COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF KENTUCKY-	**)**	
AMERICAN WATER COMPANY FOR	**)**	**CASE NO. 2020-00027**
ESTABLISHMENT OF QUALIFIED	**)**	
INFRASTRUCTURE PROGRAM RATES	**)**	

DIRECT TESTIMONY OF KURT A. STAFFORD
DIRECTOR OF ENGINEERING
KENTUCKY-AMERICAN WATER COMPANY, INC.

Filed: March 2, 2020

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I. INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Kurt A. Stafford. I am the Director of Engineering for American Water Works Company, Inc.'s Southeast Division which includes Kentucky-American Water Company, Inc. ("KAW" or "the Company"). My business address is 2300 Richmond Road, Lexington, Kentucky 40502.

Q. Have you previously filed testimony at the Kentucky Public Service Commission ("Commission")?

A. No, but I have filed testimony in proceedings before the Tennessee Public Utility Commission ("TPUC"). Testimony has been provided in TPUC Docket Nos 18-00120, 19-00031 and 19-00105.

Q. Please state your educational and professional background.

A. I received a B.S. degree in Civil Engineering from the University of Tennessee in Knoxville, Tennessee in 2000. I also completed a Masters of Urban and Regional Planning from the University of Tennessee in 2004 as well as a Masters of Business Administration from Tennessee Tech University in Cookeville, Tennessee in 2012. I am a registered Professional Engineer in the State of Tennessee and the Commonwealth of Virginia.

I have been employed in my current role since September 2019. Prior to that, I served as Engineering Manager for Tennessee-American Water Company from April 2016 to September 2019. I began my career as a Consulting Engineer in the utility and environmental remediation fields working for engineering firms in Knoxville, Tennessee and Lexington, Kentucky. In June 2004, I accepted a role as a Staff Engineer at the Virginia Department of Environmental Quality in Richmond, Virginia. In January 2007, I began working for the Knoxville Utilities Board ("KUB") as a Project Engineer managing

wastewater construction projects related to KUB's $650 million Wastewater Consent Decree Program. In 2010, I was promoted to Team Leader at KUB where I managed an engineering team working on construction projects for KUB's Wastewater Consent Decree Program. In 2012, I was assigned as Team Leader for an engineering team that managed construction and planning projects for KUB's water distribution system. Additionally, I served as a certified Level II Erosion Control Inspector responsible for managing erosion control inspections and ensuring that construction projects for all four of KUB's utilities (gas, water, wastewater and electric) conformed to local, state and federal requirements. I also served as the main point of contact for both Water and Wastewater Engineering for new service requests and projects. I am an active member of the American Water Works Association (AWWA) and the Tennessee Society of Professional Engineers (TSPE).

Q. What is the purpose of your direct testimony?

A. The purpose of my testimony is to describe the planned investment for the Qualified Infrastructure Program Rider ("QIP Rider") approved by this Commission in KAW's last base water rates rate case (Case No. 2018-00358). I will describe the projects KAW plans to complete that are eligible for recovery under the QIP Rider.

II. QIP ELIGIBLE UTILITY PLANT

Q. Please define the categories for QIP Eligible Utility Plant.

A. QIP eligible utility plant includes Distribution Infrastructure and Water Treatment Infrastructure. They are both defined terms in KAW's tariff on file with the Commission at Sheet No. 48 of the tariff.

Q. Please describe eligible Distribution Infrastructure.

A. Eligible distribution infrastructure includes distribution and transmission system structures and improvements, mains and valves installed as replacements for existing facilities;

hydrants, distribution tanks; services, meters and meter installations; power generation and pumping equipment installed as replacements for existing facilities; and unreimbursed funds related to capital projects to relocate facilities required by governmental infrastructure projects.

Q. Please describe eligible Water Treatment Infrastructure.

A. Eligible water treatment infrastructure includes source of supply and water treatment structures, pipe and equipment including sampling equipment, SCADA equipment, and power generation and pumping equipment installed as replacements for existing facilities.

