

2015-2021 Utilities CIP Project Expenditures

City of Bellevue 2015-2016 Preliminary Budget

CIP Plan No.	Project Name	Approp. To Date	2015 Estimate	2016 Estimate	2017 Estimate	2018 Estimate	2019 Estimate	2020 Estimate	2021 Estimate	2015-2021 Total	New Total Project Budget
WATER CIP											
W-16	Small Diameter Water Main Replacement	49,168,885	6,119,000	7,708,000	8,503,000	9,326,000	9,513,000	9,703,000	9,897,000	60,769,000	109,937,885
W-67	Pressure Reducing Valve (PRV) Rehabilitation	7,639,971	433,000	384,000	392,000	399,000	407,000	416,000	424,000	2,855,000	10,494,971
W-69	Minor (Small) Water Capital Improvement Projects	5,017,619	269,000	212,000	216,000	220,000	225,000	229,000	234,000	1,605,000	6,622,619
W-82	Fire Hydrant Standardization	1,238,965	-	58,000	309,000	254,000	-	-	-	621,000	1,859,965
W-85	Reservoir Rehabilitation or Replacement	8,781,705	1,045,000	1,639,000	1,057,000	1,093,000	140,000	229,000	746,000	5,949,000	14,730,705
W-91	Water Pump Station Rehabilitation or Replacement	3,361,238	2,477,000	2,188,000	2,186,000	2,010,000	634,000	1,274,000	2,902,000	13,671,000	17,032,238
W-98	Replacement of Large Commercial Water Meters	1,882,308	581,000	516,000	527,000	537,000	548,000	559,000	570,000	3,838,000	5,720,308
W-99	Water Service Line and Saddle Replacement	1,936,932	237,000	243,000	248,000	253,000	258,000	263,000	269,000	1,771,000	3,707,932
W-103	Increase Drinking Water Storage Availability for West Op Area	328,547	134,000	317,000	755,000	440,000	1,347,000	-	-	2,993,000	3,321,547
W-104	New Water Inlet Station	-	-	-	-	637,000	2,273,000	2,319,000	-	5,229,000	5,229,000
W-105	Water Facilities for NE 15th Multi Modal Corridor	1,039,937	220,000	226,000	231,000	236,000	240,000	245,000	250,000	1,648,000	2,687,937
W-106	Water Facilities for NE 4th Extension	198,723	206,000	89,000	-	-	-	-	-	295,000	493,723
W-107	Eastlink Utility Relocations	-	2,630,000	-	-	-	-	-	-	2,630,000	2,630,000
TOTAL WATER CIP		80,594,830	14,351,000	13,580,000	14,424,000	15,405,000	15,585,000	15,237,000	15,292,000	103,874,000	184,468,830
SEWER											
S-16	Sewage Pump Station Improvements	12,181,491	512,000	1,340,000	2,310,000	1,075,000	1,097,000	1,090,000	995,000	8,419,000	20,600,491
S-24	Sewer System Pipeline Major Repairs	17,946,785	1,232,000	1,836,000	1,873,000	1,911,000	1,949,000	1,988,000	2,027,000	12,816,000	30,762,785
S-32	Minor (Small) Sewer Capital Improvement Projects	2,155,323	103,000	106,000	108,000	110,000	112,000	115,000	117,000	771,000	2,926,323
S-52	East CBD Sewer Trunkline Improvement	1,135,045	2,203,000	21,000	-	-	-	-	-	2,224,000	3,359,045
S-53	Bellefield Pump Station Capacity Improvement	1,559,681	7,488,000	1,068,000	-	-	-	-	-	8,556,000	10,115,681
S-58	Lake Washington Sewer Lake Line Assessment Program	1,309,400	360,000	132,000	-	-	-	-	-	492,000	1,801,400
