



2023-2029 Adopted Utilities Capital Investment Program (CIP) Plan Storm & Surface Water

Bellevue’s Storm & Surface Water system includes a network of streams, lakes, pipelines, storm water runoff control, and water quality facilities. The Utility owns, operates, and maintains 11 regional detention facilities, 350 city-owned residential detention facilities, and monitors nearly 1,000 commercial detention facilities. Stormwater is conveyed via over 480 miles of pipelines, 92 miles of open ditch, and over 80 miles of open streams. The system includes over 20,000 structures such as manholes and catch basins that require regular maintenance and eventual retrofit/replacement.

Ongoing Utility objectives for the system include managing stream flows and flooding; limiting stream bank erosion; replacing undersized and/or deteriorating pipelines and culverts; reducing sedimentation and other water quality problems; and preserving or restoring aquatic wildlife habitat. The Utility’s stormwater capital investment projects are developed to address the highest priority needs to meet these objectives.

The Utility utilizes the Storm and Surface Water System Plan, adopted in 2016, and ongoing assessments to identify and prioritize system improvement needs. In addition, current watershed management planning, drainage basin studies, analysis of storm events, input from maintenance staff, asset management analyses, and citizen input identify additional system improvement needs.

The 2023-2029 Utilities CIP recognizes that significant investments are needed to maintain aging systems and replace components that are reaching the end of their useful life. The CIP also includes investments to support the Utility’s environmental stewardship goals and objectives.

Funded CIP Projects

CIP Plan Number	Project Title	\$ in 000s	
		2023-2029 Project Cost	Total Estimated Cost
D-64	Storm Water System Conveyance Infrastructure Rehabilitation	\$ 19,792	\$ 44,197
D-81	Fish Passage Improvement Program	2,724	9,120
D-86	Stream Channel Modification Program	10,926	18,755
D-94	Flood Control Program	11,676	29,927
D-104	Stream Restoration for Mobility and Infrastructure Initiative	258	2,889
D-109	Stormwater Quality Retrofit Program	5,118	5,555
D-112	Storm and Surface Water Planning Program	1,421	2,611
D-114	Factoria/Richards Creek Flood Reduction	7,296	16,616
D-115	SCADA Upgrade – Storm	865	1,465
D-116	Post-Construction Monitoring and Maintenance Program	1,456	1,886
D-120	Project and Portfolio Management System – Drainage	166	166
Total Storm & Surface Water		\$ 61,698	\$ 133,187

2023-2029 Adopted CIP: Healthy and Sustainable Environment - Storm & Surface Water

Combined, Completed Projects

CIP Plan Number	Project Title	\$ in 000s	
		2023-2029 Project Cost	Total Estimated Cost
NONE			
	Total Combined, Completed Projects	-	-

D-64: Storm Water System Conveyance Infrastructure Rehabilitation

Category: High Quality Built & Natural Environment Status: Ongoing

Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
44,197,231	24,405,231	3,822,000	1,840,000	2,772,000	2,843,000	2,909,000	2,660,000	2,946,000

Description and Scope

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

Rationale

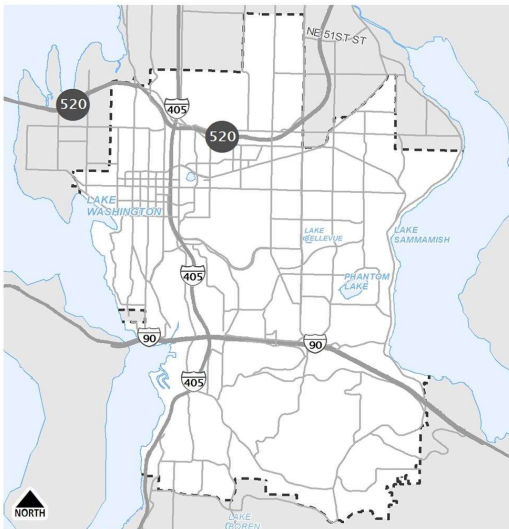
Storm infrastructure rehabilitation and replacement is based on asset criticality and business risk, per industry best practices. In the short term, this program reduces the likelihood of catastrophic system failures; traffic disruption due to failed culverts under streets; damage claims to the city; and utility rate spikes to respond to system failures rather than proactively managing the system. In the long term, timely replacement or repair of stormwater facilities keeps customer rates as low as practical by managing the system at the lowest life-cycle cost, while maintaining service levels and meeting regulatory requirements.