III. CAPITAL INVESTMENT PLAN

Q. Please describe KAW's Capital Investment Plan.

A. The Company's Capital Investment Plan can be divided into two distinct areas: 1) Recurring Projects ("RP") and 2) Major Projects identified as Investment Projects ("IP"). Typically, Major Projects are those having a Company investment of $250,000 or greater. A copy of the Strategic Capital Expenditures Plan ("SCEP") is attached to my testimony as Exhibit 1**.**

Q. How is the Capital Investment Plan developed?

A. Capital planning needs are addressed in both the short term (one year) and longer term (five years). Projects are prioritized using objective criteria that validate the need for a project and assess the risk of not performing the project. A key component of this planning technique is that it is flexible and can be adjusted when required to address new needs, such as unplanned equipment failures, large or sudden growth of a service area, or new regulatory requirements. KAW's Engineering Department develops a proposed capital budget with input from Operations Supervisors and Project Managers and then shares the plan with the KAW President and the KAW Vice President of Operations for their review

and approval. This process is the basis for the capital expenditures reflected in the Company's Investment Plan.

Q. Please describe the Recurring Projects that are included within the Company's Capital Investment Plan as it relates to the QIP.

A. The Recurring Projects that are included within the Company's Capital Investment Plan and for which KAW seeks inclusion in the QIP Rider are smaller main projects for reinforcement and replacement, replacement of hydrants, valves and manholes, service line and meter setting replacements, security improvements, plant control improvements, and projects to replace and maintain treatment facilities and equipment.

Q. Please describe the factors used in the preparation of the Recurring Projects that are included within the Company's Capital Investment Plan.

A. KAW uses engineering criteria based on accepted engineering standards and practices to determine the amount of work needed on the distribution system or the treatment facilities that provide adequate capacity and appropriate levels of reliability. The identified work will enable KAW to provide safe, adequate and reliable service to its Customers to meet their domestic, commercial and industrial needs; provide flows adequate for fire protection; and satisfy all regulatory and safety requirements. The criteria for evaluating the need for the recurring projects are engineering requirements; consideration of national, state and local trends; environmental impact evaluations; and water resource management. The criteria are developed from regulations, professional standards and KAW engineering policies and procedures.

KAW utilizes historical and forecasted data to develop the program costs based on the determined level of work for each RP line.

Q. Please describe how Investment Projects are included within the Company's Capital Investment Plan?

A. Investment Projects are typically projects greater than $250,000 that the Company describes as Major Projects. These projects represent investments that are needed to meet environmental or water quality regulations, infrastructure capacity expansion or rehabilitation and to ensure a safe working environment. These projects allow the Company to ensure it is able to meet the service demands of the community, ensure regulatory compliance and ensure the reduction of asset failure.

The determination of including an IP within the investment plan starts with a process that begins with the development of the anticipated demand projections of the system, the identification of improvements needed to meet those demands, and a review of the current facilities located in the system. This process is documented through the Comprehensive Planning Study ("CPS") and is the basis for the development of IPs. KAW utilizes the CPS study along with a review of changes in the needs of the system that may have occurred since the development of the CPS and develops the schedule of projects within the Capital Investment Plan. KAW plans these to bring about the correct prioritization and distribution of capital spending for the various needs of the business.

Q. In developing its Capital Investment Plan, does the Company consider customer impact in addition to customer benefit?

A. Yes. The Capital Investment Plan considers historical spending as well as proposed improvements as documented through the CPS and knowledge of other current system needs. During the planning process, projects are strategically staggered over a five-year period to balance spending and ensure KAW continues to provide safe, adequate and

reliable service to its Customers. Projects are chosen and scheduled in a prudent manner in order to balance the critical need for replacing aging infrastructure with system safety and reliability as well as Customer impact.

Q. Can you describe how the Capital Investment Plan is monitored during the year?

A. Since 2003, the entire American Water system has used a process for the development and review of capital expenditures that has incorporated industry best practices. KAW, like its sister companies, has benefitted from that process. The process includes a regional Capital Investment Management Committee ("CIMC") to ensure capital investment plans meet the strategic intent of the business. In turn, this ensures that capital investment plans are integrated with operating expense plans and provides more effective controls on budgets and individual capital projects.

The CIMC includes the KAW President, Vice President of Operations, Engineering Project Managers, Engineering Manager, Chief Financial Officer, and Capital Coordinator. The CIMC meets monthly. The CIMC receives capital expenditure plans from project managers and approves them as required by the process. Once budgets are approved, the CIMC meets monthly to review capital expenditures compared to budgeted levels. Discussions are held on variances to budgets that include the reason for the variance and suggestions to bring the budget lines back in line with the approved budget.