S-59	Add on-site Power at Sewer Pump Station	74,981	74,000	76,000	312,000	417,000	290,000	-	-	1,169,000	1,243,981
S-60	Wilburton Sewer Capacity Upgrade	1,777,599	5,253,000	952,000	-	-	-	-	-	6,205,000	7,982,599
S-61	Midlakes Pump Station Capacity Improvements	655,715	1,684,000	1,730,000	-	-	-	-	-	3,414,000	4,069,715
S-63	Utility Facilites for 120th Ave NE Improv (Seg 2)	296,914	751,000	151,000	-	-	-	-	-	902,000	1,198,914
S-66	Sewer System Pipeline Replacement	1,170,100	1,102,000	1,132,000	1,154,000	1,178,000	1,201,000	1,225,000	1,250,000	8,242,000	9,412,100
S-67	I&I Investigations and Flow Monitoring	-	211,000	259,000	313,000	220,000	225,000	-	-	1,228,000	1,228,000
S-68	Sewer Force Main Condition Assessment	-	258,000	264,000	270,000	275,000	281,000	-	-	1,348,000	1,348,000
S-69	Meydenbauer Bay Park Sewer Line Replacement	-	62,000	286,000	1,888,000	265,000	-	-	-	2,501,000	2,501,000
S-70	Eastlink Utility Relocations	-	1,925,000	-	-	-	-	-	-	1,925,000	1,925,000
TOTAL SEWER		40,263,034	23,218,000	9,353,000	8,228,000	5,451,000	5,155,000	4,418,000	4,389,000	60,212,000	100,475,034
STORM & SURFACE WATER											
D-59	Minor (Small) Storm Capital Improvement Projects	2,009,677	163,000	167,000	170,000	174,000	177,000	181,000	185,000	1,217,000	3,226,677
D-64	Strom System Conveyance Repairs and Replacement	12,021,231	937,000	963,000	1,031,000	1,104,000	1,184,000	1,266,000	1,356,000	7,841,000	19,862,231
D-81	Fish Passage Improvement Program	3,590,895	752,000	201,000	421,000	413,000	196,000	366,000	23,000	2,372,000	5,962,895
D-86	Stream Channel Modification Program	4,370,568	85,000	231,000	338,000	675,000	531,000	427,000	33,000	2,320,000	6,690,568
D-94	Flood Control Program	5,753,973	1,113,000	725,000	1,248,000	1,519,000	1,914,000	939,000	651,000	8,109,000	13,862,973
D-103	Replace Coal Creek Pkwy Culvert at Coal Creek	5,460,250	10,000	5,000	5,000	6,000	6,000	6,000	6,000	44,000	5,504,250
D-104	Stream Restoration for Mobility & Infrastructure Initiative	6,039,015	1,613,103	1,854,702	2,231,300	2,634,167	-	-	-	8,333,272	14,372,287
D-105	Replace NE 8th St Culvert at Kelsey Creek	-	110,000	226,000	231,000	1,178,000	1,785,000	11,000	6,000	3,547,000	3,547,000
D-106	Lower Coal Creek Flood Hazard Reduction Phase I	466,889	300,000	600,000	200,000	2,177,000	2,176,000	2,176,000	-	7,629,000	8,095,889
D-107	Storm Water Video Inspection Enhancement	-	299,000	614,000	626,000	638,000	326,000	-	-	2,503,000	2,503,000
D-108	Eastlink Utility Relocations	-	3,145,000	-	-	-	-	-	-	3,145,000	3,145,000
TOTAL STORM & SURFACE WATER		39,712,498	8,527,103	5,586,702	6,501,300	10,518,167	8,295,000	5,372,000	2,260,000	47,060,272	86,772,770
TOTAL UTILITIES CIP		160,570,362	46,096,103	28,519,702	29,153,300	31,374,167	29,035,000	25,027,000	21,941,000	211,146,272	371,716,634

