

# Water and Sewer Utilities

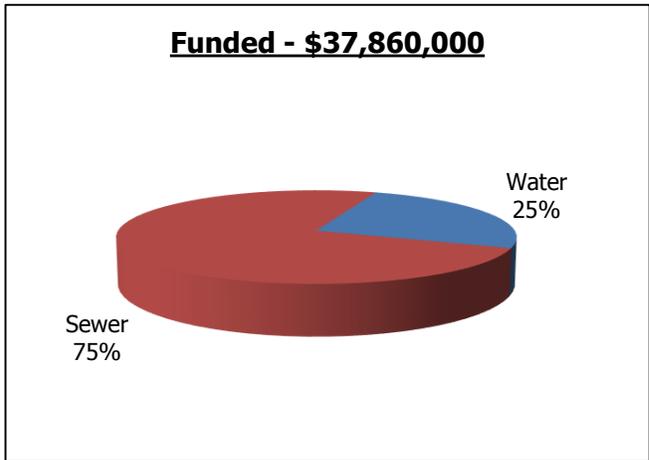
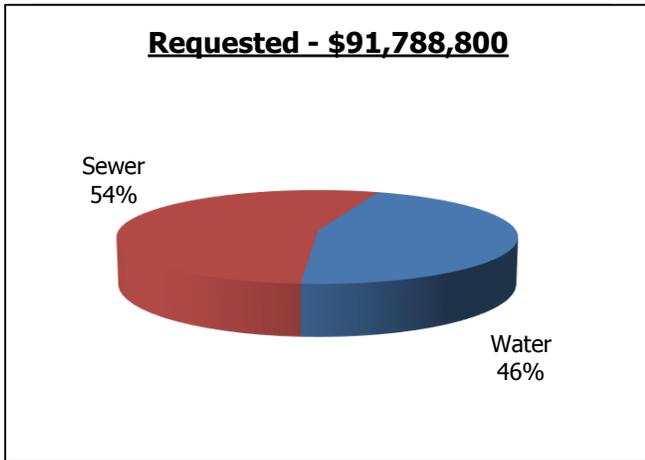


## Capital Improvement Program

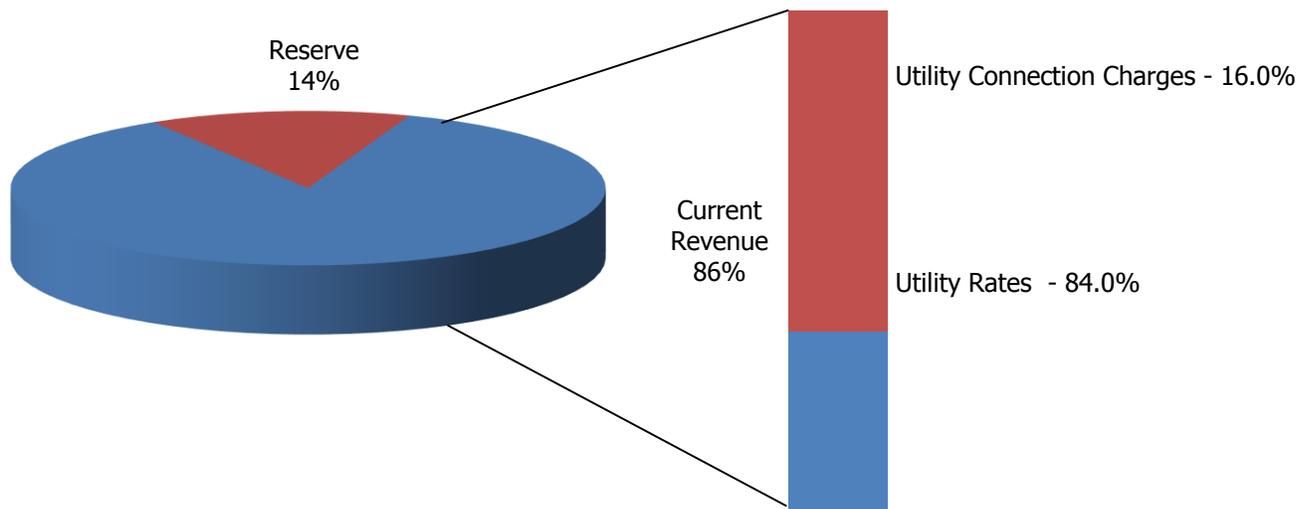
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# Utilities