If changes in the budgets are required due to changes in priorities or unexpected expenditures, then the CIMC reviews the request for changes and approves the movement of available capital from other budget lines to offset the changes in the capital spend. All projects, including normal recurring items, have an identified project manager responsible for processing the stages of the project. The focus of the CIMC, along with the monthly

meetings, has allowed KAW to be more flexible with changes that inevitably occur during the course of implementation of projects while providing oversight on capital expenditures.

IV. QUALIFIED INFRASTRUCTURE PROGRAM

Q. What are the budget lines that are included under Recurring Projects within the Qualified Infrastructure Program?

A. The budget lines that will be included under Recurring Projects in the QIP will be:

1) Line B – QIP Mains Replaced/Restored
2) Line C - Mains Unscheduled
3) Line D - Mains Relocated
4) Line F – Hydrants, Valves and Manholes Replaced
5) Line H – Services and Laterals Replaced
6) Line J - Meters Replaced
7) Line L – SCADA Equipment and Systems
8) Line M – Security Equipment and Systems; and
9) Line Q – Process Plant Facilities and Equipment.

These budget lines represent investment to replace aging infrastructure that is non-revenue producing. This means infrastructure that does not produce additional revenue (no new customers). Examples of infrastructure that would produce additional revenue are main extensions for new development and new services or new meters for new customers.

Q. What work is associated with Line B - QIP Mains Replaced/Restored?

A. This investment plan line includes the scheduled replacement, renewal or improvement of existing water mains, including valves and other appurtenances that are necessary to perform the work. Work under this line is the planned and scheduled proactive replacement of water main that has been determined to reach its useful life or is causing service

problems to the adjacent area serviced by the main. Water main replaced under this line item will result in a stronger and more reliable water distribution system. By replacing aging water main infrastructure on an accelerated basis and on a proactive rather than reactive basis, the distribution system will provide direct Customer benefits in the form of improved and sustained water quality, improved fire protection, fewer service disruptions and lower operating and maintenance costs over time.

KAW plans to spend approximately $7,400,000 to replace various size water mains as part of four projects during the QIP forecast period. KAW will replace approximately 32,160 feet of main during the period. These projects are not only important in addressing the aging infrastructure needs of the community, but also allow the Company to take a leadership role in reducing its carbon footprint. By replacing infrastructure that is leaking or has a high potential for failure, the Company is able to reduce the amount of water that is produced and reduce the amount of electricity that we use. The overall result is a reduction in the amount of fossil fuel generation required for the Company's facilities.

Q. What are the proposed projects that are included with Line B - QIP Mains Replaced/Restored?

A. KAW currently has included the following four projects as part of the scheduled work associated with Line B in the Lexington, Kentucky area:

1. Versailles Road Area – Phase 1

Replace approximately 3,300 LF of 2, 6 and 8-inch cast iron with 8-inch ductile iron pipe on Delmont Drive and Halls Lane (see Map A attached to the Application).

2. Versailles Road Area – Phase 2

Replace 2,470 LF of 2 and 8-inch cast iron with 8-inch ductile iron on Hill Rise Drive, Hill Drive Court and Terrace View Drive (see Map B attached to the Application).

3. State Street – Phase 1

Replace approximately 3,750 LF of 6-inch cast iron with 8-inch ductile iron pipe on University Avenue, State and Crescent Avenue (see Map C attached to the Application).

4. State Street – Phase 2

Replace approximately 3,720 LF of 6-inch cast iron and asbestos cement with 8-inch ductile iron Conn Terrace, Journal Avenue, Transcript Avenue, and Gazette Avenue (see Map D attached to the Application).

5. Winchester Rd

Replace approximately 8,000 LF of 4 and 8-inch cast iron and asbestos cement with 12-inch ductile iron pipe on Winchester Rd and Man O' War Boulevard (see Map E attached to the Application).

6. Castlewood - Phase 1

Replace approximately 6,170 LF of 4 and 6-inch cast iron with 8-inch ductile iron on Arceme Avenue, Devonia Avenue, Carlisle Avenue, and Orion Way (see Map F attached to the Application).

