NEW JERSEY
AMERICAN WATER

March 18, 2024

<u>Via Electronic Filing</u>
Hon. Sherri L. Golden, Secretary to the Board
Board of Public Utilities
44 South Clinton Ave, 1st Floor
P.O. Box 350
Trenton, NJ 08625-0350

Re: New Jersey-American Water Company, Inc. Distribution System Improvement Charge ("DSIC") Foundational Filing
BPU Docket No. _______________

Dear Secretary Golden:

On behalf of New Jersey-American Water Company, Inc. ("NJAWC"), enclosed herewith is the Distribution System Improvement Charge Foundational Filing pursuant to *N.J.S.A.* 48:2-21 and *N.J.A.C.* 14:9-10.1 *et seq.*

Consistent with the Order issued by the Board in connection with <u>In the Matter of the New Jersey Board of Public Utilities' Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations</u>, BPU Docket No. EO20030254, Order dated March 19, 2020, these documents are being electronically filed with the Secretary of the Board, the Division of Law, and the New Jersey Division of Rate Counsel. No paper copies will follow.

Respectfully submitted,

Christopher M. Arfaa

CMA:dlc
Enc.

c: Stacy Peterson, Acting Director, Division of Rates & Revenue (via email, w/enc.)
Brian O. Lipman, Director, Division of Rate Counsel (via email, w/enc.)
Susan E. McClure, Managing Attorney, Water & Wastewater, Division of Rate Counsel (via email, w/enc.)
Pamela Owen, Deputy Attorney General, Division of Law, Department of Law & Public Safety (via email, w/enc.)

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BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF NEW JERSEY-AMERICAN WATER COMPANY, INC. FOR AUTHORIZATION TO IMPLEMENT A DISTRIBUTION SYSTEM IMPROVEMENT CHARGE	:	BPU Docket No. WR________ **PETITION**

TO THE HONORABLE COMMISSIONERS OF THE BOARD OF PUBLIC UTILITIES:

New Jersey-American Water Company, Inc. (the "Company," "NJAWC" or "Petitioner"), a public utility corporation of the State of New Jersey, with its principal office at 1 Water Street, Camden, New Jersey 08102, hereby petitions this Honorable Board (the "Board" or "BPU") for authority pursuant to N.J.S.A. 48:2-21 and N.J.A.C. 14:9-10.1 et seq., and such statutes, regulations and Board orders that may be deemed by the Board to be applicable, for approval to file and implement an automatic adjustment clause tariff that would establish a Distribution System Improvement Charge ("DSIC" or "Surcharge") for the renewal of water distribution system assets for the period of 2024 through 2027. The proposed rates in this Petition, if approved, would increase annual revenues, in increments occurring at approximately six-month intervals, by no more than 5%, or approximately $54,396,347,[1] the maximum DSIC revenue allowable under N.J.A.C. 14:9-10.1, et seq., over the time covered by the Company's Foundational Filing (attached). The proposed Surcharge would commence approximately eight months after approval of this filing, as infrastructure is renewed or replaced, placed in service, and is used for providing service to customers.

[1] The final cap number is expected to be set pursuant to the Company's current base rate case proceeding, BPU Docket No. WR24010056 and current Purchased Water Adjustment Clause proceeding, BPU Docket No. WR23110791.

In support of this Petition, NJAWC states as follows:

1. NJAWC is engaged in the production, treatment and distribution of water and collection of wastewater within its defined service territory within the State of New Jersey. Said service territory includes portions of the following counties: Atlantic, Bergen, Burlington, Camden, Cape May, Essex, Gloucester, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Salem, Somerset, Union, and Warren. As of December 31, 2023, Petitioner provides service to approximately 668,000 water and fire service customers and 64,200 wastewater service customers.

2. In support of this Petition, NJAWC submits the attached Foundational Filing, consisting of the following:

a) An engineering evaluation report ("Engineering Report") of the water utility's distribution system detailing the following:

i. the rationale for the work needed to be accelerated for the water utility to properly sustain its water distribution network;

ii. the plan proposed to accelerate the renewal of the distribution network is the most cost effective plan;

iii. to the extent that elements of the distribution network are failing, what mechanisms are causing the failures; and

iv. what is being done to extend the life of the water utility's assets.

b) The following DSIC project information for the upcoming DSIC-period:

i. Aggregate information capturing blanket type DSIC-eligible infrastructure to be rehabilitated or replaced (e.g., number of valves, number of hydrants, or number of service lines replaced) and the estimated annual cost of such blanket type replacement programs (see Section 2 of the Engineering Report);

ii. Vintage, condition, and other similar relevant, reasonably available information about the eligible infrastructure being rehabilitated or replaced (see Sections 3 through 6 of the Engineering Report);

iii. The nature, location, estimated duration of project work (including estimated in-service dates) and a description and reason for project necessity (see Sections 3 through 6 of the Engineering Report and Appendix C);

iv. A list of projects with project identification numbers, DSIC-eligible asset class or category, and estimated project costs (see Appendix C); and

v. Other such relevant and appropriate information to assist in making an informed decision regarding any given project.

c) The expected amount of NJAWC's base spending, including underlying detail documenting that the base spending has been made on the appropriate types of infrastructure; a proposed DSIC assessment, calculated in accordance with subsection N.J.A.C. 14:9-10.8; and work papers showing the detailed calculations supporting the proposed assessment schedule (see Appendix D).

3. The present Petition is filed in accordance with N.J.A.C. 14:9-10.1 et seq. and 14:1-5.1 et seq.

4. If implemented in the semi-annual increments described above, over the time period the Foundational Filing is expected to be in effect, (approximately 24-36 months) the maximum allowable monthly surcharge under N.J.A.C. 14:9-10.1, et seq., would be approximately $5.05 per month for a five-eighths inch (5/8") meter at the end of the time period covered by the Foundational Filing. This estimated maximum monthly surcharge is an approximate number only and may be higher or lower depending on many factors, including changes in the number of customers served by the Company and changes in interpretation of the DSIC rules. Surcharges on meters of other sizes will be calculated as set forth in the rule. Such surcharges will be implemented incrementally, after semi-annual DSIC filings, as set forth in N.J.A.C. 14:9-10.5, 10.8 and 10.9, and may not generate revenues that exceed the DSIC cap as defined in N.J.A.C. 14:9-10.2 and described above.

5. With respect to N.J.A.C. 14:9-10.4, to reach the 5.0% maximum DSIC revenue cap of $54.4 million, the Company's eligible capital spending above base spending would be approximately $429 million over the effective time period of this Foundational Filing.

6. Pursuant to N.J.A.C. 14:9-10.5(a)1, the Company intends to include in its semi-annual filings for recovery under this Foundational Filing any and all projects approved and carried over from a prior DSIC period.

7. Notice of this Petition, and the effect thereof, will be served by mail upon the clerks of municipalities, the Boards of Chosen Freeholders, and the County Executives within the Petitioner's service area at least 20 days before the date set for public hearing, which notice shall include and specify the time and place of said hearing.

8. Customers will be notified of this filing and the effect thereof as well as the time and place of the public hearing by publication of the Public Notice at least 20 days prior to the date set for the public hearing, in newspapers of general circulation within Petitioner's service territory.

9. Notice of this Petition and a copy of this filing have been served upon the Director, Division of Rate Counsel, and the Department of Law & Public Safety, Office of the Attorney General, Public Utilities Section, via electronic mail as permitted by the Board's Order of March 19, 2020 in Docket No. EO20030254.

10. Proof of Service of the Notice as previously referred to herein will be filed with the Board.

11. Petitioner respectfully submits that the investments proposed and rates requested by it herein are just and reasonable in all respects.

WHEREFORE, Petitioner respectfully requests that the Board find and determine as follows:

1. That the investments proposed and subsequent rates set forth in this Foundational Filing, are just and reasonable; and

2. That the Petitioner's Foundational Filing is approved in all respects.

Respectfully submitted,

NEW JERSEY-AMERICAN
WATER COMPANY, INC.

By: Christopher M. Arfaa

Dated: March 18, 2024

Communications addressed to Petitioner
in this case should be sent to:

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VERIFICATION

STATE OF NEW JERSEY :
SS
COUNTY OF CAMDEN :

Jamie Hawn, of full age, being duly sworn, according to law, deposes and says:

1. I am the Director, Rates and Regulatory for New Jersey-American Water Company, Inc. and authorized to make this Verification on behalf of that Company.

2. I have reviewed the within Petition, and the information contained therein is true according to the best of my knowledge, information and belief.

Jamie Hawn

Sworn to and subscribed this
18th day of March 2024

Donna L. Carney

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EXECUTIVE SUMMARY

This report presents the 6th Foundational Filing for New Jersey-American Water Company, Inc. (NJAWC, New Jersey American Water or the Company) for the renewal of water distribution system assets for the period of 2024 through 2027. The Company has many pipe projects identified across the state, of which approximately 1,100 have been prioritized for completion between 2024 and 2027. These water main renewal projects are distributed among the four regional Operating Areas of NJAWC: South, North, Central and Coastal. The projects include replacement, non-structural cleaning and lining, and semi to full-structural cleaning and lining projects. Also included in this filing is the renewal of valves, hydrants and service connections. This engineering report details each project and the reason for the project, the benefit to accelerate these investments, and the estimated costs. The total cost of this program, including these pipeline projects plus the valve, hydrant and service connection renewals, is estimated and expected to be capped at approximately $523 million, which includes base spending of approximately $46.0 million per year. This level of investment assists NJAWC in achieving a pipeline renewal interval of approximately 100 years. Sustaining a renewal interval of 100 years beyond the time period covered by this filing requires sustained investment levels, such as those envisioned under, and authorized by, the Distribution System Improvement Charge ("DSIC") rules.

Distribution System Improvement Charge Rules

On May 1, 2012, the New Jersey Board of Public Utilities (the BPU or Board) approved the implementation of new rules to establish a DSIC for BPU regulated water utilities at *N.J.A.C.* 14:9-10 *et. seq.* The rules were published in the New Jersey Register on June 4, 2012, and became effective on that date. The rules were amended and readopted effective August 7, 2017. A DSIC is "a regulatory mechanism that enables the accelerated level of investment needed to promote the timely rehabilitation and replacement of certain non-revenue producing, critical water distribution components that enhance **safety, reliability, water quality, systems flows and pressure**, and/or **conservation**."[1] *N.J.A.C.* 14:9-10.1(b) states: "The purpose of a DSIC is to provide a rate recovery mechanism that encourages and supports necessary accelerated rehabilitation and replacement."

As required by the rules and as specifically described by *N.J.A.C.* 14:9-10.4, this document comprises the Foundational Filing for NJAWC. This Foundational Filing includes an engineering evaluation of the Company's water utility distribution system, proposed DSIC projects (including projected costs), the expected amount of base spending (as defined in the rules) to be made by NJAWC, the proposed form of public notice, and the maximum customer bill impact. The Foundational Filing also includes other information the Company deems to be relevant. Table ES.2 at the end of this Executive Summary lists the information required by the rules to be included in the Foundational Filing and indicates the corresponding

[1] *N.J.A.C.* 14:9-10.1(a) [emphasis added].

report sections that contain this information. This Executive Summary also discusses the historical basis underlying the benefit of the DSIC rules, supported by examples in the sections of the report described below; identifies certain factors that are critical to the success of an infrastructure renewal program; and highlights some of the benefits expected to flow from the successful execution of the DSIC program proposed by NJAWC in this Foundational Filing.

Water System Asset Performance Evaluations

This Foundational Filing includes an engineering report on the distribution assets within each NJAWC operating area. The report presents an asset inventory, a discussion of valves and other blanket replacement projects, and discussions of key infrastructure issues within each region. Sections are as follows:

Section 1. Asset Management

Section 1 provides a general statewide overview of NJAWC's operating areas. The Company's inventory of water mains is briefly described for each operating area, including a summary of NJAWC's pipe material by diameter and miles. The asset inventory further breaks down the vintage of pipe by decade installed, in miles, for each operating area. The asset performance in terms of historical main breaks is also presented in this section as well as the general asset management. Details for each operating area are found in Sections 3 through 6.

Section 2. Valves, Hydrants and Service Connections ("Blanket" DSIC Assets)

Section 2 generally describes the Company's inventory of service lines, hydrants, and valves, including the most recent history of capital expenditures on these types of assets. Valves, services and hydrants are referred to as "blanket" assets because they are numerous and essentially the same throughout the Company's operating areas. Each class of assets is discussed in detail, with needs and benefits set forth on an aggregate basis. Because these assets are so numerous, it is essential that the Company adhere to a systematic program of inspection and repair or replacement, as appropriate. Replacement of critical valves or valves near critical customers, such as hospitals and schools, requires more detailed planning to manage any shutdown or by-pass.

Section 3. South Operating Area

Section 3 provides an overview of the NJAWC South Operating Area (previously known as the Delaware Operating Area) along with Atlantic and Cape May Counties, which serves customers through approximately 2,600 miles of water mains. As described further in Section 3, the South Operating Area challenges include mains that are no longer adequately sized, older mains constructed from obsolete materials, and certain areas where there are mains with high break frequencies. The DSIC enables an accelerated program targeting replacement of undersized and obsolete mains, including areas with frequent failures on stovepipe, galvanized, and asbestos cement mains, as well as redevelopment areas. These improvements will enhance the safety and reliability of the system, improve system flows and pressures, minimize service disruptions, improve water quality, and help decrease water quality complaints such as discolored water or taste/odor (aesthetic complaints). Section 3 describes these issues in more detail.

Section 4. North Operating Area

Section 4 provides an overview of the NJAWC North Operating Area (previously known as the Passaic Operating Area), which serves customers through approximately 1,400 miles of water mains. As described further in Section 4, the North Operating Area challenges include high operating pressures in the distribution system, a relatively high proportion of older, unlined cast iron pipes, and a relatively high number of “split” type main breaks. The DSIC enables an accelerated program targeting rehabilitation of unlined cast iron mains in areas with discolored water occurrences, and replacement of obsolete and undersized mains with significant break history. These improvements will enhance the safety and reliability of the water system, improve system flows and pressures, minimize service disruptions, improve water quality, and reduce aesthetic complaints. Because the North Operating Area has a significant inventory of Prestressed Cylindrical Concrete Pipe (PCCP) and other large diameter mains which typically exhibit high consequence failures, this Foundational Filing places a greater emphasis on condition assessment of the PCCP mains inventory and prioritizes that effort. See Appendix F - PCCP and other Large Diameter Mains Strategy & Project List. Section 4 describes these issues, including the opportunities and challenges for main cleaning and lining, in more detail.

Section 5. Central Operating Area

Section 5 provides an overview of the NJAWC Central Operating Area (previously known as the Raritan Operating Area), which serves customers through approximately 3,200 miles of main. As described further in Section 5, the main challenge in the Central Operating Area is its relatively large proportion of older, unlined cast iron mains, which account for the majority of mains experiencing breaks and which also suffer from encrustation and tuberculation. As further detailed in Section 5, portions of the distribution system serving this Operating Area are older and no longer adequately sized to meet the demands of the current population. The Company has had a long standing cleaning and lining program in this area. The DSIC enables an accelerated program targeting the rehabilitation of unlined, cast iron mains in areas with discolored water occurrences, as well as the replacement of obsolete and undersized mains with significant break history. Because the Central Operating Area has a large inventory (approx. 140 miles) of PCCP which typically exhibits high consequence failures, this Foundational Filing places a greater emphasis on condition assessment of the PCCP mains inventory and prioritizes that effort. See Appendix F - PCCP and other Large Diameter Mains Strategy & Project List. The proposed improvements will enhance the safety and reliability of the water system, improve system flows and pressures, minimize service disruptions, improve water quality, and reduce aesthetic complaints. Section 5 discusses these issues in more detail.

Section 6. Coastal Operating Area

Section 6 provides an overview of the NJAWC Coastal Operating Area, which is comprised of the former Coastal North operating centers, covering portions of Monmouth, and Ocean Counties. The Coastal Operating Area serves customers through approximately 2,100 miles of main. As described further in Section 6, the challenges in the Coastal Operating Area include a wide variety of pipe types, with significant cohorts of older pipes made from obsolete materials (notably about 340 miles of asbestos cement pipe or ACP). Older cast iron mains also pose challenges, particularly in areas constructed before World War II that have now experienced a population boom, and which are served by mains no longer adequately sized. The Coastal Operating Area also has a significant amount of galvanized steel pipe which, as described in more detail in Section 6, is particularly prone to a variety of failures. The DSIC enables an accelerated program targeting undersized and obsolete mains, including areas with frequent failures on asbestos cement mains and galvanized pipes, as well as in redevelopment areas. These improvements will enhance the safety and reliability of the water system, improve system flows and pressures, minimize service disruptions, improve water quality, and reduce aesthetic complaints. Section 6 discusses these various projects and other issues, such as aggressive local soil, in more detail.

Appendix A. Water Main Condition Assessment

Appendix A includes the detailed backup supporting NJAWC's engineering evaluation of the water systems serving its Operating Areas. Appendix A includes a discussion of system evaluations, construction materials, pipe standards and technology, and NJAWC's aggregate system performance. This is followed by a review of water main break and failure mechanisms, including a discussion of ways to reduce the probability of failure mechanisms. Appendix A includes information required by the rule on options and techniques for extending the life of existing assets, including recommendations for extending pipe life, and operational strategies for reducing or eliminating pipe failures. These recommendations are illustrated through the system-specific issue discussions in the various Operating Area sections of the report. With this as context, the remainder of Appendix A covers rehabilitation and replacement options, including non-structural, semi-structural and structural rehabilitation techniques and technologies. This includes a discussion of the cost considerations that accompany any decision as to whether to rehabilitate or replace an asset, as well as which technique or technology and material should be chosen. NJAWC incorporates cost considerations into its decision-making process, as illustrated further in Appendix A.

Appendix B. Prioritization Model

Appendix B describes NJAWC's approach to prioritizing distribution system projects, including the American Water (AW) Pipeline Prioritization Model (PPM). There are several factors that must be considered together, including the output of the PPM, as well as any limitations that may exist in available data. Cost effectiveness is an important factor, as well as the ability to leverage other factors (such as competitive bidding or concurrent underground utility work). Used properly, and in conjunction with rigorous planning, the PPM is an extremely valuable tool for evaluating the need for projects. In 2015, NJAWC began evaluating an alternative to proactively identify distribution system performance issues and piloted the use of a new software (previously InfoMaster, name changed to *InfoAsset* Planner by Innovyze) to improve the capital infrastructure program (CIP) for distribution system renewal. InfoAsset Planner is specifically designed to leverage hydraulic modelling and pipe performance based on pipe cohort and age and was first piloted on the Delaware River Water System within the South Operating Area. Appendix B has a greater description of the model and pilot results. As a result, NJAWC has completely migrated to the InfoAsset Planner model of prioritization. Any project identified through the model results is validated through a thorough review with network operating personnel before it is acted on and implemented.

Appendix C. Project List

Appendix C contains the detailed project list for new projects covered by this Foundational Filing, as well as projects that have been identified as potential alternative projects should one or more of the projects identified on the list become unable to proceed for any reason. Appendix C does not include the other projects previously approved by the Board in a prior foundational filing, which are still eligible for DSIC recovery. Appendix C lists all the project-specific information required by *N.J.A.C.* 14:9-10.4(b)2. Appendix C incorporates an estimate for unscheduled main replacement projects based on NJAWC's long-term, historical experience.

Appendix D. Proposed Assessment

Appendix D sets forth the financial impacts of the DSIC projects proposed in the Foundational Filing. Appendix D also includes the statement of base spending, the aggregate DSIC spending covered by this filing, and the projected total assessment for each semi-annual DSIC period. This information has been projected based on the Company's pending base rate case filing and may change depending on the final BPU decision in that matter. Thus, the Company has prepared two scenarios for Appendix D:

- Scenario 1 assumes that the final BPU decision in the pending base rate case does not include any DSIC-eligible post-test year additions (July 2024 through December 2024). Thus, Appendix D, page 1 of 7 presents the first surcharge filing to include those projects consistent with *N.J.A.C* 14:9-10.7(c).
- Scenario 2 assumes that the final BPU decision in the pending base rate case includes all DSIC-eligible post-test year additions. Thus, Appendix D, page 2 of 7 presents the first surcharge filing to exclude those projects.

Appendix E. Public Notice

Appendix E includes the proposed form of public notice for the public hearing required by the rule to be held prior to the 120-day deadline for Board action on the Foundational Filing. The proposed public notice includes the maximum surcharge amount proposed to be recovered from customers by this Foundational Filing based on the Company's filing in its pending base rate case.

Appendix F. PCCP and other Large Diameter Mains Strategy and Project List

Appendix F describes the issue of sudden and high impact of PCCP as well as other large diameter transmission mains with high consequences and presents NJAWC's approach and strategy to address the issue. It also presents a prioritized list of PCCP and other large diameter mains projects planned for the next five years.

DSIC Program Cost Impacts

The cost of the program and impact on its customers is shown in more detail in Appendices D and E. NJAWC's base spending level will be approximately $46.0 million annually based on the 2022 Annual Report to the Board as defined by N.J.A.C. 14:9-10.2. NJAWC proposes the accelerated DSIC-eligible spending as shown in Table ES.1, below. This program is within the limits defined in the *rules.*

Table ES.1 - NJAWC Estimated DSIC Program
(Base spending $46.0 million + DSIC spending)

Scenario 1 - Includes Post Test Year DSIC Eligible Additions

	DSIC Assessment				
Eligible Investments	**Filing #1**	**Filing #2**	**Filing #3**	**Filing #4**	**Total**
DSIC-eligible base spending	$ 23,175,116	$ 23,175,116	$ 23,175,116	$ 23,175,116	$ 92,700,466
DSIC-eligible above base spend[1]	153,552,932	92,131,759	92,131,759	92,131,759	429,948,210
Total Eligible Investments	$ 176,728,049	$ 115,306,876	$ 115,306,876	$ 115,306,876	$ 522,648,676
5/8" meter[2]	$1.83	$2.91	$3.99	$5.05	
DSIC Revenue as a % of total Water Revenue	1.81%	2.88%	3.95%	5.00%	
Annualized DSIC Revenue[3]	$19,681,909	$31,349,771	$42,911,671	$54,367,608	

[1]To reach the 5.00% maximum DSIC revenue allowable per the approved Rules & Regulations, eligble capital spend above base spend would need to be $429,948,210 for the DSIC Filings.

[2]Monthly cost for an average residential customer

[3]DSIC revenues associated with capital spend from the filing period commences in the subsequent period.

Scenario 2 - Excludes Post Test Year DSIC Eligible Additions

	DSIC				
Eligible Investments	**Filing 1**	**Filing 2**	**Filing 3**	**Filing 4**	**Total**
DSIC-eligible base spending	$ 23,175,116	$ 23,175,116	$ 23,175,116	$ 23,175,116	$ 92,700,466
DSIC-eligible above base spend[1]	77,818,509	116,727,764	116,727,764	116,727,764	428,001,800
Total Eligible Investments	$ 100,993,626	$ 139,902,880	$ 139,902,880	$ 139,902,880	$ 520,702,266
5/8" meter[2]	$0.93	$2.32	$3.69	$5.05	
DSIC Revenue as a % of total Water Revenue	0.92%	2.29%	3.65%	5.00%	
Annualized DSIC Revenue[3]	$10,019,270	$24,936,300	$39,719,080	$54,367,608	

[1]To reach the 5.00% maximum DSIC revenue allowable per the approved Rules & Regulations, eligble capital spend above base spend would need to be $428,001,800 for the DSIC Filings.

[2]Monthly cost for an average residential customer

[3]DSIC revenues associated with capital spend from the filing period commences in the subsequent period.

An effective distribution system improvement program such as the one envisioned by the DSIC rules and presented in this Foundational Filing will help avoid certain costs that the Company would otherwise experience and allows for a more efficient allocation of both capital and O&M (operation and maintenance) expenditures. An efficient DSIC program reduces a great deal of the uncertainty inherent in a traditional rate case recovery schedule and allows NJAWC to continue the accelerated renewal program facilitated by the DSIC rules.

One of the expectations NJAWC has for the programs implemented pursuant to the DSIC rules is a more consistent level of asset renewal going forward, buoyed by the support, commitment, and recognition of the need for infrastructure renewal and replacement that is signaled by the DSIC rules. This will be critical, as the issue of aging infrastructure continues to intensify for all underground utilities. A dedicated and consistent annual level of funding for these projects will also benefit the communities we serve by improving the Company’s ability to better coordinate its construction programs with the communities’ road reconstruction schedules and other underground utility work, thereby reducing the disruption that unplanned, emergent infrastructure renewal and replacement programs often trigger. Likewise, a more routine and even application of permits through local and state agencies could be realized. Design and construction of planned projects can be bundled more effectively for economies of scale to achieve a higher level of efficiency. If design and construction schedules are more consistently managed, the competitive bidding process may be able to be further leveraged to achieve more economical pricing. It is more cost-effective to replace the infrastructure with a formalized bidding process than to pay emergency and after-hour rates to outside contractors and employees.

More importantly, the utilities and the Board should be working to find ways to minimize disruptions to the systematic investment in critical infrastructure the DSIC program allows so that these efficiencies and economies of scale can be captured and leveraged to drive more benefits for customers, municipalities, and the employees and contractors who deliver these projects. The DSIC rules allow recovery of construction on any projects included but not started under prior foundational filings.

As discussed in the balance of this report, there is an undeniable benefit to continuing the DSIC program. Customers will experience improved safety and reliability of their water service, enhanced water quality, better system flows and pressures, and the benefits of greater conservation. The Company's program seeks to be the most cost-effective plan for accelerating water main rehabilitation, cleaning and lining, and replacement, valve and hydrant replacement, and service line replacement at a greater level than previously possible without the DSIC program.

Summary of Specific DSIC Program Success Factors

The Company's requirement to accelerate the reinvestment in water infrastructure is driven by several converging factors that are common to water systems throughout the United States. One of the most significant factors for NJAWC is the fact that cast iron mains installed prior to the mid-1900's are reaching the end of their usefulness due to age, condition, size or other factors (and frequently, a combination of factors). Many alternative pipe materials used during war decades have shorter service lives and are in need of replacement. This convergence of end of service life issues for a large portion of pipe materials in service in New Jersey drives the need for increased renewal rates to continue to maintain system integrity, reliability and public health standards. In many cases, as the specific Operating Area sections will show, the older pipe that is beginning to fail is located in older, heavily developed areas where installing new pipe will be more expensive per unit cost than the original installation. Failure to adequately address these issues puts the water systems at risk for increased service disruptions, increased leakage challenges and, in the case of significant service disruptions, extended boil water notices.

The Company has identified the benefit of increased renewal or rehabilitation of its buried infrastructure, and through the DSIC, the rate of renewal of the buried infrastructure is an approximate 100-year interval.

This Foundational Filing presents the improvement plans for each of NJAWC's Operating Areas to enhance its distribution system reliability and integrity. NJAWC believes there are three components, or critical success factors, to the distribution system integrity. Each component has different elements which affect its performance.

(1) Structural integrity: replacement or structurally lining water mains, and replacement of broken or leaking valves, hydrants and service connections to enhance system reliability and safety, maintain system flows and pressures, reduce water quality events, improve conservation, and reduce water losses through main breaks and other types of leaks.

(2) Hydraulic integrity: replacement or cleaning and lining of water mains to increase the conveyance of a needed flow and pressure and prevent or reverse the diminution of flow, pressure or water quality.

(3) Water quality integrity: replacement or cleaning and lining of water mains to maintain the finished water quality through the system and reduce discolored water events.

These three critical success factors in distribution system performance are discussed in detail in this Foundational Filing. In addition, required relocation of buried assets due to municipal street renovation programs can accelerate the need for certain water main replacement/structural lining projects. The water utility has little control over this scheduling and must be able to respond to such required relocations as they emerge. While NJDOT sometimes covers the expense of relocation, this is not generally the case for municipal or local work. The DSIC program will enable NJAWC to better schedule this work with individual municipalities and other utilities with underground assets.

Table ES.2 - Summary of Rule Requirements for Foundational Filings

	Sections of Report
1. An engineering evaluation report of the water utility's distribution system that: i. Identifies the rationale for the work needed to be accelerated for the water utility to properly sustain its water distribution network; and ii. Demonstrates that the plan proposed to accelerate the renewal of the distribution network is the most cost effective plan; and iii. To the extent that elements of the distribution network are failing, identifies what mechanisms are causing the failures; and iv. Identifies what is being done to extend the life of the water utility's assets.	Sections 1 through 6 and Appendices A – Water Main Condition Assessment, and B – Prioritization Model Description, and F – PCCP and other Large Diameter Mains Strategy and Projects List

	Sections of Report
2. DSIC project information for the upcoming DSIC period that includes the following: i. List of projects, DSIC-eligible asset class or category; ii. The nature, location, estimated duration of project work (including estimated in-service dates) and a description and reason for project necessity; iii. Aggregate information capturing blanket type DSIC-eligible infrastructure to be rehabilitated or replaced (*e.g.*, number of valves, number of hydrants, or number of service lines replaced) and the estimated annual cost of such blanket type replacement programs; iv. Vintage, condition, or other similar relevant, reasonably available information about the eligible infrastructure that is being rehabilitated or replaced; v. Estimated project costs; vi. Project identification numbers, so DSIC projects can be easily tracked; and *vii.* Other such information as is relevant and appropriate in order to provide adequate information to make an informed decision regarding any given project.	Sections 2 through 6 and Appendix C — Project List
3. The Foundational Filing shall include the expected amount of base spending for the water utility, including underlying detail adequate to document that the base spending has been made on the appropriate types of infrastructure.	Appendix D — Proposed DSIC Assessment
4. The Foundational Filing shall include: i. a proposed DSIC assessment, calculated in accordance with subsection *N.J.A.C.* 14:9-10.9; and ii. work papers showing the detailed calculations supporting the proposed assessment schedule.	Appendix D — Proposed DSIC Assessment
5. Public notice and a public hearing, at a minimum, are required in the DSIC Foundational Filing. The notice for said hearing shall include the maximum amount in dollars that is allowed to be recovered between rate cases as well as an estimated rate impact for the entire period on customers.	Appendix E — Proposed Form of Public Notice

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SECTION 1. ASSET MANAGEMENT

1.1 NJAWC OVERVIEW

New Jersey-American Water Company, Inc. ("NJAWC" or the "Company") is the state's largest water utility, with its principal office at 1 Water Street, Camden, New Jersey 08102. The Company serves approximately 2.8 million people, delivering approximately 280 million gallons of water a day to approximately 668,000 water and fire service customers. A map of NJAWC's service areas is shown in Exhibit 1.1.

The NJAWC service territory is organized into four Operating Areas: (i) South; (ii) North; (iii) Central; and (iv) Coastal. The South Operating Area is composed of the Southwest and the Coastal South.

These four Operating Areas effectively manage and operate 31 public water systems. A list of public water systems is provided in Table 1.1. NJAWC's local Operating Centers are located in Delran, Egg Harbor, Lawnside, Shrewsbury, Lakewood, Short Hills, Washington, Bridgewater, Hillsborough, and Plainfield. Field distribution crews, water quality and maintenance staff, and customer field services (meter reading, service activation, meter installation and related activities) are dispatched from the local Operating Centers.

Table 1.1 - New Jersey American Water Systems

Operating Area	System	PWSID #
North	Passaic Basin (Short Hills)	NJ0712001
	Four Seasons at Chester	NJ1407001
	West Jersey	NJ1427009
	International Trade Center (ITC)	NJ1427017
	Roxbury	NJ1436002
	Little Falls	NJ1605001
	Twin Lakes	NJ1803002
	Belvidere	NJ2103001
	Washington / Oxford	NJ2121001
Central	Frenchtown	NJ1011001
	Crossroads at Oldwick	NJ1024001
	Raritan	NJ2004002
Coastal	Shorelands	NJ1339001
	Coastal North	NJ1345001
	Union Beach	NJ1350001
	Deep Run	NJ1523002
	New Egypt (Plumstead)	NJ1523003

(South) Southwest	Homestead	NJ0318002
	Mount Holly	NJ0323001
	Delaware	NJ0327001
	Pemberton (Sunbury)	NJ0329006
	Vincentown (Southampton)	NJ0333004
	Harrison	NJ0808001
	Bridgeport	NJ0809001
	Logan	NJ0809002
	Penns Grove (Carneys Point)	NJ1707001
(South) Coastal South	Atlantic County	NJ0119002
	Cape May Courthouse	NJ0506010
	Egg Harbor City	NJ0107001
	Ocean City	NJ0508001
	Strathmere	NJ0511001

The Southwest Operating Area serves customers in Camden, Burlington, Gloucester, and Salem Counties. This Operating Area includes the regional Delaware River Water System; the Mt. Holly Water System (providing water service to Eastampton, Hainesport, Lumberton, Mansfield, Mount Holly, and Westampton Township); the Homestead, Sunbury and Vincentown Water Systems (serving portions of Mansfield, Southampton, and Pemberton Township); the Bridgeport, Harrison, and Penns Grove Water Systems (all former South Jersey Services Water Systems); and the Logan Water System, acquired by NJAWC in 2007 (along with the former South Jersey Services Water Systems). Field personnel for the Southwest Operating Area are dispatched from the Operating Centers in Delran and Lawnside.

The Coastal South Operating Area serves customers in Atlantic and Cape May Counties. This Operating Area includes the Atlantic County, Cape May Court House, Egg Harbor City, Ocean City, and Strathmere Water Systems and is managed from the Fire Road Operating Center in Egg Harbor Township.

The Central Operating Area serves customers in Somerset, Union, Hunterdon, Middlesex and Mercer Counties. The Central Operating Area is primarily and extensively served by the regional Raritan Water System and two much smaller systems (Frenchtown and Crossroads at Oldwick Water Systems). The Raritan Water System is the largest system and is interconnected with NJAWC's Passaic Basin Water System, as well as other regional systems and several surrounding municipal water systems. Field personnel are dispatched from two Operating Centers: Hillsborough and Plainfield.

The North Operating Area serves customers in Essex, Union, Passaic, Morris, Somerset, and Warren Counties. This area includes the regional Passaic Basin Water System and several small systems in the northwest area of New Jersey. The predominant system in the North Operating Area, the Passaic Basin Water System, is interconnected with NJAWC's Raritan Water System (in the Central Operating Area), as well as several surrounding water systems. The North Operating Area is managed by the Short Hills and Washington Operating Centers.

The Coastal Operating Area serves customers in Monmouth and Ocean Counties. This area manages the Coastal North, Shorelands, Union Beach, New Egypt and Deep Run Water Systems. This Operating Area serves water systems in eastern Monmouth County (including Howell, and Lakewood Townships), Ocean County, portions of the barrier island communities (Bay Head, Mantoloking, Brick Twp., Lavallette (a few streets), and Toms River Township. The two Operating Centers that manage the Coastal Operating Area are located in Shrewsbury and Howell.

