Middlesex Water Company

Distribution System Improvement Charge (DSIC)
Foundational Filing

Engineering Evaluation Report

Developed in accordance with NJAC: 14:9-10.4

May 2023

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Definitions and Abbreviations

AMP.....Asset Management Plan

AWWA.....American Water Works Association

CJO Plant.....Carl J. Olsen Water Treatment Plant

CIS .....Customer Information System

COF.....Consequence of Failure

DEC .....Dead End Closures

ERP .....Enterprise Resource Planning

EAM .....Enterprise Asset Management

gcpd.....gallons per capita per day

GIS .....Geographic Information System

MG.....million gallons

MGD or mgd.....million gallons per day

MIP .....Municipal Improvement Projects

MMS .....Maintenance Management System

MWC .....Middlesex Water Company

NJA-R.....NJ American Water Company's Raritan System (former Elizabethtown Water System)

NJBPU .....NJ Board of Public Utilities

NJAWWA.....NJ Section of the American Water Works Association

NJDEP .....NJ Department of Environmental Protection

NJUA.....NJ Utilities Association

NRW .....Non Revenue Water

PCCP.....Pre-stressed Concrete Cylinder Pipe

PCWS..... Public Community Water Systems

POF .....Probability of Failure

RENEW .....MWC's distribution system rehabilitation program consisting primarily of cleaning and cement lining of distribution water mains

SMR.....Small Mains Replacement Program

SRB ..... South River Basin

SRBTM ..... South River Basin Transmission Main

SRBTS..... South River Basin Transmission System

T&D ..... Transmission and Distribution System

WAM..... Oracle Work and Asset Management computerized work order management and maintenance management system

WOMS ..... Work Order Management System

WQAA ..... Water Quality Accountability Act

1. Introduction and Statement of Purpose

This evaluation and report are in response to the requirements of the New Jersey Board of Public Utilities (NJBPU) for an Engineering Evaluation Report to accompany the DSIC Foundational Filing in accordance with NJAC 14:9-10.4.

2. Background and Description of the Distribution System

2.1. Description of the Middlesex Water Company (MWC) system

The MWC (PWSID #NJ 1225001) is a regulated public community water system (PCWS) serving retail and wholesale customers in Middlesex and Monmouth Counties. MWC's main offices are located at 485C Route 1 South, Suite 400, Iselin (Woodbridge Township), NJ.

2.1.1. Geographic Area and Franchise Areas

MWC has two main geographic areas that are served by multiple surface water, groundwater, and finish water interconnection supplies. While these two areas are geographically divided by the Raritan River, both areas are operated as a one integrated distribution system serviced by a single pressure gradient with all of the supplies into the pipe network system consisting of transmission and distribution system mains. This network system is supplemented with a shared use of a transmission pipeline owned by another public water utility (Township of East Brunswick), and used to transfer (or wheel) water through the pipeline for a portion of the network.

2.1.1.1. MWC Northern Service Area

MWC has served as a regulated water utility since 1897 in northern Middlesex County primarily north of the Raritan River. MWC currently (as of 12/31/2022) provides retail water service in this area to approximately 61,000 general metered service customers in Woodbridge Township, Carteret Borough, portions of Edison Township, Metuchen Borough, portions of South Plainfield Borough, South Amboy City, and a small portion of Clark Township. This equates to an estimated population of approximately 211,000. MWC has contracts to provide

water service on a wholesale basis to the PCWS's of Edison Township, Highland Park Borough, and the City of Rahway that are adjacent to the retail service area.

MWC's retail service area is bordered to the west and to the north by the New Jersey American Water Company's "Raritan" system (NJA-R), to the east by the Arthur Kill waterway and Staten Island, and to the south by the Raritan River and the South River Basin Area of Middlesex County. The outer boundaries of the retail service area have remained essentially the same since the 1999 addition to the franchise to serve the South Amboy water system. Emergency service is also provided and taken, when necessary, through several interconnections with the City of Perth Amboy's PCWS, and NJA-R.

2.1.1.2. MWC South River Basin Area

In the 1980's MWC participated as a stakeholder in NJDEP's study of the South River Basin area which resulted the South River Basin Water Supply Study (February 1987) and the designation of the first critical area for water supply in the State of New Jersey (Critical Area #1). This study, and the resulting NJDEP actions, required alternative supplies to be developed and introduced in this area of New Jersey where groundwater supplies were being impacted by over-pumping, overuse, and salt water intrusion to the aquifer supplies.

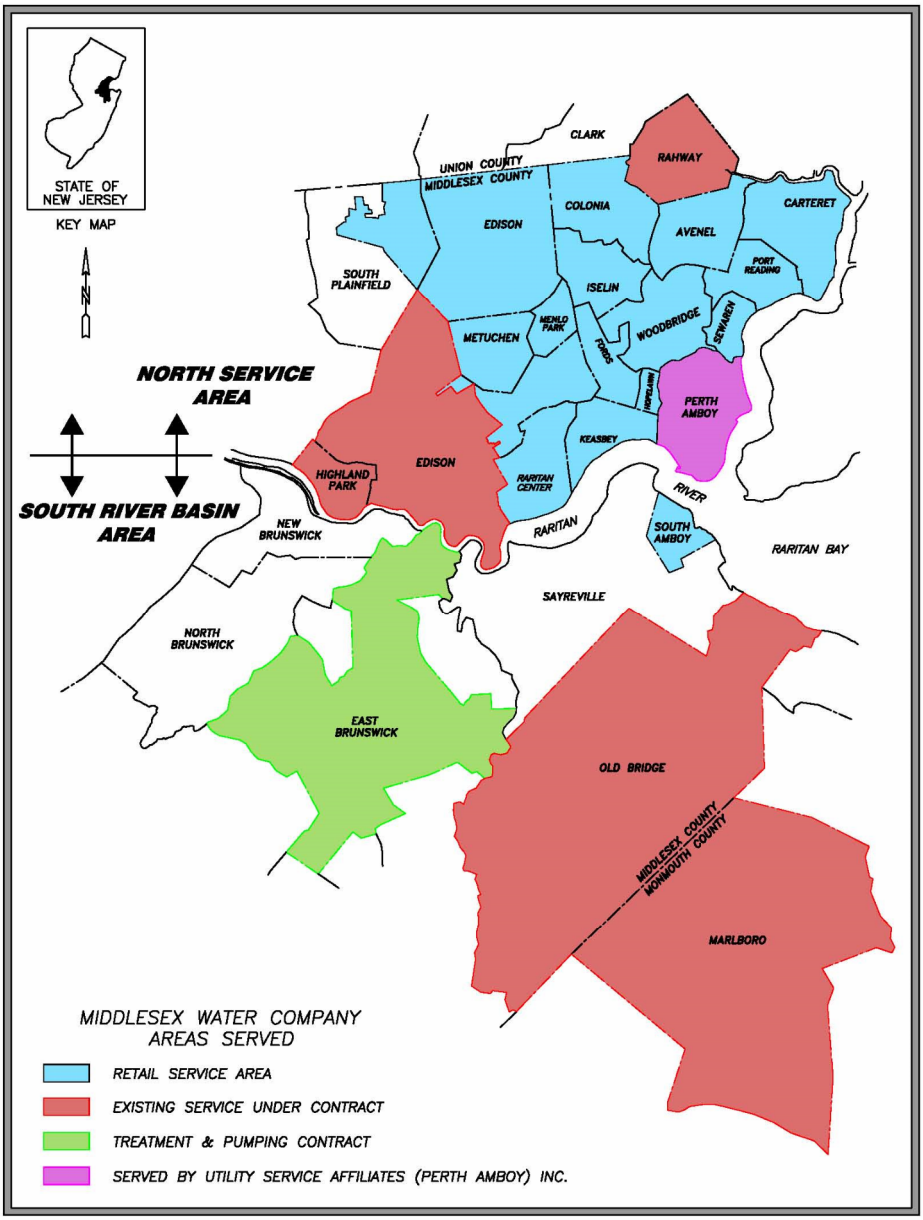
One of the identified alternative supplies was the transfer of water supplies from the Raritan Basin to this area. MWC developed the necessary utility infrastructure to convey these supplies into this critical area and began providing wholesale service to four communities starting in 1988. This system primarily consists of large diameter transmission mains known as the South River Basin Transmission System (SRBTS) connected to the pipeline transmission and distribution network and has the capability, with improvements, to provide additional supplies into this area as demands require and as approved by MWC, customers, and the NJDEP.