7. Castlewood - Phase 2

Replace 4,750 LF 2, 6 and 8-inch cast iron with 8-inch ductile iron on Avon Avenue, Burnett Avenue, Glenn Place and Wittland Lane (see Map G attached to the Application).

Q. Why is the majority of the main being replaced cast iron and galvanized?

A. The Company analyzed main break history from January 2012 to December 2016. During this period, the Company experienced 837 main breaks, averaging about 167 breaks per year. Review of the reported breaks from January 2012 to December 2016 indicated that main breaks on cast iron main represented 60% of all breaks. Since cast iron main (lined and unlined) material only represents 15.9% of the total inventory of mains in the ground, the break rate on this type of material is significantly higher than the other material in the

system. The break rate per mile of main shows that cast iron main had a break rate of 1.1 breaks per mile of main compared to ductile iron, which only saw a break rate of 0.04 breaks per mile of main from January 2012 to December 2016.

Q. What impacts are expected from additional Line B spending in the forecast period?

A. It is anticipated that removing cast iron and galvanized mains from the distribution system will help to reduce the number of water main breaks. Given the disproportionate amount of breaks caused by these two pipe materials, removing galvanized and cast irons mains will have the biggest impact on the number of main breaks and help ensure the reliability of water service to KAW Customers.

Q. What work is associated with Line C - Mains Unscheduled?

A. This investment plan item includes the unscheduled replacement or restoration of existing water mains, including valves and other appurtenances that are necessary to perform the work. The work associated with the Line C is similar to that of Mains Replaced under Line B and addresses water mains that have started to experience chronic issues. However, unlike the Mains Replaced through Line B, the work associated in Line C is a result of an unexpected failure of the main or valve that causes impact to the Customer and requires immediate work to correct the failure. By the nature of the work being a reaction to an unexpected event, the work associate in Line C cannot be planned and scheduled, thus KAW considers this work as unscheduled. The majority of work associated with Line C is water mains that have experienced an unscheduled break or failure and the Company has determined that the replacement of a section of the main will allow the service life of the main to be extended rather than just repairing the failure with a temporary clamp and replacing the main through Line B.

KAW estimates spending approximately $900,000 to replace various size water mains during unscheduled events. As the Company replaces sections of main, the existing main will be more stable and the life of the main will be extended, which will allow for a more concentrated effort for main replacements on mains that have a larger history of breaks.

Q. What work is associated with Line D - Mains Relocated?

A. This budget line item of $500,000 includes the relocation of existing water mains, including valves and other appurtenances, which are necessary due to ongoing municipal or state agency projects. These costs are not reimbursable. The work associated with this line item is a replacement of infrastructure that is impacted by improvements being proposed by a municipal or state agency that causes a conflict with the Company's infrastructure. The Customer benefits from this work since the replacement main that is installed to eliminate the conflict with the municipal or state agency projects is typically a newer main that is stronger and more reliable that the main being replaced and therefore contributes to system reliability.

Q. What mains have been identified for relocation that are associated with Line D?

A. KAW plans to spend approximately $500,000 to replace various size water mains within the distribution system that are required to be relocated due to the work of a municipal or state agency. KAW is aware of three potential relocation projects with the Lexington Fayette-County Urban County Government. These include road widening projects on Mount Tabor Road and Clays Mill Road in addition to a sanitary sewer project running through the University of Kentucky's campus. Additionally, the Kentucky Transportation Cabinet has a road project anticipated along US 460. The Company meets with both these

organizations on a routine basis to ensure responsiveness and coordination to their construction projects.

Q. What work is associated with Line F – Hydrants, Valves and Manholes Replaced?

A. This line item includes the replacement of leaking, failed or obsolete hydrants, including hydrant assemblies and valves that are Company funded. The replacement of hydrants and valves that have been determined not to be functioning properly through ongoing inspections allows KAW to maintain public safety and ensure the distribution system is able to provide adequate and reliable service to Customers.

KAW plans to spend approximately $500,000 to replace hydrants and valves. Of this amount, KAW plans to spend a majority on replacing 70 damaged or broken valves that have been identified during routine valve inspections. The estimate to replace these valves is $315,000. Within this line, KAW also expects to replace 32 hydrants that have been found during inspections to be damaged or in need of extensive repair. The estimate to replace these hydrants is $175,000.