## Water and Sewer



### Funding Sources



### Utility Funding - \$37,860,000

<b><u>Average Annual Current Revenues</u></b>	
Utility Rates	- \$4,545,000
Connection Charges	- \$865,000
<b>Total Average Annual Revenue</b>	<b>- \$5,410,000</b>

**City of Kirkland  
2017-2022 Preliminary Capital Improvement Program**

**WATER/SEWER UTILITY PROJECTS**

**Funded Projects:**

Project Number	Project Title	Prior Year(s)	2017	2018	2019	2020	2021	2022	2017-2022 Total	Funding Source			
										Current Revenue	Reserve	Debt	External Source
WA 0102	104th Ave NE Watermain Replacement			504,800	181,200				686,000	686,000			
WA 0134	5th Ave S / 8th St S Watermain Replacement				183,800	389,200			573,000	573,000			
WA 0139+	6th Street South Watermain Replacement		119,000	719,000					838,000	838,000			
WA 0153	3rd Street Watermain Improvement	440,000	317,000						317,000	317,000			
WA 0154	4th Street Watermain Replacement Phase 2	290,000	174,000						174,000	174,000			
WA 0155	120th Avenue NE Watermain Improvement		437,000	273,000					710,000	710,000			
WA 0156	122nd Avenue NE Watermain Improvement		505,600	190,400					696,000	696,000			
WA 0157	8th Avenue W Watermain Improvement			421,800	288,200				710,000	710,000			
WA 0158	NE 112th Street Watermain Improvement			365,000					365,000	365,000			
WA 0159	NE 113th Place Watermain Improvement			373,000					373,000	373,000			
WA 0160	126th Avenue NE Watermain Improvement			272,700	717,300				990,000	990,000			
<b>WA 7777</b>	<b>Annual Water CAO/SWDM Support</b>		<b>500,000</b>						<b>500,000</b>		<b>500,000</b>		
WA 8888	Annual Watermain Replacement Program						400,200	933,000	1,333,200	1,333,200			
WA 9999	Annual Water Pump Station/System Upgrade Pgm						400,200	934,000	1,334,200	1,334,200			
SS 0051	6th Street S Sewermain Replacement		146,100	818,900					965,000	965,000			
SS 0052	108th Avenue NE Sewermain Replacement			711,400	3,236,100	1,558,500			5,506,000	5,506,000			
SS 0062	NE 108th Street Sewermain Replacement					3,390,300	3,179,200		6,569,500	5,169,500	1,400,000		
SS 0069	1st Street Sewermain Replacement	354,200	3,465,800						3,465,800	2,065,800	1,400,000		
SS 0070	5th Street Sewermain Replacement	419,500	864,500						864,500	864,500			
SS 0072	Kirkland Avenue Sewermain Replacement			285,000	2,013,400				2,298,400	898,400	1,400,000		
SS 0077 001+	West of Market Sewermain Replacement - Phase I					225,000	2,500,000	2,500,000	5,225,000	5,225,000			
<b>SS 7777</b>	<b>Annual Sewer CAO/SWDM Support</b>		<b>700,000</b>						<b>700,000</b>		<b>700,000</b>		
SS 8888	Annual Sanitary Pipeline Replacement Program						400,200	933,000	1,333,200	1,333,200			
SS 9999	Annual Sanitary Pump Station/System Upgrade Pgm						400,200	933,000	1,333,200	1,333,200			
<b>Total Funded Water/Sewer Utility Projects</b>		<b>1,503,700</b>	<b>7,229,000</b>	<b>4,935,000</b>	<b>6,620,000</b>	<b>5,563,000</b>	<b>7,280,000</b>	<b>6,233,000</b>	<b>37,860,000</b>	<b>32,460,000</b>	<b>5,400,000</b>	<b>0</b>	<b>0</b>

Notes

*Italics = Modification in timing and/or cost (see Project Modification/Deletion Schedule for more detail)*