Reserves are excluded from the table above.

City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

D-59 Title: Minor (Small) Storm Capital Improvement Projects

Proposal: 140.04NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	1,217,000	3,226,677

Executive Summary

This ongoing program is for minor (small) improvements to Bellevue's surface water system to resolve deficiencies, improve efficiencies, or resolve maintenance problems, often in conjunction with other Bellevue programs such as the Transportation overlay program. Examples of projects include pipeline outfall improvements at Meydenbauer Bay; small stormwater pipe extensions to resolve drainage problems; and modifications of catch basins in concert with street projects. Projects are prioritized based on criteria including public safety/property damage, maintenance frequency, flooding history, operator safety, environmental risk, coordination with other city or development activity, and level of service impact.

D-64 Title: Storm System Conveyance Repairs and Replacement

Proposal: 140.04NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	7,841,000	19,862,231

Executive Summary

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.

D-81 Title: Fish Passage Improvement Program

Proposal: 140.08NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	2,372,000	5,962,895

Executive Summary

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. Projects planned for this CIP window are on Kelsey Creek at 140th Ave NE; on Yarrow West Tributary; on Newport Creek; at Mercer/Alcove Creek, and on Yarrow East Tributary.

Note – CIP Proposal Executive summaries are listed in proposal order. They do not include debt proposals and reserve proposals, nor do they include operating proposals which can be found in the Operating section.

City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

D-86 Title: Stream Channel Modification Program

Proposal: 140.08NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	2,320,000	6,690,568

Executive Summary

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. This program also improves habitat complexity by planting coniferous trees to reduce willow mono-culture or invasive weed species. 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. Projects planned in this CIP window include projects on Lower Kelsey Creek, at the Coal Creek Channel, and erosion control in the Sunset Creek ravine.

D-94 Title: Flood Control Program

Proposal: 140.08NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	8,109,000	13,862,973

Executive Summary

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. Candidate sites are wherever levels of service (LOS) for flood protection are not met. The following sites have projects in progress or have been identified for future improvements, and are presented in priority order. They will be prioritized for implementation with any others that become apparent as a result of storm or system analysis: 1. Valley Creek / NE 21st Flood control (in progress) 2. Post construction monitoring on Coal Creek Upper Reach, Lower Coal Creek Sed. Pond, Sunset / SE 30th St Flood Control 3. Factoria Boulevard Conveyance Improvements 4. Meydenbauer Basin / CBD Conveyance Improvements 5. Wolverine Drive Flood Control Project 6. North Sammamish Flood Improvements 7. Overlake Overflow / NE 20th Street Improvements 8. Sunset Creek / Garden Brook 9. 156th Ave SE & SE 4th St. Storm Drainage Improvements 10. Phantom / Larson Lake Channel Regrade The SE Newport Way Culvert Replacement Project previously on this list has been deleted. King County completed repairs at the site prior to Bellevue's annexation of the area. Kelsey Creek/SE 7th Street Flood Control was also removed from the list. Field investigation suggests that enhanced maintenance at that site may result in significant improvement. If further channel or culvert work is needed, it will be considered for addition of the project list during a future CIP update.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

D-103 Title: Replace Coal Creek Pkwy Culvert at Coal Creek

Proposal: 140.04NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	44,000	5,504,250

Executive Summary

This project will replace a 96-inch diameter, 110 foot long corrugated metal pipe built in the 1980s, that carries Coal Creek beneath Coal Creek Parkway. The current culvert impedes fish passage; resource agencies will likely require the new design to be designed for fish passage. The metal pipe will be replaced with a 39' wide box culvert that will also accommodate a new walking path under the roadway adjacent to the stream . Site monitoring for ten years after the project completion is included in the budget.

D-104 Title: Stream Restoration for Mobility & Infrastructure Initiative

Proposal: 140.08NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	8,333,272	14,372,287

Executive Summary

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. Two projects are proposed for implementation in 2014-2016: Channel Restoration pre-design studies on the West Tributary downstream of the West Trib. Regional Pond, and Native Plant Restoration at the West Tributary Regional Pond. The projects will need to be constructed to coordinate with Sound Transit wetland and stream mitigation, and 124th Phase 1 project, respectively.

D-105 Title: Replace NE 8th St Culvert at Kelsey Creek

Proposal: 140.04NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved Prior	Storm Drainage	3,547,000	3,547,000

Executive Summary

This project will replace the existing 10' wide by 7' tall, 110-foot long corrugated metal culvert built in the early 1980s that carries Kelsey Creek beneath NE 8th Street. To meet flood and fish passage requirements, the culvert will be replaced with a bridge which spans the creek channel, or a three-sided concrete box culvert with an approximate 15 foot span. The design will be determined by permit requirements.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

D-106 Title: Lower Coal Creek Flood Hazard Reduction Phase 1

Proposal: 140.08NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Storm Drainage	7,629,000	8,095,889

Executive Summary

This project will design and construct project(s) to reduce flooding from the Newport Shores reach of Coal Creek, located between I-405 and Lake Washington. A preliminary engineering study to identify and assess alternatives is underway, to establish how best to reduce flooding during storm events. The project budget includes one or more of the following: increased storage capacity at the I-405 regional pond, replacement of the five existing culverts downstream of the pond, targeted stream bank erosion protection, and improvements to the local storm drainage network. The schedule has been revised to reflect design in 2015-16; permitting in 2016-17, and construction of improvements between 2018 and 2020.