1.2 ASSET INVENTORY

NJAWC owns and maintains approximately 9,300 miles of water main and associated appurtenances that convey drinking water and fire protection services to approximately 668,000 customers. The Company's infrastructure was installed over many decades with portions dating back to pre-1900. The quantity of pipe installed each year varied considerably over the last 150 fifty-plus years. In addition, there is considerable variability in pipe material as a function of building patterns and population growth. Construction materials and practices varied by decade and the standards used at the time. Tables 1.2.1 and 1.2.2 summarize NJAWC's buried water main inventory as categorized by material, diameter, and estimated installation year. Sections 3 through 6 of this report provide greater detail on the assets and performance issues affecting the life of the mains in each Operating Area.

Table 1.2.1 – NJAWC Pipe Material by Diameter in Miles by Operating Area

	Cast Iron Lined	Cast Iron Unlined	Ductile Iron	Plastic	Metal	Asbestos Cement	PCCP	Grand Total
North District								
< 6 in.	4	43	2	0	2	1		53
6 in. to 12 in.	346	338	488	6	1	59	0	1239
14 in. to 16 in.	10	9	52		0		9	80
> 16 in.	1	2	42	2		0	15	63
	362	392	584	8	3	60	25	1434
Central District								
< 6 in.	3	18	20	0	1	1	0	43
6 in. to 12 in.	407	747	1485	4	4	36	0	2683
14 in. to 16 in.	28	32	185	3	3	12	5	266
> 16 in.	28	14	68	0	1	2	135	248
	465	811	1758	7	9	50	140	3239
Coastal District								
< 6 in.	20	32	2	3	6	1	0	65
6 in. to 12 in.	348	186	825	57	2	334	0	1751
14 in. to 16 in.	4	5	98	3	0	3	8	120
> 16 in.	6	14	84	4	3		20	131
	377	238	1010	67	10	338	28	2067
South District								
< 6 in.	9	53	24	5	4	2	0	97
6 in. to 12 in.	469	215	1386	35	1	147	0	2252
14 in. to 16 in.	4	1	144	2			12	163
> 16 in.	0	0	72	3			13	89
	483	269	1626	45	5	148	25	2601
Grand Total	1687	1709	4977	128	27	597	218	9341

Systemwide Totals

	Cast Iron Lined	Cast Iron Unlined	Ductile Iron	Plastic	Metal	Asbestos Cement	PCCP	Total
< 6 in.	36	146	49	9	12	5	0	257
6 in. to 12 in.	1570	1486	4184	102	8	575	1	7925
14 in. to 16 in.	46	47	478	8	3	15	33	629
> 16 in.	35	30	266	9	4	2	183	530
Grand Total	**1687**	**1709**	**4977**	**128**	**27**	**597**	**218**	**9341**

Table 1.2.2 – Estimate of Existing Mains by Decade Installed (in Miles)

	1900 - 1909	1910 - 1919	1920 - 1929	1930 - 1939	1940 - 1949	1950 - 1959	1960 - 1969	1970 - 1979	1980 - 1989	1990 - 1999	2000 - 2009	2010 - 2019	2020 +	Total
North District	68	22	97	61	84	222	163	79	157	209	121	101	50	1,434
Central District	260	3	156	271	67	209	367	322	497	427	342	221	95	3,239
Coastal District	12		173	94	40	353	298	188	216	182	157	254	99	2,067
South District	68	55	38	51	56	230	367	201	346	434	386	275	94	2,601
Grand Total	**408**	**80**	**463**	**477**	**248**	**1,014**	**1,195**	**790**	**1,216**	**1,253**	**1,007**	**852**	**338**	**9,341**
Source NJAW GIS (12/14/2023)														
Rounded to Nearest 10th														

Service standards, design standards and construction practices varied widely across the years, leading to different service life estimates and service quality issues. The majority of the distribution piping installed in the United States, beginning in the late 1800's up until the late 1960's, was manufactured from cast iron. Prior to DSIC (2012), approximately forty-five percent (45%) of NJAWC's mains were cast iron (CI) (unlined & lined), indicating that almost half of NJAWC's water mains were more than fifty years old, and in many cases, significantly older. Through the DSIC program, measurable progress is being made. NJAWC's cast iron inventory as of December 2023 is approximately 36% of the total inventory, and approximately 50% of the CI inventory is lined, which includes rehabilitation through the cleaning and lining method. There remains a total of approximately 1,708 miles (18%) of unlined cast iron mains within NJAWC's distribution system. Since the DSIC implementation, there has been a net reduction of the cast iron pipe inventory of 13.5%. The challenges posed by older cast iron mains continue and are discussed further in the individual operating area sections as well as in Appendix A – Water Main Condition Assessment. A summary of pipe quantities present in each system is shown in Table 1.2.1. This data has been compiled from NJAWC's GIS (geographic information system) used to manage NJAWC's underground infrastructure. Figure 1.2.1 provides an illustration of the overall pipe material makeup currently in service for the Company.

Figure 1.2.1 New Jersey American Water Miles of Water Main

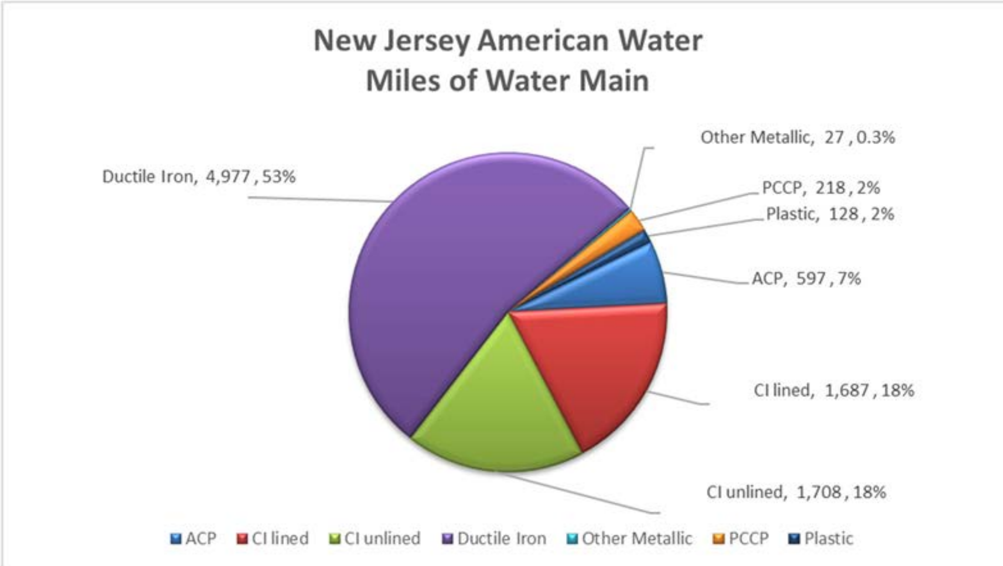
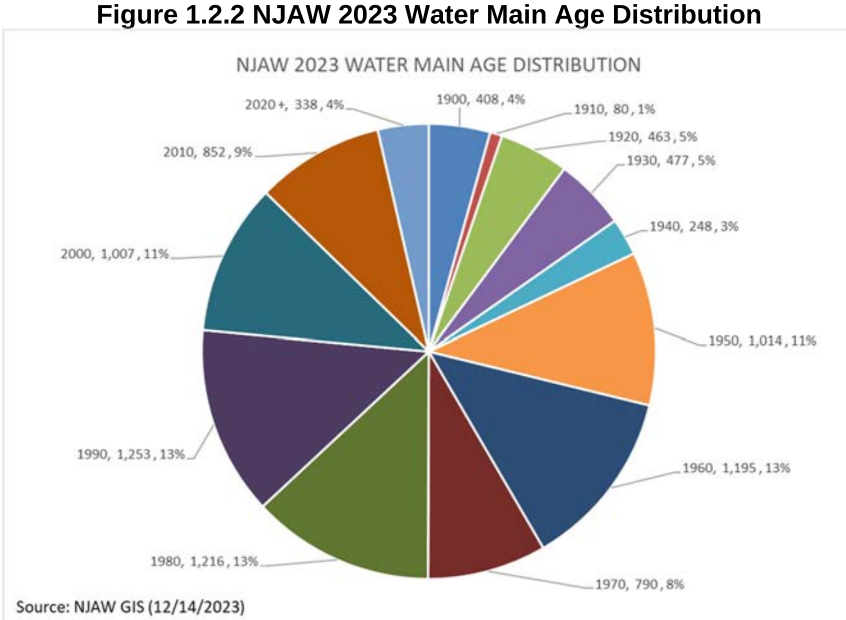


Table 1.2.2 further defines the pipe stock by an estimated installation decade. Because the installation year was typically not annotated on the historical maps, this data could not be readily captured in the electronic data conversion to the GIS system, as result decade installed is an estimate for older mains. Figure 1.2.2 illustrates the current water main age distribution for the Company.

Figure 1.2.2 NJAW 2023 Water Main Age Distribution



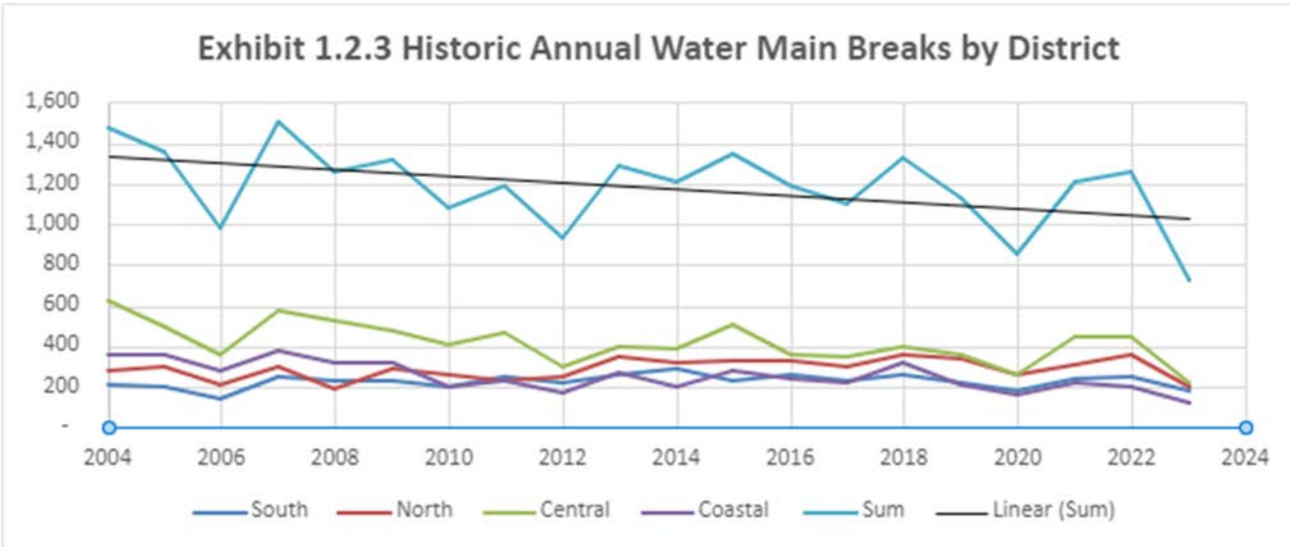
Renewal plans presented in Appendix A are categorized based on sound asset management practices using this asset inventory and operational data. Plans address specific concerns related to safety, reliability, water quality, flow and pressure, and the need to conserve the precious resource of water. Structural rehabilitation, non-structural rehabilitation and/or replacement techniques are evaluated and targeted to address specific service issues. Often, service issues can be linked to the various types and vintages of mains installed. For example, internal corrosion of unlined cast iron mains is a major contributor to discolored water, declining hydraulic capacity and leakage. Corrosion of reinforcing bands in pre-stressed concrete cylinder pipe, and the metallurgy of stove pipe and galvanized pipe materials also contribute to leakage and main failures. In addition, many mains installed decades ago are undersized for today's service standards and were manufactured from materials available at the time but considered inferior to today's materials. NJAWC's renewal plans, presented in Appendix A, utilize a multi-pronged approach targeted to address historic service issues and projected problematic areas based on asset management data.

Main Breaks and Main Failures

Prior to the conversion to an electronic mapping process, NJAWC did not capture and record detailed information about individual mains, such as pipe material, year installed or geocoded break information, on system maps. Rather, this data was stored in paper card files, spreadsheets, or separate databases. This data was also not typically available for acquired systems. Since the advent of GIS-based mapping and computerized maintenance management systems, NJAWC has been capturing and recording more detailed information, where available, to help build a more precise database of pipe material, vintage, and other information to facilitate the planning and prioritization processes.[1] Below, in Figure 1.2.3, main break history is shown as aggregate information for the past 19 years, between 2004 and 2023. Detailed information for main breaks in 2021 is shown in each Operating Area, Sections 3 through 6 of this report. Please note that the information in Figure 1.2.3 is the historical raw number of main breaks and is not presented as a frequency or rate of failure.

[1] *See* Appendix B for more information on the prioritization process.

Figure 1.2.3 Historic Annual Water Main Breaks by District



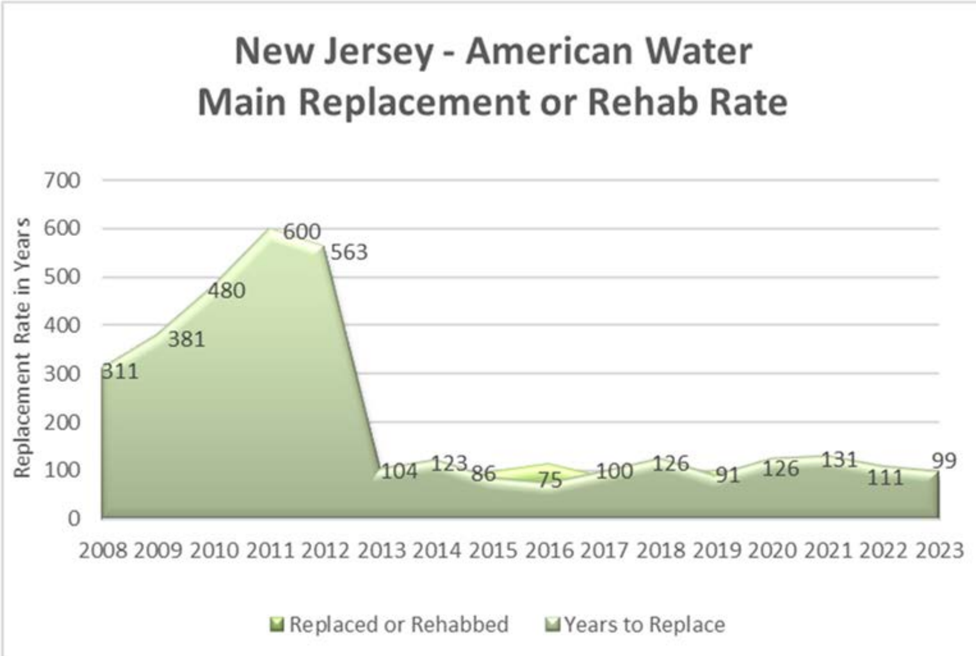
1.3 ASSET MANAGEMENT

NJAWC follows the asset renewal strategy presented in the American Water Works Association M28 Manual of Water Supply Practices for the Rehabilitation of Water Mains.[2] NJAWC uses a systematic approach to assess the condition of its distribution system assets and to prioritize their replacement or rehabilitation. The Company reviews the physical properties of the existing asset, the operating performance and maintenance history, and the risk and impact of a failure. External factors, including required relocation due to conflicts with proposed gravity sewer mains and road reconstructions, are accounted for in the decision-making process.

Figure 1.3 below provides a graphical representation of the historical water main replacement and rehabilitation (e.g. cleaning and lining) since 2008. The replacement and rehabilitation rate has significantly improved since the DSIC program went into effect in late 2012. While a renewal frequency of approximately 100 years has been achieved since DSIC program implementation, significant work remains. More importantly, main replacements and rehabilitation projects are identified based on needs and prioritized through the comprehensive pipe renewal prioritization models described in Appendix B.

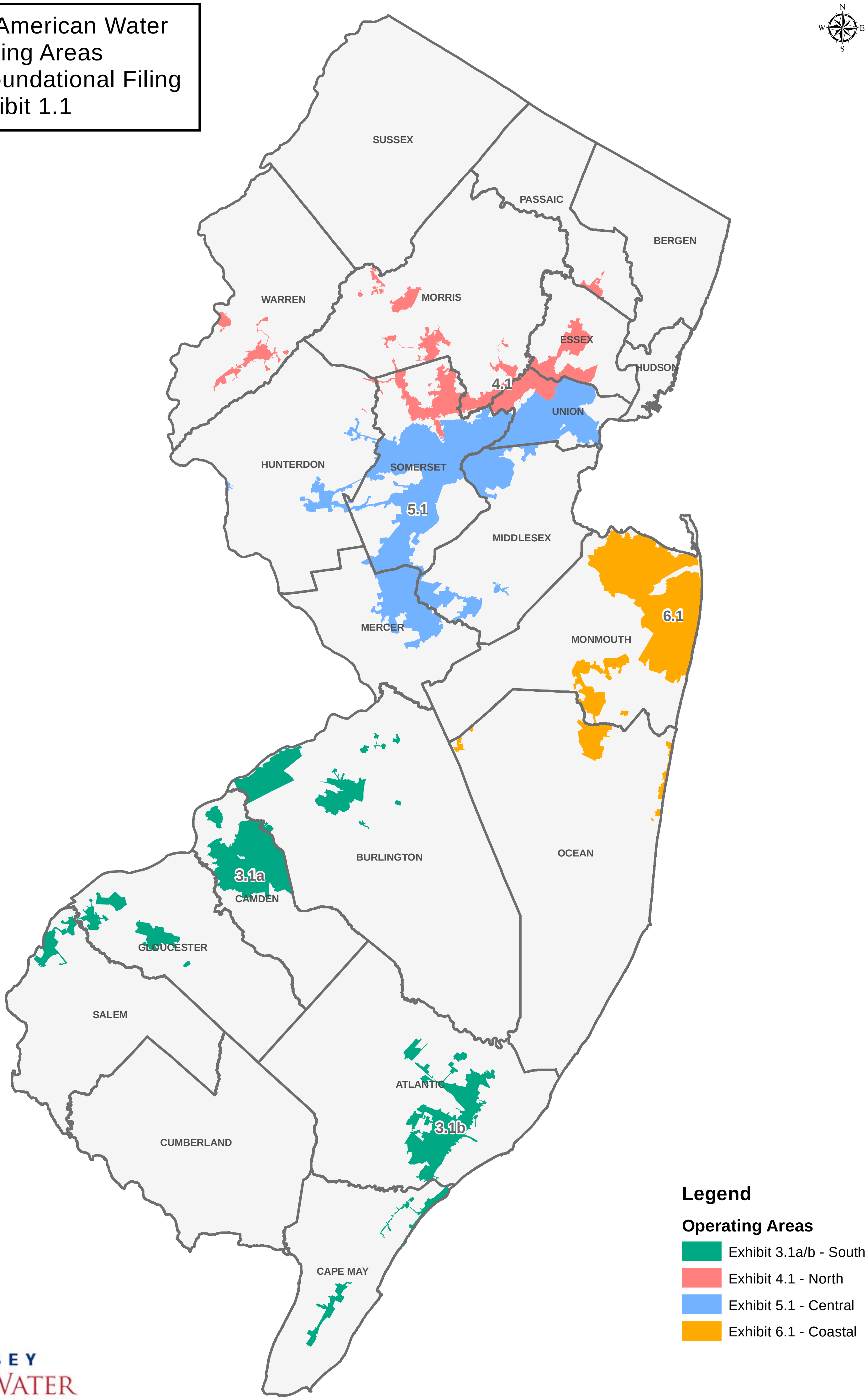
[2] *See* Appendices A and B for the process recommended in this practice and the associated NJAWC practice.

Figure 1.3 Historic Water Main Replacement and Rehabilitation Rate



The management of valves, service connections and hydrants are further discussed in Section 2.

New Jersey American Water
Operating Areas
2024 DSIC Foundational Filing
Exhibit 1.1



NEW JERSEY
AMERICAN WATER

Document Name: 2024DSIC_StatewideExhibit1.1

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SECTION 2. VALVES, HYDRANTS & SERVICE CONNECTIONS

2.1 BLANKET DSIC PROJECTS

Valves, hydrants and service connections are important assets in water distribution systems. Properly operating and accessible valves are needed to perform flushing, to isolate sections of mains for maintenance and repair, and to respond quickly in an emergency. Hydrants, the only above-ground portion of the distribution system, are also vital components as these provide the connection to water for firefighting and the main flushing activities. Renewal of service connections is also an important aspect of asset management because leaks on service lines not only disuse water but can lead to disturbance of bedding around water mains.

Additionally, the Company continues to review its tap records to identify Company-owned lead and galvanized service lines (including "goosenecks") ("LSLs"). Where tap records were not available or do not provide service line material data, the Company considers the level of LSLs identified through tap records, age of homes, census data, pipeline installation records, and institutional knowledge to develop its estimated number of LSLs (including goosenecks). Although the Company's tap records do not consistently identify the material of the customer-owned service line, the Company estimates that there is likely lead on the customer side where it finds lead on the Company side. The Company plans on replacing all its lead service lines as required by the "Lead Service Line Replacement Law" (P.L. 2021, Chapter 183) (N.J.S.A. 58:12A-40, et seq.) which includes replacement of galvanize pipe, and consistent with the Lead Service Replacement (LSR) Plan as approved by the Board Order and effective on October 19, 2022, BPU Docket Number WR22010017.

In accordance with the requirements of the DSIC Rule at N.J.A.C. 14:9-10.4(b)2v., the following tables summarize NJAWC's three-year history of capital expenditures for valves, service laterals, and hydrants. This aggregate information details the capital spend used for blanket-type DSIC-eligible infrastructure to be rehabilitated or replaced (*e.g.,* number of valves, number of hydrants, or number of service lines replaced) and the estimated annual cost of such blanket-type replacement programs.

Table 2.1 - NJAWC Blanket-Type DSIC Spend History

NJAW DSIC Eligible Capex 2021-2023			
	2021	2022	2023
Services	$ 40,644,853	$ 46,866,962	$ 85,100,235
Hydrants & Valves	$ 16,346,475	$ 18,715,060	$ 17,161,784
Total	$ 56,991,328	$ 65,582,022	$ 102,262,019

Number of Blanket Replacements			
	2021	2022	2023
Services	10,992	13,357	13,992
Hydrants	673	663	489
Valves	3,307	3,451	1,975

NJAWC proposes an annual spending plan for valve and hydrant replacements and service renewals of approximately $60 million. This proposed spend distribution may change as system needs dictate. Certainly, the rate of LSL replacements will increase considerably starting in 2022 and continuing at higher rate for the next 8-10 years to be in compliance of the Lead Service Line Replacement Law of 2021 (P.L. 2021, Chapter 183) and consistent with the LSR Plan. The customer-owned LSL replacements are not included in the $60 million estimate as the estimate only includes the replacement of Company-owned service lines which are to be recovered through the DSIC.

2.2 SERVICE CONNECTIONS

Service connections delivering potable water from the distribution main to the customer's service line generally consist of a corporation stop, pipe lateral and a shutoff valve (curb stop) with curb box over the shutoff valve to access and protect the valve (newer installations include a meter pit where practical). Service lines are typically sized from 3/4 -inch to 12-inch in diameter. The table below shows the existing services by material and diameter. Service lines below 1 ½ inches are typically domestic while the larger service lines have commercial and firefighting components to them.

Table 2.2 - NJAWC Service Laterals by Type and Diameter

NJAW Services by Type and Diameter					
	< = 1.5"	2" to 3"	> = 4"	UNK	Total
Asbestos Cement		-	46		46
Cast Iron		1,118	6,909		8,021
Copper	293,369	5,409	276		299,054
Ductile Iron			7,819		7,819
Galvanized Steel	10,197	1,986	7		12,190
Lead	18,851				18,850
Plastic	1,524	5	58		1,587
Polyethelene	64,541	2,370	1,629		68,540
Unknown				228,991	228,991
Wrought Iron	1,475	106			1,581
Grand Total	**389,957**	**10,994**	**16,744**	**228,991**	**646,679**

2.3 SERVICE LINE MATERIAL DESCRIPTION

Current installation design:

Copper Pipe - Copper is the most common type of water supply line piping, and very dependable. While very dependable, copper lines can eventually corrode if subjected to either acidic or high chloride environmental conditions or very soft supply water conditions.

Polyethylene Pipe (PE) - Polyethylene pipe is typically used as service piping. Black in color, it is a flexible material that is easier to install than most other service lines and typically is used in corrosive soil conditions.

Prior materials used:

A variety of materials were used as far back as the late 1800's. Typical materials used in the past that are currently considered obsolete include:

Galvanized Steel - Galvanized steel piping was widely used in the first half of the 20th century. Galvanized steel often corrodes from the inside, which ultimately creates a source of leakage. The oxidation corrosion reduces the interior diameter of the pipe, restricting the flow of water, and usually begins leaking at threaded joints. Galvanized pipe was typically connected to the service main with a three-foot section of lead pipe, which added flexibility at the connection. This lead pipe section is typically referred to as either the "Goose Neck" or "Whip."

Wrought Iron - A steel pipe installed in the 1900's, similar in properties to cast iron.

Polybutylene Pipe (PB) - Polybutylene pipe is a flexible gray or blue plastic. A common problem with polybutylene is that the joints deteriorate when in contact with chlorine in the water. During the 1990's, there was a trend in using this material during construction.

Lead Pipe - Lead service laterals may be found in some service piping in homes 80+ years old or in commercial construction, in both urban and suburban service areas.

Tube-Loy - A metal alloy service line material which is 99.7 percent lead and was used for water service lines during World War II due to copper and steel shortages.

Threaded Brass - Threaded brass is uncommon, however, it was sparingly used in residential units built before 1940. The service life is similar to that of copper pipe.

Unknown – This is a NJAWC classification to identify services where the material type is not known. Usually these are services installed prior to 1940 and are likely to be galvanized steel.

2.4 NEW JERSEY AMERICAN WATER SERVICE LINE REPLACEMENT PRACTICE

The service line replacement is performed both during main renewal projects and under separate street level projects strictly focused on service line replacements. Generally, service lines/connections are targeted for the replacement if:

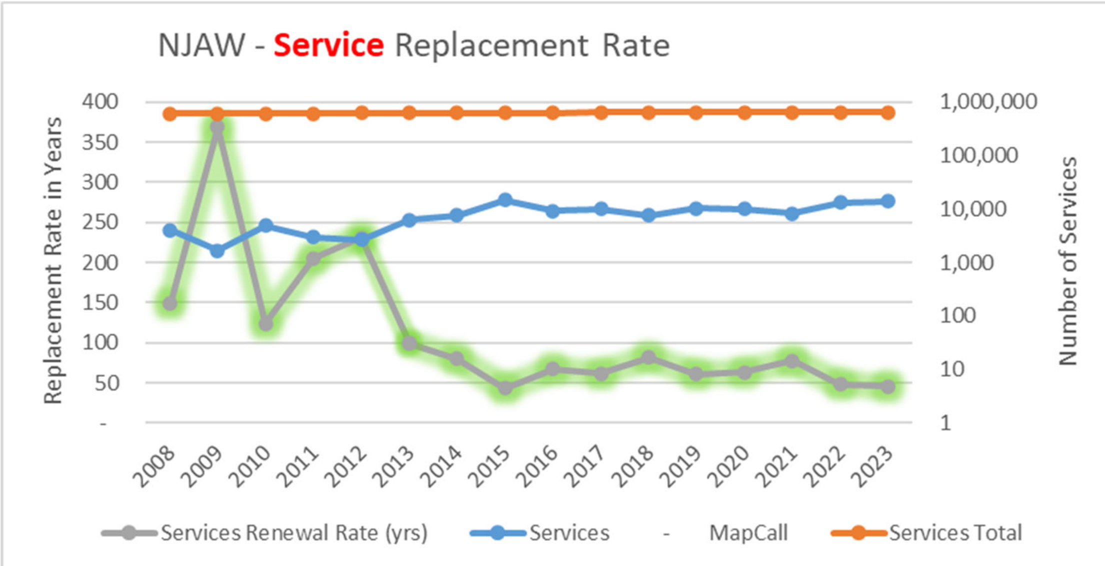
1. Inferior service line materials exist, including but not limited to the following:
    a. Polybutylene (blue or grey plastic)
    b. Galvanized steel
    c. Tube-Loy (lead / copper alloy)
    d. Lead
    e. Wrought Iron
2. The area has a higher frequency of service line leaks / breaks than other areas of the district.
3. The area has copper services in excess of 75-years old. Generally, the service life of copper pipe is not expected to exceed 80 years; copper services in the >75 year age cohort are likely to be a source of leakage in the near term if disturbed.
4. The area is expected to experience higher pressures due to main replacements or other system improvements.
5. Galvanized, Tube-Loy, and Lead services, irrespective of their condition will be replaced consistent with the LSR Plan.

Service line replacement projects outside the scope of main replacement or paving projects are typically considered when the service lines in an area are a suspected cause of non-revenue water and more recently to fulfill the requirements of LSL Replacement Law. The suspected cause of non-revenue water is validated by using acoustic monitors or other quantifiable evidence. Service line replacement projects are also considered when service pressure and/or water quality is adversely affected by the existing performance of the service line, or if there is a high consequence of failure likely and the service lines are approaching their expected service life duration (approximately 80 years for properly installed copper service lines with neutral soil conditions).

The Company portion of a service line is replaced upon discovery of a leak or break (on the NJAWC-owned service). If the service line is in good condition and the cause is acute and not expected to reoccur (e.g., line hit during landscaping, etc.), then a repair is made. Also, if two service lines are adjacent (defined by a few feet in distance) and of the same vintage, NJAWC may consider replacing both if one has failed due to age.

Figure 2.4, below, illustrates the historical service line replacement rate for the past several years.

Figure 2.4 – Service Line Replacement Rate



2.5 HYDRANTS AND VALVES

New Jersey American Water continually inspects and maintains both its over 48,000 hydrants and its over 195,000 valves within its distribution system, as reflected in Table 2.5, in order to ensure the operational integrity of these assets. This pro-active maintenance program is important to local operations as it typically increases reliability, reduces failure, and extends the asset life. The failure of these assets can lead to costly repairs or replacement activities.

Table 2.5 - NJAWC Active Hydrants and Valves

Operating Area	Hydrants	Valves
Central District	18,131	71,064
Coastal District	9,677	41,052
North District	8,707	30,975
South District	11,961	52,401
Total	**48,476**	**195,492**

New Jersey American Water's valve and hydrant inspection program schedules the inspection and operation of these system appurtenances. Valves and hydrants found to be broken and not repairable are identified for replacement in the Company's Computerized Maintenance Management System. Replacements are then scheduled in order of priority in accordance with NJAWC's prioritization model and capital planning process.

New Jersey American Water's yearly Large Valve Replacement Program consists of replacing inoperable valves sized 12-inch and larger. These valves are typically located on larger-diameter mains affecting large areas of the Company's distribution system and require additional coordination efforts to effect repair and replacement. The valves can also be located around or at critical production facilities, such as booster stations, reservoirs and storage tank sites. These valves can be broken in the open, closed or partially closed position, and after a thorough physical inspection, have been classified as irreparable.

Valve replacements require a work plan and a coordinated effort between multiple departments to mitigate any possible adverse events during the installation of the replacement valve. To execute the more complex projects, hydraulic analysis, engineering design, permitting, event coordination, night construction during low flow periods, and bypass piping may be needed.

Hydrant replacements are equally important. Replacements are generally identified during flushing operations when the hydrant or valve is damaged, piping or nozzles are corroded, or the hydrant is old and undersized for the expected service. Input is also obtained from local officials and fire departments for inoperable or substandard hydrant performance and included, when appropriate, in the hydrant replacement program.

Below are two figures that illustrate the historical hydrants and valves replacement rate for the past several years. While the replacement rate for hydrants as shown in Figure 2.5a reveals some improvements since DSIC, the replacement rate for valves as shown in Figure 2.5b shows a dramatic improvement in the replacement rate since DSIC implementation in New Jersey. The replacement rate for hydrants generally has been under 80 years and since DSIC, has fallen to under 60 years. The replacement rate for valves was sporadic prior to DSIC and was generally over 200 years; since DSIC was enacted, the valve replacement rate has generally been around 100 years.

Figure 2.5a – Hydrant Replacement Rate

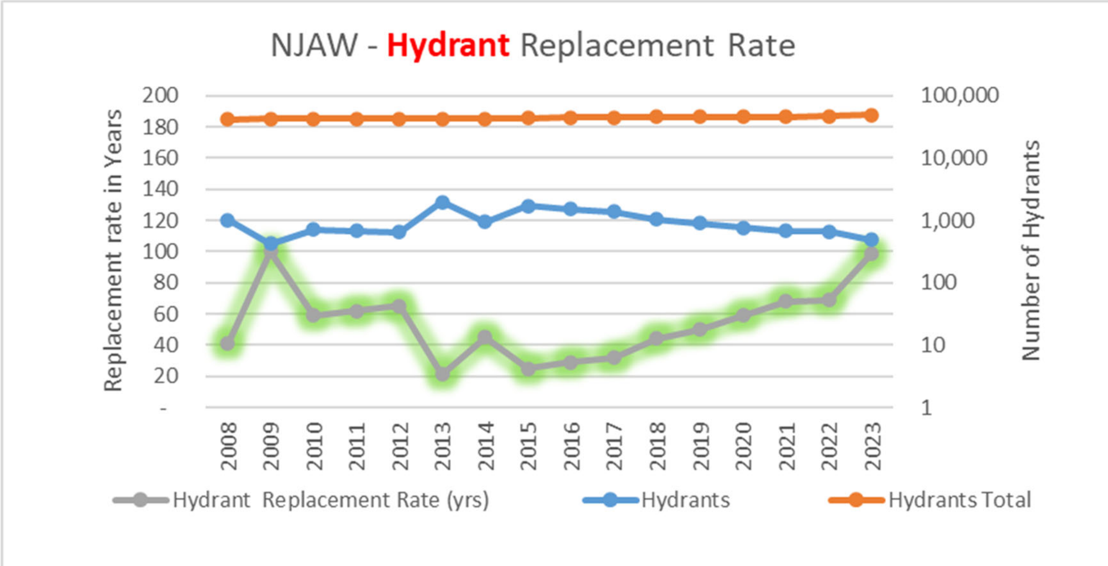
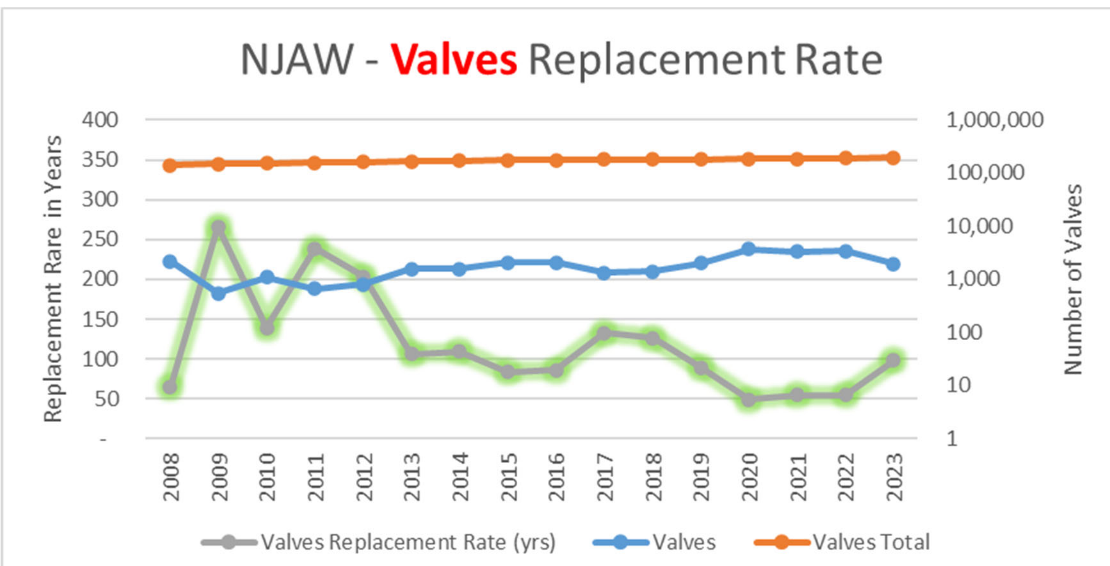


Figure 2.5b – Valves Replacement Rate



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SECTION 3. SOUTH OPERATING AREA

3.1 OVERVIEW

New Jersey American Water's South Operating Area consists of thirteen (13) Public Community Water Systems in Atlantic, Burlington, Camden, Cape May, Gloucester, and Salem Counties. These public water systems, combined, deliver approximately 65 mgd, on average. Table 3.1.1 details the number of residential customers and water usage by system. Exhibit 3.1, attached, shows the location of these service areas.