As a result of these improvements, MWC provides wholesale contract sales to several PCWS in the South River Basin Area including East Brunswick Township, Old Bridge Municipal Utilities Authority (OBMUA), and Marlboro Township Water Department (MTWD) and on a retail basis to portions of the Township of Sayreville Water Department. MWC's contract with East Brunswick Township is to provide treatment and pumping services only, since the

water delivered to East Brunswick is from East Brunswick's own allocation and contract with the NJWSA for raw water supply, and East Brunswick's owned and maintained transmission main that delivers water to the Township's distribution system from the MWC CJO Plant.

MWC also maintains additional emergency interconnections with Sayreville and Perth Amboy in this area. See Figure 1 for an overview of the service area, below.

Figure 1 MWC Service Area



2.1.2. Sources of Supply and Production

2.1.2.1. Supply

MWC has developed and relies on several water supplies for delivery to its customer demands through the pipeline network. These supplies consist of mixture of surface water, ground water, and interconnections with adjacent systems. Specifically, these sources are:

a) Surface water through the Delaware and Raritan Canal from the New Jersey Water Supply Authority (NJWSA) and treated at MWC's CJO Water Treatment Plant. This supply point is located at the western portion of the Company's pipeline network in Edison, NJ.

b) Groundwater from 18 wells collected and treated at MWC's Park Avenue Treatment Plant. This supply point is located at the northwestern portion of the Company's pipeline network in South Plainfield, NJ.

c) Purchased Water from NJA-R through three interconnections located throughout Company's pipeline network.

2.1.2.2. Production

The quantities of water produced from each of the various sources during the 12 months ended December 31, 2020 and December 31, 2022 are as follows[1]:

Table 1 MWC Production 2020 and 2022

Source	2020 Million Gallons	2020 Percent	2022 Million Gallons	2022 Percent
Surface Supply	942.8	64.0%	948.3	86.3 %
Wells	282.4	27.4%	52.6	4.8 %
Purchased	88.5	8.6%	98.0	8.9 %
Total	1,031.3	100%	1,098.9	100 %
MGD	33.3		35.4	

[1] In 2021 and 2022 the supply from wells was reduced due to improvements being constructed at its Park Avenue Wellfield. 2020 data is shown as a 12 month period before this supply was affected.

2.1.3. **Distribution System**

As of December 31, 2022; the Company had transmission and distribution mains, ranging from 4 inches to 48 inches in diameter, totaling approximately 749 miles. Also, there were approximately 61,000 retail service meters and 4,824 hydrants in service.

MWC presently has 17 million gallons of distribution storage. Included are one steel reservoir of five million gallons capacity located in Edison, a two million gallon steel standpipe in Edison and a ten million gallon steel reservoir in Edison. There are four booster stations within the system; one (CJO Plant) is used in conjunction with distribution storage facilities, three (Tingley Lane, Menlo Park, Randolph Avenue) are used to facilitate the purchase of water from the NJA-R System.

2.1.4. **Demands and System Growth**

MWC's retail service area has experienced limited internal growth within the franchise area as available parcels have developed and redeveloped, for residential, commercial and industrial uses. While this growth does continue at a small (less than one-half of one percent per annum growth rate), the area is essentially built out with no major undeveloped tracts of land for development.

While residential per capita demands have gradually reduced largely attributed to the inclusion of low volume plumbing facilities, overall system demands over the last several years stabilized due to the redevelopment of commercial and industrial customers into higher density residential customers.

2.2. History of Previous Work Performed

MWC has continually performed long range planning to address the short term and long term needs of the system throughout the years in the normal operations. This planning has consisted of the annual development of a five year capital program and periodic evaluations and reports as required by the internal planning and specific needs of MWC.

MWC has previously successfully participated in the NJ Distribution System Improvement Charge (DSIC) program in 2012-2013 and 2014-2015.

2.3. Efficiency, Best Practices and System Optimization

MWC representatives attend, participate, and are active in leadership roles in several utility and environmental industry associations including; (NJAWWA), National Association of Water Companies (NAWC) and NJUA. Through these and other associations, MWC representatives actively participate and are active in various roles including water research, technology transfer, safety and utility physical security. Through these associations, representatives are continually engaged in current trends and practices being performed throughout the industry by other utilities.

2.3.1. Water Loss / Non Revenue Water (Unaccounted for Water)

MWC continuously monitors the water losses in the water cycle through the use of metrics and ongoing maintenance and inspection.

2.3.1.1. Metered Ratio

Metered Ratio, a calculation that is a simple comparison of total metered consumption vs. total metered production, a general calculation termed as Non-Revenue Water (NRW). This methodology does not take into account allowances for distribution system flushing, usage for fire protection, or other un-metered uses. Since metered consumption is recorded for large industrial and commercial customers on a monthly cycle and all other general metered service customers on a quarterly basis, Calculating NRW on a monthly stand-alone basis is problematic. Therefore, MWC calculates NRW on a rolling twelve month average basis for this ratio. MWC historically has had an NRW ratio ranging from 5% to 15%. The NRW ratio for twelve months ending December 2022 was 14.1%.

2.3.1.2. Leak Survey

MWC conducts annual leak survey within its franchise area. This survey has been valuable tool in the effort to maintain a tight water distribution system. The older the distribution system piping becomes, the more the continual need to conduct leak surveys. MWC intends to continue the leak surveying program indefinitely.