D-107 Title: Storm Water Video Inspection Enhancement

Proposal: 140.04NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	New	Storm Drainage	2,503,000	2,503,000

Executive Summary

This project will video-inspect the most critical 20% of stormwater pipes to assess their condition over a five year period. Pipes to be inspected will be selected based on their likelihood and consequence of failure (risk). The video condition assessment results will be used to help evaluate the overall stormwater pipeline condition so that short- and long-term renewal and replacement needs can be more accurately estimated. The project will also be used to evaluate how much of the stormwater system should be video-inspected each year on an ongoing basis. The project funds four years of contracted services, plus start up time in the first year. It will video-inspect 10-15 miles in 2015, 25 miles each in 2016, 2017, and 2018, and 10-15 miles in the first half of 2019.

D-108 Title: East Link Utility Relocations

Proposal: 140.65DA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	New	Storm Drainage	3,145,000	3,145,000

Executive Summary

This proposal is for funding to pay the depreciated value of aging infrastructure replaced by new facilities as a result of the need to relocate water, wastewater, and stormwater pipelines to accommodate Sound Transit's (ST) East Link light rail project.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

S-16 **Title: Sewer Pump Station Improvements**

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Sewer	8,419,000	20,600,491

Executive Summary

This ongoing program funds rehabilitation of the 36 pump and 10 flush stations in Bellevue's wastewater system. Stations are prioritized based on the risk and consequence of failure, maintenance and operations experience, pump station age, and coordination with other projects. Stations scheduled for work in 2015-21 include: Lake Heights, Wilberton, Cedar Terrace, Lake Hills #17, Cozy Cove, Parkers, Evergreen East, Evergreen West, Fairweather, Hunt's Point, Lake Hills #6, and Lake Hills #7. Historically this program funded rehabilitation of one station per year. Two stations/year are planned beyond 2017 since the electrical and mechanical equipment in them will have reached their 25-30 year useful life. Analysis of 25 stations is currently underway to improve the forecast needs for schedule and cost, and could result in reprioritization of scheduled stations.

S-24 **Title: Sewer System Pipeline Major Repairs**

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Sewer	12,816,000	30,762,785

Executive Summary

This program funds major repairs sewer pipes where that is a cost-effective solution to extend the pipe's service life. Most defects are identified from the Utility's infrastructure condition assessment (video) program. 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.

S-32 **Title: Minor (Small) Sewer Capital Improvement Projects**

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Sewer	771,000	2,926,323

Executive Summary

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.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

S-52 Title: East CBD Sewer Trunkline Improvements

Proposal: 140.05NA

Dept Status

Category

Project Cost
2015-2021

Total Project Cost thru
2021 Budget Request

140 Approved and Begun

Sewer

2,224,000

3,359,045

Executive Summary

This project will replace approximately 1,600 feet of sewer pipe with larger diameter pipelines, to convey sewage generated from planned growth in the east part of downtown Bellevue, generally east of 110th Ave NE. This project schedule and alignment has been adjusted to accommodate the Sound Transit EastLink Light Rail project. Project costs were increased based on 30% design plan engineering estimates.

S-53 Title: Bellefield Pump Station Capacity Improvement

Proposal: 140.05NA

Dept Status

Category

Project Cost
2015-2021

Total Project Cost thru
2021 Budget Request

140 Approved and Begun

Sewer

8,556,000

10,115,681

Executive Summary

This project will replace the existing Bellefield Pump Station and pressurized discharge pipe with larger facilities of sufficient capacity to meet the needs of planned growth in the eastern side of downtown Bellevue (generally east of 110th Ave NE) and the Wilburton area. Station design capacity is approximately 8000gpm. The project schedule has been adjusted to accommodate the construction schedule of the Sound Transit EastLink Light Rail.