Table 3.1.1 - South Operating Area Water Systems' Characteristics (2023)

PWSID	System Name	Service Connections	Estimated Population Served	Avg Day Demand (MGD)	Peak Month Demand (MGD)
NJ0327001	Delaware	105,081	278,798	40.368	45.680
NJ0119002	Atlantic County	39,514	105,898	10.975	14.710
NJ0508001	Ocean City	28,953	77,594	2.512	5.541
NJ0323001	Mount Holly	8,365	22,418	4.147	5.390
NJ1707001	Penns Grove	3,591	9,624	0.954	1.083
NJ0808001	Harrison	2,986	8,002	0.930	1.880
NJ0506010	Cape May Courthouse	2,360	6,325	0.752	1.142
NJ0809002	Logan	2,069	5,545	1.465	1.850
NJ0318002	Homestead	1,341	3,594	0.146	0.192
NJ0511001	Strathmere	385	1,032	0.068	0.159
NJ0329006	Pemberton (Sunbury)	355	951	0.059	0.078
NJ0809001	Bridgeport	312	836	0.071	0.114
NJ0333004	Vincentown	207	555	0.042	0.050
NJ0107001	Egg Harbor City	1,508	4,900	0.381	0.335

The sources of supply for this region include the Delaware River Region Water Treatment Plant and numerous well stations in Atlantic, Burlington, Camden, Cape May, Gloucester and Salem Counties. The corrosion control strategy in the South Operating Area includes pH control and the addition of phosphates as corrosion inhibitors at the Delran surface water treatment plant and groundwater well stations. Phosphates are used to inhibit the internal corrosion of water mains, to sequester iron, manganese, calcium, and magnesium, and to improve the quality of water in the distribution system by preventing scale deposits and tuberculation. Orthophosphate, added at the surface water treatment plant, inhibits corrosion by reacting with dissolved minerals in the water to form a thin coating or film on the inner surface of the pipe that is exposed to the treated water. Blended polyphosphates are added at most well facilities in order to sequester soluble metals found in the groundwater. The two forms of phosphate addition (orthophosphate and blended poly phosphates) are meant to work together to provide corrosion control while also reducing discoloration and scaling from groundwater.

The non-revenue water rate in the South Operating Area averaged 4.7% in 2023. Routine maintenance, flushing, leak detecting, valve exercising, and meter replacement occur on an ongoing basis.

The treated water from NJAWC's sources of supply is conveyed to customers through approximately 2,600 miles of distribution mains, with sections dating back to the pre-1900 period. Water mains were manufactured and installed over many decades, resulting in a wide variety of materials, pipe sizes and joint types. The type of water main installed was based on the predominant pipe material available at the time. Table 3.1.2, below, provides a summary of the material and diameter of the assets that continue to provide service.

Table 3.1.2 - South Operating Area Summary of Mains by Material Type

Southern Operating Area All PWSID's Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	1.7	146.6			148.3
Cast Iron Lined	9.2	469.0	4.3	0.1	482.6
Cast Iron Unlined	52.6	214.5	1.4	0.4	268.9
Ductile Iron	24.3	1385.8	143.7	71.9	1625.7
Metal	3.8	1.0			4.8
PCCP	0.1	0.0	11.5	13.5	25.1
Plastic	5.1	35.4	2.1	2.7	45.4
Grand Total	96.8	2252.4	163.0	88.5	2600.8
GIS Extract 12/2023					

3.2 DISTRIBUTION SYSTEM ASSET PERFORMANCE

The useful life of mains, valves, hydrants and service connections varies based on materials, environment, internal and external corrosion rate, internal and external forces, ground freezing and thawing cycles, groundwater levels, soil conditions and many other factors. As the water systems age there is a need to renew infrastructure to ensure safety and reliability, improve system flows and water pressure, protect water quality, promote conservation, and reduce non-revenue water. The performance of mains and deterioration rate can be shown by monitoring the break frequency. Table 3.2 and Figure 3.2.a, below, provide a summary of repairs by material and type of break in the South Operating Area during 2023.

Table 3.2 - Summary of Break Rate by Material for the South Operating Area (2023)

Southern District							
2023	Asbestos Cement	Cast Iron	Ductile Iron	Other Metallic	PCCP	Plastic	Total
Miles of Main	148	752	1626	5	25	45	2601
Main Failures	14	157	12	0	0	0	183
Failures per Mile	0.09	0.21	0.01	0.00	0.00	0.00	0.07

Figure 3.2.a - Summary of Main Breaks by Type in Southern (2023)

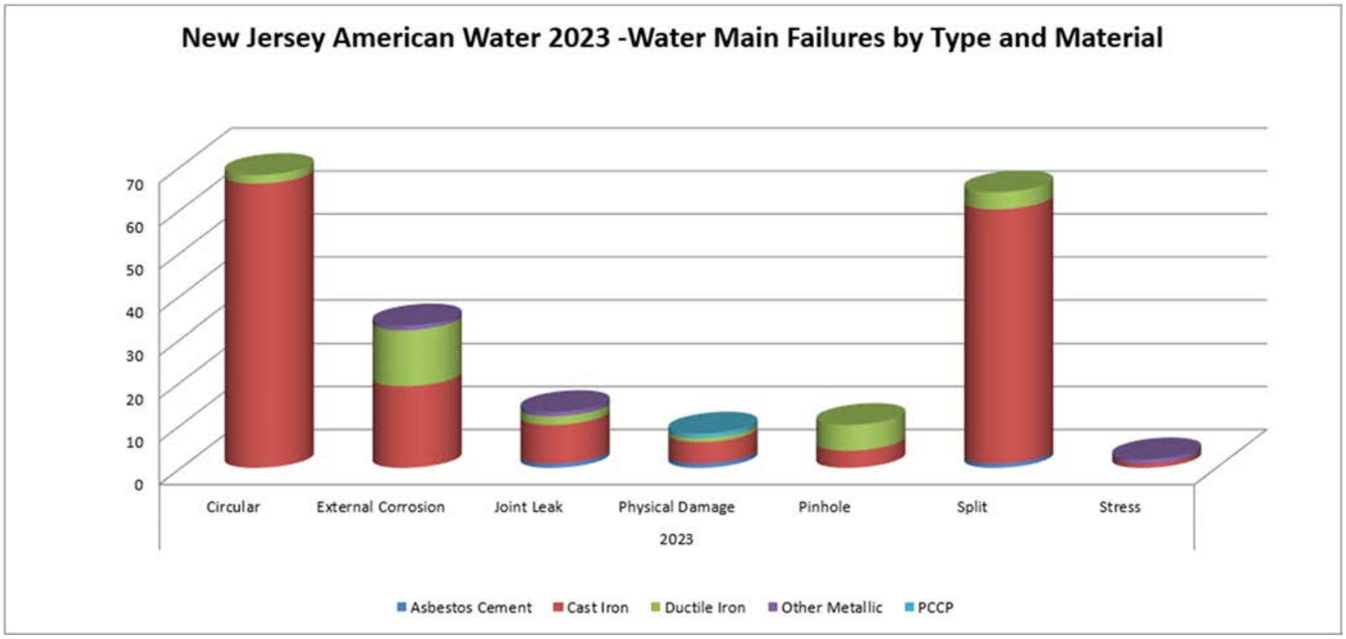


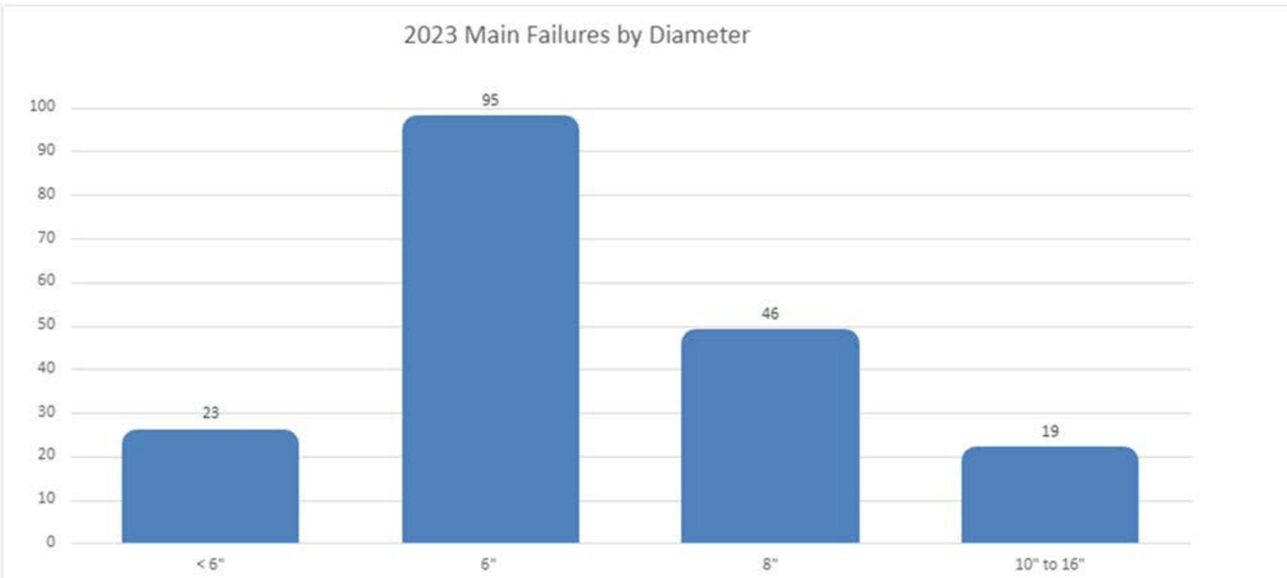
Table 3.2 illustrates that the highest break rate frequency in this operating area occurs on cast iron, and other metallic pipe. The cast iron mains installed in the first half of the past century are the largest subset of NJAWC water mains that are experiencing increased failure rates. These mains are targeted for accelerated rehabilitation and replacement in the DSIC program.

Figure 3.2.a highlights that the greatest number of water main failures in the South Operating Area is associated with cast iron water mains. Most cast iron pipes fail because of a combination of factors that include external loading, internal pressure, manufacturing flaws and corrosion damage. The greatest cause of failure seen in these mains is circular or circumferential cracking, where the pipe splits in a circle across its diameter. Circular failures are usually the result of settlement of the pipe due to erosion of the pipe bedding. The cause of the settlement is normally the result of a small pinhole or joint leak caused by corrosion or external loads that can gradually wash away the bedding supporting the water main and cause the water main to be unevenly supported, resulting in a circular break. Circular breaks are also noted in increased frequency when there is change in water temperature and attributed to thermal stress within the pipe. Other common types of failures

include: bell splitting, consisting of a longitudinal break starting at the bell; corrosion pitting (pinholes, deterioration, or blow outs); longitudinal cracking (stress), where the pipe breaks along its length; or physical damage caused by outside influences.

Table 3.2. and Figure 3.2.a show the cause of water main failures by break rate, material type, and cause of failure. Figure 3.2.b details the number of breaks in the South Operating Area by diameter. When viewed together, these illustrate that the majority of pipe failures in 2023 were cast iron mains, 8 inch or smaller, installed in the first half of the twentieth century.

Figure 3.2.b - Summary of Main Failures by Diameter – South (2023)



3.3 SYSTEM-SPECIFIC ISSUES

The DSIC program for this area will accelerate replacement of undersized mains, older mains manufactured from obsolete materials, and mains with high break rate frequencies. The South Operating Area includes sections of the City of Camden (the northwest portion of the City) and Pennsauken, which have old, smaller-diameter water mains. Areas of Pennsauken also contain asbestos cement mains that have been experiencing increased main failures over the past few years. A major roadway, US Rt. 130, which is an artery running through Pennsauken, leading to the Ben Franklin Bridge and the City of Philadelphia, has experienced main failures, creating significant traffic detours and delays.

During the 1960's, a large number of developments were constructed in the South Operating System. These developments, many in Cherry Hill and Gloucester Townships in Camden County, along with Delran and Cinnaminson Townships in Burlington County, account for a major percentage of the main repairs in the service area. As an example, a 1960's installation in Delran Township experienced 15 main failures within a 4,000+ foot length of main in a single roadway, or a main failure approximately every 300 feet. The failing mains were predominantly cast-iron lined mains and could be a result of installation practices and undesirable soil conditions at the time of construction.

The Palmyra/Riverton distribution system in Burlington County has stove pipe in need of replacement. Stove pipe is a fragile clay-type material encapsulated in a thin layer of tin, riveted, and welded at the seams. This pipe has been subject to many main leaks over the years, which can best be described as costly blow-outs causing significant roadway damage, along with customer water quality complaints. The age of the pipe varies from the 1880's to the very early 1900's, installed at shallow depths of 3 to 3.5 ft. Main breaks on these pipes are a common source of complaints from municipalities about roadway and property damage.

Also in Burlington County, the municipalities of Mt. Holly, Riverside, Delanco, and Edgewater Park contain small-diameter unlined cast iron piping, some dating back to the 1870's, contributing to fire flow and water quality issues.

In the Camden County area, along the White Horse Pike (US. Rt. 30), and Black Horse Pike (US Rt. 168), the municipalities of Audubon, Oaklyn, Haddon Heights, Runnemede, and others have undersized old lead joint piping.

In 2007, NJAWC acquired the water system of Mt. Ephraim, Camden County. The majority of its piping consists of old unlined cast iron lead joint mains. This system has main leak and fire flow issues. In the same year, NJAWC also acquired the Penns Grove Operating System in Salem County. This system contains a number of old, small, undersized mains with dead ends that need to be looped in. The Carneys Point section of this system has several 2-inch and smaller mains, with 8 to 10 customers being fed from these single small mains, in some instances.

While many of the issues identified above have been addressed, many underperforming mains remain in service requiring renewals. A list of DSIC-eligible projects proposed to be completed between 2024 and 2027 is shown in Table 3.5, attached. Most of the projects consist of replacement of water mains from the early- to mid-1900’s in the various water systems in the South Operating Area. These mains have flow issues, leaks, and undersized pipe which, once replaced, will provide customers with improved system flows and pressures, enhanced water quality and improved safety and reliability while increasing conservation by reducing leaks and main breaks.

3.4 INDIVIDUAL SYSTEM DESCRIPTIONS

A. DELAWARE RIVER WATER SYSTEM (PWSID NJ0327001)

System Description

New Jersey American Water's Delaware River System (DRS) is a regional public water system serving franchise and bulk sale customers in southwestern New Jersey, covering Burlington, Camden, Gloucester, and portions of Salem Counties. The DRS has four separate NJAWC franchise service areas that provide water service to all or parts of 40 municipalities in Burlington, Camden, Gloucester, and Salem Counties. The DRS also provides bulk water supplies to other 24 public community water systems in the region through bulk water sales agreements (WSA).

The Delaware River Regional Water Treatment Plant (DRRWTP) in Delran and the regional transmission pipeline provides a) a replacement supply for Critical Area 2 groundwater diversion reductions/limits, and b) supply augmentation for growth in the region. NJAWC's franchise service areas in Burlington and Camden Counties were interconnected with the regional pipeline and began receiving surface water supplies in April 1996. NJAWC's City of Camden service area was subsequently connected to the regional pipeline in late 1996. NJAWC received the franchise to serve the Rowan Technology Park in Gloucester County in 2007.

The regional transmission main was extended to the NJAWC-Bridgeport and NJAWC-Logan Systems in Gloucester County in December 2009. Subsequently, an interconnecting pipeline was installed from the Logan System to NJAWC's Penns Grove System in Salem County in September 2010.

Demand

The average and peak daily demands of the DRS are 58 MGD and 48 MGD, respectively. These demands include 15 MGD of bulk sales in 2023 and supply transfers to other systems, including some NJAWC systems.

Source of Supply & Production

In addition to the DRRWTP, NJAWC also diverts groundwater from various Coastal Plain aquifers. There are 65 wells treated at 21 active production well stations located throughout the franchise areas within Burlington and Camden Counties. The current conjunctive annual source of supply for the DRS is approximately 60% surface water and 40% groundwater.

The DRRWTP typically provides an average of 25 to 30 MGD while the local groundwater sources provide approximately 7 MGD. The majority of the groundwater supply is within NJDEP's Critical Area 2.

With the reduced capacity available from ground water sources due to water quality concerns, the current (2023) total available system capacity is approximately 76 (75.8) MGD with an overall system reliable or firm capacity of 72.6 MGD.

Distribution & Storage

The distribution system network has multiple pressure gradients. The system has a total of twenty-three (23) tanks for distribution storage. There are approximately 1,340 miles of main ranging in size from 2-inch to 54-inch diameter, as shown in Tables 3.4.A.1.

Table 3.4.A.1 - Delaware River System Water Mains

Delaware NJ0327001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.1	91.3			91.4
Cast Iron Lined	7.4	385.3	4.2	0.1	397.0
Cast Iron Unlined	37.0	123.6	0.7	0.0	161.3
Ductile Iron	14.3	544.6	48.4	57.9	665.3
Metal	1.3	0.3			1.6
PCCP	0.1	0.0	11.5	8.3	19.9
Plastic	1.1	1.2	0.2	2.3	4.9
Grand Total	61.3	1146.4	65.0	68.7	1341.4
GIS Extract 12/2023					

Note: due to rounding, not all the totals will sum.

B. MT. HOLLY WATER SYSTEM (PWSID NJ0323001)

System Description

The Mt. Holly System is a public water system located in Burlington County, serving portions of Mansfield, Westampton, Eastampton, Hainesport, Lumberton, and Mount Holly Townships.

Source of Supply & Production

The supply for the Mt. Holly System includes three groundwater stations (Mansfield, Woodlane, and Green Street) and a regional interconnection with the Delaware River System. All three well stations employ iron removal treatment. Five wells treated at the Woodlane Avenue and Green Street Stations are within Critical Area 2. The third well station, Mansfield, lies outside of the Critical Area 2 boundary. This station treats seven wells drilled into the Middle PRM aquifer. The maximum diversion rate is 5,600 gpm. The regional supply interconnection is located near Marne Highway.

The Mt. Holly System firm capacity is 14.392 MGD including 3 MGD transfer from the Delaware River Regional Pipeline.

Bulk water is sold to Medford Township pursuant to a Commodity Demand agreement currently set at 0.660 MGD.

Distribution & Storage

The distribution system operates as two gradients. The system has three tanks for a total of 4.232 MG of distribution storage. The system consists of approximately 220 miles of main ranging in size from 4-inch to 36-inch, as shown in Tables 3.4.B.1, below.

Table 3.4.B.1 - Mt. Holly System Water Mains

Mount Holly NJ0323001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.9	26.8			27.7
Cast Iron Lined		2.5	0.0		2.5
Cast Iron Unlined	1.0	12.3			13.3
Ductile Iron	1.6	151.3	10.6	8.4	171.9
Metal	0.1	0.4			0.5
PCCP				5.1	5.1
Plastic	2.5	0.1	0.0	0.1	2.8
Grand Total	6.1	193.3	10.6	13.6	223.8
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

C. HOMESTEAD WATER SYSTEM (PWSID NJ0318002)

System Description

The Homestead System is located in Burlington County and provides water service to a portion of Mansfield Township. Other sections of Mansfield Township are served by the Mt. Holly System.

Source of Supply & Production

The Homestead service area supply consists of two groundwater wells with one treatment plant. The two wells are drilled into the Upper Potomac-Raritan-Magothy aquifer. Both wells are located within the Critical Area 2 Threatened Zone.

This system was interconnected with the Mt. Holly System in February 2006, via an interconnection on Petticoat Bridge Road on the northeastern part of the system.

Distribution & Storage

The distribution system operates as one gradient. The system consists of 12 miles of main ranging in size from 4-inch to 12-inch as shown on Tables 3.4.C.1, below. Homestead has one standpipe with a capacity of 450,000 gallons.

Table 3.4.C.1 - Homestead System Water Mains

Homestead NJ0318002 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Ductile Iron	0.3	11.4	0.2		11.9
Grand Total	0.3	11.4	0.2		11.9
GIS Extract 12/2023					

D. SUNBURY WATER SYSTEM (PWSID NJ0329006)

System Description

The Pemberton-Sunbury System is located in Pemberton Township, Burlington County, New Jersey. The Pemberton-Sunbury System provides water service to Sunbury Village within Pemberton Township.

Source of Supply & Production

The supply for the Pemberton-Sunbury System includes one well drilled into the Mt. Laurel-Wenonah aquifer and a 150-gpm emergency interconnection with Pemberton Borough Water System.

Distribution & Storage

The distribution system operates as one gradient. The system consists of a 0.15 MG tank and 4 miles of main ranging in size from 2-inch to 12-inch.

Table 3.4.D.1 - Sunbury System Water Mains

Pemberton (Sunbury) NJ0329006 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement		2.4			2.4
Ductile Iron	0.0	1.6			1.6
Grand Total	0.0	4.0			4.0
GIS Extract 12/2023					

E. VINCENTOWN WATER SYSTEM (PWSID NJ0333004)

System Description

The Vincentown System is located in Southampton Township, Burlington County, New Jersey. The Vincentown System provides water service to a portion of Southampton Township.

Source of Supply & Production

The Vincentown System has two wells drilled into the Mount Laurel Wenonah Formation.

Distribution & Storage

The system is operated as one gradient. The system consists of one tank and 3 miles of main ranging in size from 2-inch to 12-inch.

Table 3.4.E.1 - Vincentown System Water Mains

Vincentown (Southampton) NJ0333004 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Unlined	0.0	0.4			0.4
Ductile Iron	0.0	2.7			2.7
Metal	0.0	0.2			0.2
Plastic	0.0				0.0
Grand Total	0.1	3.3			3.4
GIS Extract 12/2023					

F. BRIDGEPORT WATER SYSTEM (PWSID NJ0809001)

System Description

The Bridgeport System is located in Gloucester County, southeast of the Commodore Barry Bridge. The Bridgeport System provides water service to the eastern part of Logan Township. Formerly owned by the Penns Grove Water Supply Company, NJAWC acquired and assumed operations of the Bridgeport System in November 2007.

Source of Supply & Production

The Bridgeport System has historically relied upon ground water from two wells located at its Railroad Avenue Station. These wells, drawing water from the Magothy (Upper) portion of the Potomac-Raritan-Magothy aquifer were found to have been affected by the PFAS contamination in 2018. Due to their relatively low yield, these wells were subsequently retired and sealed.

In September 2009, New Jersey American Water constructed an interconnection with the Delaware River System's Regional Transmission Main, and the Bridgeport System began receiving supplemental surface water supplies. This interconnection, located near the intersection of Hendrickson Mill Road and Swedesboro-Paulsboro Road, has since become the primary source of supply this system.

Distribution & Storage

The distribution system is operated as one hydraulic gradient. The system includes three elevated tanks used for distribution, storage and equalization. There are 13 miles of main ranging in size from 4-inch to 16-inch.

Table 3.4.F.1 - Bridgeport System Water Mains

Bridgeport NJ0809001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Unlined		0.3			0.3
Ductile Iron	0.1	14.9	0.0		14.9
Metal	0.0				0.0
Plastic	0.3	0.1	0.1		0.5
Grand Total	0.4	15.3	0.1		15.8
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

G. HARRISON TOWNSHIP WATER SYSTEM (PWSID NJ0808001)

System Description

The Harrison System is located in Gloucester County, southeast of New Jersey Turnpike Exit 2. The Harrison System provides water service to the village of Mullica Hill and other areas of Harrison Township. Formerly owned by South Jersey Water Company, NJAWC acquired and assumed operations of the Harrison System in November 2007.

Source of Supply & Production

The Harrison System supply is comprised of three groundwater stations and includes two interconnections with the DRRWTP pipeline. Four wells drilled in the Magothy (Upper) portion of the Potomac-Raritan-Magothy aquifer are within Critical Area 2 restrictions.

In February 2006 NJAWC constructed an interconnection with the Delaware River System's Regional Transmission Main. This initial interconnection is located near the intersection of Heilig Road and Aura Road in the northeastern part of the system. A second interconnection located in the northwest corner of the system on Tomlin-Station Road became operational in November 2009.

Distribution & Storage

The distribution system operates as one gradient. The system includes one standpipe and one ground storage reservoir for distribution storage. There are 64 miles of main ranging in size from 2-inch to 16-inch.

Table 3.4.G.1 - Harrison Twp. System Water Mains

Harrison NJ0808001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Lined		0.0			0.0
Cast Iron Unlined	0.1	0.6			0.7
Ductile Iron	1.4	63.4	1.0	0.0	65.8
Metal	0.0				0.0
Plastic	0.2	0.1			0.2
Grand Total	1.7	64.1	1.0	0.0	66.7
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

H. LOGAN WATER SYSTEM (PWSID NJ0809002)

System Description

The Logan System is located in Gloucester County, southwest of the Commodore Barry Bridge. The Logan System was acquired by NJAWC in May 1998. The service area includes portions of Logan Township and a small portion of Woolwich Township. The Logan system also provides bulk sales to Aqua New Jersey for its Woolwich System.

Source of Supply & Production

The supply for the Logan System consists of three groundwater stations: Birch Creek, and Beckett Stations. These stations provide iron removal treatment for five wells drilled in the Magothy (Middle) portion of the Potomac-Raritan-Magothy aquifer.

Distribution & Storage

The distribution system operates as two pressure gradients with two storage tanks. The Logan Main Gradient is the primary pressure gradient. The Commodore Rt. 295 Gradient is a smaller gradient. The Pedricktown Gradient in the Penns Grove System was interconnected with the Logan Main Gradient in 2010. The system is comprised of approximately 51 miles of main ranging in size from 4-inch to 16-inch as shown in Tables 3.4.H.1.

Table 3.4.H.1 - Logan System Water Mains

Logan NJ0809002 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Lined	0.0	0.6			0.6
Cast Iron Unlined		1.2			1.2
Ductile Iron	1.1	43.8	2.3	0.5	47.6
Metal	0.0	0.0			0.0
Plastic	0.1	0.4	0.9		1.4
Grand Total	1.2	45.9	3.2	0.5	50.8
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

I. PENNS GROVE WATER SYSTEM (PWSID NJ1707001)

System Description

The Penns Grove System is located in Salem County, northeast of the Delaware Memorial Bridge. The Penns Grove System provides water service to Carney's Point and Oldman's Townships. Formerly owned by the Penns Grove Water Supply Company, NJAWC acquired and assumed operations of the Penns Grove System in November 2007.

The Oldman's Township (Pedricktown) part of the Penns Grove System is interconnected with the Logan System. This has resulted in approximately 330 customers and associated demands being shifted to the Logan System Main Pressure Gradient.

Source of Supply & Production

The Penns Grove System has two groundwater stations with seven wells. There are four wells at the Ranney Station: three wells drilled in the Magothy (Upper) portion of the Potomac-Raritan-Magothy (PRM) aquifer, and one well drilled in the Potomac (Lower) portion of the PRM aquifer. There are three wells at the Layton Station: two wells drilled in the Magothy (Upper) portion of the PRM aquifer, and one well drilled in the Potomac (Lower) portion of the PRM aquifer. In 2014, a new water treatment plant was placed in service at the Ranney Station to treat both the Ranney and Layton wellfields comprising iron and manganese removal followed by granular activated carbon adsorption for the removal of trace organics (PFAS).

The regional water supplies began to supplement the Penns Grove System at the end of 2010. Through the Pedricktown Booster Station, supplemental water supply is conveyed from the Logan System (which receives surface water supplies from the Delaware River System) to the Penns Grove System.

The Penns Grove System firm capacity is 2.396 MGD including a 0.2 MGD transfer from the Logan System.

Distribution & Storage

With the Oldman's Township (Pedricktown) part of the Penns Grove System now interconnected with the Logan System, the only remaining pressure gradient is the Penns Grove Main gradient. The system consists of six tanks and approximately 70 miles of main ranging in size from 4-inch to 16-inch in diameter.

Table 3.4.I.1 - Penns Grove System Water Mains

Penns Grove (Carneys Point) NJ1707001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement		1.1			1.1
Cast Iron Lined	0.3	8.0			8.4
Cast Iron Unlined	2.8	14.3		0.0	17.1
Ductile Iron	1.2	41.4	0.9	0.0	43.5
Metal	0.4	0.1			0.5
Plastic	0.3	0.4			0.7
Grand Total	5.0	65.2	0.9	0.0	71.2
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

J. ATLANTIC COUNTY WATER SYSTEM (PWSID NJ0119002)

System Description

The Atlantic County System is located in Atlantic County serving customers in Absecon City, Egg Harbor Township, Galloway Township, Linwood City, Northfield City, Pleasantville City, and Somers Point City.

Source of Supply & Production

The source of supply for the Atlantic County service area is derived from 25 wells at 19 well stations located throughout the service area, drawing from either the Kirkwood-Cohansey formation or the 800-Foot Sands formation.

The Atlantic County System also maintains an interconnection with the Atlantic City Municipal Utilities Authority (ACMUA).[1]

Distribution & Storage

The Atlantic County distribution system operates as two pressure gradients with seven elevated tanks, approximately 650 miles of water main ranging in size from 4-inch to 24-inch in diameter, and more than 2,300 fire hydrants as shown in Tables 3.4.J.1, below.

[1] NJAW's bulk purchase agreement with ACMUA terminated in November 2016. Only emergency interconnections remain.

Table 3.4.J.1 - Summary of Atlantic County System Water Mains

Atlantic County NJ0119002 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement		8.8			8.8
Cast Iron Lined	1.2	71.7	0.1		72.9
Cast Iron Unlined	5.0	28.0			33.0
Ductile Iron	3.8	425.8	65.8	2.6	498.0
Metal	1.1	0.0			1.1
Plastic	0.3	1.7	0.4		2.5
Grand Total	11.3	536.0	66.3	2.6	616.2
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

K. CAPE MAY COURTHOUSE WATER SYSTEM (PWSID NJ050610)

System Description

The Cape May Court House Water System is a public water system serving customers in Cape May Court House, Mayville, Burleigh, Swainton, and surrounding areas in Middle Township, Cape May County. The Cape May Court House Water System has no sale for resale customers and currently has no customers accounting for more than 10% of total system delivery.

Source of Supply & Production

NJAWC owns and maintains three wells located in the northern, central, and southern parts of the service area, and one metered interconnection with Wildwood City. Two wells draw from the AC 800-Foot Sands and one well from Kirkwood-Cohansey aquifer, with a combined pumping capacity of 3.89 MGD.

Distribution & Storage

The distribution system operates as one pressure gradient with two elevated tanks and approximately 47 miles of main ranging in size from 4-inch to 16-inch as shown on Tables 3.4.K.1, below.

Table 3.4.K.1 - Cape May Court House System Water Mains

Cape May Courthouse NJ0506010 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement		4.3			4.3
Cast Iron Lined		0.3			0.3
Cast Iron Unlined	0.0	0.8			0.8
Ductile Iron	0.0	35.6	7.3		43.0
Metal	0.1				0.1
Grand Total	0.1	41.0	7.3		48.4
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

L. OCEAN CITY WATER SYSTEM (PWSID NJ0508001)

System Description

The Ocean City Water System is a public water system serving customers within Ocean City, Marmora, Beesley's Point and other surrounding areas of Upper Township in Cape May County. The Ocean City Water System has no sale for resale customers, and currently has no customers accounting for more than 10% of total system delivery.

Source of Supply & Production

The Ocean City system is supplied by eleven wells drawing from the AC 800-Foot Sands aquifer.

Distribution & Storage

The distribution system currently operates as one pressure gradient maintained by two elevated tanks, one standpipe, and a reservoir. A new storage tank is planned for the Seaville area of Upper Twp., with an accompanying higher-pressure gradient for the inland portion of Upper Twp. The Ocean City system has approximately 107 miles of main ranging in size from less than 4-inch to 24-inch as show on Tables 3.4.L.1, below.

Table 3.4.L.1 - Ocean City System Water Mains

Ocean City NJ0508001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.0	10.6			10.6
Cast Iron Lined	0.3	0.6			0.9
Cast Iron Unlined	2.4	20.4	0.7	0.3	23.9
Ductile Iron	0.3	31.3	7.2	2.5	41.4
Metal	0.7	0.0			0.7
PCCP			0.1		0.1
Plastic	0.1	29.7	0.4	0.2	30.4
Grand Total	3.9	92.6	8.3	3.1	107.9
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

M. STRATHMERE WATER SYSTEM (PWSID NJ0511001)

System Description

The Strathmere System is a public water system serving customers in a small shore community within the eastern-most part of Upper Township in Cape May County. Strathmere is bounded by Strathmere Bay to the west, Corson Inlet to the north, the Atlantic Ocean to the east, and Sea Isle City to the south.

Source of Supply & Production

The source of supply for the Strathmere service area is derived from two wells, both drilled into the 800-Foot Sands aquifer, with a combined pumping capacity of 0.432 MGD. NJAWC also maintains an emergency connection with the City of Sea Isle.

