

No.	Project Number / Item	Source / Category	Description	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
Administrative and Support													
1	AM-1-2A/B ¹	Asset Management	EAM System Implementation Assistance & Maintenance and Support		\$ 500,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
2	XC-1-1A	Cross Connection	Develop a Residential Cross-Connection Control Program		\$ 360,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000
3	XC-1-1B ¹	Cross Connection	Update Commercial Cross Connection Control Program		\$ 77,500	\$ 77,500							
4	XC-2-1A / 1B	Cross Connection	Purchase Cross-Connection Control Software		\$ 6,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
5	CC-1-1A	Customer Complaints	Establish a Call Center	\$ 250,000	\$ 250,000								
6	RR-1-1C	Pipe R&R	Outside Review of Design Standards								\$ 25,000		
7	SE-2-1A/1B	Security & Emergency	Update the existing ERP to meet FEMA standards		\$ 60,000				\$ 3,000				
8	SE-2-1C / 2-2	Security & Emergency	Regular Exercise and Review of ERP / Communications			\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
9	SE-3-1A	Security & Emergency	Cyber security for SCADA/instruments outside WTP			\$ 36,000							
10	SE-3-1B/1C	Security & Emergency	Conduct a cyber security gap assessment		\$ 40,000		\$ 20,000		\$ 20,000		\$ 20,000		\$ 20,000
11	SE-3-2A/2B	Security & Emergency	Vulnerability Assessment		\$ 45,000					\$ 45,000			
12	SE-3-3A/3B	Security & Emergency	Funding Assessment		\$ 10,000					\$ 10,000			
13	VH-6-1A	Valves & Hydrants	Develop a Planned/Preventative Maintenance Plan		\$ 30,000								
14	VH-6-2A	Valves & Hydrants	Develop Valve & Hydrant Manual Library			\$ 10,000							
15	VH-7-1A	Valves & Hydrants	V&H Program Hardware and Software Upgrades				\$ 135,000						
16	WL-1-1A / 1B	Water Loss	Develop and Review Water Loss Control Plan		\$ 300,000	\$ 300,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000
17	WQ-1-1	Water Quality	Laboratory Equipment Upgrades		\$ 100,000								
Water Distribution													
18	CIP-9/ OM-1-1A / 1B/ OM-1-2	CIP, Online Monitoring	Implement Distribution System Online WQ Monitoring Stations	\$ 123,000	\$ 490,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000
19	FL-1-1A/1B	Flushing	UDF Equipment										
20	FL-1-3	Flushing	Optimize Flushing Loops					\$ 20,000					
21	HM-2-1 ²	Hydraulic Modeling	Conduct WQ Model Calibration					\$ 15,000					
22	HM-3-1A / 1B	Hydraulic Modeling	Hydraulic Modeling Software				\$ 30,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
23	HM-3-2	Hydraulic Modeling	Hydraulic Model Training				\$ 25,000						
24	HM-3-3	Hydraulic Modeling	Develop and implement model maintenance plan					\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
25	IT-1-0 ²	IT	SCADA Upgrades	\$ 100,000									
26	PR-1-2 ²	Pressure Management	Comprehensive Surge Analysis	\$ 150,000									
27	PR-1-3A ²	Pressure Management	Portable Pressure Data Loggers	\$ 2,000									
28	PS-1-3B	Pump Stations	Contractor: Pump Station Annual Inspections				\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
29	SF-2-3B	Storage Facilities	Contractor: Storage Facility Comprehensive Inspection							\$ 125,000			
30	SE-1-1A	Security & Emergency	Site Control and Intrusion Detection				\$ 203,000						
31	SE-1-2A	Security & Emergency	Fencing at Cedar Street Reservoir				\$ 15,000						
32	VH-7-1B	Valves & Hydrants	Hardware and Software Upgrades					\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000
Rehabilitation and Replacement													
33	RR-2-1/VH-4-1	Pipe R&R	Update Pipe Assets in GIS/Valve-Hydrant Model Review		\$ 150,000								
34	CIP-1	CIP	FAST START – LSLR	\$ 50,000,000	\$ 37,000,000	\$ 12,000,000							
35	CIP-2	CIP	GCDC Back-Up Supply	\$ 1,833,000	\$ 7,331,000								
36	CIP-3	CIP	Northwest Transmission Main	\$ 2,459,000	\$ 9,838,000								
37	CIP-4 / WL-2-1, 2-2	CIP, Water Loss	Meter Replacement – AMR/AMI	\$ 3,692,000	\$ 14,768,000								
38	CIP-5	CIP	Small Main Replacement (WIIN funded)	\$ 11,506,000	\$ 46,024,000								
39	CIP-6 / RR-2-3, 2-4 / VH-6-2B	CIP, Pipe R&R, Valve & Hydrant	Small Main Replacement (City funded)		\$ 1,000,000	\$ 7,000,000	\$ 8,000,000	\$ 9,000,000	\$ 10,000,000	\$ 11,000,000	\$ 12,000,000	\$ 13,000,000	\$ 14,000,000
40	CIP-7 / PS-1-2	CIP, Pump Stations	Dort Pumping Station/Cedar St. Pump Replacement	\$ 2,025,000	\$ 8,100,000								
41	CIP-8/VH-5-1	CIP	Water Facility Consolidation						\$ 200,000	\$ 2,800,000			
42	CIP-10	CIP	Dam Maintenance	\$ 625,000	\$ 250,000								
43	CIP-11	CIP	72-inch Line Maintenance	\$ 250,000	\$ 250,000								
44	CIP-12 / PS-1-1, 1-2 / SF-1-1 / WA-2-1	Facilities, Water Age	Storage and Pump Station Improvements		\$ 515,000	\$ 2,500,000							
45	CIP-13	CIP	Atherton Road Main	\$ 2,000,000	\$ 5,000,000								
46	CIP-14 ¹	CIP	Chemical Building Construction	\$ 1,167,000	\$ 2,233,000								
47	CIP-15 ¹ / WL-4-1B	CIP	Leak Detection / Annual Meter and Leak Detection		\$ 250,000		\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000
48	AMP-1	Asset Management	Miscellaneous Vertical Asset R&R	\$ 270,000	\$ 1,116,000	\$ 432,000	\$ 125,000	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
49	VH-1-1	Valves & Hydrants	Wachs Valve Assessment			\$ 350,000							
50	VH-6-1B	Valves & Hydrants	Valve & Hydrant Replacement	\$ 912,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000
51	OT-1-1A	Other	Vehicle Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
			TOTAL	\$ 77,864,000	\$ 138,164,500	\$ 25,349,500	\$ 10,935,000	\$ 11,725,000	\$ 13,113,000	\$ 16,870,000	\$ 14,935,000	\$ 15,890,000	\$ 16,910,000
			Total Grant Funding	\$ 74,805,000	\$ 130,784,000	\$ 12,000,000							
			Additional Cash / Non-Grant Funding	\$ 3,059,000	\$ 7,380,500	\$ 13,349,500	\$ 10,935,000	\$ 11,725,000	\$ 13,113,000	\$ 16,870,000	\$ 14,935,000	\$ 15,890,000	\$ 16,910,000