Environmental Impacts

Operating Budget Impacts

This program will have no significant impact on operating revenues and/or expenditures.

Project Map



Schedule of Activities

Project Activities	From - To	Amount
Project Costs	Ongoing	44,197,231

Total Budgetary Cost Estimate: 44,197,231

Means of Financing

Funding Source	Amount
Beginning Fund Balance	1,068,843
Transfers from Other City Funds	43,128,388
Total Programmed Funding:	44,197,231
Future Funding Requirements:	-

FY2023-2029

Comments

D-81: Fish Passage Improvement Program

Category: High Quality Built & Natural Environment Status: Ongoing
 Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
9,119,895	6,395,895	290,000	296,000	1,912,000	111,000	57,000	29,000	29,000

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.

Rationale

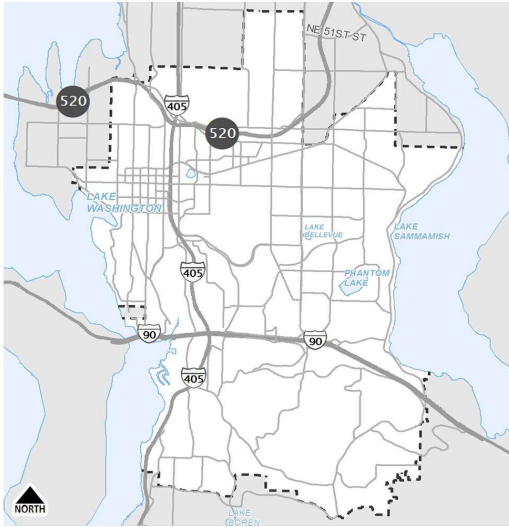
This program along with others in this proposal open salmon access to existing functional habitat, one of the quickest methods to increase salmon populations; helps stabilize streams and improve habitat consistent with Council-approved Lake Washington / Cedar / Sammamish Chinook Salmon Recovery Plan; improves water quality that limits fish viability; protects properties from flooding of structures, flooding which restricts access to residences or businesses, and street flooding that impacts primary emergency routes; restores streams for recreation and environmental health in the redeveloping Bel-Red Corridor; and reduce the potential for sewage overflow to surface water bodies.

Environmental Impacts

This program will have no significant impact on operating revenues and/or expenditures.

Operating Budget Impacts

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	9,119,895

Total Budgetary Cost Estimate: 9,119,895

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	9,119,895

Total Programmed Funding: 9,119,895

Future Funding Requirements: -

FY2023-2029

Comments

D-86: Stream Channel Modification Program

Category: High Quality Built & Natural Environment Status: Ongoing
 Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
18,754,568	7,828,568	-	-	6,072,000	3,963,000	145,000	346,000	400,000

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.

Rationale

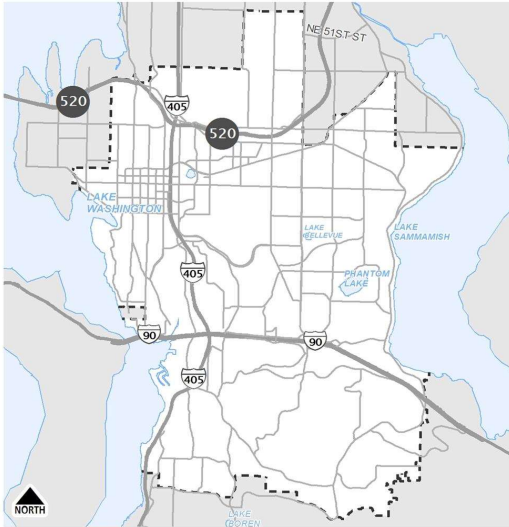
This program along with others in this proposal open salmon access to existing functional habitat, one of the quickest methods to increase salmon populations; helps stabilize streams and improve habitat consistent with Council-approved Lake Washington / Cedar / Sammamish Chinook Salmon Recovery Plan; improves water quality that limits fish viability; protects properties from flooding of structures, flooding which restricts access to residences or businesses, and street flooding that impacts primary emergency routes; restores streams for recreation and environmental health in the redeveloping Bel-Red Corridor; and reduce the potential for sewage overflow to surface water bodies.

