

**BELLEVUE UTILITIES
2023-2029 CAPITAL INVESTMENT PROGRAM PLAN (CIP)
STORM AND SURFACE WATER FUND
PROPOSED BUDGET BY PROGRAM**



STORM AND SURFACE WATER FUND

2023-2029 CIP Proposed Changes

(Updated March 2, 2022)

Program Number	Description	Continued Program	2023-2029 Budget Request	New Proposed Program
D-59	Minor Storm CIP	No	No	
D-64	Storm and Surface Water System Infrastructure Rehabilitation	Yes	Yes	
D-81	Fish Passage Improvement Project	Yes	Yes	
D-86	Stream Channel Modification	Yes	Yes	
D-94	Flood Control Program	Yes	Yes	
D-104	Stream Restoration for M&I	Yes	Yes	
D-106	Lower Coal Creek Flood Hazard Reduction	Yes	No	
D-109	Water Quality Retrofit	Yes	Yes	
D-112	Storm and Surface Water Planning	Yes	Yes	
D-114	Factoria/Richards Creek Flood Reduction	Yes	Yes	
D-115	SCADA Upgrades	Yes	Yes	
D-116	Post-Construction Monitoring and Maintenance	Yes	Yes	

D-64 Storm Water System Conveyance Infrastructure Rehabilitation

Adopted 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.

It also includes replacement and upgrading of current stormwater assets that are beyond repair. As the system ages, costs are expected to increase. The Utilities’ Asset Management Program is evaluating when system replacement will require significant increases to the budget.

PROJECT NEED: System Renewal and Replacement

Proposed Budget (includes inflation)

D-64	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	\$2.360	\$1.420	\$1.530	\$1.640	\$2.010	\$2.050	\$2.090	–	–	\$13.100
Proposed (\$M)	–	–	\$4.780	\$2.300	\$2.489	\$2.560	\$2.626	\$2.377	\$2.663	\$19.792
Difference (\$M)	\$(2.360)	\$(1.420)	\$3.250	\$.660	\$.479	\$.510	\$.536	\$2.377	\$2.663	\$6.692

Proposed Changes

Scope

- The base budget of the annual dig & repair/trenchless program was increased by 1/3 to expand the scope (approx. \$0.5 M annually) in response to finding more defects from an increased level of video work.
- Two emergency projects were added to the program budget program budget (approx. \$2.7M). These projects, the West Lake Sammamish Parkway pipe replacement and the Vasa Creek culvert repair at Newport Way, were not in the current CIP (projects to be completed by end of 2022).
- Three new projects were added including a *Watershed Management Plan Early Action* project (Smart Control Pilot II- Stand-alone detention pond) to start in 2023.

D-81 Fish Passage Improvement Program

Adopted 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	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	–	\$.350	\$.100	\$.190	\$.610	\$.500	\$.050	–	–	\$1.800
Proposed (\$M)	–	–	\$.361	\$.370	\$1.883	\$.082	\$.028	–	–	\$2.724
Difference (\$M)	–	\$(-.350)	\$.261	\$.180	\$1.273	\$(-.418)	\$(-.022)	–	–	\$.924

Proposed Changes

Scope

- Two new projects (one each on Vasa & Coal Creeks) were added. The Vasa Creek project is a permit-required mitigation project for the emergency culvert repair project on Vasa Creek at Newport Way.
- The “Future Culvert project” in the current CIP was renamed “Kelsey Creek Lake Hills Connector Culvert Replacement.” The scope has been reduced from a full project to only a business case analysis (BCA), a reduction approx. \$1.1 M. This grant funded project will look at removing a fish passage barrier on lower Kelsey Creek and is a *Watershed Management Plan Early Action*.
- Two projects moved outside of the 7-year CIP window due their lower priority (Kelsey Creek at 140th Ave NW Low Flow Barrier and Coal Creek I-405 Weirs, Fish Passage Removal – Approx. \$500 k reduction).
- A culvert condition assessment project currently underway under CIP plan D-112 will provide information to increase the number of culvert replacement in future CIP budgets.