**Bold = New projects**

+ = Moved from unfunded status to funded status

" = Moved from funded status to unfunded status

## WATER/SEWER UTILITY PROJECTS

### Unfunded Projects:

Project Number	Project Title	Total
WA 0052	108th Avenue NE Watermain Replacement	1,584,000
WA 0057	116th Avenue NE Watermain Replacement	2,731,000
WA 0067	North Reservoir Pump Replacement	611,000
WA 0096	NE 83rd Street Watermain Replacement	450,000
WA 0098	126th Ave NE/NE 83rd & 84th St/128th Ave NE Watermain Replacement	1,197,000
WA 0103	NE 113th Place/106th Ave NE Watermain Replacement	841,000
WA 0104	111th Ave NE/NE 62nd St-NE 64th St Watermain Replacement	1,493,000
WA 0108	109th Ave NE/NE 58th St Watermain Replacement	504,000
WA 0109	112th Ave NE Watermain Replacement	1,179,000
WA 0111	NE 45th St And 110th/111th Ave NE Watermain Replacement	1,303,000
WA 0113	116th Ave NE/NE 70th-NE 80th St Watermain Replacement	2,222,100
WA 0118	112th -114th Avenue NE/NE 67th-68th Street Watermain Replacement	3,360,100
WA 0119	109th Ave NE/111th Way NE Watermain Replacement	2,304,000
WA 0120	111th Avenue Watermain Replacement	182,000
WA 0122	116th Avenue NE/NE 100th Street Watermain Replacement	1,506,000
WA 0123	NE 91st Street Watermain Replacement	453,000
WA 0124	NE 97th Street Watermain Replacement	685,000
WA 0126	North Reservoir Outlet Meter Addition	72,300
WA 0127	650 Booster Pump Station	1,603,000
WA 0128	106th Ave NE-110th Ave NE/NE 116th St-NE 120th St Watermain Replacement	2,305,000
WA 0129	South Reservoir Recoating	981,000
WA 0130	11th Place Watermain Replacement	339,000
WA 0131	Supply Station #1 Improvements	61,500
WA 0132	7th Avenue/Central Avenue Watermain Replacement	907,000
WA 0133	Kirkland Avenue Watermain Replacement	446,000
WA 0135	NE 75th Street Watermain Replacement	711,000
WA 0136	NE 74th Street Watermain Replacement	193,000
WA 0137	NE 73rd Street Watermain Replacement	660,000
WA 0138	NE 72nd St/130th Ave NE Watermain Replacement	1,476,000
WA 0145	6th Street South Watermain Replacement	585,100
WA 0146	6th Street/Kirkland Way Watermain Replacement	693,000
WA 0147	106th Avenue NE Watermain Replacement	661,500
WA 0149	Lake Washington Blvd Watermain Replacement	655,000
SS 0068	124th Avenue NE Sewermain Replacement	1,315,000
SS 0077 999	<i>West Of Market Sewermain Replacement</i>	<i>16,456,000</i>
SS 0080	20th Avenue Sewermain Replacement"	812,000
SS 0083	111th Avenue NE Sewer Main Rehabilitation	725,000
SS 0084	Reclaimed Water (Purple Pipe) Opportunity Fund	5,000,000
<b>Subtotal Unfunded Water/Sewer Utility Projects</b>		<b>59,262,600</b>
<b>Funding Available from Annual Programs for Candidate Projects</b>		<b>5,333,800</b>
<b>Net Unfunded Water/Sewer Utility Projects</b>		<b>53,928,800</b>

### Notes

*Italics = Modification in timing and/or cost*

**Bold = New projects**

" = Moved from funded status to unfunded status

**CITY OF KIRKLAND  
2017-2022 CAPITAL IMPROVEMENT PROGRAM  
PROJECT SUMMARY**

**WATER AND SEWER UTILITIES - Water**

**WA 0102 000 104TH AVE NE WATERMAIN REPLACEMENT**

South Juanita Replacement of approximately 1,600 feet of 4-inch asbestos concrete line with new 8-inch ductile iron pipe on 104th Avenue NE between NE 110th Street and NE 113th Street. Cost includes half-street overlay.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2018	\$0	\$686,000	\$0	\$686,000

**WA 0134 000 5TH AVENUE S/8TH STREET S WATERMAIN REPLACEMENT**

Everest Replacement of approximately 2,170 feet of 6-inch asbestos concrete with new 16-inch ductile iron pipe along 5th Avenue S, between 6th Street S and 8th Street S and on 8th Street S, between 5th Avenue S and Kirkland Avenue.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2019	\$0	\$573,000	\$0	\$573,000

**WA 0139 000 6TH STREET SOUTH WATERMAIN REPLACEMENT**

Everest Replacement of approximately 1,900 feet of 8-inch and 10-inch asbestos concrete line with new 16-inch ductile iron pipe along 6th Street S, between 5th Avenue S and NE 68th Street.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2017	\$0	\$838,000	\$0	\$838,000