MWC has implemented continuous acoustical leak detection in a portion of the distribution system utilizing the fire hydrants and monitoring devices mounted on the hydrants and reported into a central collection process. This system alerts Operations personnel of incidents/areas of concern for further field investigation.

2.3.2. **Asset Management**

The physical assets of MWC's system, similar to all water utilities, are the backbone in being able to provide water supplies and service to the customer. The major components of these assets consist of pumping and treatment plant equipment (also known as plant, above ground, or vertical assets), and distribution plant including pipes, valves, hydrants and services (also known as distribution, below ground, or horizontal assets).

2.3.2.1. Existing Information Systems

Virtually all water utilities collect and manage information regarding these assets to optimize water operations through many different methods including; paper work cards, pipe record books, diaries, and evolved over the last 20 years into computerized files and applications. MWC managed its assets through a mixture of these systems, and new evolving technologies consisting of spreadsheets, in house developed database files, third party maintenance management and GIS systems, maps and cards for the operational information of the assets, and a computerized financial information system for financial aspects of the assets. These systems supported MWC to a limited degree and were somewhat useful in the management of these assets.

In June 2012, these systems were replaced and integrated with an ERP consisting of enterprise wide initiative and systems standardizing business processes and procedures. One of the core aspects of the ERP system was the centralized consolidation and collection of information on the plant and distribution assets for the water system. This resulted in a single inventory system for all hard infrastructure assets of MWC's system. In addition the ERP system contains maintenance management (MMS) capability, facilitates work order management (WOMS), project preparation and management, and integration with GIS resulting in a single

integrated information system for work processes and information collection relative to assets and their management.

2.3.2.2. Ongoing Asset Management Programs

Concurrently MWC was expanding capabilities of its Asset Management Practices and adapting existing processes and practices to the asset management programs that are evolving in the industry and regulatory areas of the water industry. These processes centered around the US Environmental Protection Agency's 5 step outline and the New Jersey Department of Environmental Protection's guidelines for Asset Management and Resiliency. This resulted in the development of the Company's AMP formally documented in to its EAM Plan document issued in April 2019, which is the basis for the ongoing AMP.

In 2016-2017 MWC conducted a project for a comprehensive evaluation of all pressurized pipelines in the MWC distribution system to assess all of the MWC distribution system improvement programs, and developed a data driven approach to support the ongoing needs and work of rehabilitation of the transmission and distribution pipelines in the MWC system. This evaluation was part of the AMP, focused on the asset class for pressurized mains (in the distribution system) and assessing the condition, risks, and recommended maintenance and rehabilitation activities to maintain and operate this system considering a total life cycle costs and impact. The evaluation centered on a risk score data based approach, and included

1. an overall assessment of the system to determine Service Life expectations of the various pipeline materials and classes,
2. projected long term replacement needs, and
3. the development of what is now used as the Pipeline Prioritization Tool (PPT).

The evaluation was conducted with a cross functional stakeholder team who helped develop the program, reviewed and approved the process that was developed. The results of the project for the three main objectives were:

1. Based on the evaluation conducted on the MWC distribution system, pipelines were estimated to have service live expectancies ranging from 75 years to 130 years at a 50%

of Pipe remaining for the various classes of pressurized distribution pipe. This resulted in an overall normal service life of 90-110 years to be used for planning.

2. Based on these estimates, and the results of applying this to the inventory of pipes based on age, an overall projection of the System Wide Pipeline Renewal Need Amounts was generated. This projection ranged from an initial renewal rate of 3 miles /year in 2015 to a peak of almost 9 miles / year in 2045-2050. Based on these projections, for planning purposes a renewal rate of between 6-7 miles of pipeline per year was established as the goal for action to either replace or rehabilitate the pipe to extend and re-establish the life of the pipeline asst.

3. The PPT "tool" was developed, delivered and is used in day to day ranking and prioritization of the pipeline assets for consideration in the ongoing programs for assessments and rehabilitation/replacements. The tool that was developed identified the individual main segments throughout the distribution system and assessed the condition and established ratings for risk categories associated with probability of failure (POF) and consequences of failure (COF) of each segment. Multiple criteria for each risk (POF & COF) were established, weighted for importance, and then used to rate for each pipe segment resulting in an overall risk score. This risk score was then normalized to an overall score of 1 to 9 that is used in the day to day activities to help prioritize the mains for replacement throughout the distribution system.

2.3.2.3. Regulatory Requirements

In 2017 New Jersey approved the WQAA setting new operational standards for all water utilities across New Jersey. This included requirements for the implementation of an AMP that included a water main renewal program designed to achieve an appropriate replacement cycle for this infrastructure, designating a maximum replacement cycle of 150 years, or other frequency that is determined appropriate through an engineering evaluation of the specific system.

This resulted in a more formal process and plan for Asset Management as MWC continues to move asset management forward as a best practice for planning for asset longevity and

sustainability for future years. Specific aspects of this plan related to distribution system piping and replacements is described in other sections of this report.

3. Evolution of the Water Distribution System

3.1. Overview

MWC's transmission and distribution (T&D) system is a mature pipe network that was constructed and maintained over the last 125 years. While the system has filled in and expanded regionally south of the Raritan River with new mains, over 50% of the mains were installed in the 1960's or before (>64 years old), and 70% of the mains were installed in the 1970's or earlier. The age of the T&D pipe varies depending on the geographic areas of the systems and when the local land use development occurred.

In recent years MWC has been underway with the replacement of aging distribution system piping in accordance with the Asset Management Plan goals and within the framework of the requirements of the WQAA goals for replacing distribution system piping. This has resulted in an increase in pipe installations over the last decade, primarily from replacement and resiliency programs of the distribution system in the existing service area.

A summary of the pipe material and age are presented in Table 2. Table 3 presents the footage of T&D pipe installed by decade.

Table 2 T&D Pipe Material and Age as of 12/31/22

Material	Length (miles)	Average Age (yrs.)
Cast Iron	462	72
Ductile Iron	243	28
Steel	0.8	53
Plastic	1.7	13
Asbestos Cement Pipet	0.0	---
Concrete PCCP	36.5	56
Other - Copper	5.3	56
Total	**749.9**	

Table 3 Footage of T&D Pipe Installed by Decade (12/31/2022)

Decade	Length (ft)	% of all Mains in service
2010's to date	393,000	10%
2000's	211,000	5%
1990's	208,000	5%
1980's	329,000	8%
1970's	405,000	10%
1960's	884,000	22%
1950's	633,000	16%
1940's	151,000	4%
1930's	93,000	2%
1925-29	164,000	4%
Pre 1924	488,000	12%

3.1.1. Retail Service Area

The backbone of the T&D network is a large diameter (20", 24", 30", and 36") peripheral main that mostly circles the retail service area, providing a dual direction supply loop for the demand areas of the system. Many of these large mains were originally installed to provide bulk supplies to the large industrial complexes located along the waterways in Carteret, Woodbridge, Perth Amboy and Edison. These pipes have been reinforced over the years and looped as residential and commercial development occurred, filling in the areas.