D-86 Stream Channel Modification Program

Adopted 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 consists primarily of placing large woody debris and boulders in the stream channel, and re-vegetating stream banks, commonly called bioengineering.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes Inflation)

D-86	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	\$1.390	\$.160	\$.180	–	\$.080	\$.440	\$.990	–	–	\$3.240
Proposed (\$M)	–	–	\$.019	\$5.912	\$3.121	\$.983	\$.145	\$.346	\$.400	\$10.926
Difference (\$M)	\$(1.390)	\$(.160)	\$(.161)	\$5.912	\$3.041	\$.543	\$(.845)	\$.346	\$.400	\$7.686

Proposed Changes

Scope

- The Kelsey Creek Glendale project has cost increases due to a change in project scope, a schedule delay (completion being moved from the 2021-2022 time frame to 2023-2024), and an increase in cost for materials and labor.
- One project has a scope increase (Ardmore stability), from a business case analysis (BCA) to full project.
- One new project added to improve channel condition on Coal Creek beginning in 2025.
- Tye Middle School culvert project renamed Sunset Creek Culvert Project and the design phase is added to the scope.
- Two projects (Coal Creek Reach 3 Sediment Control & Habitat Improvement Preliminary Engineering and Future Bank Stabilization) were moved outside of the 7-year CIP window due their lower priority

Schedule

- Construction of the Coal Creek Off-Channel Sediment Pond Improvement- a *Watershed Management Plan Early Action*, is delayed until 2024.

D-94 Flood Control Program

Adopted 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 \$650,000 per year.

PROJECT NEED: Environmental Preservation/ Flood Hazard Reduction

Proposed Budget (includes Inflation)

D-94	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	\$2.950	\$2.450	\$2.070	\$.520	\$.500	\$.500	\$.500	-	-	\$9.490
Proposed (\$M)	-	-	-	\$3.218	\$2.283	\$1.299	\$4.260	\$.580	\$.036	\$11.676
Difference (\$M)	\$(2.950)	\$(2.450)	\$(2.070)	\$2.698	\$1.783	\$.799	\$3.76	\$.580	\$.036	\$2.186

Proposed Changes

Schedule

- Several projects have schedule delays due to permitting, and property access issues. These include the Valley Cr/21st St Flood Control, North Sammamish Flood Improvements, and Upper Kelsey Cr - Phase 2 - Culvert/Bridge Replacement @ Lake Hills Blvd.

Scope

- The Upper Kelsey Cr - Phase 2 - Culvert/Bridge Replacement @ Lake Hills Blvd project also has significant scope changes due to a change in assumed site conditions and the complexity of integrating emergent water and sewer replacement projects at the same location (estimated \$3 M increase).
- One new project added (Valley Creek Culvert Under NE 20th St). This is to supplement the flood projection gained by the Valley Cr/NE 21st project) -Approx. \$5 M (2024-2027).

D-104 Stream Restoration for Mobility and Infrastructure Initiative

Adopted Description and Scope

This ongoing program is for stormwater improvements associated with the Mobility and Infrastructure Initiative (which seeks to address high priority mobility and infrastructure needs in Downtown Bellevue and in the Bel-Red Corridor). These funds are to restore streams for recreation and environmental health through the Bel-Red corridor, and to encourage redevelopment of the area. These funds will be allocated to specific stormwater-related projects pending further Council direction.

PROJECT NEED: Environmental Preservation

Proposed Budget (includes inflation)

D-104	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	-	-	-	-	-	-	-	-	-	-
Proposed (\$M)	-	-	-	\$.258	-	-	-	-	-	\$.258
Difference (\$M)	-	-	-	\$.258	-	-	-	-	-	\$.258

Proposed Changes

Scope

- One new project is proposed for this program: a feasibility study of potentially daylighting West Tributary Creek through old Safeway site (purchased with Utilities Dept. funds).
- The study will assess if there is a feasible project at this location that will benefit Utility customers: either daylighting (full or partial), use as a regional water quality, flow control facility or another use.

D-109 Stormwater Quality Retrofit Program

Adopted Description and Scope

This program focuses on improving water quality in the storm system and ultimately Bellevue's streams and lakes. Early information from the Watershed Management Plan indicates water quality issues are a major limiting factor in Bellevue's streams.. This Program will expand once more projects are identified in the City's on-going Watershed Management Plan effort (expect to be completed in late 2022 or early 2023).