Distribution & Storage

The Strathmere distribution system operates as one pressure maintained by Vincent Avenue elevated tank. The system has 5 miles of mains ranging in size up to 12-inch as shown in Tables 3.4.M., below.

Table 3.4.M.1 - Strathmere System Water Mains

Strathmere NJ0511001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Unlined	0.1	0.0			0.1
Ductile Iron	0.1	2.7	0.0		2.8
Metal	0.0				0.0
Plastic	0.1	1.6			1.7
Grand Total	0.3	4.3	0.0		4.6
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

N. EGG HARBOR CITY WATER SYSTEM (PWSID NJ0107001)

System Description

The Egg Harbor City System was acquired by New Jersey American Water in June of 2023. The System is a public water system serving customers in a small shore community within the eastern-most part of Upper Township in Cape May County. Strathmere is bounded by Strathmere Bay to the west, Corson Inlet to the north, the Atlantic Ocean to the east, and Sea Isle City to the south.

Source of Supply & Production

The source of supply for the Egg Harbor City service area is derived from three wells, drilled into the 800-Foot Sands aquifer, with a combined pumping capacity of 1650 gpm. The well water is treated at a central treatment station with a firm capacity of 1200 gpm.

Distribution & Storage

The Egg Harbor City distribution system operates as one pressure maintained by a 300,000-gallon elevated tank. The system has 35 miles of mains ranging in size up to 12-inch as shown in Tables 3.4.N.1 below.

Table 3.4.N.1 – Egg Harbor City System Water Mains

Egg Harbor City NJ0107001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.7	1.3			2.0
Cast Iron Unlined	4.2	12.6			16.9
Ductile Iron	0.1	15.5			15.5
Metal	0.2				0.2
Plastic		0.1			0.1
Grand Total	5.1	29.5			34.7
GIS Extract 12/2023					

Note: Due to rounding, not all the totals will sum.

3.5 PROPOSED DSIC PROJECTS, FILING 2024-2027

A total of approximately 62 additional pipeline projects have been identified in the South Operating Area in need of renewal in this foundational filing, and a total of 808 projects when including previously approved DSIC Foundational Filing identified projects. Approximately 278 of these projects have been identified as high priority projects which are proposed to be completed mostly between 2024 and 2026, as shown in Table 3.5, attached. The scope and location of the identified projects are presented in this table.

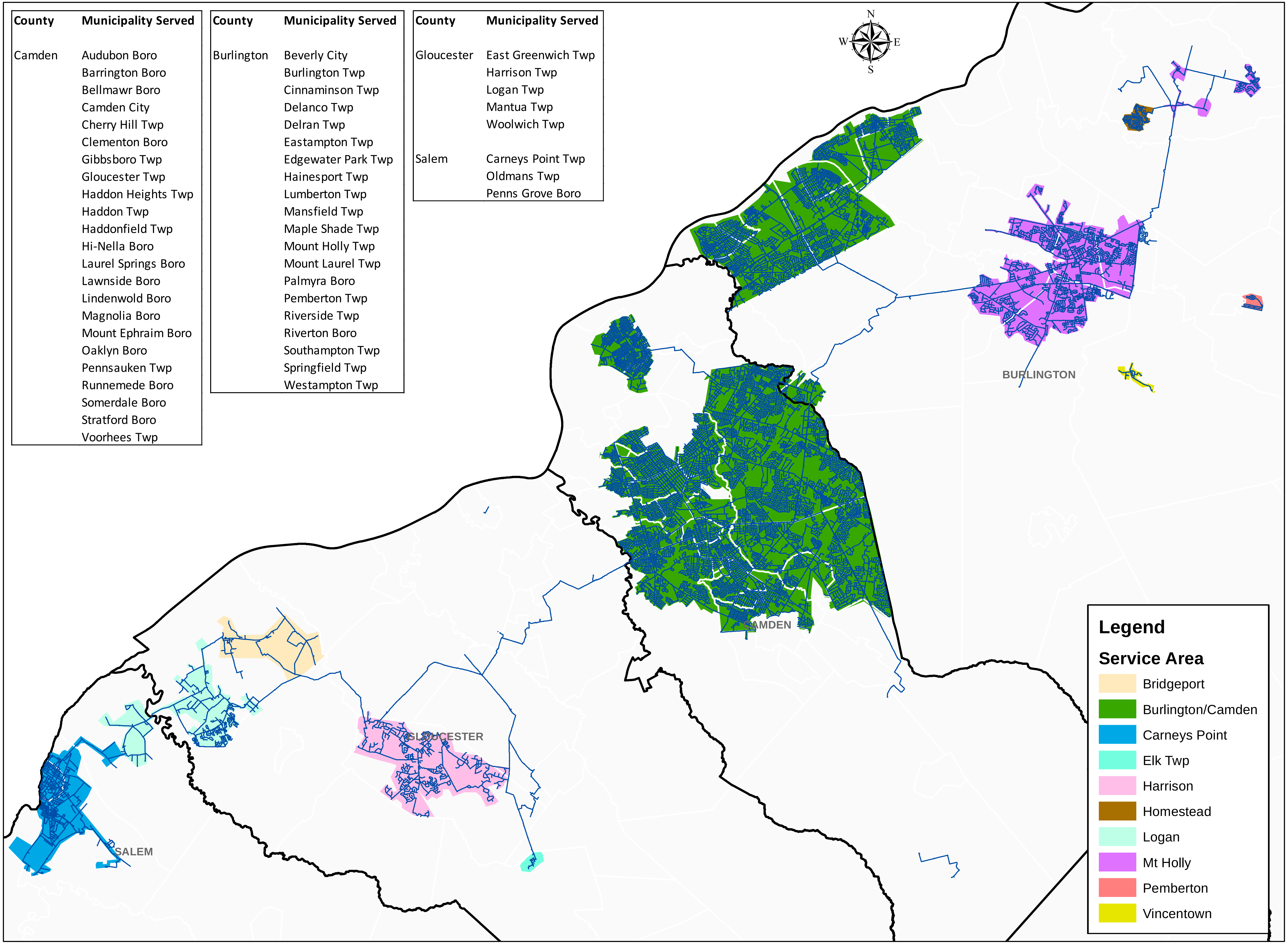
Exhibit 3.1a

New Jersey American Water
2024 DSIC Foundational Filing
South Operating Area

County	Municipality Served
Camden	Audubon Boro
	Barrington Boro
	Bellmawr Boro
	Camden City
	Cherry Hill Twp
	Clementon Boro
	Gibbsboro Twp
	Gloucester Twp
	Haddon Heights Twp
	Haddon Twp
	Haddonfield Twp
	Hi-Nella Boro
	Laurel Springs Boro
	Lawnside Boro
	Lindenwold Boro
	Magnolia Boro
	Mount Ephraim Boro
	Oaklyn Boro
	Pennsauken Twp
	Runnemede Boro
	Somerdale Boro
	Stratford Boro
	Voorhees Twp

County	Municipality Served
Burlington	Beverly City
	Burlington Twp
	Cinnaminson Twp
	Delanco Twp
	Delran Twp
	Eastampton Twp
	Edgewater Park Twp
	Hainesport Twp
	Lumberton Twp
	Mansfield Twp
	Maple Shade Twp
	Mount Holly Twp
	Mount Laurel Twp
	Palmyra Boro
	Pemberton Twp
	Riverside Twp
	Riverton Boro
	Southampton Twp
	Springfield Twp
	Westampton Twp

County	Municipality Served
Gloucester	East Greenwich Twp
	Harrison Twp
	Logan Twp
	Mantua Twp
	Woolwich Twp
Salem	Carneys Point Twp
	Oldmans Twp
	Penns Grove Boro

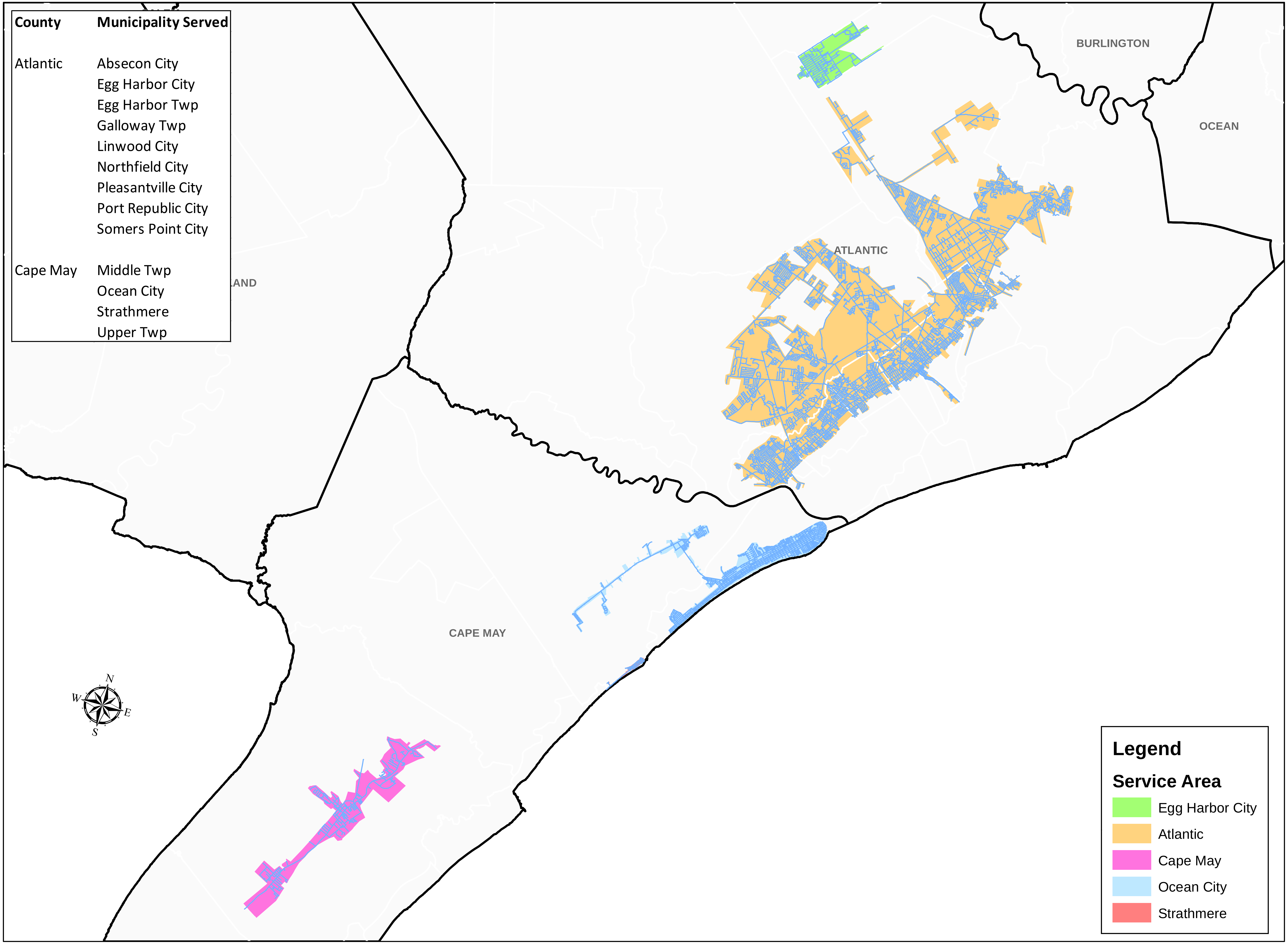


NEW JERSEY AMERICAN WATER

Exhibit 3.1b

New Jersey American Water
2024 DSIC Foundational Filing
South Operating Area (Coastal)

County	Municipality Served
Atlantic	Absecon City
	Egg Harbor City
	Egg Harbor Twp
	Galloway Twp
	Linwood City
	Northfield City
	Pleasantville City
	Port Republic City
	Somers Point City
Cape May	Middle Twp
	Ocean City
	Strathmere
	Upper Twp



Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
216	ABSECON	Shore Road - Between Station Avenue & Faunce Landing Road (Shore Rd Mort ends 2014)	$ 609,000	Replace	1,740	16.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2025Q4
217	ABSECON	Shore Road - Between Faunce Landing Road & Shady Lane (Shore Rd Mort ends 2014)	$ 255,000	Replace	989	16.00	Ductile Iron	1910	4	CI	System Flows and Pressure	60	2025Q4
235	ABSECON	Shore Road - Between Shady Lane & Bayview Drive (ASMRP 1.10)	$ 845,900	Replace	2,417	16.00	Ductile Iron	1910	4	CI	System Flows and Pressure	90	2025Q4
236	ABSECON	Shore Road - Between Bayview Drive & Wyoming Avenue	$ 453,000	Replace	1,294	16.00	Ductile Iron	1910	4	CI	System Flows and Pressure	60	2025Q4
237	ABSECON	Shore Road - Between Kessler Avenue & 200 Feet North of Kessler Avenue	$ 72,000	Replace	206	16.00	Ductile Iron	1980	6	CI	System Flows and Pressure	30	2025Q4
5509	ABSECON	Richmond Circle from Shady Lane to the end	$ 93,250	Replace	373	6.00	Ductile Iron	1910	2	CI	Water Quality	30	2024Q4
6056	ABSECON	Berkley Avenue between Shore Road and Euclid Drive	$ 112,500	Replace	611	8.00	Ductile Iron	1940	2	CI	System Flows and Pressure	60	2025Q4
6057	ABSECON	Cordova Drive between Shore Road and Lisbon Ave	$ 50,000	Replace	255	6.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	30	2024Q4
7654	ABSECON	Pitney Road (Between Church St. - Wyoming Ave), Oak Drive, Spruce St, Pine St (Pitney to Shady Ln),	$ 1,036,000	Replace	3,454	12.00	Ductile Iron	1940	6	AC	System Flows and Pressure	90	2024Q4
7655	ABSECON	W. Faunce Landing Road (Between Pitney Rd. - Shore Rd.), Spruce St with Loop to Faunce Landing	$ 605,000	Replace	1,694	8.00	Ductile Iron	1910	8	CI	System Flows and Pressure	60	2024Q4
8501	ABSECON	New York Avenue between Elberon Ave & Mill Rd.	$ 441,750	Replace	1,554	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2026Q4
8502	ABSECON	Yarmouth Avenue, Woodcrest Avenue, Seminole Avenue, S. Pitney Rd, Hobert Ave	$ 652,500	Replace	2,610	8.00	Ductile Iron	1940	6	AC	System Flows and Pressure	90	2026Q4
8505	ABSECON	E. Bolton Avenue & E Lee Avenue between Shore Rd and Franklin Blvd	$ 306,000	Replace	1,211	8.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2026Q4
8954	ABSECON	Franklin Blvd from Nevada Ave to Bolton Ave	$ 370,000	Replace	1,480	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2026Q4
8956	ABSECON	Nevada Avenue between Shore Road and 7th Avenue & 8th St north from Nevada	$ 810,000	Replace	2,704	8.00	Ductile Iron	1980	6	DI	Safety and Reliability/Structural	90	2026Q4
10284	ABSECON	Rt 30 Absecon Blvd Causeway	$ 1,762,950	Replace	4,943	16.00	PVC	1980	16	DI	Safety and Reliability/Structural	120	2026Q4
10352	ABSECON	Chelsea Rd, Woodcrest Ave, Elberon Ave and Mill Rd (Pitney Rd to Chelsea Rd)	$ 890,500	Replace	3,344	8.00	Ductile Iron	1940	8	CI	Safety and Reliability/Structural	90	2025Q4
11348	ABSECON	Cherokee Lane from Shore Rd to End	$ 82,500	Replace	297	6.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	30	2025Q4
8576	BARRINGTON	Barrington - Russell Avenue, Majestic Avenue, Edwards Avenue, and Adams Avenue	$ 1,037,400	Replace	5,460	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2025Q4
8578	BARRINGTON	Barrington - Albertson Avenue, Moore Avenue, Dubois Avenue, Charles Avenue, Austin Avenue, 5th	$ 1,444,000	Replace	7,600	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2025Q4
8596	BARRINGTON	Barrington - Mercer Drive, Letitia Lane, Avon Road, Princeton Road, Whitman Drive, and Peltoma Road	$ 1,216,000	Replace	7,446	8.00	Ductile Iron	1940	8	AC	Safety and Reliability/Structural	120	2025Q4
5667	BELLMAWR	Bellmawr - 1st Ave and N. Bellmawr Avenue - E. Browning Road to Existing 6"	$ 114,000	Replace	863	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2025Q4
315	CAMDEN	Camden - Cambridge Avenue - River Road to	$ 228,000	Replace	1,328	8.00	Ductile Iron	1930	4	CI	System Flows and Pressure	60	2024Q4
316	CAMDEN	Camden - Cramer Street and 28th Street - 27th Street to 30th Street	$ 266,000	Replace	1,525	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2024Q4
317	CAMDEN	Camden - Saunders Street - 27th Street to 30th Street	$ 338,800	Replace	1,536	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	60	2024Q4
5319	CAMDEN	Camden - North 38th Street - Westfield Avenue to	$ 228,000	Replace	1,048	8.00	Ductile Iron	1930	4	CI	System Flows and Pressure	60	2025Q4
5825	CAMDEN	Camden - Harrison Avenue - North 28th Street to	$ 138,700	Replace	816	8.00	Ductile Iron	1930	4	CI	System Flows and Pressure	60	2026Q4
5830	CAMDEN	Camden - Garfield Avenue - North 27th Street to	$ 209,000	Replace	1,051	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2025Q4
5832	CAMDEN	Camden - Sherman Avenue - North 27th Street to North 29th Street	$ 304,000	Replace	1,033	8.00	Ductile Iron	2000	4	CI	Safety and Reliability/Structural	60	2025Q4
5845	CAMDEN	Camden - North 28th Street - Thompson Street to Cramer Street	$ 228,000	Replace	1,069	8.00	Ductile Iron	1900	4	CI	Safety and Reliability/Structural	60	2026Q4
5847	CAMDEN	Camden - Church Street - Westfield Avenue to Federal Street	$ 123,500	Replace	636	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2025Q4
5858	CAMDEN	Camden - Stewart Street - Howell Street to East State Street	$ 123,500	Replace	620	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	60	2024Q4
5877	CAMDEN	Camden - Marlton Ave - 12" in Federal St to 12" In Rosemont Ave	$ 720,000	Replace	3,966	12.00	Ductile Iron	1920	8	CI	Relocation/Opportunity	90	2024Q4
5882	CAMDEN	Camden - Beideman Ave - River Ave to Cleveland Ave and Cleveland Ave from Beideman Ave to N	$ 294,500	Replace	1,969	8.00	Ductile Iron	1900	12	CI	System Flows and Pressure	60	2026Q4
5884	CAMDEN	Camden - South 32nd Street - Fermont Ave to	$ 150,000	Replace	818	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	60	2024Q4
7556	CAMDEN	Marlton Avenue, Berwick Avenue, Morse St, Sewell Street, Westminster Avenue	$ 350,000	Replace	1,735	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2024Q4
7648	CAMDEN	Camden - Howell St, 21st St, 22nd St, 23rd St, 24th St, 25th St, 26th St, Saunders St	$ 1,200,000	Replace	6,118	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	120	2026Q4
8717	CAMDEN	Camden - Mickle Street, Stevens Street, Benson St, Washington Street and Eutaw Avenue	$ 1,872,200	Replace	10,931	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	120	2025Q4
8836	CAMDEN	Camden - Concord Ave, Hayes Ave, Garfield Ave, Arthur Ave, Sherman Ave, Wayne Ave, Lincoln Ave,	$ 2,747,400	Replace	14,452	8.00	Ductile Iron	1940	12	CI	Safety and Reliability/Structural	120	2024Q4
9747	CAMDEN	Fremont Ave, 32nd Street, 33rd Street	$ 640,000	Replace	3,208	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	90	2024Q1
9749	CAMDEN	Hayes Avenue, North 19th Street, and North 34th Street	$ 1,600,000	Replace	7,000	12.00	Ductile Iron	1900	4	CI	System Flows and Pressure	120	2026Q4
11063	CAMDEN	S 35th St - Federal St to Highland Ave	$ 240,000	Replace	1,142	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2026Q4
9735	CARNEYS POINT	Shell Road (VCP-412 to Hawks Bridge Road)	$ 1,500,000	Replace	6,507	8.00	Ductile Iron	1960	8	CI	Relocation/Opportunity	120	2024Q4
10072	CARNEYS POINT	Carney's Point- G Street (Maple Avenue to Bay Street)	$ 400,000	Replace	1,145	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2025Q4
10073	CARNEYS POINT	Carney's Point- Bay Street from B Street to J Street	$ 400,000	Replace	1,653	8.00	Ductile Iron	1900	6	CI	Safety and Reliability/Structural	60	2024Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
10074	CARNEYS POINT	Carney's Point- Walker Avenue from B Street to J Street	$ 400,000	Replace	1,077	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2026Q4
484	CHERRY HILL	Cherry Hill - Lisa Lane - Huntington Drive to Kings Point Road	$ 142,500	Replace	764	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2025Q4
5328	CHERRY HILL	Cherry Hill - Mona Court - Off Charlann Circle	$ 57,000	Replace	320	4.00	Ductile Iron	1960	6	CI	System Flows and Pressure	30	2025Q4
5859	CHERRY HILL	Cherry Hill - Bedford Avenue; Martin Avenue; Hollis Avenue; Graham Avenue; Sherwood Avenue -	$ 259,350	Replace	1,678	4.00	Ductile Iron	1960	2	CI	System Flows and Pressure	60	2025Q4
7677	CHERRY HILL	North and South Woodstock Drive	$ 725,000	Replace	3,806	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	90	2025Q4
8589	CHERRY HILL	Cherry Hill - Pleasant Drive, Nature Drive, Astor Drive, Garwood Place, and Randy Lane	$ 1,284,400	Replace	6,760	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2025Q4
8590	CHERRY HILL	Cherry Hill - E Valleybrook Road, Laurelbrook Road, Sunnybrook Road, Willowbrook Road, Oakdale Road,	$ 1,045,000	Replace	5,349	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2025Q4
8657	CHERRY HILL	Cherry Hill - Churchill Road, Stanford Road, Shepard Road, Bel Aire Avenue, Newell Avenue, and Park	$ 1,299,600	Replace	6,701	8.00	Ductile Iron	1930	6	AC	Safety and Reliability/Structural	120	2024Q4
8659	CHERRY HILL	Cherry Hill - Kings High Way S (NJ-41) and Montana Avenue	$ 609,000	Replace	3,135	12.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	90	2024Q4
8661	CHERRY HILL	Cherry Hill - Iron Master Road, Fieldstone Road, Warfield Road, Nantucket Road, Pearlcroft Road,	$ 2,082,400	Replace	10,949	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	120	2025Q4
8878	CHERRY HILL	Cherry Hill - Sheridan Avenue, Grant Avenue, Edison Avenue	$ 1,390,400	Replace	6,320	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	120	2024Q4
10203	CHERRY HILL	Cherry Hill- Hedy Avenue, LLoyd Avenue, Maple Avenue and AAron Ct.	$ 600,000	Replace	2,403	8.00	Ductile Iron	1960	8	CI	Safety and Reliability/Structural	90	2025Q4
10221	CHERRY HILL	Cherry HIll- Hillcroft Lane, Olde Spring Lane and Fountain Ct.	$ 500,000	Replace	3,051	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	90	2026Q4
10245	CHERRY HILL	Cherry Hill- Route 70 Phase 3	$ 1,000,000	Replace	15,736	12.00	Ductile Iron	1960	8	DI	Safety and Reliability/Structural	120	2024Q4
10937	CHERRY HILL	Cherry Hill- Barby Lane	$ 370,000	Replace	1,453	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	60	2025Q4
11343	CHERRY HILL	Cherry Hill - Wesley Avenue, Cooper Avenue, and Madison Avenue	$ 1,276,000	Replace	5,749	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	120	2026Q4
11344	CHERRY HILL	Cherry Hill - Harrison Avenue, Harding Avenue, Park	$ 1,575,200	Replace	7,152	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	120	2025Q4
11345	CHERRY HILL	Cherry Hill- Wheelwright Lane, Meadow Lane and	$ 500,000	Replace	1,740	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2025Q4
11346	CHERRY HILL	Cherry Hill- Regent Road	$ 500,000	Replace	1,831	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
7824	CINNAMINSON	Manor Road - Highland Ave to HCN-607	$ 350,000	Replace	1,691	12.00	Ductile Iron	1960	6	AC	System Flows and Pressure	60	2024Q4
8363	CINNAMINSON	Cinnaminson - Buttonwood Lane and Wynwood Lane	$ 980,000	Replace	3,518	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	90	2026Q4
9541	DELANCO	Lilac Lane, Peachtree Lane, Magnolia Lane, Fenimore Lane, Second Street	$ 850,000	Replace	4,524	8.00	Ductile Iron	1960	6	AC	Relocation/Opportunity	120	2024Q4
11387	DELANCO	Franklin Street, Pine Street, Rancoas Avenue	$ 400,500	Replace	1,543	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2025Q4
8827	DELRAN	Delran - Meadowview Drive, Foxcroft Drive and	$ 616,000	Replace	2,800	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	90	2025Q4
5995	EASTAMPTON TWP	Eastampton - Bedford Court - Nottingham Way to Dead End	$ 95,000	Replace	432	4.00	Ductile Iron	1970	2	PVC	System Flows and Pressure	30	2025Q4
6001	EASTAMPTON TWP	Eastampton - Suffolk Court - Nottingham Way to	$ 190,000	Replace	935	4.00	Ductile Iron	1970	3	PVC	System Flows and Pressure	60	2025Q4
11351	EGG HARBOR CITY	Atlantic Ave from 1st Terr to Philadelphia Ave	$ 898,000	Replace	1,862	12.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
11353	EGG HARBOR CITY	London Ave, Liverpool Ave, W. Atlantic and Aloe	$ 826,200	Replace	1,589	12.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2024Q4
11354	EGG HARBOR CITY	Philadelphia Avenue from W. Atlantic Avenue to	$ 695,000	Replace	2,000	12.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2024Q4
11358	EGG HARBOR CITY	Aloe Street (Philadelphia Ave to St. Louis Ave), Cape	$ 755,000	Replace	2,850	12.00	Ductile Iron	1960	6	DI	Safety and Reliability/Structural	90	2026Q4
11359	EGG HARBOR CITY	North Street & Main Street (Philadelphia to Cape	$ 764,500	Replace	2,780	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2025Q4
11360	EGG HARBOR CITY	Central Ave (Philadelphia to Cape May), Cincinnati	$ 539,000	Replace	1,960	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2025Q4
11364	EGG HARBOR CITY	8th Terrace from Claudius St to Beethoven St -	$ 650,000	Replace	2,284	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2025Q4
11377	EGG HARBOR CITY	Baltimore Ave (Atlantic to Beethoven),Beethoven to	$ 795,000	Replace	2,024	16.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	90	2025Q4
11378	EGG HARBOR CITY	9th Terrace (Rt 30 to Campe Street)	$ 775,000	Replace	2,586	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2026Q4
11379	EGG HARBOR CITY	Diesterweg St (Chicago to 10th Terr), Chicago and	$ 803,400	Replace	2,289	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2025Q4
11380	EGG HARBOR CITY	Claudius St (8th Terr to 10th Terr), Chicago and 10th Terr (Claudius to Campe)	$ 633,000	Replace	2,159	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2025Q4
11381	EGG HARBOR CITY	Beethoven St (Baltimore to San Francisco Ave), San	$ 917,000	Replace	2,089	16.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	90	2026Q4
11382	EGG HARBOR CITY	Buerger Street (Philadelphia Ave to San Francisco Avenue	$ 973,500	Replace	2,765	16.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	90	2026Q4
11383	EGG HARBOR CITY	10th Terr (Beethoven to Campe), Campe St (8th Terr	$ 630,000	Replace	2,100	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2026Q4
11384	EGG HARBOR CITY	11th Terrace (Beethoven to Campe), Beethoven	$ 850,500	Replace	2,835	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2026Q4
11385	EGG HARBOR CITY	5th Terrace from Claudius Street to Beethoven	$ 600,000	Replace	1,949	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
11392	EGG HARBOR CITY	Atlantic Avenue from 13th Terr to Bremen Avenue	$ 492,000	Replace	1,640	12.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
11393	EGG HARBOR CITY	White Horse Pike (Baltimore to New Orleans), New	$ 632,000	Replace	1,520	12.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
11394	EGG HARBOR CITY	Atlantic Ave (Philadelphia Ave to St Louis Ave),	$ 672,000	Replace	2,240	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2026Q4
8345	EGG HARBOR TWP	Black Horse Pike 16" Main from Brenta Ave to	$ 1,902,250	Replace	5,435	16.00	PVC	1960	16	DI	Safety and Reliability/Structural	120	2024Q4
10178	EGG HARBOR TWP	E. Plaza Place, Athens Avenue, Naples Avenue,	$ 620,000	Replace	2,456	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	90	2024Q4
10179	EGG HARBOR TWP	Black Horse Pike between Granada Avenue and	$ 1,835,425	Replace	5,947	8.00	PVC	1960	6	CI	Safety and Reliability/Structural	120	2024Q4
10928	EGG HARBOR TWP	Black Horse Pike (W Plaza Place to Granada Ave)	$ 700,000	Replace	1,881	8.00	Ductile Iron	1950	6	CI	Relocation/Opportunity	60	2024Q4
8881	GIBBSBORO	Gibbsboro - Clearbrook Drive, Hawthorne Road, Alden Road, Lambert Lane, Wedgewood Place and Laure Lane	$ 1,025,500	Replace	4,652	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2024Q4
5958	HADDON HEIGHTS	Haddon Heights - South Park Avenue - Bellmawr Avenue to Station Avenue	$ 281,200	Replace	1,638	8.00	Ductile Iron	1900	4	CI	Sustained Economic Growth	60	2026Q4
5933	HADDON TWP	Haddon Township - Marlborough Avenue - Black Horse Pike to Nicholson Road	$ 541,500	Replace	2,883	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	90	2024Q4
7102	HADDONFIELD	Haddonfield - Haddon Avenue (CR-561) - Ellis Street	$ 1,450,000	Replace	3,247	12.00	Ductile Iron	1790	8	CI	Safety and Reliability/Structural	90	2024Q4
7264	HADDONFIELD	Haddonfield - Maple Avenue and Maple Court - Grove Street (CR-644) to End of Main	$ 340,000	Replace	1,753	8.00	Ductile Iron	1790	4	CI	Safety and Reliability/Structural	60	2026Q4
8675	HADDONFIELD	Haddonfield - W Summit Avenue, Evans Avenue, Mountwell Avenue, and Jefferson Avenue	$ 931,000	Replace	4,900	8.00	Ductile Iron	1900	4	CI	Safety and Reliability/Structural	120	2025Q4
8676	HADDONFIELD	Haddonfield - S Atlantic Avenue, Mountwell Avenue, Lafayette Avenue, Jefferson Avenue, and W Park	$ 1,231,200	Replace	6,480	8.00	Ductile Iron	1900	4	CI	Safety and Reliability/Structural	120	2026Q4
8679	HADDONFIELD	Haddonfield - Maple Avenue, Princeton Avenue,	$ 1,630,200	Replace	5,203	8.00	Ductile Iron	1790	6	CI	Safety and Reliability/Structural	120	2025Q4