When the CJO Plant surface supply was constructed the peripheral mains were connected to the new source by a 4.6 mile 48" PCCP transmission main from the CJO Plant to the T&D pipe network near Raritan Center, Edison. In March 2020 a second transmission pipeline, the Western Transmission Main (WTM), was constructed and provides a second conveyance of CJO Plant supply to the distribution system providing additional capabilities for operations for redundancy and maintaining continuous supply to customers.

3.1.2. **South River Basin (SRB)**

As the supplies to the SRB were developed, a water transmission supply system was developed across the Raritan River southerly to provide supplies into this critical area. This system connected to the MWC distribution system north of the river utilizing the existing pipe network for conveying supply from the MWC production facilities. The SRB transmission system consists primarily of two transmission lines that are connected to the MWC CJO Plant and distribution system and converge into a single main providing a "Y" configuration and two supply feeds into the SRB. The major components consist of South River Basin Pipeline are;

1) The South River Basin Transmission Main (SRBTM)

This pipeline was originally identified as the solution to the SRB Critical Area and is a 15 mile large (48" and 42" diameter) Ductile Iron pipeline. The SRBTM was designed to be constructed in phases in order to 1) stage construction and mitigate cost increases to the customers in the SRB and 2) utilize existing pipelines, systems and infrastructure to the extent practical for interim flows. The bottom 2/3 of the SRBTM has been constructed and is in service, utilizing the adjacent East Brunswick water system and the MWC "Perth Amboy Pipeline" to transport flows from the CJO Plant to the SRBTM. The final segment, the Section A of the SRBTM, will connect the bottom 2/3 of the SRBTM directly to the CJO Plant.

2) The "Perth Amboy Pipeline" and "Marsh Main"

The Perth Amboy Pipeline and Marsh Main are transmission pipelines owned and operated by MWC that have been upgraded connects the MWC distribution system and supplies above the Raritan River with the SRBTS discussed above. The Perth Amboy pipeline consists of cast iron transmission pipelines acquired from the City of Perth Amboy, upgraded and connected to MWC pipelines. The Marsh Main, made of fusible PVC, was installed in 2010 and replaced a portion of the 100 year old Perth Amboy Pipeline mains that crossed the Raritan River.

3) The "East Brunswick Pipeline"

As described earlier in this report, MWC also uses a portion of the capacity of the 36" pre-stressed concrete cylinder pipe (PCCP) owned and used by the Township or East Brunswick

for the wholesale contract supplies to the Township. Water is conveyed through this pipeline and the East Brunswick system to the MWC SRBTM described above for further transport to supply points in the South River Basin.

3.2. Transmission and Distribution Pipeline Assets

3.2.1. Distribution Pipes

The distribution pipes distribute the water in the water system to the individual customer connections and have individual service taps and connections on the pipelines to the customers. These pipelines are mostly smaller than 12" diameter, and most all cast iron or ductile iron pipe, with only small areas of steel pipe in special circumstances crossings. The T&D system is mostly located within the public rights of ways in the municipalities served. More than one half of the T&D system is cast iron water mains installed prior to 1960's. These pipes have experienced tuberculation on the interior of the pipes, causing reduced carrying capacity and increased potential for T&D system water quality degradation. MWC began a large multiyear program in 1995 committed to remediating/replacing/and upgrading old and poor performing water mains, known as the RENEW program (see section below), to mitigate these operating risks and improve system reliability and performance.

Table 4 Footage of Pipe <12"D by pipe material

Pipe Material	Length of Pipe (ft)	% of Pipe in System
Steel	1,951	>1%
Other	83,973	3%
Concrete	0	0%
Ductile Iron	1,198,706	36%
Cast Iron	2,082,087	63%

3.2.2. Transmission Mains

The transmission mains, typically described as 12" and larger provide the major conveyance (or transmission) of water to the areas of the distribution system and smaller distribution pipes.

While these pipelines typically do not have connections for service to the customers' premise, in certain instances where distribution pipe is not available, service connections to exist on these mains. These pipelines consist of cast iron pipe, steel, ductile iron pipe, and pre-stressed concrete cylinder pipe (PCCP).

MWC has experienced several large pipeline failures with the PCCP over the last 20 years, several of which suggest recurring flaws with the pipe components, either manufacture or construction defects, and mostly installed in the mid 1970's. While these failures do not indicate that all PCCP is flawed, there is sufficient experience with these failures to support increased monitoring and care with continued operations of these pipelines. MWC has 34 miles of PCCP installed in its T&D system. These problems are not unique to MWC as many utilities across the country have experienced similar failures.

Table 5 Footage of Transmission Main (>=12") by Pipe Material

Pipe Material	Length of Pipe (ft)	% of Pipe in System
Steel	2,321	<1%
Other	7,920	1%
Concrete PCCP	166,948	28%
Ductile Iron	200,665	34%
Cast Iron	215,267	37%

3.2.3. Transition between Transmission and Distribution Mains (12"diameter)

The distinction between distribution pipelines and transmission pipelines is generally accepted to be at the 12" or 16" diameter size, but is not absolute with regards to the system function (transmission vs. distribution) performed in the water utility. Depending on the area of the system a 12" diameter main can perform as distribution pipelines and have service connections directly connected to the pipeline. In a larger system with more concentrated areas of demands, 12" mains can be commonly used as distribution mains and have service connections.

For the MWC there are many locations and streets where 12" mains have service connections directly connected to the pipe. This is generally where there are no smaller distribution mains in

the area. 12" mains are mostly cast iron and ductile iron and the pipeline and useful life characteristics generally are similar to those of the distribution pipeline class. The maintenance and rehabilitation of these pipelines are also similarly considered with distribution mains when coordinating work with municipal improvement projects, system betterment evaluations, and overall planning.

3.3. Distribution System Rehabilitation and Improvements

3.3.1. Historical Distribution System Improvement Programs

MWC has historically developed and completed projects in the annual capital program for continual improvements to the distribution system. These have included targeted programs to improve the system by replacing small undersized water mains, closing in long dead end mains, and reinforcing key areas of the distribution system for redundant feeds. Due to the success of these programs, these legacy programs that focused primarily on these specific issues have been ended. These programs have evolved and been replaced with the RENEW distribution system area program and specific projects identified based on specific needs system that are planned designed and delivered on a project by project basis.

3.3.2. The RENEW Program

Initially, the RENEW program was a program to target unlined cast iron water mains in problem areas primarily associated with water quality concerns and consisted of mostly cleaning and lining of all unlined water mains as part of a long term multiyear program. The highly successful program focused on a complete rehabilitation / renewal of the distribution system for a target areas (neighborhoods), with work upgrading the water mains, service lines, fire hydrants and other distribution system assets. Once completed the area was completely "RENEWED" from the water system perspective.