Q. What work is associated with Line H – Services and Laterals Replaced?

A. This investment plan item includes the replacement of water services or the small diameter pipe that connects the Customer to the Company's distribution main. The work includes the replacement of the water services between the Company's distribution main and the Customer's property line, including the replacement of corporation stops, or shut-off valves. The replacement of services that are causing a reduction in water service or concerns with water quality are included in the work performed within this spending line. By replacing these services, the Company provides better service to Customers.

KAW plans to spend approximately $530,000 to replace services and laterals in the forecast period. Based on the average cost per service and lateral replacement of $4,500, KAW will replace approximately 118 services and laterals.

Q. What work is associated with Line J – Meters Replaced?

A. This investment plan item includes the replacement or improvement of existing customer meters and meter settings with or without technology changes. The work associated with this spending line allows for the replacement of meters and meter settings that are nearing the end of their useful service life and could cause service disruptions or inconveniences to a Customer if they were to fail.

The total estimated meter replacement cost for the forecast period is $1,200,000. Based upon an average cost of meter replacements of approximately $189.20 per meter, KAW will replace approximately 6,332 meters ranging in size from 5/8-inch to 10-inch.

Q. What work is associated with Line L – SCADA Equipment and Systems?

A. This investment item is for the installation or replacement of existing SCADA Equipment and Systems. The acronym SCADA can be defined in several different ways, but KAW generally prefers the definition as System Control and Data Acquisition, which is the computerized system for monitoring and operating the treatment plants and network facilities. By making investment in the monitoring and control system for the treatment plants and the network facilities, KAW ensures that the operation of the system is meeting safety and environmental requirements.

KAW plans to spend approximately $325,000 on various SCADA improvements throughout the system. A majority of the spending will be associated with replacement

work at remote sites. In addition, some licensing fees are required to maintain SCADA (supervisory control and data acquisition) software.

Q. What work is associated with Line M – Security Equipment and Systems?

A. This investment item is associated with the security equipment and systems that are employed at the KAW water treatment facilities for protection of those facilities. They include fencing, alarm systems, cameras, barricades, electronic detection or locking systems, software, or other assets related directly to security of water treatment infrastructure. These improvements allow KAW to maintain the security of its water treatment infrastructure and follow the Homeland Security Directive 9 to *"develop robust, comprehensive, and fully coordinated surveillance and monitoring systems."* These improvements will maintain the equipment and ensure current technology is employed to provide safe drinking water and protect water treatment infrastructure.

KAW plans to spend approximately $130,000 on a combination of upgrades to existing security systems to improve the security of the existing facilities. KAW believes this level of spend on the installation and enhancement of the facility security systems will ensure a sufficient level of health and safety risk reduction for the Company's employees.

Q. What work is associated with Line Q - Process Plant Facilities and Equipment?

A. This investment line item is for the purchase or replacement of existing components of water supply, water treatment, water pumping, water storage, and water pressure regulation facilities, including associated building components and equipment. Replacements may be planned, made because of failure, or may include improvements. Through the investment in the improvements associated with this spending line, KAW ensures

compliance with federal and state safety and environmental compliance requirements that ensure safe drinking water.

KAW plans to spend approximately $750,000 for high service motor and starter replacements in the forecast period. A majority of the work performed by KAW within Line Q is the replacement of older equipment with new equipment that is far more efficient than the original equipment. This allows KAW to produce water more efficiently and use less electricity and allows the Company to take a leadership role in reducing its carbon footprint. KAW has elected to include both replacement and new items in this line that are critically necessary to continue to meet water quality regulations.

Q. What projects are included under Investment Projects within the Qualified Infrastructure Program?

A. There is one project for the Cox Street Booster Station that is slated for replacement at a cost of $1,000,000. The Cox Street Booster Station consists of several below ground vaults which require confined space entry and pose a safety hazard to employees due to their advanced age and deterioration. This station ranked as the highest priority for replacement due to its age, confined space requirement, and deteriorating vault structures.

V. CALCULATION OF QIP PERCENTAGE

Q. What witness is responsible for the calculation of the QIP Percentage that results from these infrastructure improvements?