S-58 Title: Lake Washington Sewer Lake Line Assessment Program

Proposal: 140.03NA

Dept Status

Category

Project Cost
2015-2021

Total Project Cost thru
2021 Budget Request

140 Approved and Begun

Sewer

492,000

1,801,400

Executive Summary

This program is focused on assessing the 14.5 miles of sewer pipe along the Lake Washington shoreline; predicting its remaining life, and developing a strategy for its replacement. It includes condition assessment to collect pipe samples of asbestos cement and cast iron pipes in and analysis of viable alternatives for replacement of logical pipe reaches. Replacement of some of the sewer lake lines will likely be required just beyond this CIP Window. Replacement of the Meydenbauer Bay Park sewer lake line was formerly included in this project; it has been moved to its own project, S-69. Assessment of sewer lines along the Lake Sammamish shoreline is not included, since those pipes are newer and likely to last longer.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

S-59 Title: Add On-site Power at Sewer Pump Stations

Proposal: 140.08NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Sewer	1,169,000	1,243,981

Executive Summary

This project will add on-site power generation capability at three high priority pumping stations which currently rely on portable generators during power outages. Specific locations would be selected based on a study evaluating the likelihood and consequence of sewage overflows, giving consideration to volume of base flow versus wet well capacity; proximity to surface water bodies; geographic distance from portable equipment.

S-60 Title: Wilburton Sewer Capacity Upgrade

Proposal: 140.05NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Sewer	6,205,000	7,982,599

Executive Summary

This project will replace approximately 4,300 feet of 10-, 12-, and 16-inch diameter pipe with larger diameter pipe to provide sufficient capacity for anticipated upstream development. During predesign alternatives assessment, the project scope changed to accommodate increased anticipated density in the Wilburton area, which required increasing the size and length of the sewer line, and requires a larger sewer pipe crossing under I-405. Record drawings suggest that an existing casing pipe under I-405 is sufficiently large to accommodate the new freeway crossing. The new system capacity will meet design criteria and anticipated needs based on proposed zoning changes.

S-61 Title: Midlakes Pump Station Capacity Improvements

Proposal: 140.05NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Sewer	3,414,000	4,069,715

Executive Summary

This project will replace the existing Midlakes sewer pump station with a larger one, to provide capacity for planned growth in the Bel-Red Corridor through 2030.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

S-63 **Title: Utility Facilities for 120th Ave NE Improvements Segment 2**

Proposal: 140.56DA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Sewer	902,000	1,198,914

Executive Summary

This project will design and construct new sewer pipe in 120th Ave NE in conjunction with street improvements, and where needed to provide sewer service for redevelopment of adjacent properties consistent with the Bel-Red Corridor Final Report. The project is broken down into segments. Segment 2 is from NE 8th St to NE 12th St and will construct approximately 1000 feet of new 15-inch pipe, and 580 feet of 18-inch pipe which requires relocation and upsizing to accommodate the new street design.

S-66 **Title: Sewer System Pipeline Replacement**

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Sewer	8,242,000	9,412,100

Executive Summary

This program replaces poor condition sewer pipe throughout the service area. The current budget is estimated to replace sewer pipe at a rate of 0.5 to 0.75 miles per year. 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. This program compliments S-24, 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.

S-67 **Title: I&I Investigations and Flow Monitoring**

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	New	Sewer	1,228,000	1,228,000

Executive Summary

This program will investigate the source and magnitude of inflow and infiltration (I&I) of storm and groundwater into the wastewater system at locations where suspected high I&I is currently or is forecast to exceed conveyance and/or pump station capacity. The 2014 (Draft) Wastewater System Plan recommends this work with a goal of identifying and removing non-sewage flow where that would reduce surcharging such that costly capacity improvements might be avoided. Flow monitoring in five sewer basins is planned for 2015 and 2016. I&I investigation of eight basins is planned, in priority order: Newport, Fairweather and Cozy Cove, Wilburton, Lake Heights, Eastgate, Somerset, and Factoria.

Note – CIP Proposal Executive summaries are listed in proposal order. They do not include debt proposals and reserve proposals, nor do they include operating proposals which can be found in the Operating section.