Environmental Impacts

Operating Budget Impacts

This program will have no significant impact on operating revenues and/or expenditures.

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	18,754,568

Total Budgetary Cost Estimate: 18,754,568

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	18,754,568

Total Programmed Funding: 18,754,568

Future Funding Requirements: -

FY2023-2029

Comments

D-94: Flood Control Program

Category: High Quality Built & Natural Environment

Status: Ongoing

Department: Utilities

Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
29,926,973	18,250,973	-	2,574,000	2,927,000	1,299,000	4,260,000	580,000	36,000

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.

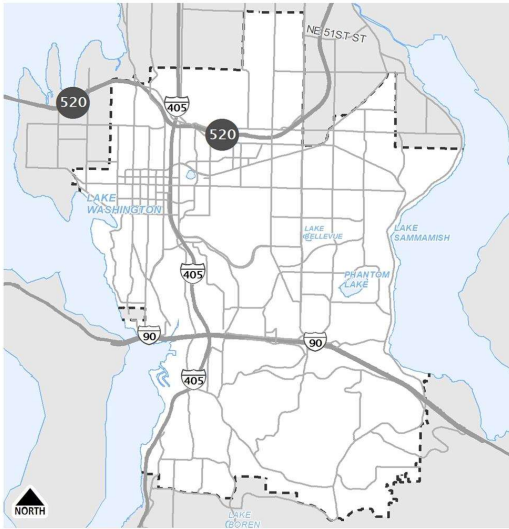
Rationale

Environmental Impacts

Operating Budget Impacts

This program will have no significant impact on operating revenues and/or expenditures.

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	29,926,973

Total Budgetary Cost Estimate: 29,926,973

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Interlocal	6,465,000
Transfers from Other City Funds	23,461,973
Total Programmed Funding:	29,926,973
Future Funding Requirements:	-

FY2023-2029

Comments

D-104: Stream Restoration for Mobility and Infrastructure Initiative

Category: High Quality Built & Natural Environment

Status: Ongoing

Department: Utilities

Location: BelRed, Downtown

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
2,888,559	2,630,559	-	258,000	-	-	-	-	-

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 BelRed Corridor). These funds are to restore streams for recreation and environmental health through the BelRed corridor, and to encourage redevelopment of the area. These funds will be allocated to specific stormwater-related projects pending further Council direction. One project is proposed to study the feasibility of daylighting West Tributary Creel through the old Safeway site, purchased by the City several years ago.

Rationale

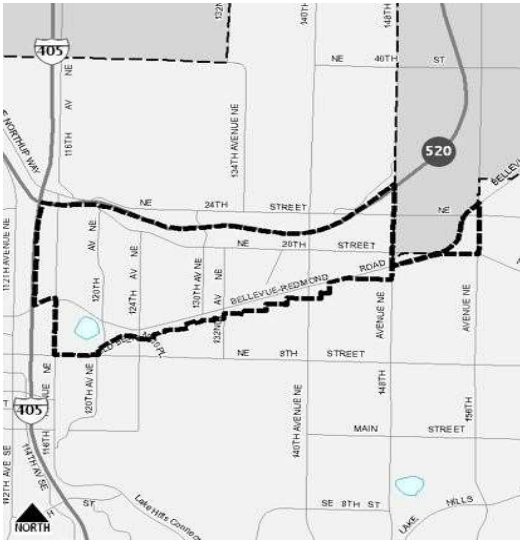
This project along with others in this proposal open salmon access to existing functional habitat, one of the quickest methods to increase salmon populations; helps stabilize streams and improve habitat consistent with Council-approved Lake Washington / Cedar / Sammamish Chinook Salmon Recovery Plan; improves water quality that limits fish viability; protects properties from flooding of structures, flooding which restricts access to residences or businesses, and street flooding that impacts primary emergency routes; restores streams for recreation and environmental health in the redeveloping Bel-Red Corridor; and reduce the potential for sewage overflow to surface water bodies.