¹Project added during the development of the final Optimization Plan

²Assumes AECOM will complete during program management

Shaded items indicate grants as the primary funding source

Note: This table includes only outside capital expenditures and does not include annual operations or internal staffing costs.

No.	Project Number / Item	Source / Category	Description	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	TOTAL
Administrative and Support														
1	AM-1-2A/B ¹	Asset Management	EAM System Implementation Assistance & Maintenance and Support	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 950,000
2	XC-1-1A	Cross Connection	Develop a Residential Cross-Connection Control Program	\$ 295,000	\$ 295,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 3,710,000
3	XC-1-1B ¹	Cross Connection	Update Commercial Cross Connection Control Program											\$ 155,000
4	XC-2-1A / 1B	Cross Connection	Purchase Cross-Connection Control Software	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 24,000
5	CC-1-1A	Customer Complaints	Establish a Call Center											\$ 500,000
6	RR-1-1C	Pipe R&R	Outside Review of Design Standards			\$ 25,000					\$ 25,000			\$ 75,000
7	SE-2-1A/1B	Security & Emergency	Update the existing ERP to meet FEMA standards	\$ 3,000					\$ 3,000					\$ 69,000
8	SE-2-1C / 2-2	Security & Emergency	Regular Exercise and Review of ERP / Communications	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 270,000
9	SE-3-1A	Security & Emergency	Cyber security for SCADA/instruments outside WTP			\$ 36,000								\$ 72,000
10	SE-3-1B/1C	Security & Emergency	Conduct a cyber security gap assessment		\$ 20,000		\$ 20,000		\$ 20,000		\$ 20,000		\$ 20,000	\$ 220,000
11	SE-3-2A/2B	Security & Emergency	Vulnerability Assessment		\$ 45,000					\$ 45,000				\$ 180,000
12	SE-3-3A/3B	Security & Emergency	Funding Assessment		\$ 10,000					\$ 10,000				\$ 40,000
13	VH-6-1A	Valves & Hydrants	Develop a Planned/Preventative Maintenance Plan											\$ 30,000
14	VH-6-2A	Valves & Hydrants	Develop Valve & Hydrant Manual Library											\$ 10,000
15	VH-7-1A	Valves & Hydrants	V&H Program Hardware and Software Upgrades											\$ 135,000
16	WL-1-1A / 1B	Water Loss	Develop and Review Water Loss Control Plan	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 1,739,000
17	WQ-1-1	Water Quality	Laboratory Equipment Upgrades											\$ 100,000
Water Distribution														
18	CIP-9/ OM-1-1A / 1B/ OM-1-2	CIP, Online Monitoring	Implement Distribution System Online WQ Monitoring Stations	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 955,000
19	FL-1-1A/1B	Flushing	UDF Equipment	\$ 10,000										\$ 10,000
20	FL-1-3	Flushing	Optimize Flushing Loops											\$ 20,000
21	HM-2-1 ²	Hydraulic Modeling	Conduct WQ Model Calibration											\$ 15,000
22	HM-3-1A / 1B	Hydraulic Modeling	Hydraulic Modeling Software	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 190,000
23	HM-3-2	Hydraulic Modeling	Hydraulic Model Training											\$ 25,000
24	HM-3-3	Hydraulic Modeling	Develop and implement model maintenance plan	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 160,000