City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

S-68 Title: Sewer Force Main Condition Assessment

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	New	Sewer	1,348,000	1,348,000

Executive Summary

This project will assess the structural condition of pressurized sewer mains (known as 'force mains') that are more than 30 years old, and use that information to develop a force main renewal and replacement plan. Representative pipe samples will be collected from asbestos cement (AC) force mains; specialized pipe assessment equipment will be used for cast iron force mains. Condition will be evaluated and remaining useful life estimated. Force mains comprise 5.8 miles of the 526 total miles of public sewer pipe.

S-69 Title: Meydenbauer Bay Park Sewer Line Replacement

Proposal: 140.03NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	New	Sewer	2,501,000	2,501,000

Executive Summary

This project will replace the poor condition sewer line currently under Meydenbauer Bay with a new pipe located on land through the Meydenbauer Bay Park. This project was previously included in the scope of S-58; it has been separated for improved transparency and accountability. The project schedule has been delayed until 2017 to better coordinate with Meydenbauer Bay Park development. The project cost has been revised based on improved engineering estimates.

S-70 Title: Sound Transit East Link Corridor within Bellevue City Limits

Proposal: 140.65DA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	New	Sewer	1,925,000	1,925,000

Executive Summary

This proposal is for funding to pay the depreciated value of aging infrastructure replaced by new facilities as a result of the need to relocate water, wastewater, and stormwater pipelines to accommodate Sound Transit's (ST) East Link light rail project.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

W-16 Title: Small Diameter Water Main Replacement

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	60,769,000	109,937,885

Executive Summary

This program focuses primarily on replacing small diameter asbestos cement (AC) pipe that has reached its useful life. A secondary benefit is increasing the emergency fireflow available to neighborhoods. This investment will ramp up water pipeline replacement to 5 miles/year by 2018, and then be adjusted with inflation to maintain the 5 miles/yr replacement rate. At that rate, water pipe will need to last on average 100-125 years. Pipes are selected for replacement based on risk of failure (likelihood and consequence), failure history, and coordination with other construction, such as planned street overlays (which reduce restoration costs).

W-67 Title: Pressure Reducing Valve (PRV) Rehabilitation

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	2,855,000	10,494,971

Executive Summary

This ongoing program is to rehabilitate or replace old and deteriorating pressure reducing valves (PRVs) throughout the water service area. The number of pressure reducing valves 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 3 PRVs per year. Replacement criteria include service requirements, safety, maintenance history, age, and availability of replacement parts.

W-69 Title: Minor (Small) Water Capital Improvement Projects

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	1,605,000	6,622,619

Executive Summary

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.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

W-82 Title: Fire Hydrant Standardization

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	621,000	1,859,965

Executive Summary

This program replaces non-standard hydrants that have outdated two-port connections, thereby improving the rate of water flow and reducing response time in the event of a fire. Twenty two two-port hydrants are still in service. Based on the proposed budget, these will all be replaced by 2019.

W-85 Title: Reservoir Rehabilitation or Replacement

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	5,949,000	14,730,705

Executive Summary

This program funds retrofit or replacement of drinking water reservoirs to avoid or mitigate earthquake damage, and reservoir rehabilitation for age- or use-related deterioration. Bellevue operates and maintains 25 drinking water reservoirs in the system with a combined capacity of 40.6 million gallons. A 1993 reservoir study evaluated the seismic vulnerability of 21 of the reservoirs and recommended further evaluation and/or upgrade for 12 of these reservoirs. Remaining work at Horizon View #1, Somerset #1, Pikes Peak Reservoir, and Horizon View #2 reservoirs will be completed during this CIP window. A new study of the other reservoirs will determine upcoming needs and priorities for asset rehabilitation and replacement.

W-91 Title: Water Pump Station Rehabilitation or Replacement

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	13,671,000	17,032,238

Executive Summary

This program was established in 2005 to rehabilitate Bellevue's twenty-one water pump stations. Based on a needs assessment of each pump station, improvements can range from basic improvements to complete reconstruction. The rehabilitation work always includes replacing the mechanical and electrical equipment, adds on-site emergency power generation as needed, and resolves structural deficiencies and life/safety issues as needed. In 2015-21 these pump stations will be rehabilitated or replaced: Horizon View #3, Horizon View #1, Cougar Mtn. #3, Pikes Peak, Cougar Mtn. #2, Clyde Hill P.S., Cougar Mtn. #1, and Horizon View #2.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

W-98 **Title: Replacement of Large Commercial Water Meters**

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	3,838,000	5,720,308

Executive Summary

This program systematically replaces older, obsolete high-volume commercial water meters (3" and larger) as they wear out. Because of their location and condition, these meters pose safety and access concerns and are generally beyond the ability of O&M crews to change out. Improved performance accuracy is a secondary benefit of the program. This ongoing program replaces approximately 4 commercial meters (and meter vaults, if required) each year.