**WA 0153 000 3RD STREET WATERMAIN IMPROVEMENT**

Norkirk Replace approximately 875 feet of 8-inch asbestos concrete watermain with 8-inch ductile iron watermain, and approximately 1,150 feet of 6-inch asbestos concrete watermain with 12-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2016	\$440,000	\$317,000	\$0	\$757,000

**WA 0154 000 4TH STREET WATERMAIN REPLACEMENT PHASE 2**

Norkirk Replace approximately 1,300 feet of 4 and 6-inch asbestos concrete watermain with new 8-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2016	\$290,000	\$174,000	\$0	\$464,000

**WA 0155 000 120TH AVENUE NE WATERMAIN IMPROVEMENT**

South Rose Hill Replace approximately 600 feet of 8-inch ductile iron watermain and 750 feet of 6-inch asbestos concrete watermain with 1,350 feet of 20-inch ductile Iron watermain; also replace 200 feet of galvanized pipe with 200 feet of 16-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2017	\$0	\$710,000	\$0	\$710,000

**WA 0156 000 122ND AVENUE NE WATERMAIN IMPROVEMENT**

South Rose Hill Replace approximately 600 feet of 8-inch ductile iron pipe with 16-inch ductile iron watermain; also replace 1,100 feet of 6-inch asbestos concrete pipe with 12-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2017	\$0	\$696,000	\$0	\$696,000

**WA 0157 000 8TH AVENUE WEST WATERMAIN IMPROVEMENT**

Market Replace approximately 1,900 feet of 4-inch cast Iron pipe with 8-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2018	\$0	\$710,000	\$0	\$710,000

**WA 0158 000 NE 112TH STREET WATERMAIN IMPROVEMENT**

South Juanita Replace approximately 820 feet of 6-inch asbestos concrete pipe with 820 feet of 8-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2018	\$0	\$365,000	\$0	\$365,000

**WA 0159 000 NE 113TH PLACE WATERMAIN IMPROVEMENT**

South Juanita Replace approximately 900 feet of 4-inch asbestos concrete pipe, with 900 feet of 8-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2018	\$0	\$373,000	\$0	\$373,000

**WA 0160 000 126TH AVENUE NE WATERMAIN IMPROVEMENT**

South Rose Hill Replace approximately 2,600 feet of 8-inch asbestos concrete pipe with 2,600 feet of 8-inch ductile iron watermain.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2018	\$0	\$990,000	\$0	\$990,000

**WA 7777 000 ANNUAL WATER CAO/SWDM SUPPORT**

City-wide This project provides for the additional design and construction costs for City right-of-way capital projects to comply with the requirement changes of the 2016 City updates to Critical Areas Ordinance Codes (KMC Chapters 83, 85, and 90) and the 2016 City adoption of the April 24, 2016 King County, Washington Surface Water Design Manual.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
On-going	\$0	\$500,000	\$0	\$500,000

**WA 8888 000 ANNUAL WATERMAIN REPLACEMENT PROGRAM**

City-wide Replacement of existing watermain and water system appurtenances as required to complete the prioritized watermain projects list contained within the Water Comprehensive Plan Update. Candidate projects under this Annual Program include: WA 0103 - NE 113th Place/106th Ave NE Watermain Replacement, WA 0118 - 112th Avenue NE 114th Avenue NE Watermain Replacement, WA 0120 - 111th Avenue Watermain Replacement, WA 0124 - NE 97th Street Watermain Replacement, WA 0130 - 11th Place Watermain Replacement, WA 0136 - NE 74th Street Watermain Replacement and WA 0137 - NE 73rd Street Watermain Replacement, WA 0146 - 6th Street/Kirkland Way Watermain Replacement, WA 0147 - 106th Avenue NE Watermain Replacement.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
Ongoing	\$0	\$1,333,200	\$0	\$1,333,200

**WA 9999 000 ANNUAL WATER PUMP STATION/SYSTEM UPGRADE PROGRAM**

City-wide The replacement of existing water system appurtenances as required to complete the prioritized system upgrades list contained within the Water Comprehensive Plan Update. Candidate projects under this Annual Program include: WA 0067 - North Reservoir Pump Station Replacement, WA 0126 - North Reservoir Outlet Meter Addition, WA 0127 - 650 Booster Pump Station and WA 0131 - Supply Station #1 Improvements.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
Ongoing	\$0	\$1,333,200	\$0	\$1,333,200