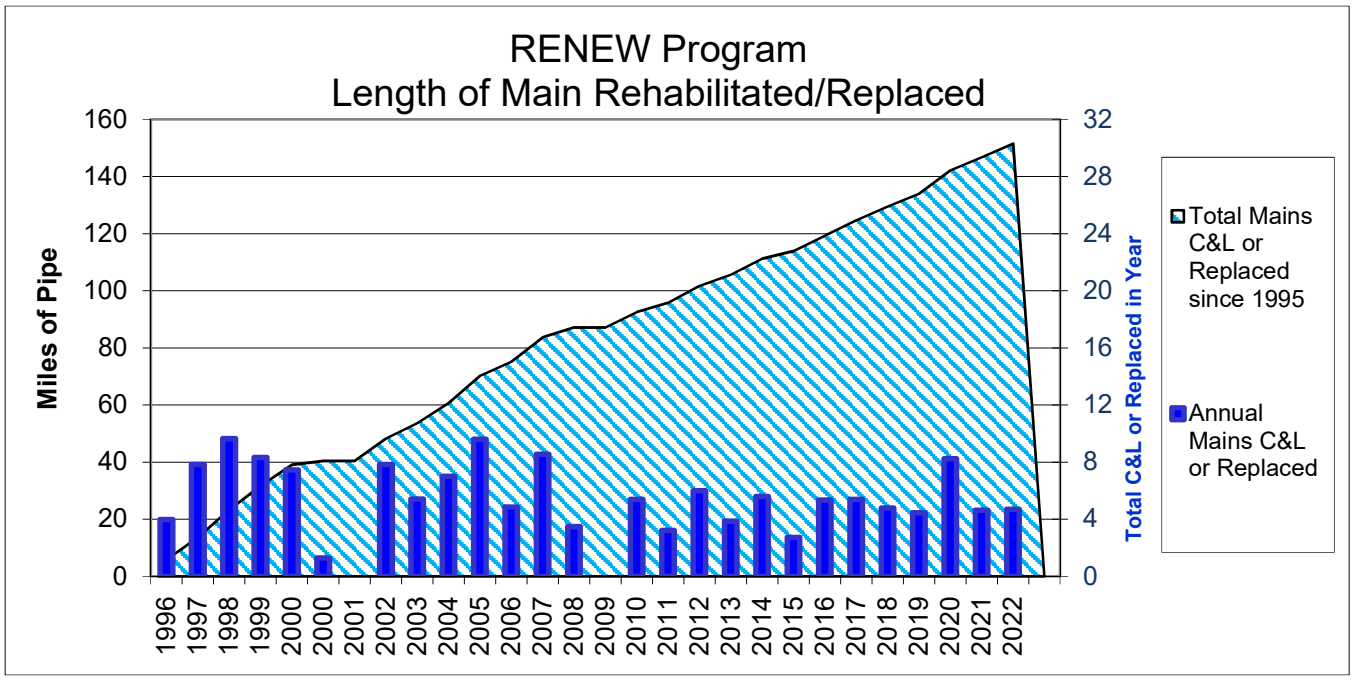
Since 2015, as the costs of cleaning and lining increased and the expected remaining service life of the pipes being lined were not seeing significant useful life restorations, the RENEW program transitioned away from cleaning and lining program to a hybrid renewal program of cleaning and lining considering alternative lining methods including structural lining, and pipe replacements. While lining of pipelines is still a method for rehabilitation that is considered, the RENEW

program currently results in primarily a pipe replacement and upgrade program with a focus on replacement of areas with a high priority as generated by the PPT.

This objective was established based on the goal to improve the distribution system's ability to provide safe, adequate and reliable service to MWC customers. The RENEW program is also coordinated with local municipalities and their planned infrastructure improvement such as road resurfacing.

Over the years (through 2022) MWC has rehabilitated or replaced approximately 151 miles of pipe in its distribution system as part of the RENEW program. Current plans budget approximately 4-5 miles of pipe to be replaced each year for RENEW. See Figure 2 Miles of Pipe Rehabilitated Replaced with RENEW.

Figure 2 Miles of Pipe Rehabilitated Replaced with RENEW



3.3.3. **Distribution System Improvement Projects**

Concurrently MWC currently develops its capital program for distribution system improvements (pipelines) on a project by project basis through the use its tools including the Pipeline Prioritization Tool (PPT) described earlier in this report. These projects are identified through this tool and other factors such as identification of concerns and requests from the Operations

group, coordination with Municipal Improvement Projects (MIP) and other miscellaneous issues are included in the review and determination of the projects selected for inclusion in the capital program. Once approved the projects proceed through the Company's project delivery life cycle process for planning, design, construction and completion phases.

3.3.4. Additional Asset Management and Improvement Programs

MWC continues to grow and expand programs to address the necessary management of the T&D system pipeline facilities as these vital assets continue to age, and as other infrastructure in the area (roads and adjacent utilities) are upgraded and replaced by municipalities and other utilities. These programs are intended to complement and integrate with the existing RENEW, distribution improvement projects, and consist of both evaluation and assessment initiatives, and expanded coordination with adjacent infrastructure in the service area. Through these programs and emerging methods and technologies for conducting pipeline condition assessments, better data and information for prioritization of projects and work is enhanced. This is particularly important related to work on pipelines in areas highly impacted by post installation development of above ground use of the rights of ways, and increased customer concerns with disruption of service, both from the water service and above ground construction impacts during construction

3.3.4.1. Pre-stressed Concrete Cylinder Pipe (PCCP) Condition Assessment Program

As presented earlier in this report, 28 % of MWC's transmission system (~167,000 ft) is comprised of PCCP, including 17,000 feet of PCCP of various sizes, installed in the 1970's and 24,000 feet of 48 inch PCCP installed in the late 1960's. It was during this period of manufacture that problems have been reported with the quality control of the components of the PCCP pipe product. MWC has experienced failures with this vintage of PCCP consistent with the industry reports. MWC's PCCP, particularly the PCCP installed in the 1970's has been identified as a concern and risk. Based on these concerns, ongoing inspections and assessments are performed on a case by case basis, focusing on the high transmission mains with high criticality factors.

3.3.4.2. Ongoing Coordination with Municipalities and other

As part of the Company's AMP, The Company continues to work in close coordination with Municipal Officials to evaluate the need to replace mains, and services and appurtenances in their Municipal Improvement Projects (MIP) during the year. These projects generally consist of roadways to be resurfaced or rehabilitated by the communities and sometimes include a larger Municipal sponsored neighborhood project. The Company will continue to work with the Towns to coordinate distribution system work with these programs, including regular communication regarding planned initiatives, review the programs provided by the municipalities and review the main break records and evaluate soil and physical inspection data when making its decision to replace the pipe in the resurface / rehabilitation areas.