Environmental Impacts

Operating Budget Impacts

This program will have no significant impact on operating revenues and/or expenditures.

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	2,888,559

Total Budgetary Cost Estimate: 2,888,559

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	2,888,559

Total Programmed Funding: 2,888,559

Future Funding Requirements: -

FY2023-2029

Comments

D-109: Stormwater Quality Retrofit Program

Category: High Quality Built & Natural Environment Status: Ongoing
 Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
5,555,350	437,350	65,000	342,000	1,473,000	260,000	1,406,000	1,224,000	348,000

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.

Rationale

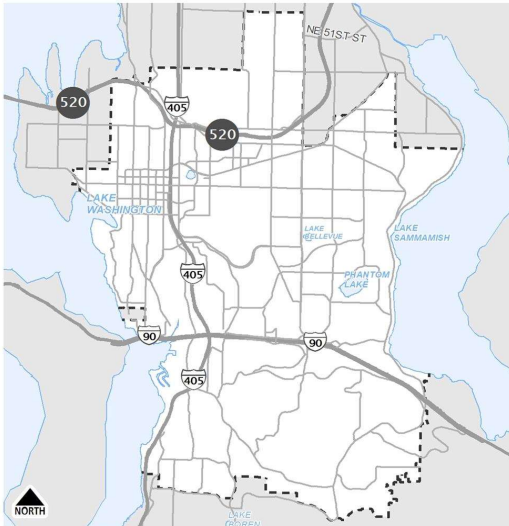
This project along with others in this proposal open salmon access to existing functional habitat, one of the quickest methods to increase salmon populations; helps stabilize streams and improve habitat consistent with Council-approved Lake Washington/Cedar/Sammamish Chinook Salmon Recovery Plan; improves water quality that limits fish viability; protects properties from flooding of structures, flooding which restricts access to residences or businesses, and street flooding that impacts primary emergency routes; restores streams for recreation and environmental health in the redeveloping Bel-Red Corridor; and reduce the potential for sewage overflow to surface water bodies.

Environmental Impacts

Operating Budget Impacts

This program will have no significant impact on operating revenues and/or expenditures.

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	5,555,350

Total Budgetary Cost Estimate: 5,555,350

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	5,555,350
Total Programmed Funding:	5,555,350
Future Funding Requirements:	-

FY2023-2029

Comments

D-112: Storm and Surface Water Planning Program

Category: High Quality Built & Natural Environment

Status: Ongoing

Department: Utilities

Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
2,611,000	1,190,000	25,000	645,000	451,000	300,000	-	-	-

Description and Scope

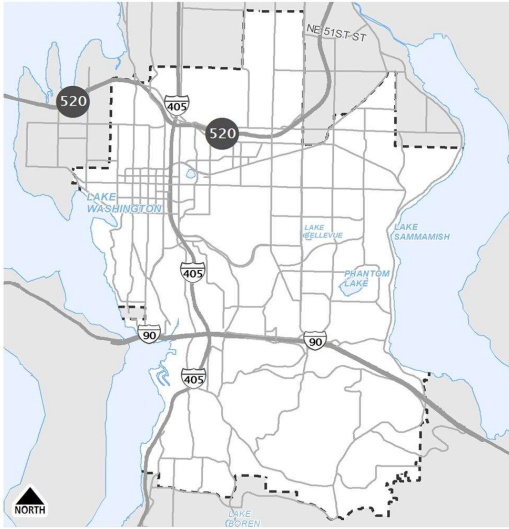
This new program funds essential studies that will identify capital investments to improve watershed health and asset renewal/replacement.

Rationale

Environmental Impacts

Operating Budget Impacts

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	2,611,000

Total Budgetary Cost Estimate: 2,611,000

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	2,611,000
Total Programmed Funding:	2,611,000
Future Funding Requirements:	-

FY2023-2029

Comments

D-114: Factoria/Richards Creek Flood Reduction

Category: High Quality Built & Natural Environment

Status: Ongoing

Department: Utilities

Location: Eastgate & Factoria

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
16,616,000	9,320,000	720,000	4,290,000	1,398,000	500,000	388,000	-	-

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).

