project and Sunset Creek Culvert Removal / Stream Enhancement - Preliminary Engineering and Design project) has been rescheduled outside the 10-year CIP window due their low priority score.

D-94 Flood Control Program

Description and Scope

This ongoing program constructs improvements to reduce or eliminate flooding caused by insufficient public drainage system capacity. Projects involve enlarging pipes or culverts to convey more stormwater, re-routing drainage to pipes with more capacity, adding detention or infiltration facilities, or other runoff control strategies.

This program is funded in part by King County Flood Control District sub-regional opportunity fund dollars at approximately $600,000 per year.

PROJECT NEED: Environmental Preservation/ Flood Hazard Reduction

Proposed Budget (includes Inflation)

D-94	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	-	$2.574	$2.927	$1.299	$4.260	$0.580	$0.036	-	-	-	-	-	$11.676	-
Proposed ($M)	-	-	-	-	$0.900	$0.626	$0.537	$0.830	$0.855	$2.818	$4.234	-	$3.784	$10.800
Difference ($M)	-	$(2.574)	$(2.927)	$(1.299)	$(3.360)	$0.046	$0.501	$0.830	$0.855	-	-	-	$(7.928)	-

Proposed Changes

Scope:

- Valley Creek at 21st Street project ($2.6 M) was completed in 2023.
- Valley Creek at 20th Street project ($5.0 M) is divided into two projects - (I) Valley Creek at 20th Street – Business Case Analysis (BCA) ($0.5 M); (ii) Valley Creek at 20th Street – Design and Construction ($10.3 M). Overall project cost increased by $6.0 M in the proposed budget cycle.
- Project cost for the Upper Kelsey Cr - Phase 2 - Culvert/Bridge Replacement @ Lake Hills Blvd project cost increased by $1.4 M in the proposed budget cycle, primarily due to an increase in construction costs.

Schedule:

- The schedule for Upper Kelsey Creek Culvert Replacement at Lake Hills Boulevard project is delayed by 2 years due to resource constraints.
- The schedule for Valley Creek at 20th Street – BCA project got delayed by a year due to resource constraints.

D-109 Storm Water Quality Retrofit Program

Description and Scope

This program aims to improve water quality in Bellevue's lakes and streams by implementing treatment techniques to reduce or remove pollutants from stormwater runoff.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes Inflation)

D-109	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.065	$0.342	$1.473	$0.260	$1.406	$1.224	$0.348	-	-	-	-	-	$5.118	-
Proposed ($M)	-	-	-	-	$0.089	$0.851	$0.261	$0.095	$0.155	$0.516	$0.522	$0.199	$1.451	$2.688
Difference ($M)	$(0.065)	$(0.342)	$(1.473)	$(0.260)	$(1.317)	$(0.373)	$(0.087)	$0.095	$0.155	-	-	-	$(3.667)	-

Proposed Changes

Scope:

- The I-405 Water Quality Treatment at Sturtevant Creek Outfall project ($2.0 M) has been removed from the program as it was determined that the project is not needed.
- A couple of early action projects from the Watershed Management Plan (WMP) have been added to the program ($0.4 M).
  - Yarrow Creek I-405 Bioretention
  - Bellevue Pond WQ Retrofit

Schedule:

- Pond A Oil/Water Separator Replacement/Removal project schedule has been pushed back by three years because of the project's low priority score.

D-112 Storm and Surface Water Planning Program

Description and Scope

This continued program funds essential studies that help identify future capital investment projects (CIP), to improve watershed health and asset renewal/replacement.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes inflation)

D-112	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.025	$0.645	$0.451	$0.300	-	-	-	-	-	-	-	-	$1.421	-
Proposed ($M)	-	-	$0.023	$0.067	-	$0.337	$0.405	$0.059	-	-	-	-	$0.891	$0.891
Difference ($M)	$0.025	$(0.645)	$(0.428)	$(0.233)	-	$0.337	$0.405	$0.059	-	-	-	-	$(0.530)	-

Proposed Changes

Scope:

- Three projects that were not funded in the 2023-29 budget cycle, are being funded in the proposed 2025-34 budget cycle ($0.5 M).
  - Storm and Surface Water System Plan Update
  - Stormwater Pond Evaluations for Treatment Sock Retrofits (BURitos).
  - WSDOT I-90 Franchise Consolidation - Storm
- There is no budget assigned for the Watershed Management Plan (WMP) and Culvert Condition Assessment (CCA) in the proposed 2025-34 budget cycle because these two projects are scheduled to be completed by end of 2024 ($1.4 M).

Schedule:

- Schedule for the Watershed Management Plan has been accelerated, and the project is now scheduled to be completed in 2024, rather than 2025.

D-115 SCADA Upgrade - Storm

Description and Scope

The City of Bellevue Utilities Department utilizes a supervisory control and data acquisition (SCADA) system to control and monitor the drinking water, sewer, storm and surface water systems. Since the initial installation in the 1970s, this system has utilized leased copper telephone lines as the SCADA communications media. With age, the copper phone lines used for communicating vital control logic and retrieving precious data have become increasingly unreliable. As the telecommunication providers transition their core business away from copper telephone lines towards fiber-optic cable and cellular networks, the city faces increasing communications outages. Any break in communications within our SCADA network increases the risk and cost of providing essential Utility services to our customers. More than ever, it is incumbent upon the Utility to modernize our SCADA communications network to a more reliable medium.

The family of projects under the SCADA Infrastructure Upgrades program will improve the reliability and security of the SCADA system across 32 potable water sites, 48 wastewater sites and 11 stormwater sites. These projects will install a private, secure cellular and fiber-optic communications network and optimize the operation of the City's three utilities. Additionally, these upgrades will allow SCADA operators to leverage cutting-edge technology to improve the quality of service and reduce risks to the environment.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

D-115	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.100	-	-	$0.765	-	-	-	-	-	-	-	-	$0.865	-
Proposed ($M)	-	-	0.006	$0.381	-	-	-	-	-	-	-	-	$0.387	$0.387
Difference ($M)	$(0.100)	-	0.006	$(0.384)	-	-	-	-	-	-	-	-	$(0.478)	-

Proposed Changes

Scope and Schedule:

- There are no changes to scope and schedule.

D-116 Post Construction Monitoring and Maintenance Program

Description and Scope

This program is for projects that are constructed in critical areas (streams, wetland, steep slopes or floodplains) or critical area buffers. The projects require, by permit form a variety of natural resource agencies, re-planting of native vegetation after construction and monitoring of capital projects to ensure the vegetation survives. Some stream projects require monitoring of the streambed after construction. This program helps the City build relationships with environmental permitting agencies that can benefit future projects.

The adopted CIP funds the current monitoring and maintenance activities on 17 separate sites throughout the City.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes inflation)

D-116	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2023 – 2029 vs. 2025-2031 Total	2025—2034 Proposed Total
Adopted ($M)	$0.372	$0.263	$0.175	$0.197	$0.216	$0.147	$0.086	-	-	-	-	-	$1.456	-
Proposed ($M)	-	-	-	-	$0.129	$0.143	$0.126	$0.069	-	-	-	-	$0.467	$0.467
Difference ($M)	$(0.372)	$(0.263)	$(0.175)	$(0.197)	$(0.087)	$(.004)	$0.040	$0.069	-	-	-	-	$(0.989)	-

Proposed Changes

Scope:

- Post construction monitoring for a few existing projects has been completed or will be completed by the end of 2024.

Cost:

- The average annual cost to monitor and maintain a site has increased.