A. KAW witness Elaine Chambers covers the calculation of the QIP percentage in her direct testimony.

VI. CONCLUSION

Q. What is your recommendation for the Commission?

A. I recommend that the Commission approve this petition for a QIP Rider amount as filed.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF FAYETTE)

The undersigned, Kurt A. Stafford, being duly sworn, deposes and says that he is the Director of Engineering for Kentucky-American Water Company, that he has personal knowledge of the matters set forth in the foregoing testimony and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Kurt Stafford

Kurt A. Stafford

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 27th day of March, 2020.

Sharon M Miller

Notary Public

My Commission Expires:
7/25/2020

Exhibit 1
Strategic Capital Expenditures Plan (SCEP)

		2020						2021						
Reccuring Project (RP)	In-service Date	July	August	September	October	November	December	January	February	March	April	May	June	Totals
B - Mains - Replaced/Restored		$400,000	$400,000	$400,000	$600,000	$600,000	$800,000	$800,000	$800,000	$800,000	$700,000	$600,000	$500,000	$7,400,000
C - Mains - Unscheduled		$70,000	$70,000	$70,000	$70,000	$80,000	$80,000	$85,000	$85,000	$80,000	$70,000	$70,000	$70,000	$900,000
D -Mains - Relocated		$38,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$500,000
F - Valves, Hydrants and Manholes - Replaced		$38,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$42,000	$500,000
H - Services and Laterals - Replaced		$40,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$40,000	$530,000
J - Meters - Replaced		$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$1,200,000
L - SCADA Equipment and Systems		$27,000	$27,000	$27,000	$27,000	$27,000	$28,000	$27,000	$27,000	$27,000	$27,000	$27,000	$27,000	$325,000
M - Security Equipment and Systems		$10,800	$10,800	$10,800	$10,800	$10,800	$11,200	$10,800	$10,800	$10,800	$10,800	$10,800	$10,800	$130,000
Q - Process Plant Facilities and Equipment		$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$750,000
RP Totals		*$786,300*	*$799,300*	*$799,300*	*$999,300*	*$1,009,300*	*$1,210,700*	*$1,214,300*	*$1,214,300*	*$1,209,300*	*$1,099,300*	*$999,300*	*$894,300*	*$12,235,000*
Investment Project (IP)														
Cox Street Booster Pump Station	5/31/2021	$20,000	$25,000	$0	$0	$0	$0	$0	$0	$350,000	$350,000	$200,000	$55,000	$1,000,000
IP Totals		*$20,000*	*$25,000*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$350,000*	*$350,000*	*$200,000*	*$55,000*	*$1,000,000*
Total Additions		$806,300	$824,300	$799,300	$999,300	$1,009,300	$1,210,700	$1,214,300	$1,214,300	$1,559,300	$1,449,300	$1,199,300	$949,300	$13,235,000

		2020						2021						
Removals		July	August	September	October	November	December	January	February	March	April	May	June	Totals
B - Mains - Replaced/Restored		$20,000	$20,000	$20,000	$30,000	$30,000	$40,000	$40,000	$40,000	$40,000	$35,000	$30,000	$25,000	$370,000
C - Mains - Unscheduled		$15,400	$15,400	$15,400	$15,400	$17,600	$17,600	$18,700	$18,700	$17,600	$15,400	$15,400	$15,400	$198,000
D -Mains - Relocated		$3,800	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$4,200	$50,000
F - Valves, Hydrants and Manholes - Replaced		$11,780	$13,020	$13,020	$13,020	$13,020	$13,020	$13,020	$13,020	$13,020	$13,020	$13,020	$13,020	$155,000
H - Services and Laterals - Replaced		$12,400	$13,950	$13,950	$13,950	$13,950	$13,950	$13,950	$13,950	$13,950	$13,950	$13,950	$12,400	$164,300
J - Meters - Replaced		$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$156,000
L - SCADA Equipment and Systems														
M - Security Equipment and Systems														
Q - Process Plant Facilities and Equipment		$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$6,250	$75,000
Cox Street Booster Pump Station												$75,000		$75,000
Total Removals		*$82,630*	*$85,820*	*$85,820*	*$95,820*	*$98,020*	*$108,020*	*$109,120*	*$109,120*	*$108,020*	*$100,820*	*$170,820*	*$89,270*	*$1,243,300*