4. Distribution System Improvement Charge (DSIC)

4.1. Rational for work needed to be accelerated for the MWC to properly sustain its water distribution network.

The investment that the MWC has made in its RENEW and main replacement programs has improved water quality, increased fire flow and restored the unlined pipe lifetime. Also, replacement of valves, hydrants, services and water meters, where applicable, within the project areas, has allowed MWC to steadily improve its distribution system without causing rate shock to its ratepayers. As the pipe in the system continues to age, the water quality, fire flow and pressure issues may increase. The RENEW program is being continued as the annual anchor program for infrastructure renewal for the Company. This is supplemented with several individual pipeline replacement projects in smaller designated areas, and part of the successful construction and upgrade of water mains in the system. The WQAA requires water systems to replace/rehabilitate the water system on at least a cycle of 150 years. As stated previously, based on the Distribution System Evaluation, the replacement cycle for the MWC system is recommended to be ~100 years based on the comprehensive system assessment and Engineer's recommendation. Maintaining compliance with system replacements with a reasonable quantity of replacement each year is necessary.

4.2. Cost effectiveness of the accelerated renewal of the water distribution network

As described earlier, Municipalities in our service area are upgrading and replacing road and sewer infrastructure regularly and these projects affect the water infrastructure facilites in several ways, and require modifications to the distribution assets of the water system. These include:

- Road or sewer pipe reconstruction or redesigns can cause direct conflicts with existing water facilities that require relocations either vertically or horizontally.
- In many cases the work on the road or sewers result in contractors damage to or impact to the water facilities, requiring repairs, increased monitoring, or protective measures.

- The completion of a road project results in substantial investment by the community the appearance of new pavement and roadway. This provides an added risk to the utility as road moratoriums and more extensive restoration for excavations limit and increase costs for work in these ares for repairs and individual replacements.

Coordinating and increasing water utility rehabilitation or replacments to be a part of these projects mitigates these impacts and can result, with cooperation from all paticipating entities, in new areas of improved infrastructure beyond the appearance of just a new. This reduces overall costs to the customers and provides a positive public result.

4.3. Causes of the failures of the elements of the water distribution system

Degradation and corrosion of water distribution systems results in three major problems for the distribution system. These include:

- From internal corrosion and tuberculation buildup is the loss of effective pipe area of the pipeline through the formation of tubercles and other materials limiting the ability to convey water throughout the distribution system.
- From internal corrosion the adverse effect on water quality as the water is being conveyed through the distribution system to the customer.
- From pipe structural weakening is the failure of the pipeline as a water tight conveyance asset either through ongoing leakage in small failures causing leakage of the water, or catastrophic “breaks” causing significant water loss, damage to the surrounding area and hazards

These issues are all the result of long time service of the water mains and impact the ability of the utility to effectively provide service through the distribution system.

As the cast iron and ductile iron pipelines age over time, in addition to formation of the tubercles and pitting, graphitization of the iron in the pipe is occurring in many areas of the pipelines. This graphitization is not encountered in a uniform consistent manner in all areas or in all pipelines and although its impact is generally accepted as significant, is not clear or easily predictable from the PPT desktop method to a point of being a basis for replacement for specific pipes without considering other factors. Comprehensive assessment of the pipe of areas

identified as potential areas of rehabilitation are regularly completed for specific projects including the RENEW programs. This helps confirm the PPT initial assessments and better define projects for construction.

Frost heave and water temperature change are also identified causes for failures in the water distribution system. The earth pressure placed on underground utilities as the ground expands and contracts due to freeze/thaw cycles is harsh on pipelines especially older cast iron with fixed joint systems. Water temperature changes, particularly in the colder periods as surface water temperature drops to near freezing, unlined cast iron pipe tends to be more susceptible to these conditions with its brittle and unlined condition, than newer ductile iron.

4.4. Programs in place which are used to realize the maximum life of the water utility's distribution network assets

4.4.1. RENEW Program

As outlined above, RENEW helps to replace older, higher risk pipes throughout the individual project areas. RENEW is also replacing old hydrants, all of the valves and services in the designated RENEW area. This provides the ratepayers with a completely remediated distribution system within the project area.

4.4.2. Capital Program Distribution Improvement Projects

Specific pipeline replacement projects, identified, evaluated and approved through the capital budget process, provide for targeted replacements and improvements in the distribution system. These projects identify needs reported through operations and maintenance activities, identified through system planning, and included in the Capital Program.

4.4.3. Condition Assessment Program

MWC has an opportunistic program to investigate large PCCP main using in situ condition assessment technology when work on a section is done. The state of the art with this technology has progressed to where it needs to be in order to make informed replacement decisions concerning PCCP of vintages outside the late 1960's, early 1970 time frame.

4.4.4. **Valve inspection program**

The WQAA mandates the inspection of valves by diameter. MWC has in place a large and small valve inspection program that is complaint with these requirements. During the inspection process all valves found to be defective are repaired or replaced. This program exists in addition to the valves replaced under the RENEW.

4.4.5. **Hydrant Inspection program**

The WQAA requires inspection of fire hydrants in a system. MWC has in place a hydrant inspection program operated in conjunction with its flushing program. Every hydrant in the system is inspected annually. If the hydrant is found to be defective then it is either repaired or replaced.

4.4.6. **Service Line replacement program**

The Lead & Copper rule mandates the replacement of lead and galvanized services. MWC has a program to replace these services found during the execution of the RENEW program and as uncovered during normal distribution system operation throughout the year. In addition, targeted replacement of known lead and galvanized services are performed where they are known to exist outside of defined project areas and identified through the lead service line inspection programs. This initiative is part of the Company's Lead Service Line program that is separate but complementary to the distribution system improvements described in this report..

4.4.7. **Municipal Improvement (Road Paving) Project Coordination**

As part of the Company's AMP, the Company continues to work in close coordination with municipal officials to evaluate the need to replace mains and services in roadways to be resurfaced or reconstructed by the municipalities served by the Company. Several municipalities have aggressive road resurface / rehabilitation programs in place, and the Company will review these programs provided to it by the Towns for priority of renewal/replacement projects based on maintenance history and project coordination opportunities.

5. Conclusion / Recommendations

5.1. Conclusion

MWC has been continually addressing the distribution system needs of its public community water system throughout its history. The core distribution system has been in operation for over 100 years, and served its customer base which has grown and evolved into a largely residential demand building on the original system transmission system and supplies developed over the years.

The age of the system is growing and approaching the end of useful lives of many of the pipelines. The nature of buried pipelines and infrastructure results in natural corrosion of pipelines over time, normally hidden from clear view and masking the risks associated with this aging. This is the out of sight out of mind risk that must be addressed for a sustainable water system into the future. Ignoring these realities risk the deferment of issues to what is projected as a future crisis in crumbling infrastructure.