Rationale

Environmental Impacts

Operating Budget Impacts

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	16,616,000

Total Budgetary Cost Estimate: 16,616,000

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Interlocal	11,486,000
Transfers from Other City Funds	5,130,000

Total Programmed Funding: 16,616,000

Future Funding Requirements: -

FY2023-2029

Comments

D-115: SCADA Upgrade - Storm

Category: High Quality Built & Natural Environment Status: Ongoing

Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
1,465,000	600,000	100,000	-	-	765,000	-	-	-

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. Any break in communications within our SCADA network increases the risk and cost of providing essential Utility services to our customers.

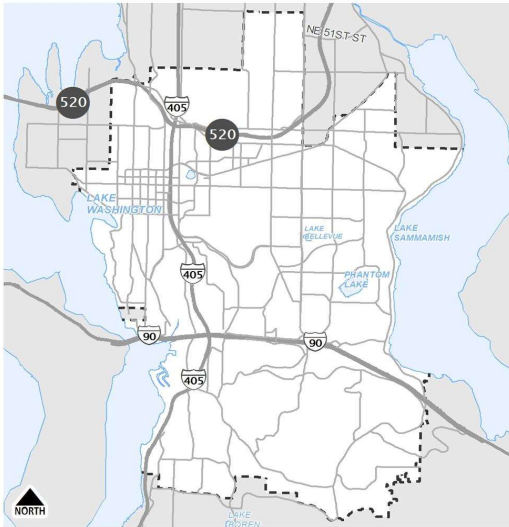
The family of projects under the SCADA Infrastructure Upgrades program will improve the reliability and security of the SCADA system across 32 potable water sites, 48 wastewater sites and 11 storm water sites. These projects will install a private, secure cellular and fiber-optic communications network and optimize the operation of the cities three utilities.

Rationale

Environmental Impacts

Operating Budget Impacts

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	1,465,000

Total Budgetary Cost Estimate: 1,465,000

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	1,465,000
Total Programmed Funding:	1,465,000
Future Funding Requirements:	-

FY2023-2029

Comments

D-116: Post-Construction Monitoring and Maintenance Program

Category: High Quality Built & Natural Environment Status: Ongoing
 Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
1,886,000	430,000	372,000	263,000	175,000	197,000	216,000	147,000	86,000

Description and Scope

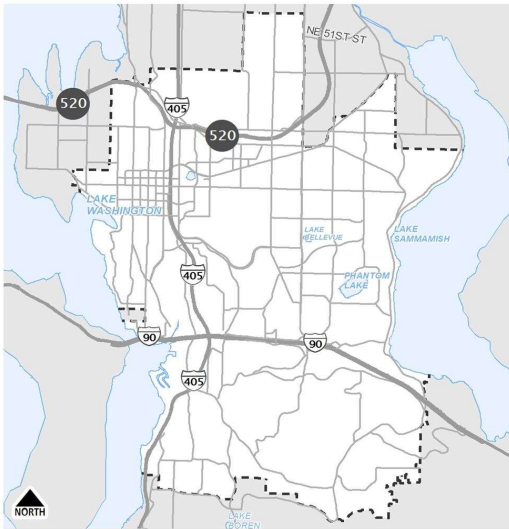
This program is for projects that are constructed in critical areas (streams, wetland, steep slopes or floodplains) or critical area buffers. The projects require, by permit from a variety of natural resource agencies, re-planting of native vegetation after construction and monitoring of capital projects to ensure the vegetation survives. Some stream projects require monitoring of the streambed after construction. Compliance with permitting requirements ensures that the City maintains strong 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.