2024 Foundational Filing
Table 3.5 Southern Operating Area
2024 - 2026 Priority Projects

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
10195	HADDONFIELD	Haddonfield- Longwood Drive, Longwood Circle, and Hillside Avenue	$ 600,000	Replace	2,751	8.00	Ductile Iron	1790	6	CI	Safety and Reliability/Structural	90	2026Q4
8605	HAINESPORT TWP	Hainesport Twp - Maine Avenue, Haines Ave, Princess Ave, Royal Ave,Northampton Ave, Stokes	$ 634,000	Replace	2,880	8.00	Ductile Iron	1960	8	AC	Sustained Economic Growth	90	2024Q4
10949	HAINESPORT TWP	Albert St - Washington St to Broad St	$ 170,000	Replace	795	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	60	2024Q4
212	LINWOOD	Shore Road Ph 9 - Between Ocean Heights Avenue &	$ 740,000	Replace	1,961	16.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
6538	LINWOOD	Garfield Ave between Shore Road and Wabash	$ 175,000	Replace	903	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2024Q4
6549	LINWOOD	Maple Avenue between US Rt 9 and Wilson Avenue	$ 152,000	Replace	790	8.00	Ductile Iron	1980	6	CI	Safety and Reliability/Structural	60	2025Q4
6550	LINWOOD	Davis Avenue between Maple Avenue and Shore Road	$ 412,000	Replace	2,056	8.00	Ductile Iron	1980	6	CI	Safety and Reliability/Structural	90	2025Q4
7574	LINWOOD	Lincoln Ave. Steven Dr. State St. Dee Dr. Wood Dr.	$ 820,000	Replace	3,137	8.00	Ductile Iron	1950	6	AC	System Flows and Pressure	90	2026Q4
8309	LINWOOD	Davis Ave., Wilson Ave., Sterling Ave., Brighton Dr.	$ 735,000	Replace	2,934	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	90	2026Q4
8693	LUMBERTON TWP	Lumberton - Eayrestown Road - Between Route 38 to Municipal Drive	$ 1,540,000	Replace	6,810	12.00	Ductile Iron	1960	12	DI	System Flows and Pressure	120	2024Q4
8573	MAGNOLIA	Magnolia - E Jefferson Avenue, Lafayette Avenue, Stephen Place, Cumberland Avenue, E Washington	$ 844,800	Replace	3,831	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	90	2024Q4
10063	MAGNOLIA	Magnolia- West Madison Avenue (Otter Branch to Charles Road) and West Harrison	$ 250,000	Replace	3,380	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2024Q4
5609	MIDDLE TWP	Mechanic Street from the railroad tracks to North Boyd Street, Including railroad crossing, Magnolia to	$ 933,000	Replace	2,121	12.00	Ductile Iron	1950	12	AC	System Flows and Pressure	90	2024Q4
6132	MIDDLE TWP	Atlantic Avenue between Boyd St and Route 9	$ 250,500	Replace	722	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
6135	MIDDLE TWP	Boyd Street between Romney Place and Stites Avenue	$ 455,000	Replace	1,644	8.00	Ductile Iron	1980	12	DI	System Flows and Pressure	60	2024Q4
6136	MIDDLE TWP	Boyd Street (Stites Ave to Pacific Ave), W. Atlantic	$ 688,000	Replace	4,040	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	120	2026Q4
6145	MIDDLE TWP	Bennett Road (GSP and Hewitt Rd), Fitch Rd, Penkethman Way, Hewitt Rd, Bayberry Dr (Bennett	$ 730,500	Replace	1,888	8.00	Ductile Iron	1940	8	AC	Safety and Reliability/Structural	60	2025Q4
6155	MIDDLE TWP	Stites Avenue between Boyd St and Main St	$ 166,250	Replace	665	8.00	Ductile Iron	1950	6	AC	System Flows and Pressure	60	2026Q4
7550	MIDDLE TWP	Crest Haven	$ 1,494,850	Replace	4,271	16.00	Ductile Iron	1970	12	AC	System Flows and Pressure	120	2026Q4
8868	MIDDLE TWP	Hand Avenue between Railroad and Boyd Street	$ 300,000	Replace	540	12.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
8883	MIDDLE TWP	Route 9 between N. Main Street Well and Easy	$ 793,000	Replace	2,438	16.00	Ductile Iron	1970	12	AC	Safety and Reliability/Structural	90	2026Q4
8884	MIDDLE TWP	Crest Haven Road from Route 9 to Parkway Overpass	$ 405,000	Replace	1,346	16.00	Ductile Iron	1970	12	AC	Safety and Reliability/Structural	60	2026Q4
5840	MOUNT HOLLY TWP	Mount Holly - Green Street - Station to Hillside Rd	$ 860,000	Replace	4,221	12.00	Ductile Iron	1840	12	CI	Safety and Reliability	120	2024Q4
8989	MOUNT HOLLY TWP	Village Square Apartments (First Montgomery Drive)	$ 325,000	Replace	1,624	8.00	Ductile Iron	1930	4	AC	System Flows and Pressure	60	2024Q4
10241	MOUNT HOLLY TWP	Mt. Holly- Washington Street Bridge	$ 500,000	Replace	807	8.00	Ductile Iron	1920	8	CI	Safety and Reliability/Structural	60	2024Q4
5943	MT EPHRAIM	Mount Ephraim - Rudderow Avenue - Bell Road to Dead End	$ 114,000	Replace	579	8.00	Ductile Iron	1940	4	CI	System Flows and Pressure	60	2025Q4
206	NORTHFIELD	Tilton Road - Between Mill Road and Wabash Avenue (Tilton Moratorium ends 2013)	$ 223,250	Replace	853	16.00	Ductile Iron	1960	2	CI	System Flows and Pressure	60	2024Q4
207	NORTHFIELD	Tilton Road - Between Wabash Avenue & Zion Road (Tilton Moratorium ends 2013)	$ 66,000	Replace	180	16.00	Ductile Iron	2000	6	DI	System Flows and Pressure	30	2024Q4
5597	NORTHFIELD	Cove Avenue from Shore Road to end of Cove Avenue	$ 160,000	Replace	635	6.00	Ductile Iron	1930	2	PE	Relocation/Opportunity	60	2024Q4
6101	NORTHFIELD	Zion Road between New Road and Wabash Avenue	$ 810,875	Replace	2,495	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2024Q4
6102	NORTHFIELD	Northfield Avenue between Zion Road and Shore Road	$ 162,750	Replace	1,051	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2024Q4
6564	NORTHFIELD	W. Glencove Avenue between US Rt 9 and Wabash Avenue	$ 313,000	Replace	1,252	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
6565	NORTHFIELD	W. Yorkshire Avenue between Shore Road and	$ 182,500	Replace	652	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
6570	NORTHFIELD	Chestnut Avenue between 2nd Ave and Maple Ave	$ 272,500	Replace	1,091	8.00	Ductile Iron	1910	8	CI	Safety and Reliability/Structural	60	2024Q4
6572	NORTHFIELD	Willow Drive between Tilton Road and Zion Road	$ 230,450	Replace	838	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
6573	NORTHFIELD	Locust Drive between Tilton Road and Zion Road	$ 265,000	Replace	1,060	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	60	2024Q4
6574	NORTHFIELD	Wabash Avenue between Tilton Road and Zion Road	$ 173,250	Replace	630	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	60	2024Q4
6597	NORTHFIELD	Northfield Ave between Zion Road and Route 9	$ 510,000	Replace	1,683	8.00	Ductile Iron	1970	6	DI	Safety and Reliability/Structural	60	2024Q4
6916	NORTHFIELD	County Club Drive, Circle Dr & Heather Dr Main Replacements	$ 362,500	Replace	1,800	8.00	Ductile Iron	1950	2	CI	System Flows and Pressure	60	2025Q4
6917	NORTHFIELD	Bonnie Lee Dr between County Club Dr and Heather	$ 431,000	Replace	1,724	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2025Q4
8291	NORTHFIELD	2nd Avenue between Fairbanks Avenue & Davis Avenue	$ 407,500	Replace	1,629	8.00	Ductile Iron	1910	6	ac	System Flows and Pressure	60	2024Q4
10286	NORTHFIELD	Cedarbridge Road from Helen Dr to Wabash Ave	$ 569,250	Replace	2,070	8.00	Ductile Iron	1950	6	CI	Water Quality	90	2024Q1
203	OCEAN CITY	Simpson Avenue - Between 1st Street & 2nd Street. 1st Street - Between Simpson Ave. - Bay Ave. 2nd	$ 250,000	Replace	1,134	8.00	PVC	1910	4	CI	System Flows and Pressure	60	2025Q4
219	OCEAN CITY	Stenton Place - Between Corinthian Avenue & Beach	$ 45,000	Replace	236	8.00	PVC	1910	2	GALV	System Flows and Pressure	30	2024Q4
5380	OCEAN CITY	Surf Road from Atlantic to Wesley	$ 300,150	Replace	1,323	12.00	PVC	1930	6	CI	Relocation/Opportunity	60	2026Q4
5398	OCEAN CITY	25th Street from Haven Ave to Asbury Ave	$ 204,600	Replace	618	8.00	Ductile Iron	1910	6	AC	Safety and Reliability/Structural	60	2025Q4
5546	OCEAN CITY	Stenton Place from Corinthian Avenue to Boardwalk	$ 70,000	Replace	236	6.00	PVC	1910	2	GALV	Relocation/Opportunity	30	2024Q4
6245	OCEAN CITY	Anchorage Dr replacement from 55th to 52nd	$ 510,000	Replace	1,582	8.00	PVC	1970	8	AC	Safety and Reliability	60	2025Q4
6248	OCEAN CITY	Central Ave replacement from 20th to 15th	$ 572,000	Replace	2,786	8.00	PVC	1910	6	CI	Safety and Reliability	90	2024Q4
6252	OCEAN CITY	Bay Ave replacement from 31st to 26th	$ 1,002,050	Replace	2,863	12.00	Ductile Iron	1940	12	AC	Safety and Reliability/Structural	90	2025Q4
6256	OCEAN CITY	Asbury Ave replacement from 51st to 48th	$ 870,000	Replace	2,904	12.00	Ductile Iron	1950	2	GALV	Safety and Reliability/Structural	90	2025Q1

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
6261	OCEAN CITY	Dory Dr replacement from 55th to 52nd	$ 325,000	Replace	1,391	8.00	PVC	1970	8	AC	Safety and Reliability/Structural	60	2025Q4
6266	OCEAN CITY	West Ave replacement from 52nd to 55th	$ 425,000	Replace	1,684	8.00	PVC	1970	8	AC	Safety and Reliability/Structural	60	2024Q4
6375	OCEAN CITY	10th St replacement from end to Palen	$ 20,000	Replace	59	8.00	PVC	1910	2	GALV	Safety and Reliability/Structural	30	2024Q4
6381	OCEAN CITY	25th St replacement from Wesley to Haven	$ 317,500	Replace	1,263	8.00	PVC	1910	6	AC	Safety and Reliability/Structural	60	2024Q4
6398	OCEAN CITY	West Ave replacement from 7th to 3rd	$ 545,000	Replace	1,493	8.00	PVC	1910	4	CI	Safety and Reliability/Structural	60	2024Q4
6419	OCEAN CITY	23rd St replacement from Bay to Haven	$ 122,800	Replace	636	8.00	PVC	1940	6	AC	Safety and Reliability/Structural	60	2025Q4
6420	OCEAN CITY	Asbury Ave replacement from 17th to 21st	$ 562,500	Replace	2,247	8.00	PVC	1910	6	CI	Safety and Reliability/Structural	90	2024Q4
6431	OCEAN CITY	Sunset & Bayonne Pl replacement from end to Bay	$ 390,180	Replace	1,733	8.00	PVC	1940	6	CI	Safety and Reliability/Structural	60	2025Q4
6433	OCEAN CITY	19th St replacement from West to Haven	$ 79,800	Replace	269	8.00	PVC	1950	6	AC	Safety and Reliability/Structural	30	2025Q4
6434	OCEAN CITY	20th St replacement from West to Haven	$ 54,200	Replace	268	8.00	PVC	1950	6	AC	Safety and Reliability/Structural	30	2025Q4
6440	OCEAN CITY	20th St replacement from Wesley to Central	$ 61,600	Replace	307	8.00	PVC	1980	6	CI	Safety and Reliability/Structural	30	2024Q4
6443	OCEAN CITY	51st St replacement from Asbury to Haven	$ 150,000	Replace	600	8.00	PVC	1950	8	AC	Safety and Reliability/Structural	60	2025Q4
6447	OCEAN CITY	16th St replacement from Bay to Simpson	$ 131,250	Replace	232	8.00	Ductile Iron	1950	12	AC	Safety and Reliability/Structural	30	2024Q4
6448	OCEAN CITY	18th St replacement from Asbury to Simpson	$ 324,800	Replace	913	12.00	Ductile Iron	1950	12	AC	Safety and Reliability/Structural	60	2024Q4
6449	OCEAN CITY	21st St replacement from Haven to Bay	$ 131,000	Replace	623	12.00	PVC	1950	12	AC	Safety and Reliability/Structural	60	2025Q4
8521	OCEAN CITY	E Atlantic Blvd. between Harbor Road & Seaspray Rd.	$ 582,300	Replace	1,941	16.00	Ductile Iron	1930	12	CI	System Flows and Pressure	60	2024Q4
8522	OCEAN CITY	Ocean Road between E. Seabright Rd. & Waverly	$ 200,000	Replace	800	12.00	PVC	1930	10	CI	System Flows and Pressure	60	2024Q4
8523	OCEAN CITY	E. Atlantic Blvd. between Gull Rd. & Ocean Rd.	$ 668,750	Replace	2,277	16.00	Ductile Iron	1930	8	CI	System Flows and Pressure	90	2024Q4
8527	OCEAN CITY	Pinnacle Road between Battersea Rd. - Gull Rd.	$ 300,000	Replace	1,203	12.00	PVC	1930	12	CI	System Flows and Pressure	60	2026Q4
8536	OCEAN CITY	53rd Street between Asbury Ave and the Beach	$ 42,500	Replace	281	8.00	PVC	1950	2	CI	System Flows and Pressure	30	2024Q4
8539	OCEAN CITY	Atlantic Avenue between North St. & 3rd St.	$ 721,000	Replace	1,924	16.00	Ductile Iron	1910	12	CI	System Flows and Pressure	60	2026Q4
8615	OCEAN CITY	Corinthian Avenue between Brighton Place & Stenton Place	$ 607,500	Replace	2,428	12.00	PVC	1910	10	CI	System Flows and Pressure	90	2024Q4
8616	OCEAN CITY	St. Charles Place between Atlantic Avenue & Boardwalk	$ 343,750	Replace	1,374	8.00	PVC	1910	6	CI	System Flows and Pressure	60	2024Q4
8617	OCEAN CITY	Pennlyn Place between Corinthian Avenue to Boardwalk	$ 750,000	Replace	301	8.00	PVC	1910	6	CI	System Flows and Pressure	30	2024Q4
8618	OCEAN CITY	Atlantic Avenue between 3rd St. & 6th St.	$ 589,000	Replace	1,683	16.00	Ductile Iron	1910	12	CI	System Flows and Pressure	60	2026Q4
8630	OCEAN CITY	Atlantic Avenue between 6th St. & 9th St.	$ 420,000	Replace	1,678	16.00	Ductile Iron	1910	16	CI	System Flows and Pressure	60	2024Q4
8631	OCEAN CITY	7th Street between Atlantic Avenue & Boardwalk	$ 260,000	Replace	1,037	8.00	PVC	1910	8	CI	System Flows and Pressure	60	2024Q4
8636	OCEAN CITY	Simpson Avenue between 23rd Street & 24th Street	$ 135,000	Replace	536	8.00	PVC	1940	8	AC	System Flows and Pressure	60	2025Q4
8637	OCEAN CITY	24th Street between Bay Avenue & Haven Avenue	$ 81,500	Replace	327	8.00	PVC	1940	8	AC	System Flows and Pressure	30	2025Q4
8638	OCEAN CITY	Haven Avenue between 23rd Street & 25th Street, 25th St to West Ave	$ 420,000	Replace	1,399	8.00	PVC	1950	8	DI	System Flows and Pressure	60	2025Q4
8643	OCEAN CITY	Victoria Lane between Waterview Blvd. & Vernon Ln.	$ 474,000	Replace	1,582	8.00	PVC	1950	6	AC	System Flows and Pressure	60	2024Q4
8645	OCEAN CITY	Waterview Blvd. between Roosevelt to south of	$ 240,500	Replace	803	8.00	PVC	1980	6	DI	System Flows and Pressure	60	2024Q4
8646	OCEAN CITY	Vernon Lane between Victoria Ln & Roosevelt Blvd.	$ 75,000	Replace	291	8.00	PVC	1950	8	AC	System Flows and Pressure	30	2024Q4
8647	OCEAN CITY	Roosevelt Blvd. between Waterview Blvd. & Bay Ave.	$ 650,000	Replace	2,601	8.00	PVC	1950	6	AC	System Flows and Pressure	90	2024Q4
8727	OCEAN CITY	Asbury Avenue between 51st Street & 55th Street &	$ 765,000	Replace	2,477	12.00	Ductile Iron	1950	12	CI	System Flows and Pressure	90	2024Q4
8731	OCEAN CITY	South Inlet Drive between W. 55th Street & Bay	$ 250,000	Replace	984	8.00	PVC	1970	8	AC	Safety and Reliability/Structural	60	2024Q4
8732	OCEAN CITY	West Avenue between 48th Street & 52nd Street,	$ 910,000	Replace	2,847	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	90	2025Q4
8741	OCEAN CITY	Westminster Lane between Roosevelt Avenue & Bartram Lane	$ 120,000	Replace	480	8.00	PVC	1950	6	AC	System Flows and Pressure	30	2024Q4
8768	OCEAN CITY	Beach Road to Gull Road between North Street and	$ 482,500	Replace	1,341	8.00	PVC	1930	8	CI	Safety and Reliability/Structural	60	2024Q4
8772	OCEAN CITY	Morningside Rd, Gardens Rd and Nassau Rd	$ 548,250	Replace	2,193	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	90	2024Q4
8776	OCEAN CITY	Haven Avenue between 18th Street to 22nd Street	$ 578,750	Replace	2,313	8.00	Ductile Iron	1950	8	AC	System Flows and Pressure	90	2025Q4
8784	OCEAN CITY	Genoa Court between Tennessee Avenue & Bonita	$ 145,000	Replace	547	12.00	PVC	1980	12	AC	System Flows and Pressure	60	2024Q4
8785	OCEAN CITY	Bass Court & Marlin Court	$ 185,000	Replace	749	8.00	PVC	1980	6	AC	System Flows and Pressure	60	2024Q4
8786	OCEAN CITY	Central Avenue between 28th Street & 31st Street	$ 422,500	Replace	1,561	8.00	PVC	1930	6	CI	System Flows and Pressure	60	2024Q4
8792	OCEAN CITY	Central Avenue between 18th Street & 20th Street	$ 282,750	Replace	1,132	8.00	PVC	1910	6	CI	System Flows and Pressure	60	2024Q4
8796	OCEAN CITY	21st Street between Haven Avenue & Wesley	$ 318,750	Replace	1,275	12.00	PVC	1950	12	CI	System Flows and Pressure	60	2025Q4
8802	OCEAN CITY	West Avenue between 7th Street and 9th Street	$ 325,000	Replace	1,074	8.00	PVC	1910	8	CI	Safety and Reliability/Structural	60	2024Q4
8804	OCEAN CITY	Central Avenue between 6th Street and 9th Street	$ 425,500	Replace	1,562	8.00	Ductile Iron	1910	4	CI	Safety and Reliability/Structural	60	2024Q4
8808	OCEAN CITY	Central Avenue between 15th Street & 18th Street	$ 421,250	Replace	1,683	8.00	PVC	1910	6	CI	System Flows and Pressure	60	2024Q4
8809	OCEAN CITY	8th Street between Atlantic Avenue and Boardwalk	$ 320,000	Replace	882	12.00	Ductile Iron	1910	10	CI	Safety and Reliability/Structural	60	2025Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
8813	OCEAN CITY	16th Street between Haven Avenue & Asbury Avenue	$ 145,000	Replace	577	8.00	PVC	1910	8	CI	System Flows and Pressure	60	2024Q4
8815	OCEAN CITY	16th Street between Asbury Avenue & Wesley	$ 151,250	Replace	604	12.00	PVC	1910	12	CI	System Flows and Pressure	60	2024Q4
8817	OCEAN CITY	16th Street between Wesley Avenue to Boardwalk	$ 95,000	Replace	380	8.00	PVC	1910	6	CI	System Flows and Pressure	30	2024Q4
8818	OCEAN CITY	Chelsea Place	$ 87,500	Replace	348	8.00	PVC	1910	6	CI	System Flows and Pressure	30	2024Q4
8820	OCEAN CITY	Ocean Avenue between 9th Street & 12th Street	$ 403,200	Replace	1,634	12.00	Ductile Iron	1910	12	CI	System Flows and Pressure	60	2026Q4
8822	OCEAN CITY	West Avenue between 9th Street & 16th Street	$ 1,020,000	Replace	4,650	8.00	PVC	1910	6	CI	System Flows and Pressure	120	2024Q4
8938	OCEAN CITY	2nd Street between Atlantic Avenue & Boardwalk	$ 345,750	Replace	1,383	8.00	PVC	1910	6	CI	System Flows and Pressure	60	2024Q4
8939	OCEAN CITY	Wesley Rd. between Wesley Rd. & Battersea Rd.	$ 394,500	Replace	1,578	12.00	PVC	1930	10	CI	System Flows and Pressure	60	2026Q4
10861	OCEAN CITY	Simpson Ave (15th Street to 18th Street) & 18th St	$ 700,000	Replace	2,573	8.00	Ductile Iron	1950	12	AC	Safety and Reliability/Structural	90	2024Q4
10862	OCEAN CITY	Ocean Road from Battersea Road to E. Seabright	$ 593,750	Replace	2,373	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2026Q4
10863	OCEAN CITY	Central Avenue from North Street to 5th Street	$ 608,750	Replace	2,435	8.00	Ductile Iron	1910	4	CI	Safety and Reliability/Structural	90	2024Q2
10864	OCEAN CITY	Central Avenue from 30th Street to 34th Street	$ 540,000	Replace	2,128	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2024Q1
10932	OCEAN CITY	Simpson Ave from 15th Street to 18th Street	$ 545,000	Replace	1,673	8.00	Ductile Iron	1950	12	AC	Safety and Reliability/Structural	60	2024Q4
11062	OCEAN CITY	3rd Street from Wesley Avenue to Atlantic Avenue	$ 190,000	Replace	679	12.00	Ductile Iron	1910	8	CI	Safety and Reliability/Structural	60	2026Q4
11349	OCEAN CITY	Simpson Ave from 20th to 22nd, Including Loops on	$ 842,600	Replace	1,018	12.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2025Q4
11350	OCEAN CITY	Moorlyn Terr from Atlantic Ave to Boarwalk - City	$ 320,000	Replace	809	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2025Q4
5823	PALMYRA	Palmyra - Legion Ave - Broad Street to W 3rd Street	$ 190,000	Replace	727	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
388	PENNS GROVE	Penns Grove - Mary Street and John Street - South Broad Street to Main Street	$ 228,000	Replace	747	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2026Q4
534	PENNS GROVE	Penns Grove - Railroad Avenue and Mill Street - Naylor Avenue to Dead End to HPG-56	$ 492,600	Replace	1,189	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2024Q4
5353	PENNS GROVE	Penns Grove - West Harmony Avenue - Delaware	$ 475,000	Replace	2,116	12.00	Ductile Iron	1900	4	CI	System Flows and Pressure	90	2026Q4
5355	PENNS GROVE	Penns Grove - State Street - West Maple Avenue to West Main Street	$ 836,500	Replace	3,242	12.00	Ductile Iron	1910	8	CI	System Flows and Pressure	90	2025Q4
6018	PENNS GROVE	Penns Grove - South Broad Street - East Main Street to Dead End	$ 750,500	Replace	4,195	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	120	2026Q4
6021	PENNS GROVE	Penns Grove - Cumberland Avenue - Diver Avenue to Walnut Street	$ 163,400	Replace	855	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	60	2025Q4
6029	PENNS GROVE	Penns Grove - East Main Street - Virginia Avenue to South Broad Street	$ 340,100	Replace	1,928	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2024Q4
6033	PENNS GROVE	Penns Grove - Railroad Avenue - Naylor Avenue to Airy Avenue	$ 171,000	Replace	895	8.00	Ductile Iron	1900	4	CI	System Flows and Pressure	60	2024Q4
9571	PENNS GROVE	Hayes Street & Cypress Street	$ 150,000	Replace	949	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2026Q4
10198	PENNS GROVE	Penns Grove- 6th Avenue (Leap Drive and N. Broad Street)	$ 200,000	Replace	1,007	8.00	Ductile Iron	1910	2	CI	Safety and Reliability/Structural	60	2024Q4
7649	PENNSAUKEN	Pennsauken - Forrest Avenue, Sharon Terrace,	$ 315,000	Replace	1,611	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
5648	PLEASANTVILLE	Washington Avenue between New Road and Main	$ 572,000	Replace	2,082	12.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	90	2024Q4
5649	PLEASANTVILLE	Washinton Avenue between Main Street and	$ 170,000	Replace	831	12.00	Ductile Iron	1940	4	CI	Safety and Reliability/Structural	60	2025Q4
5986	PLEASANTVILLE	N. 3rd Street between W. Adams Ave and Hendricks	$ 68,000	Replace	414	8.00	Ductile Iron	1930	2	CI	System Flows and Pressure	30	2025Q4
5987	PLEASANTVILLE	N. 4th Street between W. Adams Ave and Pleasant	$ 121,600	Replace	919	8.00	Ductile Iron	1930	2	GALV	System Flows and Pressure	60	2024Q4
5989	PLEASANTVILLE	N. 4th Street between Washington Ave and Martin	$ 50,000	Replace	1,032	8.00	Ductile Iron	1990	4	CI	Safety and Reliability/Structural	60	2025Q4
5990	PLEASANTVILLE	4th Street between Washington Avenue and West Jersey Avenue	$ 165,000	Replace	459	8.00	Ductile Iron	1990	6	CI	System Flows and Pressure	30	2024Q4
5991	PLEASANTVILLE	3rd Street between Martin Luther King Jr Ave and West Jersey Ave	$ 281,500	Replace	1,126	8.00	Ductile Iron	1940	4	CI	System Flows and Pressure	60	2024Q4
6407	PLEASANTVILLE	W. Leeds Ave between New Road and Main Street	$ 850,500	Replace	3,012	12.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	90	2024Q4
6408	PLEASANTVILLE	Elkton Avenue from W. Leeds Avenue	$ 40,000	Replace	295	4.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	30	2024Q4
6409	PLEASANTVILLE	Kline Avenue between W. Leeds Avenue and end of	$ 162,000	Replace	842	8.00	Ductile Iron	1940	6	AC	Safety and Reliability/Structural	60	2024Q4
6410	PLEASANTVILLE	Sunset Court between New Road and Kline Avenue	$ 47,250	Replace	312	8.00	Ductile Iron	1940	6	AC	Safety and Reliability/Structural	30	2024Q4
6413	PLEASANTVILLE	Linden Avenue between W. Delilah Road and W.	$ 162,800	Replace	630	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2024Q4
6450	PLEASANTVILLE	Chatham Avenue between Main Street and	$ 475,000	Replace	1,900	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
8446	PLEASANTVILLE	Stenton Place between Main Street & Franklin Ave.	$ 170,500	Replace	682	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2024Q4
8457	PLEASANTVILLE	Wesley Avenue between Rt9. & end (Somerset Ave.)	$ 628,750	Replace	2,512	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	90	2024Q4
8481	PLEASANTVILLE	McKinley Avenue between Shadeland Avenue and	$ 445,000	Replace	1,778	8.00	Ductile Iron	1930	4	DI	Safety and Reliability/Structural	60	2024Q4
10248	PLEASANTVILLE	Pleasantville- California Avenue (Main Street to 6th)	$ 625,000	Replace	2,780	8.00	Ductile Iron	1940	6	CI	Safety and Reliability	90	2026Q4
11254	PLEASANTVILLE	Lafayette Ave, Shaw Ave, Harrison Ave & W. Park	$ 820,000	Replace	2,389	8.00	Ductile Iron	1980	6	DI	Safety and Reliability/Structural	90	2024Q4
11257	PLEASANTVILLE	W Lindley Avenue (Main Street to End of Road)	$ 340,000	Replace	969	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
8825	RIVERSIDE	Riverside - Grant Street, Paint Street, Park Avenue,	$ 1,043,000	Replace	4,735	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	120	2024Q4
8930	RIVERSIDE	Polk Street, Madison Street, Jefferson Street, Monroe Street, Fairview Street	$ 750,000	Replace	4,949	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	120	2024Q4
8029	SOMERDALE	Pennsylvania Avenue	$ 150,000	Replace	754	8.00	Ductile Iron	1950	6	AC	Relocation/Opportunity	60	2026Q4
10234	SOMERDALE	Somerdale- Surrey Road	$ 250,000	Replace	836	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10950	SOMERDALE	Somerdale- Amhurst Ave and Columbia Ave	$ 500,000	Replace	1,907	8.00	Ductile Iron	1950	6	AC	Safety and Reliability	60	2025Q4
181	SOMERS POINT	Shore Road - Between Connecticut Avenue & Bethel	$ 110,000	Replace	639	16.00	Ductile Iron	1940	6	DI	System Flows and Pressure	60	2024Q4
182	SOMERS POINT	Shore Road - Between Connecticut & Maryland Avenue (AC-B-4D)	$ 302,500	Replace	1,832	16.00	Ductile Iron	1940	6	DI	System Flows and Pressure	60	2024Q4
183	SOMERS POINT	Maryland Avenue - Between Shore Road & Sunset Avenue (AC-B-4D)	$ 72,500	Replace	279	12.00	Ductile Iron	1910	8	CI	System Flows and Pressure	30	2026Q4
204	SOMERS POINT	Shore Road - Between Maryland Avenue &	$ 82,500	Replace	336	16.00	Ductile Iron	1910	6	AC	System Flows and Pressure	30	2024Q4

2024 Foundational Filing
Table 3.5 Southern Operating Area
2024 - 2026 Priority Projects

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
205	SOMERS POINT	Shore Road Ph 10 - Between Groveland Avenue & Ocean Heights Avenue	$ 1,300,000	Replace	3,264	16.00	Ductile Iron	1910	6	CI	System Flows and Pressure	90	2025Q4
6231	SOMERS POINT	10th from Laurel to New York and Dobbs Ave from 10th Street to Well.	$ 487,500	Replace	1,001	8.00	Ductile Iron	1950	8	AC	Safety and Reliability/Structural	60	2026Q4
6463	SOMERS POINT	Maryland Ave between Shore Road and Bethel Road	$ 250,000	Replace	967	16.00	Ductile Iron	1910	6	AC	Safety and Reliability/Structural	60	2026Q4
6464	SOMERS POINT	Marks Road between Rhode Island Ave (SP Tank) and Maryland Ave	$ 588,350	Replace	1,681	16.00	Ductile Iron	1960	8	CI	Safety and Reliability/Structural	60	2026Q4
6519	SOMERS POINT	E. Laurel Dr between Braddock Dr to US Route 9	$ 449,900	Replace	1,325	12.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2026Q4
6520	SOMERS POINT	US Rt 9 between Village Drive South and MacArthur Blvd	$ 854,000	Replace	1,913	12.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
6524	SOMERS POINT	US Rt 9 between Somers Point- Mays Landing Road and S. Village Drive	$ 498,000	Replace	1,661	12.00	Ductile Iron	1960	8	CI	Safety and Reliability/Structural	60	2024Q4
6940	SOMERS POINT	Shore Road between New Jersey Ave and	$ 680,000	Replace	1,924	8.00	Ductile Iron	1940	6	DI	Safety and Reliability/Structural	60	2024Q4
8408	SOMERS POINT	Route 9 from Mays Landing Road to intersection of Atkinson Avenue and Spruce Street	$ 910,000	Replace	2,572	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2024Q4
8410	SOMERS POINT	Braddock Drive from Mac Arthur Blvd and Holly Hills Drive, Including Braddock Avenue and Woodland	$ 587,500	Replace	2,348	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	90	2026Q4
8413	SOMERS POINT	New York Road between Route 9 and 3rd Street, 4th and 7th Street both from New York to Connecticut	$ 682,500	Replace	2,842	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	90	2025Q4
8416	SOMERS POINT	Gibbs Avenue from Shore Road to the Great Egg Harbor Bay	$ 380,000	Replace	1,517	8.00	Ductile Iron	1940	4	CI	Safety and Reliability/Structural	60	2024Q4
8418	SOMERS POINT	New York Road from Shore Road toward Bay Ave	$ 205,500	Replace	620	8.00	Ductile Iron	1940	6	CI	Safety and Reliability	60	2024Q4
8419	SOMERS POINT	New Jersey Avenue from Shore Road to Bay Avenue	$ 415,000	Replace	858	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
8420	SOMERS POINT	Somers Avenue from Shore Rd to Bay Avenue	$ 169,750	Replace	595	8.00	Ductile Iron	1940	4	CI	System Flows and Pressure	60	2026Q4
8421	SOMERS POINT	Annie Avenue from Shore Road to Bay Ave	$ 125,000	Replace	492	8.00	Ductile Iron	1940	4	CI	System Flows and Pressure	30	2026Q4
10336	SOMERS POINT	W Laurel Drive from Route 9 to Ambler Road, 10th St	$ 990,000	Replace	3,164	12.00	Ductile Iron	1940	6	CI	System Flows and Pressure	90	2026Q4
8356	STRATFORD	Stratford - West Laurel Road (CR-673), Warwick Road (CR-669) and Elinor Avenue	$ 1,307,200	Replace	6,800	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2024Q4
8530	STRATFORD	Stratford - E Vassar Avenue, Cornell Avenue, Union Avenue and Yale Avenue	$ 1,459,200	Replace	8,113	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	120	2024Q4
		Subtotal	$ 147,889,980										

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SECTION 4. NORTH OPERATING AREA

4.1 OVERVIEW

New Jersey American Water's North Operating Area is responsible for the management of 10 Public Community Water Systems in Warren, Morris, Passaic, Essex, Union and Somerset Counties. These systems are listed in Table 4.1.1 and shown in Exhibit 4.1, attached.

Table 4.1.1 - North Operating Area Water Systems' Characteristics (2023)

PWSID	System Name	Service Connections	Estimated Population Served	Avg Day Demand (MGD)	Peak Month Demand (MGD)
NJ0712001	Passaic Basin (Short Hills)	81,270	217,000	35.017	42.956
NJ1605001	Little Falls	4,530	11,200	1.447	1.648
NJ2121001	Washington	4,154	10,700	1.287	1.395
NJ1436002	Roxbury	3,905	11,800	0.949	1.262
NJ2103001	Belvidere	1,194	2,850	0.408	0.436
NJ1407001	Four Seasons	120	250	0.015	0.062
NJ1427009	West Jersey	215	576	0.096	0.190
NJ1803002	Twin Lakes	47	126	Supplied via Short Hills	0
NJ1427017	International Trade Center (ITC)	298	920	0.330	0.429

The sources of supply for this region include the Canoe Brook Water Treatment Plant, water system interconnections and numerous well stations in Warren, Morris, Passaic, Essex, Union and Somerset Counties. The North Operating Area's corrosion control strategy includes pH control and the addition of phosphates and corrosion inhibitors at the surface water treatment plants and groundwater well stations. Phosphates are used to inhibit the internal corrosion of water mains, to sequester iron, manganese, calcium, and magnesium, and to improve the quality of water in the distribution system by preventing scale deposits and tuberculation. Zinc orthophosphate, added at the Canoe Brook surface water treatment plant, inhibits corrosion as it reacts with dissolved minerals in the water to form a thin coating or film on the inner surface of the pipe that is exposed to the treated water. Blended poly phosphates are added at most well facilities in order to sequester soluble metals found in the groundwater, and also provide corrosion control. The two forms of phosphate additions (zinc orthophosphate and blended poly phosphates) work together to reduce discoloration and scaling issues in the groundwater.

The non-revenue water rate for the North Operating Area (Essex Passaic) averaged 17.2% in 2023. This rate, while above the NJDEP guideline, is typical of a large surface water system with significant elevation changes, and numerous pressure zones and rock soil types. Routine maintenance, flushing, leak detection, valve exercising, and meter replacement occur on an ongoing basis, and assist in controlling non-revenue water rates. Accelerated investment in this system targets the types of mains and services that are likely contributors for leaks.

The North Operating Area provides water service to customers by conveying treated water from various sources of supply through approximately 1,400 miles of mains. Water mains were manufactured and installed over many decades, resulting in numerous materials, pipe sizes and joint types. The type of water main installed was based on the predominant pipe material available at the time. Table 4.1.2, below, provides a summary of the materials and diameter of the assets that continue to provide service.

Table 4.1.2 - North Operating Area Summary of Mains by Material Type

North Operating Area All PWSID's Miles of Main by Diameter					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	1.1	58.5		0.5	60.1
Cast Iron Lined	4.3	346.3	10.4	1.2	362.3
Cast Iron Unlined	43.0	337.6	8.7	2.3	391.5
Ductile Iron	2.3	488.3	51.7	41.7	584.0
Metal	1.6	1.3	0.2		3.1
PCCP		0.3	9.0	15.2	24.6
Plastic	0.3	6.4		1.7	8.4
Grand Total	52.6	1238.8	79.9	62.6	1433.9

Note: Table does not sum due to rounding.

4.2 DISTRIBUTION SYSTEM ASSET PERFORMANCE

The following section presents asset management data and conclusions regarding the need for accelerated investment. The performance of mains and their relative deterioration rates can be monitored by the break frequency and characteristics. Table 4.2.1 shows the break frequency in tabular form. Figures 4.2.a and 4.2.b illustrate the number of repairs by material and type of break in the North Operating Area during 2023.

The useful life of mains, valves, hydrants and service connections vary based on materials, environment, internal and external corrosion rate, internal and external forces, ground freezing and thawing cycles, groundwater levels, soil conditions and many other factors. As the water system ages there is a need to renew infrastructure to ensure safety and reliability, improve system flows and water pressure, protect water quality, promote conservation and reduce non-revenue water. The performance of mains and deterioration rates can be determined by monitoring the break frequency.

Table 4.2.1 lists the miles of main by material, the breaks by material and the calculated break rate (breaks / mile / yr) for 2023. This table illustrates that the highest break rate frequencies in the North systems occur in the category of “other” metallic mains (galvanized, stove pipe and similar materials), followed by cast iron and plastic pipes.