**CITY OF KIRKLAND  
2017-2022 CAPITAL IMPROVEMENT PROGRAM  
PROJECT SUMMARY**

**WATER AND SEWER UTILITIES - Sewer**

**SS 0051 000 6TH STREET SOUTH SEWERMAIN REPLACEMENT**

Everest Preliminary design will examine feasibility of slip lining the existing sewer line or the need to replace the existing 10-inch concrete sewer line from NE 68th Street to approximately 8th Avenue South, with approximately 950 feet of 12-inch to 15-inch polyvinyl chloride (PVC) pipe. Capacity issues with this sewer line that were identified in the 1992 Sewer Comprehensive Plan were alleviated with the installation of a new sewer main in NE 68th Street between 6th Street S/108th Avenue NE and Cross Kirkland Corridor in 1997.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2017	\$0	\$965,000	\$0	\$965,000

**SS 0052 000 108TH AVENUE NE SEWERMAIN REPLACEMENT**

Central Hought Replace and/or rehabilitate approximately 4,000 feet of 8-inch concrete pipe with 8 to 12-inch PVC pipe. Perform video inspection to determine extent and priority of section improvements; preliminary design will examine the feasibility of installing replacement sewer line at a shallower depth than currently exists along this line (specifically between NE 59th Street to NE 53rd Street). This trunk line requires high maintenance due to significant structural deficiencies.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2017	\$0	\$5,506,000	\$0	\$5,506,000

**SS 0062 000 NE 108TH STREET NE SEWERMAIN REPLACEMENT**

South Juanita Replace and/or rehabilitate the existing trunk line with approximately 3,000 feet of 12-inch to 18-inch diameter PVC pipe. Perform video inspection to determine the extent of the improvements. The existing trunk line, a likely source of inflow and infiltration (I/I), experiences minor storm event surcharging and does not have adequate capacity for full development within the basin.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2020	\$0	\$6,569,500	\$0	\$6,569,500

**SS 0069 000 1ST STREET SEWER MAIN REPLACEMENT**

Norkirk Replace existing 8-inch concrete sewerline with approximately 4,170 feet of 8-inch polyvinyl chloride (PVC) sewerline. The existing line was first built in 1950 and is deteriorating, having exceeded its design life.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2016	\$354,200	\$3,465,800	\$0	\$3,820,000

**SS 0070 000 5TH STREET SEWER MAIN REPLACEMENT**

Norkirk Replace existing 8-inch concrete sewerline with approximately 1,430 feet of 8-inch polyvinyl chloride (PVC) sewerline. The existing line was first built in 1950 and is deteriorating, having exceeded its design life.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2016	\$419,500	\$864,500	\$0	\$1,284,000

**SS 0072 000 KIRKLAND AVENUE SEWER MAIN REPLACEMENT**

Everest Replace existing 8-inch concrete sewerline with approximately 1,550 feet of 12-inch polyvinyl chloride (PVC) sewerline. The existing trunk line does not have adequate capacity to accommodate projected flows.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2018	\$0	\$2,298,400	\$0	\$2,298,400

**SS 0077 001 WEST OF MARKET SEWERMAIN REPLACEMENT - PHASE 1**

Market The replacement of concrete sewermain in the Market Neighborhood, Market Street to Lake Washington and Waverly Way to 20th Place West.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
2020	\$0	\$5,225,000	\$0	\$5,225,000

**SS 7777 000 ANNUAL SEWER CAO/SWDM SUPPORT**

City-wide This project provides for the additional design and construction costs for City right-of-way capital projects to comply with the requirement changes of the 2016 City updates to Critical Areas Ordinance Codes (KMC Chapters 83, 85, and 90) and the 2016 City adoption of the April 24, 2016 King County, Washington Surface Water Design Manual.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
On-going	\$0	\$700,000	\$0	\$700,000

**SS 8888 000 ANNUAL SANITARY PIPELINE REPLACEMENT PROGRAM**

City-wide Installation of sewermain replacements to improve overall system reliability and to reduce maintenance and I & I (Infiltration and Inflow) costs. Candidate projects under this Annual Program include: SS 0068 - 124th Avenue NE Sewermain Replacement; SS 0080 - 20th Avenue Sewermain Replacement

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
Ongoing	\$0	\$1,333,200	\$0	\$1,333,200

**SS 9999 000 ANNUAL SANITARY PUMP STATION/SYSTEM UPGRADE PROGRAM**

City-wide Installation of sewer pump station upgrades to improve overall system reliability and to reduce maintenance costs.