Fortunately this realization is being address more by the water industry, water utilities, and regulatory agencies with programs and mechanisms to increase efforts towards infrastructure renewal. This, together with evolving tools and practices to assess conditions, prioritize work, and rehabilitate these pipelines have helped to increase a proactive approach to this societal issue. For MWC these tools and mechanisms include: better data management of existing assets, the pipe prioritization tool, the ongoing successful RENEW program, the commitment to address these needs in a proactive approach, and the DSIC administered by the NJBPU to support programs for infrastructure renewal.

5.2. Recommendation

MWC recommends the approval of its application for the DSIC program as part of their Foundational Filing and as outlined in this Engineer's Report.

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2023-2026 DSIC Summary

DSIC Submissions

Year 1	Oct 2023 - Sept 2024		
	Base Projects	$	6,703,424.00
	Base or DSIC Projects	$	21,187,684.00
	Total	**$**	**27,891,108.00**

Year 2	Oct 2024 - Sept 2025		
	Base Projects	$	6,309,955.00
	Base or DSIC Projects	$	15,484,211.50
	Total	**$**	**21,794,166.50**

Year 3	Oct 2025 - Sept 2026		
	Base Projects	$	6,469,206.05
	Base or DSIC Projects	$	14,589,814.00
	Total	**$**	**21,059,020.05**

Total DSIC Spending	$	70,744,294.55

Middlesex Water Company
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October 2023- September 2024 Submission

October 2023- March 2024						
Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Estimated Project Cost
01P-2019-312	Rahway Ave - Kings Ct to Meinzer St Main Replacement	Main Repl (Internal)	Approximately 1,150 ft of the 6"/8" main is recommended to be replaced with 8" DI pipe and associated hydrants and services.	90	12/31/2023	$ 1,461,552.00
01P-2023-301	RENEW 2023	Main Repl (Internal)	Replacement of approximately 24,000 LF of cast iron 6" water main in the Port Reading/Carteret region. (Not Captured in P-2)	180	12/31/2023	$ 3,000,000.00
01P-2023-304	Dale Drive Edison Main Replacement	Main Repl (Internal)	Replacement of 2,700 lf of 6" (1965) on Dale Drive in Edison. Main criticality is generally 4/6 with segmens of 3. Prelimlinary Evaluation is necessary to verify if the multitude of main breaks are indicative of need for replacement	90	11/30/2023	$ 1,500,000.00
01P-2019-305	Route1 - Avenel Street to South Inman Ave	Main Repl (Internal)	Replacement of approximately 2,920 feet of 6" main installed between 1937 - 1979 with 8" DIP. The project also may include 9 services (replacement/Changeover) and 2 hydrant replacements.	90	11/30/2023	$ 818,000.00
01P-2020-318	North Lafayette Main Replacement Project	Main Repl (Internal)	Replacement of approximately 4,000 feet of 6", 8" and 12" main that traverses from the terminus of North Lafayette Road to Route 1. The existing water mains were installed between 1900 to 1942.	120	12/31/2023	$ 2,145,000.00
01P-2020-316	Campbell St - Dunham Place 6-inch Main Replacement	Main Repl (Internal)	Approximately 1,740 ft of the 6" CI main is recommended to be replaced with associated hydrants and services.	60	12/31/2023	$ 1,905,000.00
01P-2021-520	Lead & Copper Rule Compliance	Service Line Repl Inte	Replacmenet of Company and Customer side lead & galvanized service lines. Identification of all "unknown" material types on Company & Customer side water services. Only Company side costs included in DSIC.	365	3/1/2023	$ 860,500.00
01B-2023-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Oct 2023 - Mar 24	$ 1,816,024.00
01B-2023-913	Service Line Replacement Blanket	Blanket	Service line replacement & installation during the year		Oct 2023 - Mar 24	$ 332,325.00
01B-2023-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement & installation during the year		Oct 2023 - Mar 24	$ 633,547.00
				1st Submission Oct 2023-Mar 2024		
					Base Spending	$ 4,816,024.00
					Base or Project	$ 9,655,924.00
					Submission 1 Total	$ 14,471,948.00

April 2024- September 2024						
Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Estimated Project Cost
01P-2023-301	RENEW 2023	Main Repl (Internal)	Replacement of approximately 24,000 LF of cast iron 6" water main in the Port Reading/Carteret region. (Not Captured in P-2)	180	6/1/2024	$ 750,000.00
01P-2021-509	Spring Lake Distribution Improvements	Main Repl (Internal)	This project is to reconfigure the distribution piping in the vicinity of Spring Lake in South Plainfield.	120	12/31/2023	$ 850,000.00
01P-2020-310	Route 9 - Green Street Phase 2 Main Replacement	Main Repl (Internal)	There was a water main break on the 12-inch pipe that crosses Route 9 in Woodbridge. This project is for the replacement of approximately 1,495 lf of 12-inch main and approximately 335 lf of 8-inch main. Project will include trenchless crossing of US Route 9.	60	6/30/2024	$ 2,000,000.00
01P-2024-301	RENEW 2024	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	9/1/2024	$ 7,000,000.00
01P-2021-520	Lead & Copper Rule Compliance	Service Line Repl Inte	Replacmenet of Company and Customer side lead & galvanized service lines. Identification of all "unknown" material types on Company & Customer side water services. Only Company side costs included in DSIC.	365	9/1/2024	$ 860,500.00
01B-2024-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Apr 2024 - Sep 24	$ 1,137,400.00
01B-2024-913	Service Line Replacement Blanket	Blanket	Service line replacement & installation during the year		Apr 2024 - Sep 24	$ 243,100.00
01B-2024-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement & installation during the year		Apr 2024 - Sep 24	$ 578,160.00
				2nd Submission Apr 2024-Sep 2024		
					Base Spending	$ 1,887,400.00
					Base or Project	$ 11,531,760.00
					Submission 2 Total	$ 13,419,160.00
					YEAR 1 SPENDING	
					Base Spending	$ 6,703,424.00
					Base or Project	$ 21,187,684.00
					Year 1 Total	**$ 27,891,108.00**

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October 2024 - September 2025 Submission