W-99 **Title: Water Service Line and Saddle Replacement Program**

Proposal: 140.02NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Ongoing	Water	1,771,000	3,707,932

Executive Summary

This program replaces aging and deteriorating water service saddles (the component connecting the customer's water service line to the city-owned water line), and deteriorating water service lines (the pipes between the city's water main to the customer's water meter), most commonly in advance of planned street improvements. Annual expenditures can vary widely depending on the condition of saddles and service lines where street improvement projects are planned. Because of those uncertainties, level funding based on replacement of 100 service/saddles is proposed for each year in the CIP window, recognizing that some years will be over- and under-spent.

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

Proposal: 140.05NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Water	2,993,000	3,321,547

Executive Summary

This project is for design and construction of facilities to increase the drinking water storage available for anticipated population growth in Downtown, Bel-Red, and Wilburton areas. System improvements will be made in this CIP window to allow transfer of surplus water stored in East Bellevue to the growth areas, assuring emergency storage is available for near-term growth. These improvements include upgrades to transmission mains in NE 8th Street and at SE 7th and 140th Ave SE, and upgrades to system Pressure Reducing Valves. The project also includes analysis of emergency well capacity to supplement regional supply in case of an outage, which may offset or reduce the need for added storage. The 2015 Water System Plan update will analyze required timing and volume as well as siting considerations for storage to meet the needs of planned growth. Because construction of storage has been deferred until beyond this CIP window, costs shown are significantly reduced from the last CIP budget.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

W-104 **Title: New Water Inlet Station**

Proposal: 140.05NA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Water	5,229,000	5,229,000

Executive Summary

This project will construct a new inlet station from the regional water supply system to provide sufficient drinking water for growth in downtown, Bel-Red, and Wilburton areas. It will also improve drinking water supply reliability (redundancy) to the 200,000 people who will ultimately live and work in these areas. The transmission main improvements of W-103 will improve reliability of water supply in the near term, deferring the need to add inlet station capacity until ~2019-20.

W-105 **Title: Water Facilities for NE 15th Multi Modal Corridor**

Proposal: 140.54DA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Water	1,648,000	2,687,937

Executive Summary

This project provides funds for the design and construction of new water facilities concurrent with the design and construction of the NE 15th Multi-Modal corridor. The corridor will consist of a new street, bikeways, pathways, and the new East Link light rail. This project will eventually design and construct approximately 2 miles of 12 and 16 inch water main. Absent better data, costs are shown spread throughout the CIP window, and are presumed to extend well beyond 2030. The project schedule will be revised when better information is available about road improvement schedules.

W-106 **Title: Water Facilities for NE4th St. Extension**

Proposal: 140.55DA

<u>Dept</u>	<u>Status</u>	<u>Category</u>	<u>Project Cost 2015-2021</u>	<u>Total Project Cost thru 2021 Budget Request</u>
140	Approved and Begun	Water	295,000	493,723

Executive Summary

This project will design and construct approximately 1,400 feet of new 16 inch watermain within the new NE 4th Street right-of-way.

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City of Bellevue 2015-2021 CIP Budget Utilities Proposal Summaries by Outcome

Healthy and Sustainable Environment

W-107 **Title:** Sound Transit East Link Corridor within Bellevue City Limits

Proposal: 140.65DA

Dept Status

Category

**Project Cost
2015-2021**

**Total Project Cost thru
2021 Budget Request**

140 New

Water

2,630,000

2,630,000

Executive Summary

This proposal is for funding to pay the depreciated value of aging infrastructure replaced by new facilities as a result of the need to relocate water, wastewater, and stormwater pipelines to accommodate Sound Transit’s (ST) East Link light rail project.

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