Rationale

Environmental Impacts

Operating Budget Impacts

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	1,886,000

Total Budgetary Cost Estimate: 1,886,000

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	1,886,000

Total Programmed Funding: 1,886,000

Future Funding Requirements: -

FY2023-2029

Comments

D-120: Project and Portfolio Management System-Drainage

Category: High Quality Built & Natural Environment Status: New
 Department: Utilities Location: Citywide

Programmed Expenditures

<u>Programmed Expenditures</u>	<u>Appropriated To Date</u>	<u>FY 2023 Budget</u>	<u>FY 2024 Budget</u>	<u>FY 2025 Budget</u>	<u>FY 2026 Budget</u>	<u>FY 2027 Budget</u>	<u>FY 2028 Budget</u>	<u>FY 2029 Budget</u>
166,000	-	133,000	33,000	-	-	-	-	-

Description and Scope

This proposal is a collaboration between the Utilities and Transportation Departments to purchase and implement a modern tracking and reporting system to support the management and delivery of both departments' Capital Investment Programs and Projects. Upon funding approval, both departments will finalize the Request for Proposals for a new Project and Portfolio Management System that will support CIP delivery through improved management tools, tracking and reporting functionality. The draft RFP for this project has already been developed collaboratively between Utilities, Transportation, I.T.D., and FAM (Procurement). Once finalized, the departments will review RFP vendor submissions, which will include evaluation of written proposals and software demonstrations. Upon satisfactory results of a preferred vendor, the negotiations and resulting contract development and execution are finalized, the Departments will proceed with software configuration, implementation, and staff training.

Rationale

Currently, the work of delivering the CIP is supported through use of the Project Reporting System (PRS), which is a software solution built by Bellevue's Information Technology Department (ITD) more than a decade ago to track and report on financial status of individual CIP projects. It is the only software system currently available for Transportation and Utilities to track project expenditures compared to cost projections and adopted budgets for CIP projects. PRS suffers from poor performance and instability and lacks analysis and reporting functionality. Staff tasked with delivering the CIP currently utilize PRS and numerous different Excel spreadsheets to track project delivery and budget elements. These spreadsheets are not connected to each other and there is risk that data between the spreadsheets may not be consistent or correct. This requires ongoing quality checking and correction, which takes staff time away from other important tasks.

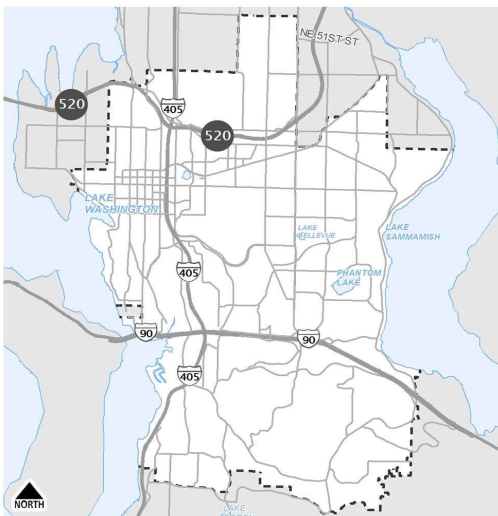
In 2017, a business case was developed by Utilities and Transportation Departments to seek a better system to support project and program management and a request for information (RFI) process was undertaken to garner input from the industry on available systems. Due to City budget constraints, the formal procurement of a new system was put on hold.

Since 2017, the need for an enterprise Project and Portfolio Management System has increased due to the size and complexity of both department's Capital Investment Programs. Therefore, this proposal will resume work started in 2017 and fund implementation and ongoing maintenance of a new project tracking and reporting system that will improve functionality for management of CIP Program delivery over the current model of using PRS in conjunction with numerous, disconnected and difficult to manage excel spreadsheets. Implementation of a new system is expected to yield improved tracking and management of project scopes, schedules, budgets and risks to better achieve project delivery goals and contribute to meeting program and portfolio accomplishment targets as well.

Environmental Impacts

Operating Budget Impacts

Project Map



Schedule of Activities

<u>Project Activities</u>	<u>From - To</u>	<u>Amount</u>
Project Costs	Ongoing	166,000

Total Budgetary Cost Estimate: 166,000

Means of Financing

<u>Funding Source</u>	<u>Amount</u>
Transfers from Other City Funds	166,000

Total Programmed Funding: 166,000

Future Funding Requirements: -

FY2023-2029

Comments