PROJECT START	Prior Year(s)	2017-2022 Total	Future Year(s)	TOTAL PROJECT
Ongoing	\$0	\$1,333,200	\$0	\$1,333,200

**City of Kirkland  
Preliminary 2017-2022 Capital Improvement Program**

**ACTIVE PROJECTS - WATER/SEWER**

Project Number	Project Title	Project Budget as of 2014	Pending Adjustments	2015-16 Funding	Total Current Funding	Expenses as of 12/31/2015	Project Balance 12/31/2015
SS 0064	7th Avenue South Sewermain Replacement	897,800		-	897,800	447,563	450,237
SS 0067	NE 80th Street Sewermain Replacement (Phase II)	2,436,000		-	2,436,000	233,033	2,202,967
SS 0069	1st Street Sewermain Replacement	-		958,900	958,900	-	958,900
SS 0070	5th Street Sewermain Replacement	-		419,500	419,500	-	419,500
SS 0071	6th Street Sewermain Replacement	-		287,000	287,000	-	287,000
SS 0073	Rose Point Sewer Lift Station Replacement	-		2,560,000	2,560,000	151,351	2,408,649
SS 0075	Inflow & Infiltration Reduction Program	200,000		-	200,000	85,914	114,086
SS 0078	5th Avenue S. Sewermain Replacement	188,900		38,000	226,900	185,631	41,269
SS 0079	3rd Ave S/2nd ST S Sewermain Replacement	-		1,227,000	1,227,000	7,817	1,219,183
SS 0081	7th/8th Avenue West Alley Sewermain Replacement	354,000		-	354,000	215,130	138,870
SS 0082	3rd & Central Way Sanitary Sewer Crossing	-		300,000	300,000	-	300,000
SS 1356	Emergency Sewer	130,000		-	130,000	108,597	21,403
SS 8888	Annual Sanitary Pipeline Replacement Program^	217,400		549,400	766,800	-	766,800
SS 9999	Annual Sanitary Pump Station/System Upgrade Pgm^	217,400		549,400	766,800	-	766,800
WA 0063	Supply Station #3 Replacement	141,000		-	141,000	-	141,000
WA 0090	Emergency Sewer Pgm Watermain Replacement	50,000		-	50,000	447	49,553
WA 0093	Vulnerability Analysis	367,900	20,141	-	388,041	61,372	326,669
WA 0094	North Reservoir Painting	3,399,000		-	3,399,000	3,031,302	367,698
WA 0115	Telemetry Upgrades	150,000		200,000	350,000	132,802	217,198
WA 0116	NE 80th St Watermain Replacement (Phase II)	2,836,400		-	2,836,400	224,364	2,612,036
WA 0140	NE 85th Street Watermain Replacement	3,992,200		-	3,992,200	3,379,097	613,103
WA 0148	Park Lane Watermain Replacement	297,000		-	297,000	301,592	(4,592)
WA 0150	6th Street Watermain Replacement	372,500		148,000	520,500	843,957	(323,457)
WA 0151	7th Avenue S Watermain Replacement	325,000		53,000	378,000	261,122	116,878
WA 0152	4th Street Watermain Replacement	-		467,000	467,000	421,551	45,449
WA 0153	3rd Street Watermain Improvement	-		440,000	440,000	-	440,000
WA 0154	4th Street Watermain Replacement Phase 2	-		290,000	290,000	-	290,000
WA 0161	Kirkland Way Watermain Replacement	-		400,000	400,000	-	400,000
WA 0162	LWB Watermain Replacement at Cochran Springs	-		260,000	260,000	36,713	223,287
WA 0163	2nd Street S Watermain Replacement	-		290,000	290,000	-	290,000
WA 8888	Annual Watermain Replacement	-		359,400	359,400	-	359,400
WA 9999	Annual Water Pump Station/System Upgrade Program	-		359,400	359,400	-	359,400
<b>Total</b>		<b>16,572,500</b>	<b>20,141</b>	<b>10,156,000</b>	<b>26,748,641</b>	<b>10,129,355</b>	<b>16,619,286</b>