25	IT-1-0 ²	IT	SCADA Upgrades											\$ 100,000
26	PR-1-2 ²	Pressure Management	Comprehensive Surge Analysis											\$ 150,000
27	PR-1-3A ²	Pressure Management	Portable Pressure Data Loggers											\$ 2,000
28	PS-1-3B	Pump Stations	Contractor: Pump Station Annual Inspections	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 765,000
29	SF-2-3B	Storage Facilities	Contractor: Storage Facility Comprehensive Inspection		\$ 125,000					\$ 125,000				\$ 375,000
30	SE-1-1A	Security & Emergency	Site Control and Intrusion Detection			\$ 203,000								\$ 406,000
31	SE-1-2A	Security & Emergency	Fencing at Cedar Street Reservoir											\$ 15,000
32	VH-7-1B	Valves & Hydrants	Hardware and Software Upgrades	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 1,120,000
Rehabilitation and Replacement														
33	RR-2-1/VH-4-1	Pipe R&R	Update Pipe Assets in GIS/Valve-Hydrant Model Review											\$ 150,000
34	CIP-1	CIP	FAST START – LSLR											\$ 99,000,000
35	CIP-2	CIP	GCDC Back-Up Supply											\$ 9,164,000
36	CIP-3	CIP	Northwest Transmission Main											\$ 12,297,000
37	CIP-4 / WL-2-1, 2-2	CIP, Water Loss	Meter Replacement – AMR/AMI											\$ 18,460,000
38	CIP-5	CIP	Small Main Replacement (WIIN funded)											\$ 57,530,000
39	CIP-6 / RR-2-3, 2-4 / VH-6-2B	CIP, Pipe R&R, Valve & Hydrant	Small Main Replacement (City funded)	\$ 15,000,000	\$ 16,000,000	\$ 17,000,000	\$ 18,000,000	\$ 19,000,000	\$ 20,000,000	\$ 21,000,000	\$ 22,000,000	\$ 23,000,000	\$ 24,000,000	\$ 280,000,000
40	CIP-7 / PS-1-2	CIP, Pump Stations	Dort Pumping Station/Cedar St. Pump Replacement											\$ 10,125,000
41	CIP-8/VH-5-1	CIP	Water Facility Consolidation											\$ 3,000,000
42	CIP-10	CIP	Dam Maintenance											\$ 875,000
43	CIP-11	CIP	72-inch Line Maintenance											\$ 500,000
44	CIP-12 / PS-1-1, 1-2 / SF-1-1 / WA-2-1	Facilities, Water Age	Storage and Pump Station Improvements											\$ 3,015,000
45	CIP-13	CIP	Atherton Road Main											\$ 7,000,000
46	CIP-14 ¹	CIP	Chemical Building Construction											\$ 3,400,000
47	CIP-15 ¹ / WL-4-1B	CIP	Leak Detection / Annual Meter and Leak Detection	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 1,304,000
48	AMP-1	Asset Management	Miscellaneous Vertical Asset R&R	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 4,943,000
49	VH-1-1	Valves & Hydrants	Wachs Valve Assessment											\$ 350,000
50	VH-6-1B	Valves & Hydrants	Valve & Hydrant Replacement	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 24,171,000
51	OT-1-1A	Other	Vehicle Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 10,000,000
			TOTAL	\$ 17,244,000	\$ 18,431,000	\$ 19,250,000	\$ 20,006,000	\$ 20,986,000	\$ 22,009,000	\$ 23,166,000	\$ 24,031,000	\$ 24,986,000	\$ 26,006,000	\$ 557,871,000
			Total Grant Funding											\$ 217,589,000
			Additional Cash / Non-Grant Funding	\$ 17,244,000	\$ 18,431,000	\$ 19,250,000	\$ 20,006,000	\$ 20,986,000	\$ 22,009,000	\$ 23,166,000	\$ 24,031,000	\$ 24,986,000	\$ 26,006,000	\$ 340,282,000