October 2024 - March 2025						
Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Estimated Project Cost
01P-2024-301	RENEW 2024	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	9/1/2024	$ 3,000,000.00
01P-2019-310	Queen Road @ Route 9 Main Replacements	Main Repl (Internal)	Project is for the replacement of approximately 2,660 feet of 6-inch, 8-inch and 12-inch water main on Queen Road and US Route 9 in Avenel. Full replacement of water main and associated hydrants and services is recommended.	90	6/1/2025	$ 1,145,000.00
01P-2025-301	RENEW 2025	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	8/30/2025	$ 500,000.00
01P-2020-315	Oaktree Road/Green Street Main Replacement	Main Repl (Internal)	Approximately 1,400 ft of the existing 8" and 16" main is recommended to be replaced with associated hydrants and services.	30	6/1/2025	$ 1,025,500.00
01P-2021-520	Lead & Copper Rule Compliance	Service Line Repl Inte	Replacmenet of Company and Customer side lead & galvanized service lines. Identification of all "unknown" material types on Company & Customer side water services. Only Company side costs included in DSIC.	365	2/28/2025	$ 959,625.50
01B-2025-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Oct 2024 - Sep 25	$ 1,791,405.00
01B-2025-913	Service Line Replacement Blanket	Blanket	Service line replacement & installation during the year		Oct 2024 - Sep 25	$ 382,882.50
01B-2025-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement & installation during the year		Oct 2024 - Sep 25	$ 910,602.00
					1st Submission Oct 2024-Mar 2025	
					Base Only	$ 4,791,405.00
					DSIC or Base Projects	$ 4,923,610.00
					Submission 1 Total	$ 9,715,015.00

April 2025 - September 2025						
Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Estimated Project Cost
01P-2019-309	Green Street @ Route 1 Main Replacements	Main Repl (Internal)	Project is for the replacement of approximately 2,000 feet of 6-inch, 8-inch and 12-inch water main on Green Street and US Route 1 in Avenel. Full replacement of water main and associated hydrants and services is recommended.	90	8/1/2025	$ 1,160,000.00
01P-2024-301	RENEW 2024	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	9/1/2024	$ 1,000,000.00
01P-2025-301	RENEW 2025	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	8/30/2025	$ 7,500,000.00
01P-2019-315	Main Street- N. William to Rahway	Main Repl (Internal)	The Main Street- N. William to Rahway project consists of approximately 2,900 LF of 6", 8", and 12" main with an overal risk rating of 8.	90	8/30/2025	$ 1,465,000.00
01P-2021-520	Lead & Copper Rule Compliance	Service Line Repl Inte	Replacmenet of Company and Customer side lead & galvanized service lines. Identification of all "unknown" material types on Company & Customer side water services. Only Company side costs included in DSIC.	365	8/30/2025	$ 959,625.50
01B-2025-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Oct 2024 - Sep 25	$ 1,251,140.00
01B-2025-913	Service Line Replacement Blanket	Blanket	Service line replacement & installation during the year		Oct 2024 - Sep 25	$ 267,410.00
01B-2025-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement & installation during the year		Oct 2024 - Sep 25	$ 635,976.00
					2nd Submission Apr 2025-Sep 2025	
					Base Only	$ 1,518,550.00
					DSIC or Base Projects	$ 10,560,601.50
					Submission 2 Total	$ 12,079,151.50

YEAR 2 SPENDING	
Base Spending	$ 6,309,955.00
Base or Project	$ 15,484,211.50
Year 2 Total	**$ 21,794,166.50**

Middlesex Water Company
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October 2025 -September 2026 - Submission

October 2025 - March 2026						
Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Estimated Project Cost
01P-2025-301	RENEW 2025	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	2/28/2026	$ 2,000,000.00
01P-2019-306	Route 1 - Hudson Blvd to Lord Street	Main Repl (Internal)	Replacement of approximately 2,200 feet of 6" main installed between 1941 - 1979 with 8" DIP. The project also may include 25 services (replacement/Changeover) and 4 hydrant replacements.	60	12/31/2025	$ 664,000.00
01P-2020-305	Rahway Ave - Main Street to Freeman Street	Main Repl (Internal)	Replacement of approximate 2,475 lf of 12" main on Rahway Ave (between Mian St and Freeman St) in Woodbridge along with three hydrants and 40 services.	90	12/31/2025	$ 1,220,000.00
01P-2026-301	RENEW 2026	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	2/28/2026	$ 500,000.00
01P-2021-520	Lead & Copper Rule Compliance	Service Line Repl Inte	Replacmenet of Company and Customer side lead & galvanized service lines. Identification of all "unknown" material types on Company & Customer side water services. Only Company side costs included in DSIC.	365	2/28/2026	$ 988,331.50
01B-2026-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Oct 2025 - Sep 26	$ 1,970,545.50
01B-2026-913	Service Line Replacement Blanket	Blanket	Service line replacement & installation during the year		Oct 2025 - Sep 26	$ 421,170.75
01B-2026-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement & installation during the year		Oct 2025 - Sep 26	$ 1,001,662.20
				1st Submission Oct 2025-Mar 2026		
					Base Only	**$ 3,393,378.45**
					DSIC or Base Projects	**$ 5,372,331.50**
					Year 3 Total	**$ 8,765,709.95**

April 2026 - September 2026						
Project ID #	Project Name / Location	Reason for Project	Project Description	Estimated Duration	Projected In Service Date	Estimated Project Cost
01P-2025-301	RENEW 2025	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	2/28/2026	$ 1,000,000.00
01P-2026-301	RENEW 2026	Main Repl (Internal)	This water main rehabilitaiton program known as RENEW, is Middlesex Water Company's flagship program to address aging infrastructure. This program was established to replace old cast iron water mains or mains that have been identified as deficient by the asset management program.	180	8/1/2026	$ 7,000,000.00
01P-2018-305	Freeman Street Area Main Replacement	Main Repl (Internal)	Replacement of roughly 1,950 feet of 24 " main, 1,400 feet of 16" main, and 1,350 feet of 6" main. The 6" main will be replaced with 8" DIP.	30	8/1/2026	$ 625,000.00
01P-2018-319	Route 27/Wood Avenue Main Replacement	Main Repl (Internal)	Replacement of roughly 520 feet of 20 " main and 520 of 6" main. The 6" main will be replaced with 8" DIP.	30	8/1/2026	$ 310,000.00
01P-2021-520	Lead & Copper Rule Compliance	Service Line Repl Inte	Replacmenet of Company and Customer side lead & galvanized service lines. Identification of all "unknown" material types on Company & Customer side water services. Only Company side costs included in DSIC.	365	9/30/2026	$ 988,331.50
01B-2026-911	T&D Mains Replacement Blanket	Blanket	Installation & Replacement of miscellaneous T&D mains during the year		Oct 2025 - Sep 26	$ 1,376,254.00
01B-2026-913	Service Line Replacement Blanket	Blanket	Service line replacement & installation during the year		Oct 2025 - Sep 26	$ 294,151.00
01B-2026-915	Hydrants Replacement Blanket	Blanket	Hydrant replacement & installation during the year		Oct 2025 - Sep 26	$ 699,573.60
				2nd Submission Apr 2026-Sep 2026		
					Base Only	**$ 3,075,827.60**
					DSIC or Base Projects	**$ 9,217,482.50**
					Year 3 Total	**$ 12,293,310.10**

YEAR 3 SPENDING	
Base Spending	$ 6,469,206.05
Base or Project	$ 14,589,814.00
Year 3 Total	**$ 21,059,020.05**