Table 4.2.1 - Summary of Break Rate by Material for the North Operating Area (2023)

North District Total							
	Asbestos Cement	Cast Iron	Ductile Iron	Other Metallic	PCCP	Plastic	Total
Miles of Main	60	754	584	3	25	2	1434
Main Failures	3	163	28	3	1	0	198
Failures per Mile	0.05	0.22	0.05	0.97	0.04	0.00	0.14

Figure 4.2.a - Summary of Main Breaks by Type in North (2023)

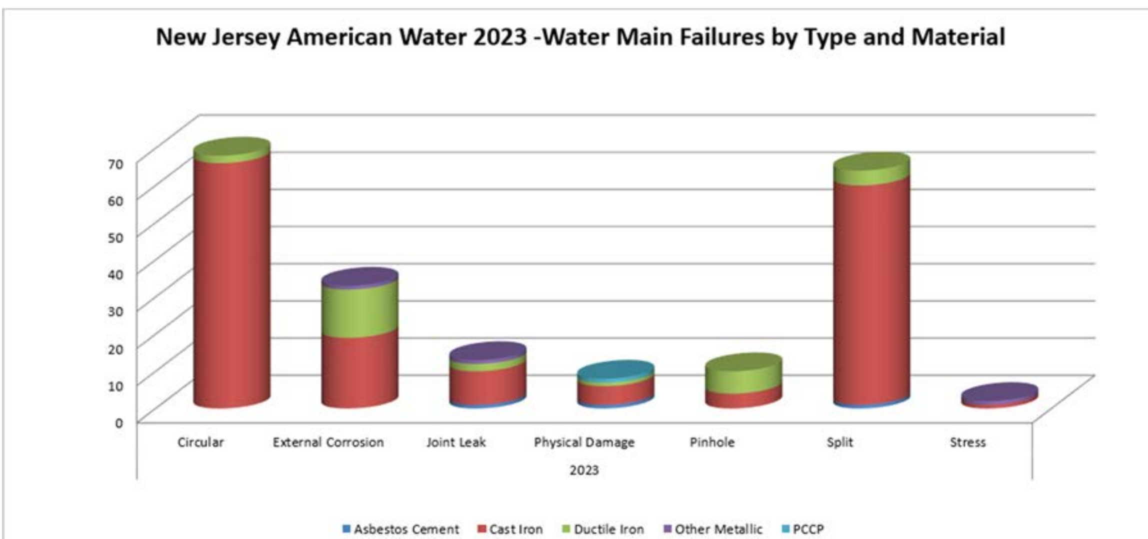


Table 4.2.1 shows that the majority of water main failures in the North Operating Area are associated with cast iron water mains. Most cast iron pipes fail because of a combination of factors that include external loading, internal pressure, thermal stress, age of material, manufacturing deficiencies and corrosion damage. Figure 4.2.a shows that failures in the North Operating Area are most often attributable to circular or circumferential cracking, where the pipe splits in a circle across its diameter. Circular failures generally result from the settlement of the pipe due to erosion of the pipe bedding. Prior to the pipe bed settling, there is usually a pinhole or joint leak which causes the soil erosion in the area. Circular breaks are also

noted in increased frequency when there is change in water temperature and attributed to thermal stress within the pipe. It should be noted that the split-type failure is the second largest type of failure, and quite significant in the North Operating Area. Split breaks are caused by longitudinal stresses resulting from higher operating pressure and metal fatigue, typical of the North Operating Area.

Figure 4.2.b - Summary of Main Failures by Diameter – North (2023)

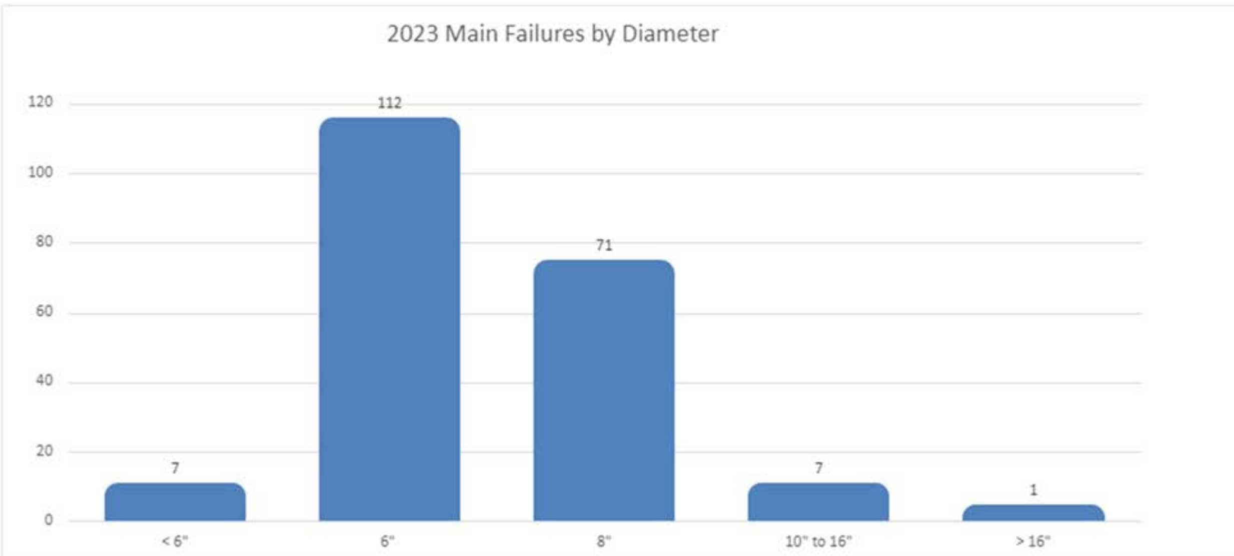


Figure 4.2.b illustrates pipe failures by diameter for the North Operating Area. The majority of main failures occur in pipes with diameters of six and eight inches.

When viewed together, Table 4.2.1 and Figures 4.2.a and 4.2.b illustrate that highest break rate frequency in the North Operating Area systems occurs on cast iron, and other metallic pipes. The cast iron mains installed in the first half of the century are the largest subset of NJAWC water mains that are seeing increased failure rates. These mains are targeted for accelerated rehabilitation and replacement in the DSIC program.

4.3 SYSTEM-SPECIFIC ISSUES

The North Operating Area has grown over many decades, using the materials, design standards and construction practices available at the time. The system extends over the second and third Watchung Mountain ranges, creating challenges in topography and pressure zone management. The topography requires treated water to be pumped over these high elevations to serve the communities in the valley between the mountain ranges. The change in topography results in system pressures exceeding 100 psi in large areas of the network.

The key drivers for accelerated renewal are:

1) Unlined cast iron mains with significant tuberculation that can result in discolored water and reduce flows and pressure;
2) High break rates on older cast iron and other metallic mains which have become obsolete;
3) Non-revenue water rate for this system exceeds NJDEP guidelines; additional investment in renewing pipe and service connections is needed to reduce sources of leakage; and
4) Old and obsolete valves need to be replaced to allow for adequate response time during emergencies.

Approximately 28% of the water mains within the system are cast iron (CI). Significant improvements have been made in reducing the CI percentage which was in excess of 60% prior to DSIC program. In addition to the breakage rates discussed previously, many of these cast iron mains are unlined and have a tuberculated (incrustation) buildup of minerals and corrosion products. These mains are a source of discolored water complaints. A non-structural and semi-structural cleaning and lining program exists in this service area and will continue to be accelerated within the DSIC program for candidate mains that are found to be structurally sound mains.

Cleaning and lining projects are most suitable when the mains are in a grid and activity can be coordinated in neighborhoods or sections. Bernards Twp, Berkeley Heights, Chatham Twp, Chester, Maplewood, Mendham, Millburn, West Orange and Woodland Park are some of the towns identified within this Operating Area as having opportunities for cleaning and lining. Therefore, several cleaning and lining projects within these towns have been identified in this Foundational Filing.

A specific operating constraint for the Passaic Basin system is the profile of water pressures within a pressure gradient, depending on the elevation. Locations within the valley experience higher pressures. While analysis has been performed to reduce these pressures, reconfiguring the pressure gradients would require miles of piping and re-pumping. Because leaks that develop in these areas could be significant contributors to the non-revenue water rate, NJAWC has implemented an aggressive evaluation of these areas via expanded pressure zone metering, coupled with ongoing leak monitoring.

A high frequency of breaks and hydraulic restrictions are occurring in Berkley Heights, Bernards, Little Falls, Millburn, New Providence and West Orange within the Passaic Basin System. There is no one single issue plaguing these areas; each area is comprised of older cast iron, small diameter mains installed in the 1920s, along with galvanized steel and asbestos cement pipe constructed in the 1940s. These obsolete mains are a major issue of concern that need to be addressed as they result in a reduced level of service to these communities.

The communities of Belvidere and Washington Borough also have old, undersized mains that cause service problems with water quality, main breaks, and flow, with a history of breaks and hydraulic restrictions. The projects identified in this Foundational Filing for these areas are proposed to specifically address these issues, and to help increase the reliability, water quality, and improved flow for customers.

A list of DSIC-eligible projects to be completed mostly between 2024 and 2026 is shown in Table 4.5 attached hereto. Most of the projects consist of replacing water mains that were put in service in the early to mid-1900's in the various water systems in the North Operating Area. The renewal projects identified in this Foundational Filing for the North Operating Area total approximately 47 miles.

4.4 INDIVIDUAL SYSTEM DESCRIPTIONS

A. PASSAIC BASIN WATER SYSTEM (PWSID NJ0712001)

System Description

The Passaic Basin System is a public water system that supplies finished water to 25 municipalities in Essex, Union, Morris, and Somerset counties. Finished water delivered to customers is derived from several sources, including treated surface water, treated ground water, inter-company transfers, and purchased water.

Source of Supply & Production

Approximately 20% of the Passaic Basin System water delivered to customers is produced at the Canoe Brook surface water treatment plant. Raw water supply for the Canoe Brook surface water treatment plant is derived from the Passaic River and Canoe Brook and held in three interconnected storage reservoirs located in Millburn and Livingston.

In addition to the surface water supplies, NJAWC also diverts ground water from various Piedmont and Highlands aquifers. Approximately 25% of the Passaic Basin System finished water delivered to customers is produced from ground water sources. Currently, there are 24 active wells treated at ten stations located throughout the franchise area of the system within Essex, Union, Morris, and Somerset Counties.

NJAWC's Raritan System supplies approximately 30% of the water to the Passaic Basin System through four active interconnections.

Water supply is also provided by three bulk water suppliers: the Passaic Valley Water Commission (PVWC) and to a much lesser extent, Morris County MUA (MCMUA), and the Montclair Water Bureau.

The Passaic Basin System provides bulk water supplies to other public community water systems in the region through bulk water sales agreements. The system currently serves three bulk water sales customers: Livingston Township, South Orange Township, and East Hanover Township.

Distribution & Storage

The Passaic Basin System has an extensive piping network that includes approximately 1,200 miles of water mains. The entire system is operated with 23 pressure gradients. Distribution storage is provided by 20 water storage tanks. Tables 4.4.A.1 below, detail the water main inventory.

Table 4.4.A.1 - Passaic Basin System Water Mains

Passaic Basin (Short Hills) NJ0712001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.3	13.4		0.5	14.2
Cast Iron Lined	3.4	319.2	9.5	1.2	333.3
Cast Iron Unlined	37.3	310.4	8.6	2.3	358.6
Ductile Iron	1.7	360.4	35.8	41.7	439.7
Metal	1.2	1.3	0.2		2.7
PCCP		0.1	7.3	15.2	22.6
Plastic	0.3	5.5		1.7	7.5
Grand Total	44.3	1010.3	61.4	62.6	1178.6

Note: Due to rounding, not all the totals will sum.

B. BELVIDERE WATER SYSTEM (PWSID NJ2103001)

System Description

The Belvidere System is a public water system providing water primarily to residential service to the Town of Belvidere and portions of White Township in Warren County.

Source of Supply & Production:

The Belvidere System obtains its water supply from two groundwater wells drilled into the Kittatinny aquifer with a combined capacity of 1.8 MGD.

Distribution & Storage

The distribution system has two pressure zones and approximately 21 miles of water mains ranging in size from 4-inch to 16-inch.

There is one 0.75 MG ground storage reservoir, the Belvidere Reservoir, in the system. The two water supply wells feed into the High Service zone. The Main Service zone is fed through a pressure reducing valve (PRV) from the High Service. Tables 4.4.B.1 below, list the pipe and buried asset inventory for this system.

Table 4.4.B.1 - Belvidere System Water Mains

Belvidere NJ2103001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Unlined	2.0	5.3	0.0		7.3
Ductile Iron	0.0	12.9	0.5	0.0	13.4
Metal	0.1				0.1
Plastic		0.3			0.3
Grand Total	2.1	18.5	0.5	0.0	21.1

Note: Due to rounding, not all the totals will sum.

C. INTERNATIONAL TRADE CENTER (ITC) SYSTEM (PWSID NJ1427017)

System Description

The ITC System is a public water system providing water service to the commercial and light industrial customers located around the junction of Routes 80, 46 and 206 in Mount Olive Township, Morris County. The Country Oaks at Mt. Olive Township was merged into the ITC water system providing water to a primarily residential section of Mt. Olive Township located in Morris County.

Source of Supply & Production

The raw water supply for the ITC system is provided by five ground water wells in the Leithsville Formation with a combined firm capacity of 1.152 MGD.

Distribution & Storage

The ITC distribution system consists of separate potable water and fire protection systems. The potable water system has three gradients. There are three water storage tanks in the ITC potable water system with one storage tank in each gradient. The fire protection system consists of a ground storage tank (fed from the potable water system), a fire pump station located next to the ground storage tank, and looped fire protection mains that serve several of the buildings in the ITC business park.

The three ITC wells discharge into the ITC North gradient while two wells discharge into the Country Oaks gradient. A booster station on International Drive pumps water from the ITC North gradient to the ITC South gradient. A PRV located on Gold Mine Road connects the ITC South gradient with the Country Oaks gradient. The system contains approximately 15 miles of water mains ranging in size from 6-inch to 16-inch as shown in Tables 4.4.C.1, below.

Table 4.4.C.1 - ITC System Water Mains

International Trade Center (ITC) NJ1427017 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Unlined		0.1			0.1
Ductile Iron	0.1	9.2	5.2		14.5
Metal	0.0				0.0
Grand Total	0.1	9.2	5.2		14.6

Note: Due to rounding, not all the totals will sum.

D. LITTLE FALLS WATER SYSTEM (PWSID NJ1605001)

System Description

The Little Falls System is a public water system that serves Little Falls Township and portions of Woodland Park Borough, North Caldwell Borough, Cedar Grove Township, and Montclair Township in Passaic and Essex Counties.

Source of Supply & Production

The Little Falls System purchases 100% of its water supply from nine interconnections with the Passaic Valley Water Commission (PVWC) system and three interconnections with the Montclair Township Water Bureau via bulk purchase contracts.

Distribution & Storage

The system is operated with four pressure gradients. One customer, the Oak Hill Road Office Complex, has an individual PVWC interconnection. The system consists of 52 miles of distribution mains in sizes up to 16-inch as detailed in Tables 4.4.D.1 below. There are no storage tanks within the Little Falls System. The storage is provided by PVWC and Montclair Township Water Bureau.

Table 4.4.D.1 - Little Falls System Water Mains

Little Falls NJ1605001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement		3.4			3.4
Cast Iron Lined	0.7	18.2			18.9
Cast Iron Unlined	0.4	13.2	0.0		13.6
Ductile Iron	0.0	12.9	1.4		14.3
Metal	0.1	0.0			0.1
PCCP		0.3			0.3
Plastic		0.2			0.2
Grand Total	1.1	48.2	1.4		50.7

Note: Due to rounding, not all the totals will sum.

E. TWIN LAKES WATER SYSTEM (PWSID NJ1803002)

System Description

The Twin Lakes System is a public water system providing service to customers located in Bernardsville Borough, Somerset County.

Source of Supply & Production

The Twin Lakes System is supplied by two wells permitted to supply a maximum of 0.1mgd. The water is treated with sodium hydroxide for ph adjustment and sodium hypochlorite for disinfection.

Distribution & Storage

The distribution system consists of one pressure gradient and one 17,000-gallon reservoir as shown in Tables 4.4.F.1, below.

Table 4.4.F.1 - Twin Lakes System Water Mains

Twin Lakes NJ1803002 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.2				0.2
Cast Iron Lined	0.1	0.1			0.2
Cast Iron Unlined	0.2	0.1	0.0		0.3
Ductile Iron	0.0	4.4	0.1	0.0	4.6
Metal	0.0				0.0
Grand Total	0.5	4.6	0.1	0.0	5.2

Note: Due to rounding, not all the totals will sum.

F. WASHINGTON WATER SYSTEM (PWSID NJ2121001)

System Description

The Washington System is a public water system providing water to residential and commercial customers in Washington Township, Washington Borough, and parts of Oxford Township, Mansfield Township, and Franklin Township, all located within Warren County.

Source of Supply & Production

The Washington System obtains its water supply from six groundwater wells with a combined permitted pumping capacity of 3.79 mgd, drawing water from Kittatinny Formation, the Leithsville Formation and the Hardyston Formation. The wells are treated at four groundwater treatment stations.

Distribution & Storage

The distribution system is operated with three pressure gradients, two storage tanks, and a hydropneumatic tank in the Washington High gradient. The system consists of approximately 94 miles of water main ranging in size from 4-inch to 16-inch as shown in Tables 4.4.G.1 below.

Table 4.4.G.1 - Washington System Water Mains

Washington NJ2121001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.2	3.9			4.1
Cast Iron Lined	0.0	8.9	0.9		9.8
Cast Iron Unlined	1.1	6.4	0.0		7.6
Ductile Iron	0.2	62.9	8.7		71.8
Metal	0.2	0.0			0.2
PCCP		0.0	1.7		1.7
Plastic		0.5			0.5
Grand Total	1.8	82.6	11.4		95.7

Note: Due to rounding, not all the totals will sum.

G. WEST JERSEY WATER SYSTEM (PWSID NJ1427009)

System Description

The West Jersey System is located in Mount Olive Township, Morris County serving a residential community along the southwest shore of Budd Lake.

Source of Supply & Production

The West Jersey System obtains its supply from three groundwater wells with a combined capacity of 0.299 mgd. Two treatment stations provide chlorination, pH adjustment and corrosion control treatment.

Distribution & Storage

The distribution system operates as two pressure gradients maintained by the Wallman Way Reservoir. A booster station pumps water from the West Jersey Main gradient to the West Jersey High gradient.

The system consists of 6 miles of water main, mostly ranging in size from 2-inch or smaller to 6-inch as shown in Tables 4.4.H.1 below.

Table 4.4.H.1 - West Jersey System Water Mains

West Jersey NJ1427009 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Unlined	2.1	1.5			3.6
Ductile Iron	0.1	2.2			2.4
Metal	0.0	0.0			0.1
Grand Total	2.2	3.8			6.0

Note: Due to rounding, not all the totals will sum.

H. ROXBURY WATER SYSTEM (PWSID NJ1436002)

System Description

The Roxbury System is a public water system providing water to residential and commercial customers in Roxbury Township, Morris County.

Source of Supply & Production

The Roxbury System obtains its supply from five groundwater wells with a combined capacity of 3.49 mgd.

Distribution & Storage

The distribution system operates as one pressure gradients maintained by the Roxbury Tank.

The system consists of 60 miles of water main, mostly ranging in size from 2-inch or smaller to 6-inch as shown in Tables 4.4.I.1 below.

Table 4.4.I.1 - Roxbury System Water Mains

Roxbury NJ1436002 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.4	37.8			38.2
Cast Iron Lined		0.0			0.0
Cast Iron Unlined		0.5			0.5
Ductile Iron		22.2			22.2
Grand Total	0.4	60.6			60.9

Note: Due to rounding, not all the totals will sum.

I. FOUR SEASONS AT CHESTER TOWNSHIP WATER SYSTEM (PWSID NJ1407001)

System Description

The Four Seasons at Chester Township is a public water system providing water primarily to residential customers in Chester Township located in Morris County. The system obtains its water supply from two groundwater wells drawing from the Bedrock Aquifer.

Distribution & Storage

The distribution system operates as one pressure gradient, pressure with a hydro pneumatic tank. As shown in Tables 4.4.J.1 below, the system consists of approximately 1 mile of 8-inch diameter distribution mains.

Table 4.4.J.1 - Four Seasons at Chester System Water Mains

Four Seasons at Chester NJ1407001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Ductile Iron		1.1			1.1
Grand Total		1.1			1.1

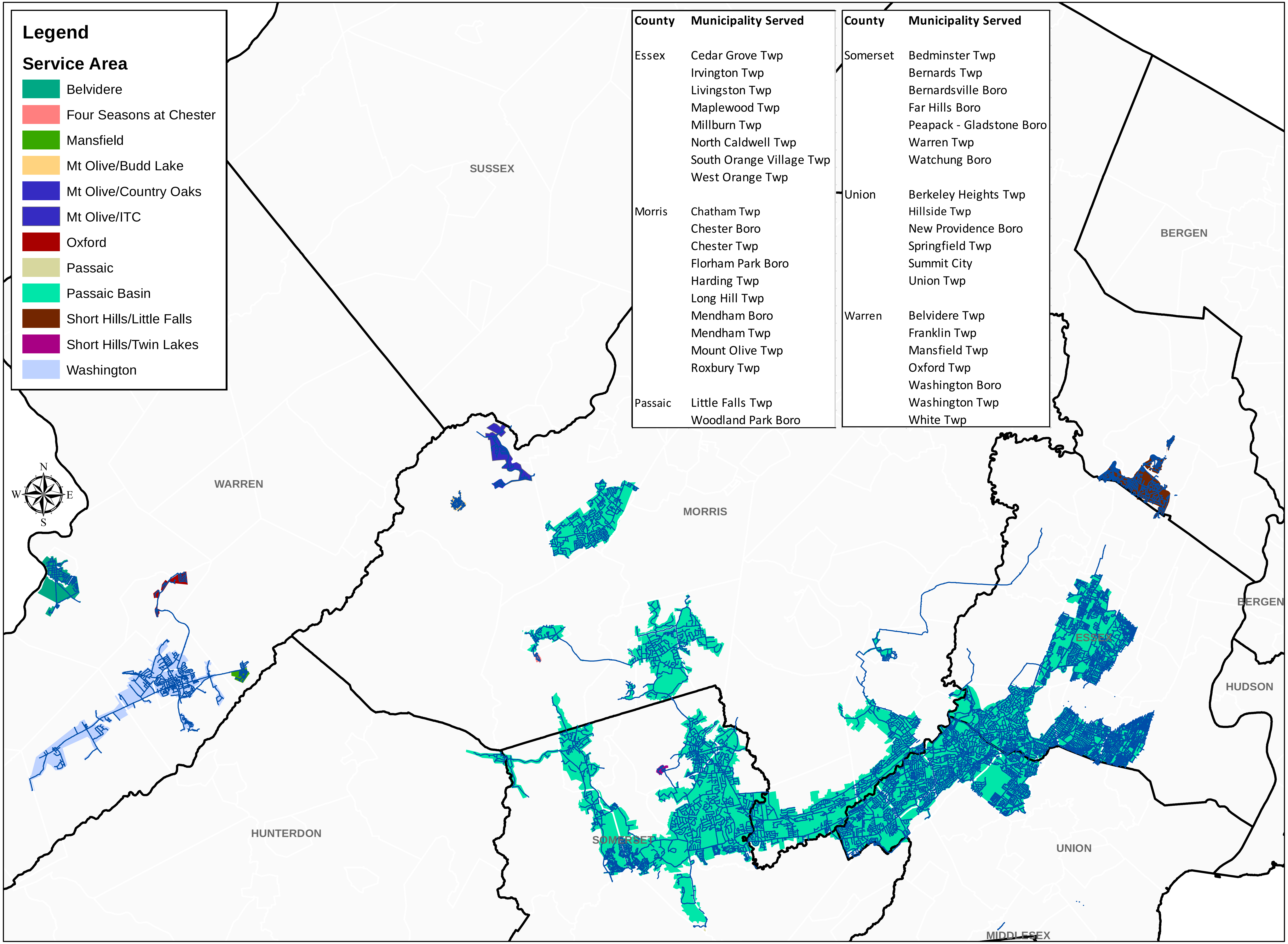
Note: Due to rounding, not all the totals will sum.

4.5 PROPOSED DSIC PROJECTS, FILING 2024-2027

Approximately 26 additional pipeline projects have been identified in the North Operating Area in need of renewal in this Foundational Filing, and a total of approximately 396 projects when including previously approved DSIC Foundational Filing identified projects. Approximately 124 of these projects have been identified as high priority projects to be completed mostly between 2024 and 2026, and are described in Table 4.5, attached. The scope and location of the identified projects are presented in this table.

Exhibit 4.1

New Jersey American Water
2024 DSIC Foundational Filing
North Operating Area



County	Municipality Served
Essex	Cedar Grove Twp
	Irvington Twp
	Livingston Twp
	Maplewood Twp
	Millburn Twp
	North Caldwell Twp
	South Orange Village Twp
	West Orange Twp
Morris	Chatham Twp
	Chester Boro
	Chester Twp
	Florham Park Boro
	Harding Twp
	Long Hill Twp
	Mendham Boro
	Mendham Twp
	Mount Olive Twp
	Roxbury Twp
Passaic	Little Falls Twp
	Woodland Park Boro

County	Municipality Served
Somerset	Bedminster Twp
	Bernards Twp
	Bernardsville Boro
	Far Hills Boro
	Peapack - Gladstone Boro
	Warren Twp
	Watchung Boro
Union	Berkeley Heights Twp
	Hillside Twp
	New Providence Boro
	Springfield Twp
	Summit City
	Union Twp
Warren	Belvidere Twp
	Franklin Twp
	Mansfield Twp
	Oxford Twp
	Washington Boro
	Washington Twp
	White Twp