Three projects address runoff from WSDOT freeways, some of the most contaminated in the city

PROJECT NEED: Environmental Preservation

Proposed Budget (includes Inflation)

D-109	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	–	\$.750	–	–	–	–	–	–	–	\$.750
Proposed (\$M)	–	–	\$.065	\$.342	\$1.473	\$.260	\$1.406	\$1.224	\$.348	\$5.118
Difference (\$M)	–	\$(.750)	\$.065	\$.342	\$1.473	\$.260	\$1.406	\$1.224	\$.348	\$4.368

Proposed Changes

Scope

- Two new projects address contaminated WSDOT runoff. These projects are largely funded by fees WSDOT pays into the Stormwater fund and are *Watershed Management Plan Early Actions*.
- One of the WSDOT projects, Sturtevant Creek, has a scope change based on additional information from WSDOT (approx. \$1.1 M). This project also has a **schedule change**, delaying the project. WSDOT needs to complete their design work on this stretch of I-405 before this project can move ahead. This project also has approximately 10% **cost increase** from increased material and labor costs form when it was first estimated in 2019.
- The Pond A Oil/Water Separator Replacement has a scope change from BCA to full project (it needs to be replaced sooner-schedule change as well, approximate increase \$1.6 M).

D-112 Storm and Surface Water Planning Program

Adopted Description and Scope

This new program funds essential studies that will identify capital investments to improve watershed health and asset renewal/replacement.

PROJECT NEED: Environmental Preservation/System Renewal and Replacement

Proposed Budget (includes inflation)

D-112	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	\$.590	\$.600	\$.240	-	-	\$.280	\$.290	-	-	\$2.00
Proposed (\$M)	-	-	\$.025	\$.645	\$.451	\$.300	-	-	-	\$1.421
Difference (\$M)	\$ (.590)	\$ (.600)	\$ (.215)	\$.645	\$.451	\$.021	\$ (.290)	-	-	\$ (.579)

Program Information

Scope

- Three new projects have been added totaling an estimated \$750 K.

Schedule

- Now a *Watershed Management Plan Early Action*, a structural and operational study of the six regional detention facilities on Kelsey Creek has had a schedule change from 2026 start to a 2024 start. These facilities were constructed in the mid-1980s. Their condition needs to be comprehensively evaluated as well as a review of their current operation practices. The results of this study will likely lead to capital projects that upgrade/modify facilities to improve the health of Kelsey Creek.
- The schedule of the Watershed Management Plan has been accelerated to finish in the 4th quarter 2022 or 1st quarter of 2023 rather than the 4th quarter of 2023 (schedule change).

D-114 Richards/Fact Blvd Conveyance Improvements

Adopted Description and Scope

This large flood reduction project is designed to reduce the frequency of flood on Factoria Blvd between I-90 and SE 38th St. Much of the funding for this project is through an agreement from the King County Flood Control District (in process).

PROJECT NEED: Environmental Preservation/Flood Hazard Reduction

Proposed Budget (includes inflation)

D-114	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	\$5.220	\$4.100	–	–	–	–	–	–	–	\$9.320
Proposed (\$M)	–	–	\$.900	\$5.362	\$.146	\$.500	\$.388	–	–	\$7.296
Difference (\$M)	\$(5.220)	\$(4.100)	\$.900	\$5.362	\$.146	\$.500	\$.388	–	–	\$(2.024)

Project Changes:

Scope

- Stream mitigation project (\$1.1M) added to scope for potential permit requirement

Schedule

- Construction schedule delay due to environmental permitting challenges and utility coordination (Seattle Water & Olympic Pipeline). Construction estimated at 2023-2024.

Cost

- Construction cost estimate increased due to complex shoring, complex construction sequencing, & extensive traffic control/signal modification

D-115 Stormwater SCADA Upgrades

Adopted 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)

D-115	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)		\$.600	\$.200	\$.020	–	\$.630	–	–	–	\$1.450
Proposed (\$M)	–	–	\$.100	–	–	\$.765	–	–	–	\$0.865
Difference (\$M)	\$(5.220)	\$(4.100)	\$.100	–	–	\$.765	–	–	–	\$(.585)

Proposed Changes

Cost

- Costs have been reduced due to savings gained from a more efficient contracting method.

Schedule

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

D-116 Post-Construction Monitoring and Maintenance Program

Adopted 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: Regulatory Compliance

Proposed Budget (includes inflation)

D-116	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Adopted (\$M)	\$.220	\$.210	\$.270	\$.160	\$.110	\$.040	\$.040	–	–	\$1.050
Proposed (\$M)	–	–	\$.372	\$.263	\$.175	\$.197	\$.216	\$.147	\$.086	\$1.456
Difference (\$M)	\$ (.220)	\$ (.210)	\$.102	\$.103	\$.065	\$.157	\$.176	\$.147	\$.086	\$.406

Proposed Changes

Scope

- Six new project sites are added to this program over the next seven years, while two are anticipated to be completed.

Cost

- The average annual cost to monitor and maintain a site has increased from \$17,000 to an estimated \$17,500.