¹Project added during the development of the final Optimization Plan

²Assumes AECOM will complete during program management

Note: This table includes only outside capital expenditures and does not include annual operations or internal staffing costs.

Shaded items indicate grants as the primary funding source

LEGEND

Optimization Category	Code
Asset Management	AM
Cross-Connection Control	XC
Customer Complaint Tracking	CC
Disinfection Residual and DBP Monitoring	CL
Flushing	FL
Hydraulic Modeling	HM
Information Technology	IT
Internal Corrosion Control	IC
Main Breaks	MB
Online Monitoring	OM
Pipeline Rehabilitation and Replacement	RR
Pressure Management	PR
Pump Station Design, Operation and Maintenance	PS
Security and Emergency Management	SE
Storage Facility Design, Operation and Maintenance	SF
Valves & Hydrants Testing, Maintenance, and Replacement	VH
Water Age Management	WA
Water Loss Control	WL
Water Quality Sampling	WQ
Other	OT

NOTES:

1. Costs were estimated for both one-time, initial and recurring activities, and included major equipment and materials, software fees, utility labor, professional engineering services, installation/construction, and contingency, where appropriate.
2. All costs were developed based on 2017 dollars and are consistent with an Association for Advancement of Cost Engineering (AACE) Class 5 Estimate, which is considered a concept screening estimate and are typically -50% to +100% accurate.