NEW JERSEY AMERICAN WATER

2024 Foundational Filing
Table 4.5 - Northern Operating Area
2024 - 2026 Priority Projects

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
10800	BEDMINSTER	Easement from river off Black River Rd to feed Long Lane houses	$ 625,000	Rehab	2,466	8.00	Other	1910	8	CI	Safety and Reliability/Structural	90	2025Q4
10843	BEDMINSTER	Route 202 bridge over the Raritan River North Branch	$ 200,000	Replace	146	16.00	Steel	1970	8	DI	Relocation/Opportunity	30	2024Q3
11340	BEDMINSTER	Somerville Rd from Main St south to VBED-	$ 200,000	Replace	507	8.00	Ductile Iron	1980	4	CI	Safety and Reliability	60	2025Q4
6696	BERKELEY HEIGHTS	Kline Place from Rickler Place to Maple	$ 132,000	Replace	740	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
6698	BERKELEY HEIGHTS	Hillside Ave from Timber Dr to Fern Pl	$ 449,000	Replace	2,268	8.00	Ductile Iron	1960	6	CI	Water Quality	90	2026Q4
6701	BERKELEY HEIGHTS	Holly Glen Lane S from Holly Glen Lane to Pinnel Ct.	$ 282,000	Replace	1,578	8.00	Ductile Iron	1950	6	CI	Water Quality	60	2026Q4
6705	BERKELEY HEIGHTS	Orchard Lane from Old Farm Rd to Emerson Lane	$ 351,000	Replace	1,764	8.00	Ductile Iron	1950	6	CI	Water Quality	60	2026Q4
6708	BERKELEY HEIGHTS	Forest Ave from Park Ave to Columbus Ave	$ 373,000	Replace	1,879	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2026Q4
11433	BERKELEY HEIGHTS	Rogers Pl	$ 230,000	Replace	554	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
6282	BERNARDS TWP	Addison Dr from Archgate Rd to Warrick	$ 412,000	Replace	2,032	8.00	Ductile Iron	1970	8	CI	Water Quality	90	2026Q4
6290	BERNARDS TWP	Rankin Ave from W. Henry Street to Cedar Street	$ 300,000	Replace	1,467	8.00	Ductile Iron	1960	4	CI	Water Quality	60	2026Q4
6294	BERNARDS TWP	W. Oak Street from N. Alward Ave to S. Finley Ave	$ 522,000	Replace	2,442	8.00	Ductile Iron	1950	4	CI	Safety and Reliability/Structural	90	2026Q4
6305	BERNARDSVILLE	Anderson Rd from Chestnut Ave to Seney	$ 596,250	Replace	2,533	12.00	Ductile Iron	1960	8	CI	System Flows and Pressure	90	2026Q4
6320	BERNARDSVILLE	MT AIRY RD FROM PROSPECT TO	$ 800,000	Replace	794	12.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
6853	BERNARDSVILLE	BERNARDSVILLE - Old Fort Rd from Seney Dr around the whole circle and out Olcott to Old Army Rd	$ 1,100,000	Replace	2,917	8.00	Ductile Iron	1950	6	AC	Conservation	90	2026Q4
8972	BERNARDSVILLE	Twin Lakes - Hull Rd easement	$ 500,000	Replace	805	8.00	Ductile Iron	1930	4	AC	Safety and Reliability/Structural	60	2024Q4
10847	BERNARDSVILLE	Route 202 between Mt Airy Rd and Woodland and between fire house and	$ 675,000	Replace	1,772	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q3
5692	CHATHAM TWP	Maple Street from School Ave to end	$ 570,000	Replace	1,541	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
6660	CHATHAM TWP	Green Village Rd from Meyersville Rd to Shunpike Rd.	$ 1,382,000	Replace	7,069	8.00	Ductile Iron	1930	8	CI	Water Quality	120	2026Q4
6666	CHATHAM TWP	May Drive from Noe Avenue to Robert Dr	$ 493,000	Replace	2,404	8.00	Ductile Iron	1950	8	CI	Water Quality	90	2026Q4
6675	CHATHAM TWP	Chestnut Rd from the end cap to Fairmount Avenue	$ 121,500	Replace	689	4.00	Ductile Iron	1940	2	CI	System Flows and Pressure	60	2026Q4
6678	CHATHAM TWP	Fairfax Terrace from Edgewood Rd to Chatham Boro Fairfax Ter Interconnect #2	$ 172,000	Replace	776	8.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	60	2026Q4
6679	CHATHAM TWP	Maple Ave from School Ave to Lafayette	$ 375,000	Replace	1,541	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2026Q4
6681	CHATHAM TWP	Noe Avenue from Southern Blvd to Watchung Ave	$ 1,200,000	Replace	3,166	12.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	90	2025Q4
6682	CHATHAM TWP	Overlook Rd from Fernadale Rd to Sandy Hill Rd	$ 199,000	Replace	1,711	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2026Q4
6721	CHATHAM TWP	CHATHAM TWP - Jay Rd from Southern Blvd to the cul-de-sac	$ 297,500	Replace	1,521	6.00	Ductile Iron	1940	6	CI	Safety and Reliability	60	2026Q4
6857	CHATHAM TWP	CHATHAM - River Rd from Southern to	$ 1,012,500	Replace	2,566	8.00	Ductile Iron	2000	8	CI	Safety and Reliability	90	2025Q4
6861	CHATHAM TWP	CHATHAM - River Rd from Passaic to 60' west of HCT-160 (2000' east of Fairmont)	$ 1,426,000	Replace	3,805	8.00	Ductile Iron	1930	6	CI	Safety and Reliability	90	2025Q4
6885	CHATHAM TWP	CHATHAM - Spring St from Lafayette to	$ 280,000	Replace	1,088	8.00	Ductile Iron	1930	6	CI	Safety and Reliability	60	2026Q4
7284	CHATHAM TWP	Southern Blvd - Balance of MapCall ID# 6902, Due to paving moratorium	$ 1,125,000	Replace	4,462	8.00	Ductile Iron	1940	8	CI	Safety and Reliability	120	2026Q4
11121	CHATHAM TWP	Shunpike Rd from Loantaka to Southern	$ 1,200,000	Replace	2,377	12.00	Ductile Iron	1980	12	DI	Safety and Reliability/Structural	90	2024Q3
6280	CHESTER BOROUGH	Route 206 well line replacement	$ 487,500	Replace	2,039	8.00	Ductile Iron	1990	3	CI	Safety and Reliability	90	2026Q4
11341	FLORHAM PARK	Saint Elizabeth easement between Park Ave and Convent Rd	$ 800,000	Rehab	600	30.00	Other	1990	30	DI	Crossing Risk Reduction	60	2024Q4
6884	HARDING TWP	HARDING - Spring Valley Rd from Douglas to Meyersville	$ 750,000	Replace	2,104	8.00	Ductile Iron	1940	8	CI	Safety and Reliability	90	2025Q4
6881	IRVINGTON	IRVINGTON - Western Parkway from Woodlawn to Grove	$ 585,000	Replace	2,497	12.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
11067	IRVINGTON	Irvington – Chancellor Ave From Mt. Vernon Ave to Union Ave	$ 900,000	Replace	2,445	16.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	90	2025Q1
11075	IRVINGTON	IRVINGTON – Stuyvesant Ave from Boyden Ave to Mill Rd	$ 320,000	Replace	868	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2025Q4
11076	IRVINGTON	IRVINGTON – Mill Rd and Union Ave between Union Place and Chancellor	$ 1,400,000	Replace	2,292	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	90	2025Q4
5548	LITTLE FALLS	Main St replacement (west end)	$ 900,000	Replace	802	12.00	Ductile Iron	1940	6	CI	Safety and Reliability	60	2024Q4
6735	LITTLE FALLS	LITTLE FALLS - Montclair Ave from RR crossing to Oak Dr Cedar Grove	$ 180,000	Replace	1,172	8.00	Ductile Iron	1950	8	DI	Safety and Reliability/Structural	60	2026Q4
6739	LITTLE FALLS	LITTLE FALLS - Notch Rd from rt 46 to Longhill Rd	$ 380,000	Replace	2,167	8.00	Ductile Iron	1980	12	DI	Safety and Reliability/Structural	90	2026Q4
6744	LITTLE FALLS	LITTLE FALLS - Overlook Ave from Lower Notch Rd to Notch Rd	$ 460,000	Replace	2,124	8.00	Ductile Iron	1940	6	AC	Safety and Reliability/Structural	90	2026Q4
6746	LITTLE FALLS	LITTLE FALLS - Walnut St between Union and Stevens Ave	$ 640,000	Replace	1,889	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2024Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
6747	LITTLE FALLS	LITTLE FALLS - Wilmore Rd Between Prospect St and 1st ave	$ 560,000	Replace	2,829	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	90	2026Q4
6836	LITTLE FALLS	LITTLE FALLS - Woods Rd from Long Hill Rd to ROW	$ 280,000	Replace	1,415	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2026Q4
6244	LONG HILL TWP	Hillside Drive from Long Hill Rd to Lacey	$ 156,000	Replace	768	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2026Q4
6500	LONG HILL TWP	Long Hill Rd from Merersvillle Rd to Hydrant HLH-84 east of Gillette Rd.	$ 949,500	Replace	4,315	12.00	Ductile Iron	1950	6	CI	System Flows and Pressure	120	2026Q4
6723	LONG HILL TWP	Maple Av from St Joseph to Delaware	$ 860,000	Replace	2,321	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2024Q4
6749	LONG HILL TWP	LONG HILL - Elm St from Central Ave	$ 300,000	Replace	1,484	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2026Q4
6752	LONG HILL TWP	LONG HILL - Madison St Morristown Rd	$ 230,000	Replace	1,121	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	60	2026Q4
11395	LONG HILL TWP	Douglas Rd & Spencer Rd	$ 800,000	Replace	2,076	8.00	Ductile Iron	1940	6	CI	Safety and Reliability	90	2026Q4
9301	MAPLEWOOD	20” in Oakland @ Kensington, then Prospect, Elmwood, Boyden and Parker to the Irvington line	$ 7,000,000	Replace	9,358	20.00	Ductile Iron	1910	16	CI	Safety and Reliability/Structural	120	2025Q4
9795	MAPLEWOOD	Maplewood Twp - Burnett IC upstream reinforcement	$ 585,420	Replace	1,774	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2026Q4
11115	MAPLEWOOD	West Parker Ave from Valley to Kendall	$ 900,000	Replace	4,062	12.00	Ductile Iron	1910	12	CI	Safety and Reliability/Structural	120	2026Q4
11407	MAPLEWOOD	Ridgewood Rd	$ 2,400,000	Rehab	6,733	10.00	Other	1960	16	CEM	System Flows and Pressure	120	2025Q4
6308	MENDHAM BOROUGH	Prospect Street from Hilltop Rd to End	$ 281,750	Replace	1,618	6.00	Ductile Iron	1980	4	CI	System Flows and Pressure	60	2026Q4
6328	MENDHAM BOROUGH	Maple Ave from Mountain Ave to	$ 750,000	Replace	2,051	8.00	Ductile Iron	1960	8	CI	Safety and Reliability	90	2025Q4
6329	MENDHAM BOROUGH	Garabrant St from Mountain Ave to Maple	$ 260,000	Replace	1,997	8.00	Ductile Iron	1930	4	CI	Safety and Reliability	60	2026Q4
6795	MENDHAM TWP	MENDHAM TWP - Knollwood Trail from Deer Run to Farm Rd	$ 1,612,500	Replace	4,281	8.00	Ductile Iron	1980	6	CI	Safety and Reliability/Structural	120	2025Q3
6818	MILLBURN	MILLBURN - White Oak Ridge Rd from Hobart Ave to the grade line	$ 860,000	Replace	2,282	8.00	Ductile Iron	1950	8	CI	Safety and Reliability/Structural	90	2024Q2
6831	MILLBURN	MILLBURN - Hartshorn Dr from Highview Rd to Oakey Rd	$ 713,000	Replace	1,902	12.00	Ductile Iron	1980	6	CI	Safety and Reliability/Structural	60	2025Q4
6898	MILLBURN	MILLBURN - Hobart from South St to White Oak Ridge	$ 480,000	Replace	2,287	8.00	Ductile Iron	1980	4	CI	Safety and Reliability/Structural	90	2026Q4
6900	MILLBURN	MILLBURN - Hobart from Old Short Hills Rd to Whitney	$ 405,000	Replace	1,045	8.00	Ductile Iron	1910	8	CI	Safety and Reliability	60	2025Q4
9465	MILLBURN	Millburn Ave from Lackawanna to Morris Ave, and Morris to Rte 24	$ 2,700,000	Rehab	9,104	10.00	Other	1880	10	CI	Water Quality	120	2025Q4
10212	MILLBURN	Lackawanna Place from Glen Ave to Essex	$ 480,000	Replace	900	24.00	HDPE	1950	20	CEM	Crossing Risk Reduction	60	2024Q3
10699	MILLBURN	Wyoming Ave from Millburn Ave to Glen	$ 1,000,000	Replace	735	12.00	HDPE	1890	10	CI	Crossing Risk Reduction	60	2024Q4
11243	MILLBURN	Slope Dr from Taylor Rd. to Hartshorn Dr	$ 450,000	Replace	1,216	8.00	Ductile Iron	1940	6	CI	Relocation/Opportunity	60	2024Q1
11283	MILLBURN	Ridgewood Rd HRAM	$ 300,000	Replace	168	20.00	Ductile Iron	1950	10	CI	Crossing Risk Reduction	30	2024Q4
11284	MILLBURN	Cypress St HRAM	$ 250,000	Replace	316	12.00	Ductile Iron	1900	12	CI	Crossing Risk Reduction	30	2024Q4
6805	NEW PROVIDENCE	NEW PROVIDENCE - Gales Dr from South St to Springfield Ave	$ 750,000	Replace	2,020	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2025Q4
6815	NEW PROVIDENCE	NEW PROVIDENCE - Pleasent View Ave from Livingston ave to Springfield Ave	$ 420,000	Replace	2,079	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	90	2026Q4
6817	NEW PROVIDENCE	South St from Westerly to Springfield Ave	$ 1,720,000	Replace	3,713	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2024Q3
9875	NEW PROVIDENCE	Porter Place	$ 137,500	Replace	534	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2026Q4
10917	NEW PROVIDENCE	Clinton Ave - all	$ 330,000	Replace	1,121	8.00	Ductile Iron	1930	6	CI	Safety and Reliability	60	2024Q4
6851	PEAPACK GLADSTONE BOROUGH	PEAPACK GLADSTONE - Pottersville Rd from Main St to RT 206	$ 1,237,500	Replace	3,059	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	90	2026Q4
10649	ROXBURY TOWNSHIP	Kenvil Road	$ 1,000,000	Replace	3,747	8.00	Ductile Iron	1950	8	AC	Safety and Reliability	90	2026Q4
10653	ROXBURY TOWNSHIP	Horizon Drive	$ 600,000	Replace	2,240	8.00	Ductile Iron	1970	8	AC	Safety and Reliability	90	2025Q4
6862	SPRINGFIELD	SPRINGFIELD - Shunpike Rd from Mountain Ave to I-78	$ 1,575,000	Replace	4,315	8.00	Ductile Iron	1990	8	CI	Safety and Reliability/Structural	120	2025Q4
6877	SPRINGFIELD	SPRINGFIELD - Route 22 east and west	$ 10,000,000	Replace	8,623	12.00	Ductile Iron	1940	6	CI	Safety and Reliability	120	2024Q4
6934	SPRINGFIELD	SPRINGFIELD - Denham Rd from Donna Rd to Morrison Rd	$ 220,000	Replace	965	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
6939	SPRINGFIELD	SPRINGFIELD - Elmwood Ave / Cottler Ave from Milltown Rd	$ 300,000	Replace	1,310	8.00	Ductile Iron	1950	6	CI	Relocation/Opportunity	60	2026Q4
6944	SPRINGFIELD	SPRINGFIELD - Colfax Rd from Denham to Short Hills Ave	$ 270,000	Replace	1,339	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2026Q4
6946	SPRINGFIELD	SPRINGFIELD - Molter from Severna to	$ 100,000	Replace	518	8.00	Ductile Iron	1910	6	DI	Relocation/Opportunity	60	2026Q4
6947	SPRINGFIELD	SPRINGFIELD - Marcy from Severna to	$ 120,000	Replace	603	8.00	Ductile Iron	1910	6	CI	Relocation/Opportunity	60	2026Q4
10211	SPRINGFIELD	Caldwell Pl near Mountain ave	$ 125,000	Replace	100	12.00	Ductile Iron	1970	12	CI	Relocation/Opportunity	30	2026Q4
11437	SPRINGFIELD	Riverside Dr from Battlehill to Meisel	$ 680,000	Replace	1,700	8.00	Ductile Iron	1940	2	CI	System Flows and Pressure	60	2026Q4
6868	SUMMIT	SUMMIT - Gates Ave from Morris Ave to Montrose Ave	$ 340,000	Replace	842	8.00	Ductile Iron	1970	4	CI	Safety and Reliability/Structural	60	2024Q4
6872	SUMMIT	SUMMIT - Woodland Ave from River Rd to Canoe Brook Pkwy	$ 320,000	Replace	850	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2026Q4
7286	SUMMIT	Summit Rehab - Glenside & Morris from Van Dyke to Morris Court	$ 200,000	Rehab	1,814	10.00	Cast Iron	1890	10	CI	System Flows and Pressure	60	2026Q4
9557	SUMMIT	Plymouth Rd	$ 314,000	Replace	1,256	8.00	Ductile Iron	1920	6	CI	Relocation/Opportunity	60	2026Q4
10671	SUMMIT	New Providence Ave	$ 100,000	Replace	160	4.00	Ductile Iron	1950	2	CI	Safety and Reliability	30	2024Q4

Table 4.5 - Northern Operating Area
2024 - 2026 Priority Projects

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
139	WASHINGTON BOROUGH	Washington Boro - West Warren, from Grand Ave. and Belvidere Ave.	$ 350,000	Replace	1,403	8.00	Ductile Iron	1890	4	CI	Relocation/Opportunity	60	2026Q3
5755	WASHINGTON BOROUGH	Van Burern St from Prosper Way until end	$ 149,000	Replace	762	8.00	Ductile Iron	1960	6	AC	System Flows and Pressure	60	2026Q4
5757	WASHINGTON BOROUGH	Birchwood Ave from Washburn Ave to End	$ 80,500	Replace	463	8.00	Ductile Iron	1930	4	AC	System Flows and Pressure	30	2026Q4
5758	WASHINGTON BOROUGH	Myrtle Ave from S. Pickel Ave to end cap with new main thru easement to Flower	$ 438,750	Replace	1,563	12.00	Ductile Iron	1960	6	CI	Water Quality	60	2025Q4
6187	WASHINGTON BOROUGH	NORTH WANDLING	$ 80,000	Replace	401	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	30	2026Q4
6215	WASHINGTON BOROUGH	CHRISTINE	$ 90,000	Replace	422	8.00	Ductile Iron	1930	6	AC	Safety and Reliability	30	2024Q4
11313	WASHINGTON BOROUGH	Carlton Ave from N Prospect to Belvidere	$ 700,000	Replace	2,000	12.00	Ductile Iron	1890	10	CI	Safety and Reliability	90	2024Q4
11355	WASHINGTON BOROUGH	Flower Ave. culvert from Ph 2 Harding to E. Washington Ave original project #46	$ 350,000	Replace	40	8.00	Ductile Iron	1960	8	CI	Crossing Risk Reduction	30	2024Q4
130	WASHINGTON TWP	Washington - Washburn Road Changwater to S Lincoln	$ 945,000	Replace	4,330	12.00	Ductile Iron	1930	6	AC	System Flows and Pressure	120	2024Q4
5743	WASHINGTON TWP	Fisher Ave from Railroad Ave to Washburn	$ 275,000	Replace	1,349	8.00	Ductile Iron	1930	4	AC	Water Quality	60	2026Q4
5760	WASHINGTON TWP	Washington Ave from Brass Castle Rd to Mill Pond Road	$ 725,000	Replace	2,952	16.00	Ductile Iron	1950	8	CI	System Flows and Pressure	90	2026Q4
11221	WASHINGTON TWP	Route 57 / East Washington Ave	$ 910,000	Replace	2,623	12.00	Ductile Iron	1940	8	CI	Safety and Reliability	90	2025Q4
11285	WASHINGTON TWP	Port Colden Rd at stream crossing	$ 100,000	Replace	100	8.00	Ductile Iron	2000	8	CI	Crossing Risk Reduction	30	2024Q4
11356	WASHINGTON TWP	Little Philadelphia Rd	$ 825,000	Replace	2,182	8.00	Ductile Iron	1950	8	CI	Safety and Reliability/Structural	90	2026Q4
49	WEST ORANGE	West Orange - Mitchell St (bet Colony & Rollinson)	$ 130,000	Replace	321	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2026Q4
6217	WEST ORANGE	Rock Spring Avenue from Northfield Ave to Chestnut Road	$ 750,000	Replace	1,819	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2026Q4
6225	WEST ORANGE	Ahern Ave. (from Barton Dr. to end cap) and Barton Dr. (from Laurel Dr. to end cap)	$ 480,000	Replace	1,170	6.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2026Q4
6226	WEST ORANGE	Sunnyside Rd from Pleasant Valley Way to	$ 712,000	Replace	1,854	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
6907	WEST ORANGE	WEST ORANGE - Belle Terre Rd from Pleasant Valley Way to Coolidge Ave	$ 260,000	Replace	1,287	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
6911	WEST ORANGE	WEST ORANGE - Korwel Cir + Ct from Northfield Ave	$ 380,000	Replace	2,048	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2026Q4
6913	WEST ORANGE	WEST ORANGE - Northfield Ave from Walker Rd to Main St	$ 2,000,000	Replace	8,083	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	120	2026Q4
6914	WEST ORANGE	WEST ORANGE - Pleasant Valley Way from Eagle Rock Ave to I-280	$ 1,875,000	Replace	5,284	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	120	2025Q4
6920	WEST ORANGE	WEST ORANGE - Randolph Pl from Mt Pleasant Ave to Longview St	$ 300,000	Replace	1,436	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2026Q4
6927	WEST ORANGE	Sunnyside Rd from Pleasant Valley Way	$ 562,000	Replace	1,545	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
6928	WEST ORANGE	WEST ORANGE - Undercliff Terr from Forest Hill Rd to Bradford Ave	$ 260,000	Replace	1,223	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	60	2026Q4
6942	WEST ORANGE	WEST ORANGE - Eagle Rock Ave from Mississippi to Smith Manor Blvd	$ 680,000	Replace	3,511	8.00	Ductile Iron	2000	8	CI	Safety and Reliability	90	2024Q3
6943	WEST ORANGE	WEST ORANGE - Eagle Rock Ave from Pleasant Valley Way to Oval Rd.	$ 935,000	Replace	3,025	12.00	Ductile Iron	1920	6	CI	Safety and Reliability	90	2024Q4
9560	WEST ORANGE	WEST ORANGE - Northfield Ave from Wheeler St to Valley Rd	$ 200,000	Replace	822	12.00	Ductile Iron	1890	4	CI	System Flows and Pressure	60	2024Q4
10130	WEST ORANGE	Clearview	$ 125,000	Replace	471	8.00	Ductile Iron	1920	6	CI	Relocation/Opportunity	30	2026Q4
10842	WEST ORANGE	St Cloud from Arvern to Northfield	$ 770,000	Replace	2,652	8.00	Ductile Iron	1940	6	CI	Safety and Reliability	90	2026Q4
10852	WEST ORANGE	WEST ORANGE - Main Street from Valley Rd to HWO-48	$ 90,000	Replace	363	8.00	Ductile Iron	1890	4	CI	System Flows and Pressure	30	2025Q4
10922	WEST ORANGE	Undercliff Terr south	$ 200,000	Replace	513	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
11320	WEST ORANGE	Eagle Rock Ave from Prospect	$ 605,000	Replace	650	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2024Q3
		subtotal	**$ 89,157,670**									30	

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SECTION 5. CENTRAL OPERATING AREA

5.1 OVERVIEW

NJAWC's Central Operating Area consists of three Public Community Water Systems in 48 municipalities in Union, Middlesex, Somerset, Morris, Hunterdon, and Mercer Counties. Combined, these water systems deliver approximately 125 MGD, on average, to water customers. The Raritan System also provides bulk water supplies to other public community water systems in the region through bulk water sales agreements and inter-company transfers. Table 5.1.1 details the number of customers and water usage by the three water systems. Exhibit 5.1, attached, illustrates the location of these service areas.

The system currently serves eight bulk water sales customers and two additional NJAWC systems. The eight bulk water sales customers are Liberty Water Company, Edison Water Company, Middlesex Water Company, Winfield Township, Franklin Township, Hopewell Borough, Aqua New Jersey - Lawrenceville, and South Brunswick Township. The NJAWC Passaic Basin System receives water transfers from the Raritan System.

Table 5.1.1 - Central Operating Area Water Systems' Characteristics (2023)

PWSID	System Name	Service Connections	Population Served	Avg Day Demand (MGD)	Peak Month Demand (MGD)
NJ1011001	Frenchtown	450	1,200	0.099	0.116
NJ1024001	Crossroads at Oldwick	80	215		
NJ2004002	Raritan Basin	216,000	563,000	124.427	141.108

The primary sources of supply for this Operating Area are the Raritan River treated at the Canal Road Treatment Plant and the Raritan- Millstone Treatment Plant. Raw water supplies for these two water treatment plants are derived from intakes in the Raritan River, and supplemented when needed by the Millstone River, and the Delaware & Raritan Canal. Flows in the Raritan River are augmented by releases from the Spruce Run Reservoir and Round Valley Reservoir, both operated by the New Jersey Water Supply Authority. Flows in the Delaware & Raritan Canal are also controlled by the New Jersey Water Supply Authority.

In addition to the surface water supplies, NJAWC also diverts ground water from various Piedmont and Inner Coastal Plain aquifers. Approximately 10% of the Central Operating Area finished water delivered to customers is produced from ground water sources. Currently, there are 45 active wells treated at 19 stations located throughout the franchise area of the system within Union, Middlesex, Somerset, Hunterdon, and Mercer Counties.

The Central Operating Area's corrosion control strategy includes pH control and the addition of phosphates as corrosion inhibitors at the Canal Road and Raritan-Millstone surface water treatment plants and groundwater well stations. Phosphates are used to inhibit the internal corrosion of water mains, to sequester iron, manganese, calcium, and magnesium, and to improve the quality of water in the distribution system by preventing scale deposits and tuberculation. Orthophosphate added to the surface water treatment plants inhibits corrosion as it reacts with dissolved minerals in the water to form a thin coating or film on the inner surface of the pipe that is exposed to the treated water. Blended polyphosphates are added at most well facilities in order to sequester soluble metals found in the groundwater. The two forms of phosphate addition (orthophosphate and blended poly phosphates) work together to provide corrosion control while also reducing discoloration and scaling from groundwater.

The non-revenue water rate for the Central Operating Area in 2023 was 16.7%. Routine maintenance, flushing, leak detection, valve exercising, and meter replacement all occur on an ongoing basis to assist in controlling non-revenue water. The rate for this system is above the NJDEP guideline but is similar to other utilities serving areas with significant topographic changes, numerous pumping zones and rocky soil conditions. Renewal of water mains in this area is important to assist in the reduction and control of leakage rates.

The treated water from the Company's sources of supply is conveyed to customers through 3,200 miles of distribution mains, with sections of the service areas dating back to the pre-1900 period. Water mains were manufactured and installed over many decades, resulting in varying types of materials, sizes, and joints. The type of water main installed was based on the predominant pipe material available at the time. Table 5.1.2 provides a summary of the material and the diameter of the assets that continue to provide service.

Table 5.1.2 -Central Operating Area Summary of Mains by Material Type (in miles)

Central Operating Area ALL PWSID's Miles of Main by Diameter					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.8	35.9	11.6	1.9	50.3
Cast Iron Lined	2.7	406.5	27.5	28.0	464.8
Cast Iron Unlined	18.0	747.2	31.9	13.5	810.6
Ductile Iron	20.5	1484.6	184.5	67.9	1757.5
Metal	0.9	4.4	2.6	0.9	8.7
PCCP	0.1	0.4	4.8	135.1	140.3
Plastic	0.3	3.6	2.9	0.3	7.1
Grand Total	43.2	2682.7	265.8	247.7	3239.3

Note: Due to rounding, not all the totals will sum.

5.2 DISTRIBUTION SYSTEM ASSET PERFORMANCE

The useful life of mains, valves, hydrants, and service connections varies based on materials, environment, internal and external corrosion rate, internal and external forces, ground freezing and thawing cycles, groundwater levels, soil conditions, and many other factors. As the water systems age there is a need to renew infrastructure to ensure safety and reliability, improve system flows and water pressure, protect water quality, promote conservation, and reduce non-revenue water.

The following section presents asset management data and conclusions regarding the need for accelerated investment. The performance of mains and their relative deterioration rate can be monitored by the break frequency and other characteristics. Table 5.2 shows the break frequency in tabular form. Figures 5.2.a and 5.2.b illustrate the number of repairs by material and type of break in the Central Operating Area during 2021.

Table 5.2 - Summary of Break Rate by Material for the Central Operating Area (2023)

Central District Total							
2023	Asbestos Cement	Cast Iron	Ductile Iron	Other Metallic	PCCP	Plastic	Total
Miles of Main	50	1275	1758	9	140	7	3239
Main Failures	1	159	60	2	0	0	222
Failures per Mile	0.02	0.12	0.03	0.23	0.00	0.00	0.07

Figure 5.2.a - Summary of Main Breaks by Type in Central (2023)

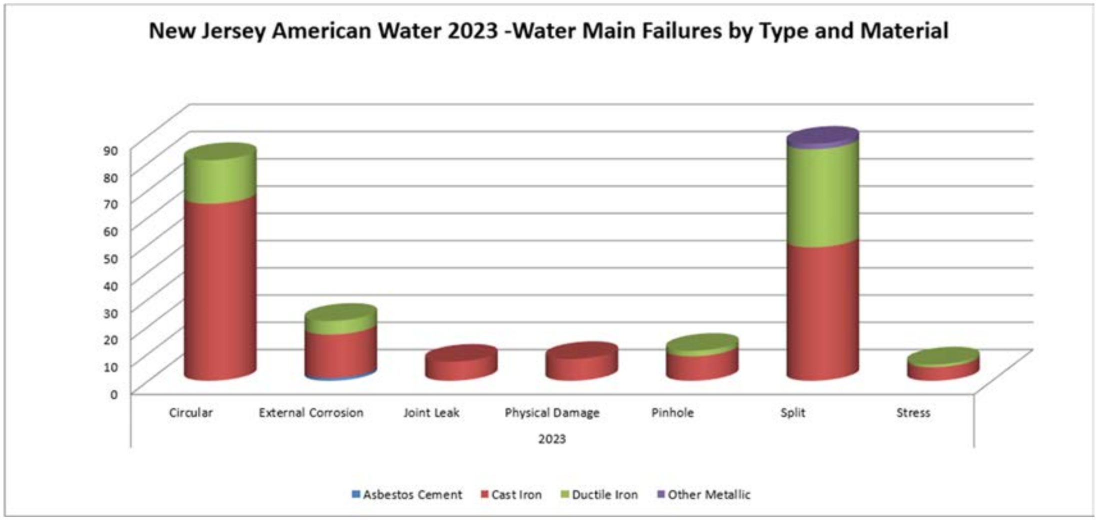
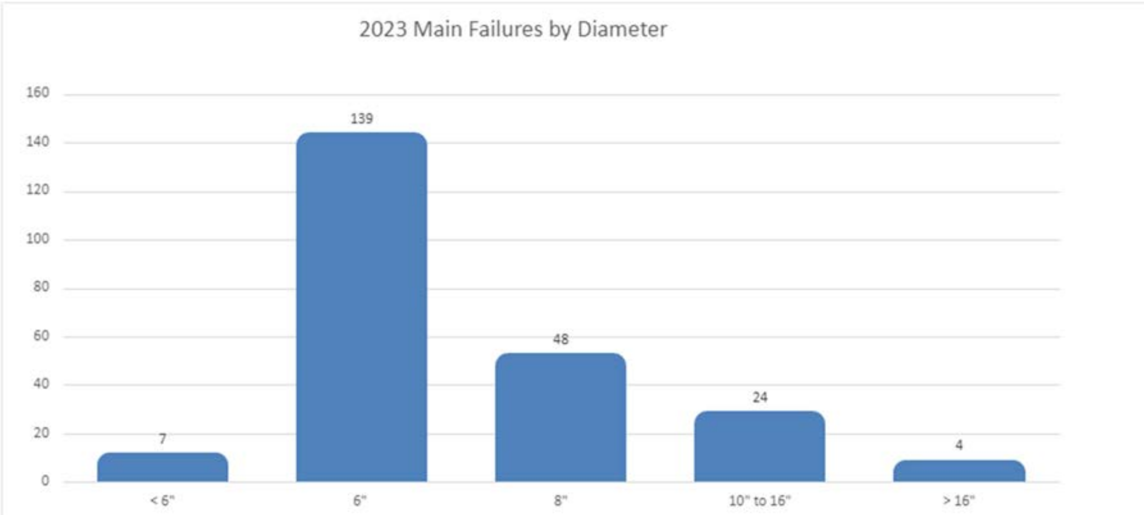


Table 5.2 illustrates the highest break rate frequency (breaks/mile/year) in these systems (primarily the Raritan) occurs on cast iron, and other metallic mains. The majority of main failures are circular breaks in cast iron mains and to a lesser extent split breaks between cast iron and ductile iron mains. The majority of breaks in this operating area occur on cast iron mains that were installed in the first half of the 1900's. These mains are targeted for accelerated rehabilitation and replacement in the DSIC program. Circular failures generally result from the settlement of pipe due to erosion of the pipe bedding. The erosion of bedding material can result over time from a pinhole or joint leak on the main. Circular breaks are also noted in increased frequency when there is a change in water temperature and attributed to thermal stress within the pipe (typically associated with surface water sources). It should be noted that the split-type breakage is the second most common type of failure and quite significant for the Central Operating Area. Split breaks are caused by longitudinal stress resulting from higher operating pressure and metal fatigue. Figure 5.2.a shows the majority of the main breaks in the Central Operating Area occur on older cast iron pipes with the majority attributable to splits and circular failure.

In addition to the main breaks, the Central Operating Area receives customer complaints related to discolored water. Cleaning and cement mortar lining has been utilized to rehabilitate unlined cast iron mains that contribute to frequent water quality complaints. This technique can only be used if the mains are found to be structurally sound and of adequate hydraulic capacity after rehabilitation. For example, any mains that have had a break history in the past are not suitable candidates for cleaning and cement mortar lining, as this rehabilitation method does not add any structural integrity to the mains. NJAWC will investigate projects suitable for structural lining where economically feasible. Valves, hydrants, and service connections are replaced during the cleaning and lining rehabilitation projects as these assets have a shorter service life than the mains.

Figure 5.2.b Summary of Main Failures by Diameter – Central (2023)



5.3 SYSTEM-SPECIFIC ISSUES

The Central Operating Area includes a very large regional water system serving both urban and suburban neighborhoods and two small water systems. The primary distribution system issues in this system are:

(1) Older, urban communities with undersized water mains with high break rates, internal tuberculation and limited fire flow;

(2) Older cast iron mains in many older suburban areas no longer provide the required level of service, have higher break rates and limited fire flow capacity;

(3) Several communities have been identified for NJAWC's rehabilitation program via the Company's cleaning and lining program; these include communities with frequent discolored water complaints and low local fire flows; and

(4) Broken valves.

The rehabilitation program (via cleaning and lining) presented in this Foundational Filing includes renewal of the distribution systems in Garwood, Hillside, Piscataway, North Plainfield, Union, and Westfield. These towns have been identified as prime candidates for non-structural rehabilitation through the cement-mortar cleaning and lining method. The above towns have entire neighborhoods with old, structurally–sound, unlined cast iron mains installed in the early 1900's with no history of breaks, but with numerous water quality issues, where cleaning and lining is appropriate and cost-effective. These projects will rehabilitate entire neighborhoods through cleaning and lining of unlined cast iron mains, main replacements, valve and hydrant replacements, and service lateral replacements.

An example of the replacement of mains due to higher break frequency includes the eastern portion of the Central Operating Area, primarily in Linden, Roselle and Roselle Park. These areas consist of old, unlined, and brittle cast iron mains that are prone to breaks with even the slightest pressure change. Often, when transfers from other regional systems in the eastern portion of the service area are necessary to maintain services during emergencies or scheduled shutdowns, the break frequency in this portion of the Central Operating Area is noticeably increased. Similarly, the issue of older cast iron mains with a high break rate exists within Princeton Township and Princeton Borough, causing major traffic disruptions and escalated repair costs. Manville also has a significant break history with a large amount of asbestos cement pipe.

A list of DSIC-eligible projects proposed to be completed between 2024 and 2027 is shown in Table 5.5, attached. Most of the projects consist of replacing water mains from the early- to mid-1900's in the water systems in the Central Operating Area.

5.4 INDIVIDUAL SYSTEM DESCRIPTIONS

A. RARITAN WATER SYSTEM (PWSID NJ2004002)

System Description

The Raritan System is a public water system providing water to 48 municipalities in Union, Middlesex, Somerset, Morris, Hunterdon and Mercer Counties, with a combined population of 563,000.

Source of Supply & Production

Approximately 95% of the Raritan System finished water delivered to customers is produced at the Raritan-Millstone WTP and the Canal Road WTP, and 5% is from groundwater from multiple well stations throughout the service area.

Distribution & Storage

The Raritan System is operated with 26 pressure gradients, with storage provided by 40 water storage tanks and approximately 3,200 miles of water mains as shown in Tables 5.4.A.1 below.

Table 5.4.A.1 - Raritan System Water Mains

Raritan Basin NJ2004002 Miles of Main by Diameter					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.8	35.9	11.6	1.9	50.3
Cast Iron Lined	2.7	406.5	27.5	28.0	464.7
Cast Iron Unlined	18.0	746.8	31.9	13.5	810.2
Ductile Iron	20.4	1478.3	183.2	67.9	1749.8
Metal	0.9	4.4	2.6	0.9	8.7
PCCP	0.1	0.4	4.8	135.1	140.3
Plastic	0.3	3.6	2.9	0.3	7.1
Grand Total	43.2	2675.8	264.4	247.7	3231.1

Note: Due to rounding, not all the totals will sum.

B. CROSSROADS AT OLDWICK WATER SYSTEM (PWSID NJ1024001)

System Description

The Crossroads at Oldwick Water System is a public water system providing primarily residential water service to this subdivision located in Tewksberry Township, Hunterdon County.

Source of Supply & Production

The Crossroads at Oldwick obtains its water supply from three groundwater wells drilled into the Kittatinny Formation with a combined permitted capacity of 0.102 mgd.

Distribution & Storage

The distribution system has one pressure zone maintained by one 0.298 MG ground tank, two hydropneumatic tanks, and approximately 1 mile of water mains ranging in size from 6-inch to 12-inch shown in Tables 5.4.B.1 below.

Table 5.4.B.1 - Crossroads at Oldwick System Water Mains

Crossroads at Oldwick NJ1024001 Miles of Main by Diameter					
Material	< 6"	6" to 12"	14" to 16"	> 16"	Total
Ductile Iron		1.3			1.3
Total		1.3			1.3

C. FRENCHTOWN WATER SYSTEM (PWSID NJ1011001)

System Description

The Frenchtown System is a public water system providing water service to residential and commercial customers in Frenchtown Borough. This service area is located along the Delaware River, with customers extending to the municipal boundary in Alexandria Township in Hunterdon County.

Source of Supply & Production

The Frenchtown System obtains its water supply from four groundwater wells drilled into the Passaic Aquifer.

Distribution & Storage

The distribution system has two pressure zones: The Main Service zone and High Service zone. There is one storage tank, Ridge Road Reservoir, with a capacity of 0.75 MG, located in the High Service zone. A booster station at the Race Street Station pumps water from the Main Service zone to the High Service zone. There are approximately 7 miles of pipe service in Frenchtown as shown in Tables 5.4.C. below.

Table 5.4.C.1 - Frenchtown System Water Mains

Frenchtown NJ1011001 Miles of Main by Diameter					
Material	< 6"	6" to 12"	14" to 16"	> 16"	Total
Cast Iron Lined		0.1	0.0		0.1
Cast Iron Unlined	0.0	0.4	0.0		0.5
Ductile Iron	0.0	5.1	1.3		6.4
Metal	0.0				0.0
Total	0.0	5.6	1.3		6.9

Note: Due to rounding, not all the totals will sum.

5.5 PROPOSED DSIC PROJECTS, FILING 2024-2027

Approximately 58 additional pipeline projects have been identified in the Central Operating Area in need for renewal in this foundational filing, and a total 631 projects when including previously approved DSIC Foundational Filing identified projects. There are 341 of these projects that have been identified as priority projects for the 2024 through 2026 period, and are described in Table 5.5, attached. The scope and location of the identified projects are presented in this table.

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SECTION 6. COASTAL OPERATING AREA

6.1 OVERVIEW

The Coastal Operating Area is located in the coastal region of New Jersey, covering portions of Monmouth and Ocean Counties. The Coastal Operating Area consists of eight Public Community Water Systems serving 48 municipalities including the Coastal North regional system, Union Beach, Shorelands, Deep Run and New Egypt systems in Plumstead Twp., shown in Table 6.1.1, below. New Jersey American Water currently provides service to customers in the Coastal Operating Area, serving a population of approximately 400,000. Exhibit 6.1, attached, shows the location of these service areas.

Table 6.1.1 - Coastal Operating Area Water Systems' Characteristics (2023)

PWSID	System Name	Service Connections	Estmated Population Served	Avg Day Demand (MGD)	Peak Month Demand (MGD)
NJ1345001	Coastal North	141,050	353,000	46.561	64.881
NJ1350001	Union Beach	2,076	5,550	0.416	0.532
NJ1523002	Deep Run	242	650	0.035	0.048
NJ1523003	New Egypt (Plumstead)	363	950	0.113	0.153
NJ1339001	Shorelands	11,385	28,700	2.716	4.857

The sources of supply for this region include three surface water treatment plants, and numerous ground water well stations. The Oak Glen, Swimming River and Jumping Brook surface water treatment plants located in Monmouth County provide water across the northern portion of the Coastal Operating area. In addition, as a large regional water system, the water treatment process includes optimized corrosion control treatment. The Coastal Operating Area's corrosion control strategy includes pH control and the addition of corrosion inhibitors. Phosphates are used to inhibit the internal corrosion of water mains, to sequester iron, manganese, calcium, and magnesium minerals, and to improve the quality of water in the distribution system by preventing scale deposits and tuberculation. Blended polyphosphates are added at several well facilities in order to sequester soluble metals and minerals found in the groundwater. Orthophosphate, added at the surface water treatment plants in the northern portion of the Coastal Operating area, inhibits corrosion as it reacts with dissolved minerals in the water to form a thin coating or film on the inner surface of the pipe that is exposed to the treated water. The two forms of phosphate additions (orthophosphate and blended poly phosphates) work together to reduce discoloration and scaling issues as well as taste and odor issues in the groundwater.

The non-revenue water rate in the Coastal Operating Area averaged 10.6% in 2023. This rate, below the NJDEP guideline, is an important aspect of water resource management in the coastal area to optimize supplies and combat saltwater intrusion in freshwater aquifers. Factors contributing to this low rate include (1) numerous well sources and flat terrain which aid in managing pressure, (2) sandy soils to help reduce the corrosivity of the underground environment, (3) the relative constant temperature of the groundwater supplies, and (4) routine maintenance, flushing, leak detecting, valve exercising, and meter replacement which occur on an ongoing basis and assist in controlling leakage and non-revenue water rates.

The treated water from NJAWC's sources of supply is conveyed to customers through over 2,000 miles of distribution mains, with sections of the operating area dating back to the pre-1900 period. Water mains were manufactured and installed over many decades, resulting in a wide variety of materials, pipe sizes and joint types. The type of water main installed was based on the predominant pipe material available at the time. Table 6.1.2, below, provides a summary of the materials and diameter of the assets that continue to provide service.

Table 6.1.2 - Coastal Summary of Mains by Material Type (in miles)

Coastal Operating Area All PWSID's Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	1.4	333.7	3.1		338.1
Cast Iron Lined	20.1	347.7	3.8	5.8	377.4
Cast Iron Unlined	32.2	186.3	4.9	14.1	237.5
Ductile Iron	2.1	825.2	98.1	84.1	1009.5
Metal	5.8	1.6	0.0	2.7	10.2
PCCP	0.0	0.1	7.9	19.7	27.7
Plastic	3.0	56.8	2.7	4.4	66.7
Grand Total	64.6	1751.3	120.5	130.9	2067.3

Note: Due to rounding, not all the totals will sum.

6.2 DISTRIBUTION SYSTEM ASSET PERFORMANCE

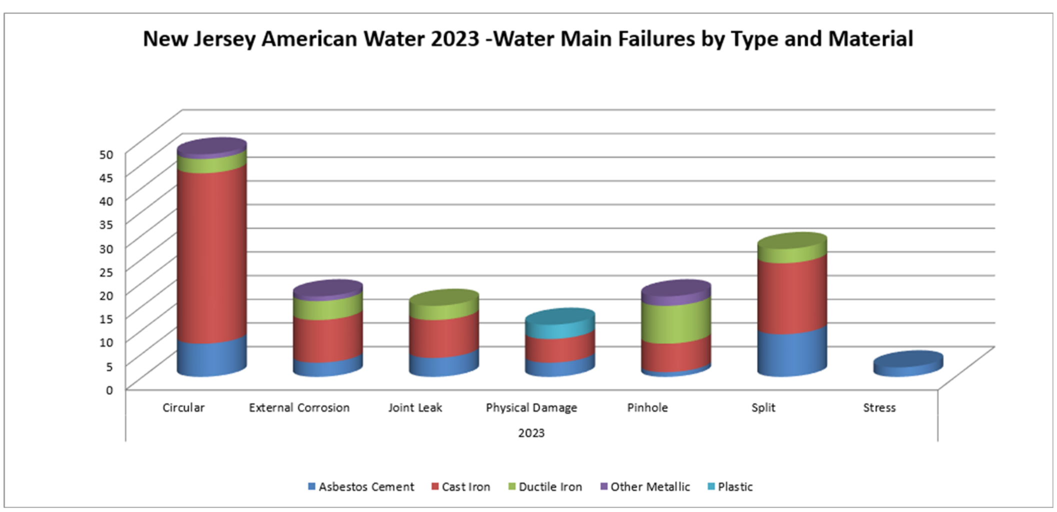
The following section presents asset management data and conclusions regarding the need for accelerated investment. The performance of mains and their relative deterioration rate can be monitored by the break frequency, and characteristics. Table 6.2 shows the miles of main, number of breaks and calculated breaks per mile in tabular form. Figures 6.2.a and 6.2.b illustrate the number of repairs by material and type of break in the Coastal Operating Area during 2023.

The useful life of mains, valves, hydrants, and service connections varies based on materials, environment, internal and external corrosion rates, internal and external forces, ground freezing and thawing cycles, groundwater levels, soil conditions and many other factors. As water systems age, infrastructure needs to be renewed to ensure safety and reliability, improve system flows and water pressure, protect water quality, promote conservation, and reduce non-revenue water. This section examines system performance based on these types of parameters and presents recommendations for acceleration of investment where needed. Table 6.2 and Figure 6.2.a, below, provide a summary of repairs by material and type of break in the Coastal Operating Area during 2023.

Table 6.2 - Summary of Break Rate by Material for the Coastal Operating Area (2023)

Coastal District Total							
2023	Asbestos Cement	Cast Iron	Ductile Iron	Other Metallic	PCCP	Plastic	Total
Miles of Main	338	615	1010	10	28	67	2067
Main Failures	29	78	20	2	0	3	132
Failures per Mile	0.09	0.13	0.02	0.20	0.00	0.04	0.06

Figure 6.2.a - Summary of Main Breaks by Type in Coastal (2023)

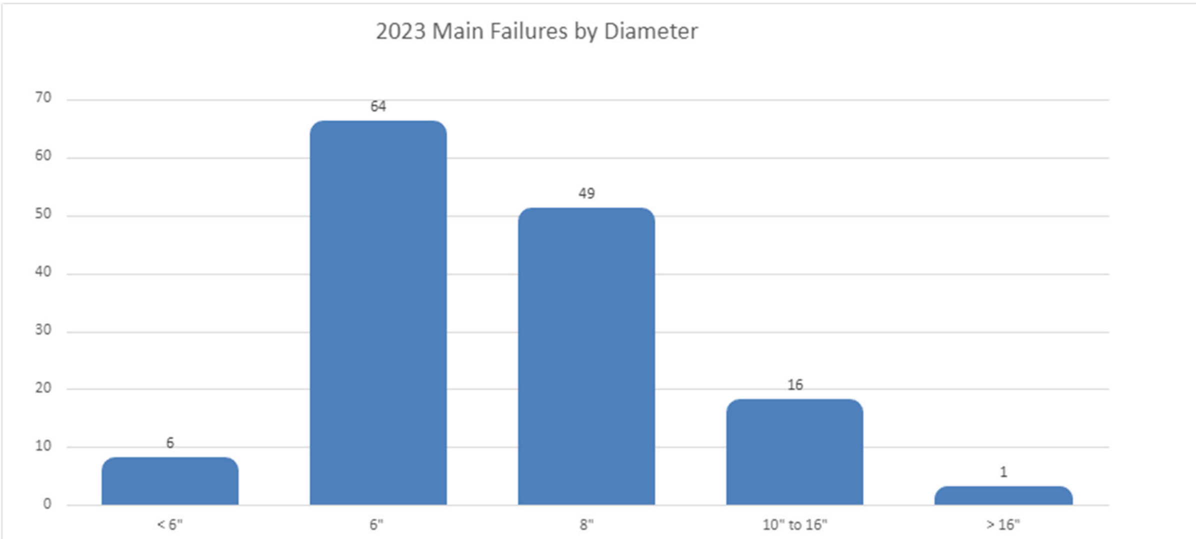


Data on main breaks and main lengths were compiled by service area from NJAWC's MapCall and GIS data files. Table 6.2 illustrates the highest break rate frequency in these systems occurs on cast iron, and other metallic pipes. These mains are targeted for accelerated rehabilitation and replacement in the DSIC program.

Figure 6.2.a illustrates that circular failures are the predominant break type, followed by splits, and external corrosion. Circular failures generally result from the settlement of pipe due to erosion of the pipe bedding or traffic loads. Bed settling generally occurs as a result of pinhole or joint leaks, which cause erosion in the area. Circular failures, as indicated by the chart, are the most common type of breaks for cast iron mains. Circular breaks are also noted in increased frequency when there is change in water temperature and attributed to thermal stress within the pipe. Split is second and closely followed by the corrosion breaks. Corrosion breaks are mainly caused by aggressive soils while split breaks are caused by longitudinal stresses resulting from material fatigue. Joint leaks can be attributed to external corrosion, gasket deterioration, or mechanical failures. It should also be noted that corrosion and split type breakage is more common on "Other Metallic" pipe in this area. This is another indication that accelerated investment to replace Other Metallic mains is warranted.

The majority of asbestos cement pipe (ACP) failures in the Coastal Operating Area are either joint, physical damage, or split type breaks. This is consistent with visual observations made of old ACP in aggressive soils where the pipe material is softened, reducing its tensile strength. Because of the difficulty of repairing ACP, replacement of the entire pipe length is generally performed; the ACP is generally too weak for a clamp repair.

Figure 6.2.b - Summary of Main Failures by Diameter – Coastal (2023)



6.3 SYSTEM-SPECIFIC ISSUES

The Coastal Operating Area (Monmouth and Ocean Counties) distribution system was installed over many decades and was built with the pipe materials available at the time. The pipe material and design standards used followed the best practices of the time; however, many of these are considered obsolete for today's service needs. The following are specific concerns in this operating area:

(1) Aggressive soil conditions in certain areas, which often leads to corrosion on the exterior of older cast iron and galvanized steel mains;
(2) Redevelopment and increased housing density, which drives the need for replacement of small diameter mains; and
(3) Higher break frequency rates for other metallic and cast-iron mains.

The distribution system performance in the community of Aberdeen, Monmouth County, is an example of where this first issue has resulted in frequent breaks and service interruptions. While the problem is continuing, the significant ACP replacement in recent years has made a remarkable improvement in the break rate for ACP. The Aberdeen system was constructed in the 1940's of thin-walled asbestos cement piping. Experience has shown that asbestos cement pipes (ACP) in this area have deteriorated to such an extent that crews report that during repairs, the pipe wall has been found to be "spongy". Thin-walled ACP, typically used on small-diameter installations, has a much higher break rate than its counterpart, large diameter asbestos cement pipes manufactured with thicker walls. Experience has also shown that once a section of ACP main is replaced in the distribution system, it typically results in increased rates of failure for the downstream sections of pipe. Main breaks in this area often result in large sink holes, which pose significant public safety issues.

The second key issue for this area relates to a revival in a number of municipalities of “Smart Growth” plans and private redevelopment. Many of these towns have water mains in excess of 100 years old, consisting mainly of unlined, undersized cast iron pipe. Many small housing units are being replaced with larger residential units, including multi-family homes and condominiums. This trend has resulted in an increase in system demand, domestic use, and fire suppression needs. Mains originally sized for small residential units needing nominal fire flow are now carrying greater flows than the original design criteria. In order to continue safe and adequate service, the replacement of small-diameter mains and the elimination of hydraulic restrictions in the system are needed.

The third significant issue in this area is the break rate of older cast iron mains and other metallic mains. While the issue is not unique to any one section of the service area, it is quite prevalent, particularly in older communities built prior to World War II. In addition, significant internal tuberculation built up over many decades has severely restricted the hydraulic capacity of these mains, causing local low flow and pressure problems. These mains are frequent sources of water quality complaints, mostly discoloration. Communities that have a greater frequency of these issues include Asbury Park, Lakewood, Ocean Grove, and Ortley Beach. The break rate, water quality complaints and obsolete flow capacity combine to generate the prioritization of these mains for renewal. In order to improve the level of service and reduce the break frequency in these particular areas as well as other, smaller areas, the replacement of these mains is paramount. For these reasons, NJAWC has identified and prioritized for replacement numerous projects (110 miles) of failing cast iron mains within the Coastal Region in the accelerated program submitted within this Foundational Filing.

A list of DSIC-eligible projects with the Coastal Region to be mostly completed in 2024 through 2026 is shown in Table 6.5. Most of the projects consist of replacing water mains that are from the early- to mid-1900’s in the various water systems in the Coastal Operating Area. In addition, these renewal projects, when completed, will increase reliability, safety, and water quality for customers in this area.

6.4 INDIVIDUAL SYSTEM DESCRIPTIONS

A. COASTAL NORTH WATER SYSTEM (PWSID NJ1345001)

System Description

The Coastal North System is a public water system providing service to 35 municipalities in parts of Monmouth and Ocean Counties. The Coastal North water system has several sales for resale customers: Matawan, Keansburg, Red Bank, Avon by the Sea, Belmar, Lake Como, Point Pleasant and Farmingdale.

Source of Supply & Production

The Coastal North System is supplied by various groundwater and surface water sources of supply. Raw surface water supplies are treated at the Swimming River Treatment Plant (SRTP), the Jumping Brook Treatment Plant (JBTP) and the Oak Glen Treatment Plant (OGTP). The SRTP is supplied by the Swimming River Reservoir and three wells. The JBTP is supplied by the Glendola Reservoir, a NJAWC-owned reservoir that holds raw water purchased from the New Jersey Water Supply Authority (NJWSA). The JBTP also treats surface water from intakes off the Shark River and Jumping Brook, as well as groundwater from three wells. The Oak Glen Treatment Plant (OGTP), located in Howell Township, treats raw water purchased from the NJWSA. Additional wells are located throughout Howell Township, Lakewood and along the barrier island in Ocean County.

Distribution & Storage

The system has a total of 29 distribution storage facilities, consisting of standpipes, ground storage tanks, elevated tanks, and reservoirs, not including several clearwells. There are 1,850 miles of main ranging in size from 2-inch to 66-inch as shown in Tables 6.4.A.1 below.

Table 6.4.A.1 - Coastal North System Water Mains

Coastal North NJ1345001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	1.1	224.1	0.0		225.1
Cast Iron Lined	20.0	346.8	3.8	5.8	376.4
Cast Iron Unlined	31.3	176.4	4.9	14.1	226.7
Ductile Iron	1.9	760.8	94.3	84.1	941.1
Metal	5.7	1.6	0.0	2.7	10.0
PCCP	0.0	0.1	7.9	19.7	27.7
Plastic	0.9	37.7	2.7	4.2	45.5
Grand Total	60.9	1547.4	113.7	130.6	1852.6

Note: Due to rounding, not all the totals will sum.

B. UNION BEACH WATER SYSTEM (PWSID NJ1350001)

System Description

The Union Beach Water System is a Public Water System in northern Monmouth County bounded by the Raritan Bay to the north, Hazlet Township to the east and south, and Keyport Borough to the west.

The Union Beach water system is predominantly residential and commercial, has no sale for resale customers, and currently has no customers accounting for more than 10% of total system delivery.

Source of Supply & Production

To supply Union Beach customers, NJAWC transports water through the former Shorelands Water Company system[1] via two interconnection facilities. NJAWC also delivers water to Shorelands system from the Coastal North regional system. An emergency interconnection with the Keyport Borough water system is also maintained.

[1] A plan is being developed to consolidate the Union Beach and Shorelands systems into the greater Coastal North system in the near future.

Distribution & Storage

The distribution system operates as one pressure gradient with approximately 26 miles of main ranging in size from 4-inch to 12-inch as shown in Tables 6.4.D.1 and 6.4.D.2, below. The system maintains one standpipe.

Table 6.4.B.1 - Union Beach System Water Mains

Union Beach NJ1350001 Miles of Main by Diameter					
Material	< 6"	6" to 12"	14" to 16"	> 16"	Total
Asbestos Cement		1.9			1.9
Cast Iron Lined	0.1	0.7			0.8
Cast Iron Unlined	0.8	8.6			9.4
Ductile Iron	0.0	5.1			5.1
Metal	0.1				0.1
Plastic	0.0	9.1			9.2
Total	1.0	25.4			26.4

Note: Due to rounding, not all the totals will sum.

C. NEW EGYPT WATER SYSTEM (PWSID NJ1523003)

System Description

The New Egypt System is located in Ocean County. It is located approximately 6.5 miles east from NJAWC's Mt. Holly System. The New Egypt System provides water service to the New Egypt area of Plumsted Township. Its operation and management are under the Howell Operating Center.

Source of Supply & Production

The supply for the New Egypt System consists of three wells, two located at the Oakford Avenue Station and one located at Lakewood Road Station. All well pumps are drilled in the Englishtown aquifer and have acceptable water quality.

Distribution & Storage

The distribution system operates as one gradient. The system includes two elevated tanks with a total storage of 0.35 MG. There are 9 miles of main ranging in size from 3-inch to 12-inch as shown in Tables 6.4.C.1 and 6.4.C.2.

Table 6.4.C.1 - New Egypt System Water Mains

New Egypt (Plumstead) NJ1523003 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Cast Iron Lined		0.0			0.0
Cast Iron Unlined		0.6			0.6
Ductile Iron	0.0	9.7	0.4	0.0	10.1
Metal	0.0				0.0
Plastic				0.2	0.2
Grand Total	0.0	10.3	0.4	0.2	11.0

Note: Due to rounding, not all the totals will sum.

D. DEEP RUN WATER SYSTEM (PWSID NJ1523002)

The Deep Run System is a public water system located in Plumstead Township, Burlington County, New Jersey. Deep Run is located approximately one (1) mile east of New Egypt along CR 537.

System Description

NJAWC provides service to approximately 256 residential units in the Deep Run service area.

Source of Supply & Production

The Deep Run System has five permitted wells drilled into the Mount Laurel Wenonah Formation.

Distribution & Storage

The system is operated as one gradient. The system consists of two storage tanks that have a capacity of 0.025 MG and 4 miles of main ranging in size from 2-inch to 12-inch.

Table 6.4.D.1 - Deep Run System Water Mains

Jensen's Deep Run NJ1523002 Miles of Main by Diameter					
Material	< 6"	6" to 12"	14" to 16"	> 16"	Total
Plastic	2.0	2.0			4.0
Total	2.0	2.0			4.0

E. SHORELANDS WATER SYSTEM (PWSID NJ1339001)

System Description

The Shorelands System serves parts of Holmdel and Hazlet Townships in Monmouth County. It is mainly surrounded by NJAWC's Coastal North and Union Beach systems, with areas bordering Keyport Water Company and Aberdeen Township Water Company.

Source of Supply & Production

The supply for the Shorelands System consists of seven wells located at two water treatment plants along with transfers at three locations from NJAWC's Coastal North System. Four wells are drilled in the Upper PRM aquifer, and three wells are drilled in the Middle PRM aquifer; all wells are in Critical Area 1. The wells currently supply water during the warmer months (May through October/November), while the winter supply comes from NJAWC's Coastal System (October/November through May).

Distribution & Storage

The distribution system operates as three gradients. There are 173 miles of main ranging in size from 2-inch to 30-inch, with more than 70% of the mains 8-inches in diameter or less. The system includes four finished water storage tanks with a total storage volume of 5.58 MG.

Table 6.4.E.1 - Shorelands System Water Mains

Shorelands Water Company NJ1339001 Sum of Mile of Main					
	< 6"	6" to 12"	14" to 16"	> 16 "	Total
Asbestos Cement	0.4	107.7	3.0		111.1
Cast Iron Lined		0.1			0.1
Cast Iron Unlined	0.1	0.8	0.0		0.9
Ductile Iron	0.1	49.7	3.3	0.1	53.2
Metal	0.0				0.0
Plastic	0.0	7.8			7.8
Grand Total	0.6	166.2	6.4	0.1	173.3

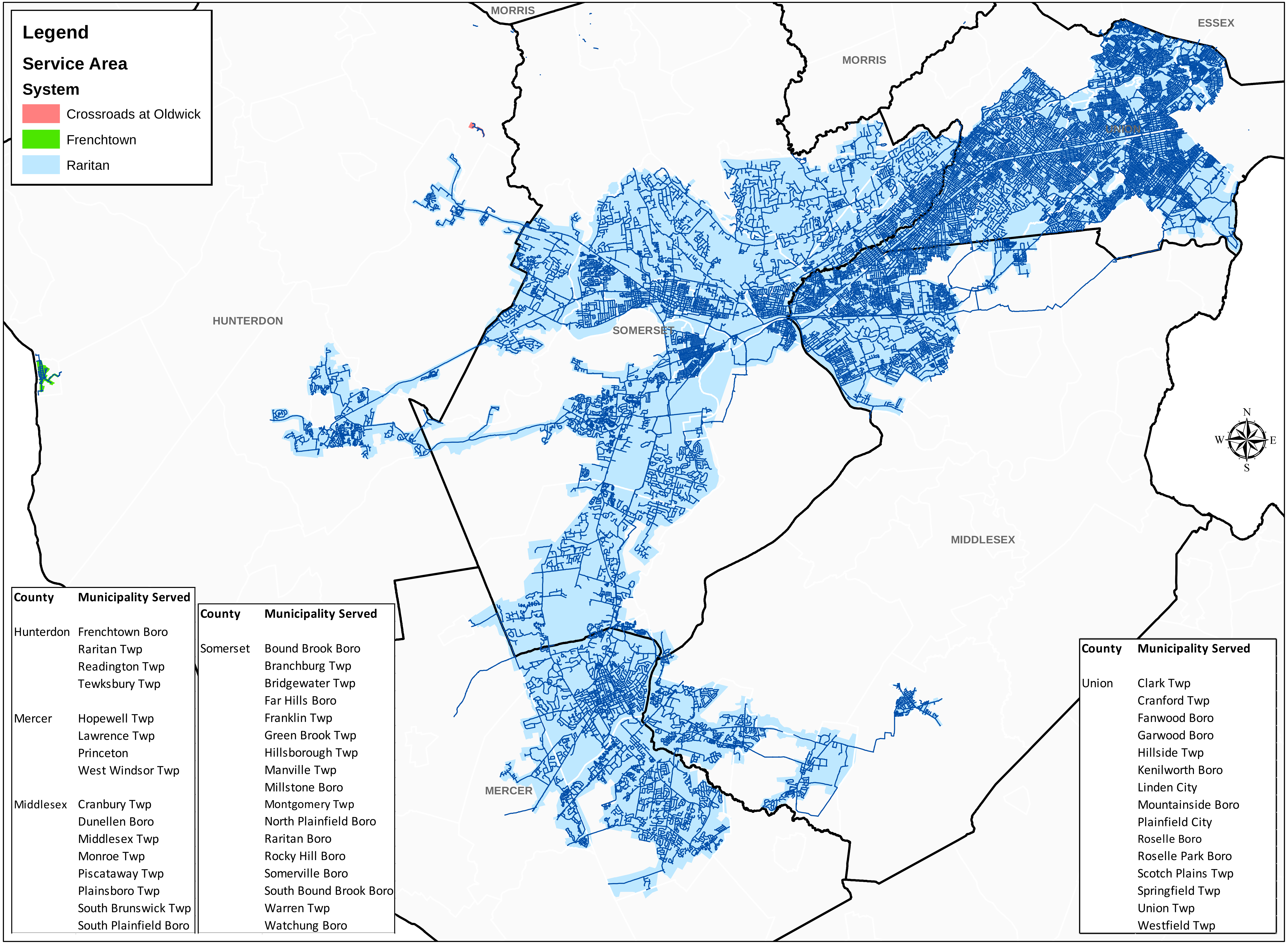
Note: Due to rounding, not all the totals will sum.

6.5 PROPOSED DSIC PROJECTS, FILING 2024-2027

Approximately 64 additional pipeline projects have been identified in the Coastal Operating Area in need for renewal in this foundational filing, and a total of approximately 1,268 projects when including previously approved DSIC Foundational Filing identified projects. There are 545 of these projects that have been identified as high priority projects for completion mostly between 2024-2026, and are listed in Table 6.5, attached. The scope and location of the identified projects are presented in this table. Due to pipe size and condition and individual project scope, only a few projects presented opportunity for Cleaning and Lining renewal method.

Exhibit 5.1

New Jersey American Water
2024 DSIC Foundational Filing
Central Operating Area



County	Municipality Served
Hunterdon	Frenchtown Boro
	Raritan Twp
	Readington Twp
	Tewksbury Twp
Mercer	Hopewell Twp
	Lawrence Twp
	Princeton
	West Windsor Twp
Middlesex	Cranbury Twp
	Dunellen Boro
	Middlesex Twp
	Monroe Twp
	Piscataway Twp
	Plainsboro Twp
	South Brunswick Twp
	South Plainfield Boro
Somerset	Bound Brook Boro
	Branchburg Twp
	Bridgewater Twp
	Far Hills Boro
	Franklin Twp
	Green Brook Twp
	Hillsborough Twp
	Manville Twp
	Millstone Boro
	Montgomery Twp
	North Plainfield Boro
	Raritan Boro
	Rocky Hill Boro
	Somerville Boro
	South Bound Brook Boro
	Warren Twp
	Watchung Boro
Union	Clark Twp
	Cranford Twp
	Fanwood Boro
	Garwood Boro
	Hillside Twp
	Kenilworth Boro
	Linden City
	Mountainside Boro
	Plainfield City
	Roselle Boro
	Roselle Park Boro
	Scotch Plains Twp
	Springfield Twp
	Union Twp
	Westfield Twp

NEW JERSEY AMERICAN WATER

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
6	WEST WINDSOR TWP	West Windsor - Fisher Ave.	$ 98,400	Replace	703	8.00	Ductile Iron	1970	8	DI	Safety and Reliability/Structural	60	2026Q4
7	WEST WINDSOR TWP	West Windsor - Washington RoadRoute 1 to Fairview 12" main	$ 297,000	Replace	2,429	12.00	Ductile Iron	1970	8	DI	Safety and Reliability/Structural	90	2024Q4
8	WEST WINDSOR TWP	West Windsor - Wheeler Way	$ 238,500	Replace	1,081	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
11	FRANKLIN TWP	Franklin - Nassau Streetfrom Griggs to Fort	$ 42,000	Replace	226	8.00	Ductile Iron	1950	8	CI	Safety and Reliability/Structural	30	2026Q4
12	FRANKLIN TWP	Franklin - Fort Streetfrom Cedar to Nassau	$ 112,500	Replace	746	8.00	Ductile Iron	1990	8	CI	Safety and Reliability/Structural	60	2026Q4
19	PRINCETON TWP	Princeton - Nassau Street from Harrisson	$ 1,500,000	Replace	7,781	12.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	120	2024Q4
69	BOUND BROOK BOROUGH	Bound Brook - Vosseller AveFrom Talmadge to Main st.small section of 4" pipe chokes flow to area.	$ 225,000	Replace	259	12.00	Ductile Iron	1950	4	CI	Safety and Reliability/Structural	30	2025Q4
70	BRIDGEWATER TWP	Bridgewater - Morgan laRt 22 to Union ave	$ 462,600	Replace	2,570	16.00	Ductile Iron	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
78	PLAINSBORO TWP	Plainsboro - Jeffers/PastureSignal 22/flushing/loss water	$ 185,400	Replace	1,213	8.00	Ductile Iron	1970	4	DI	Water Quality	60	2026Q4
79	PRINCETON BOROUGH	Princeton Boro - Elm RoadHodge to 206Main Breaks	$ 432,000	Replace	2,378	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2025Q4
83	PRINCETON TWP	Princeton Township - RidgeView RoadGreat Road to Cherry Hill Road	$ 1,026,000	Replace	3,923	12.00	Ductile Iron	1980	12	DI	Safety and Reliability/Structural	90	2025Q4
284	CRANFORD TWP	Cranford - Chestnut Street4" main - 300 ft	$ 54,000	Replace	311	6.00	Ductile Iron	1990	4	DI	System Flows and Pressure	30	2026Q4
294	SOUTH PLAINFIELD BORO	South Plainfield - Park Avenue - Bridge Reconstruction	$ 1,100,000	Replace	300	36.00	Ductile Iron	UNK	UNK	UNK	Relocation/Opportunity	30	2025Q4
630	GARWOOD BOROUGH	Garwood/Cranford Rehab - Ph1a 6,330 LF of 16" main along Clifton & Sycamore Ave	$ 1,481,000	Rehab	6,330	16.00	Other	UNK	UNK	UNK	System Flows and Pressure	120	2025Q4
5488	FANWOOD	Paterson Rd.(Terrill Rd to Martine Ave)	$ 840,000	Replace	3,146	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2024Q4
5623	HILLSBOROUGH TWP	Taylor Ave from Duke Pkwy to Johanson Ave	$ 515,000	Replace	3,280	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	90	2025Q4
5624	HILLSBOROUGH TWP	Johanson Ave from Dukes Pkwy to Taylor Road	$ 715,000	Replace	3,875	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	90	2025Q4
5672	HILLSBOROUGH TWP	Kimblerly Road from Dukes Pkway to Johanson Ave	$ 200,000	Replace	935	8.00	Ductile Iron	1960	4	AC	Safety and Reliability/Structural	60	2025Q4
5673	HILLSBOROUGH TWP	Hammler Road from Taylor Ave to Claudia Road	$ 320,000	Replace	764	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	60	2025Q4
5678	HILLSBOROUGH TWP	Gail Road between Hammler Road and Johanson Ave	$ 120,000	Replace	594	8.00	Ductile Iron	1960	4	AC	Safety and Reliability/Structural	60	2025Q4
5679	HILLSBOROUGH TWP	Claudia Road between Taylor Ave and Johanson Ave	$ 160,000	Replace	444	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	30	2025Q4
5680	HILLSBOROUGH TWP	Hawly Road between Taylor Ave and Johanson Ave	$ 140,000	Replace	682	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	60	2025Q4
5681	SOUTH BRUNSWICK TWP	Euclid Ave Main Replacement	$ 200,000	Replace	426	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	30	2025Q4
5683	HILLSBOROUGH TWP	Cul-de-Sac near inter section of Taylor Ave and Johanson Ave	$ 50,000	Replace	226	8.00	Ductile Iron	1960	4	AC	Safety and Reliability/Structural	30	2025Q4
5686	HILLSBOROUGH TWP	Dukes Pkwy between Taylor Ave and Johanson Ave	$ 303,750	Replace	1,350	12.00	Ductile Iron	UNK	UNK	UNK	Safety and Reliability	60	2025Q4
5687	HILLSBOROUGH TWP	Dukes Pkwy from Johanson Ave to Dead End	$ 155,000	Replace	771	8.00	Ductile Iron	1960	10	CI	Safety and Reliability	60	2025Q4
5732	JAMESBURG	Pergola Ave Main Replacement	$ 600,000	Rehab	3,470	8.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	90	2026Q4
5779	BRIDGEWATER TWP	Finderne ave 16" A/C main replacement	$ 400,000	Replace	994	16.00	Ductile Iron	1950	16	AC	Safety and Reliability/Structural	60	2025Q4
5782	RARITAN BOROUGH	First Avenue Main Replacement	$ 450,000	Replace	1,590	12.00	Ductile Iron	1790	8	CI	Safety and Reliability/Structural	60	2025Q4
5791	BOUND BROOK BOROUGH	Vossseller Ave Main replacement	$ 200,000	Replace	1,976	8.00	Ductile Iron	1950	6	CI	Water Quality	60	2025Q4
5792	BRIDGEWATER TWP	Vosseller Ave Main Replacement	$ 400,000	Replace	2,112	8.00	Ductile Iron	1950	6	CI	Water Quality	90	2026Q4
6424	JAMESBURG	Forsgate Dr from Maple Dr to East Rail Road Ave	$ 630,000	Replace	2,698	12.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	90	2024Q4
6426	JAMESBURG	Half Acre Rd from Forsgate Dr to Fernwood Lane	$ 483,750	Replace	3,009	12.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	90	2024Q4
6432	JAMESBURG	Oakland Road from Half Acre Rd to Forsgate Drive	$ 300,000	Replace	1,787	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	60	2025Q4
6445	JAMESBURG	Woodland Road from Half Acre Road to Forsgate Drive	$ 335,000	Replace	544	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	60	2024Q4
6469	JAMESBURG	Davison Ave from Hillside Ave to West Church Street	$ 310,000	Replace	381	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	30	2024Q4
6474	JAMESBURG	Pergola Ave from Forge Street to dead end	$ 580,000	Replace	3,211	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	90	2026Q4
6475	JAMESBURG	George Street from Pergola Ave to dead end	$ 38,000	Replace	164	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	30	2024Q4
6476	JAMESBURG	Walnut Street from Pergola Ave to dead end	$ 105,000	Replace	486	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	30	2024Q4
6510	HILLSIDE	Easement between Bunett St and Glenwood Ave	$ 40,000	Replace	107	12.00	Ductile Iron	1930	6	CI	Water Quality	30	2024Q4
6551	HILLSIDE	Bloy St from Rt 22 East to Liberty Avenue	$ 570,000	Replace	1,946	12.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
6552	HILLSIDE	Long Ave from Bloy St to Liberty Ave	$ 366,000	Replace	1,776	12.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
6577	MANVILLE BOROUGH	Huff Ave @ Bridge St	$ 50,000	Replace	300	8.00	Ductile Iron	UNK	UNK	UNK	Safety and Reliability	30	2024Q4
6613	SCOTCH PLAINS TWP	Park Ave. (Route 22 to Portland)	$ 841,275	Replace	3,657	12.00	Ductile Iron	1970	6	CI	System Flows and Pressure	90	2024Q4
6686	CRANFORD TWP	Brookdale Pl. (Brookdale Rd. to Dead End)	$ 56,000	Replace	302	6.00	Ductile Iron	1950	2	CI	System Flows and Pressure	30	2024Q4
6730	RARITAN BOROUGH	First Avenue Main Replacement	$ 400,000	Replace	1,400	8.00	Ductile Iron	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
6810	UNION TWP	Springfield Ave. (Valley to Vauxhall Rd.)	$ 443,000	Replace	2,307	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	90	2025Q4
6841	WESTFIELD	Easement - Echo Lake CC (Woodland to Springfield)	$ 1,018,500	Replace	4,049	16.00	Ductile Iron	1960	16	AC	Water Quality	120	2025Q4
6955	CRANFORD TWP	Retford Ave. (Lexington to W. Lincoln)	$ 621,600	Replace	3,123	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	90	2026Q4
6995	DUNELLEN BOROUGH	Fairview Ave. (Walnut to Center)	$ 322,200	Replace	1,643	8.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2026Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
6997	DUNELLEN BOROUGH	Madison Ave. (North to 1st)	$ 222,800	Replace	1,070	8.00	Ductile Iron	1790	6	CI	System Flows and Pressure	60	2026Q4
7000	DUNELLEN BOROUGH	N. Washington Ave. (North to 1st)	$ 219,000	Replace	1,184	8.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2026Q4
7001	FANWOOD	Beech Ave. (LaGrande to South)	$ 399,200	Replace	703	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
7003	FANWOOD	Burns Way (Helen to S. Martine)	$ 312,200	Replace	1,425	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
7004	FANWOOD	Forest Rd. (Midway to North)	$ 267,000	Replace	1,253	8.00	Ductile Iron	1970	6	CI	System Flows and Pressure	60	2024Q4
7005	FANWOOD	Russell Rd. (Midway to North)	$ 400,400	Replace	1,911	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2024Q4
7006	FANWOOD	Woodland Ave. (N. Martine to Dead end)	$ 422,400	Replace	1,978	8.00	Ductile Iron	1970	6	CI	System Flows and Pressure	60	2024Q4
7022	LINDEN CITY	Brunswick Ave. (Park to Morses Mill) Bayway Refinery	$ 720,000	Replace	3,480	12.00	Ductile Iron	2000	12	CI	System Flows and Pressure	90	2025Q4
7298	BOUND BROOK BOROUGH	Daley Pl Main replacement	$ 75,000	Replace	412	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	30	2024Q4
7622	JAMESBURG	East /West Rail Road Ave Main tie in	$ 250,000	Replace	321	12.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2025Q4
7662	KENILWORTH	Richfield Ave Main REplacement	$ 240,000	Replace	1,157	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2026Q4
7798	HILLSIDE	Sweetland Ave. (Glenwood Ave. to Bloy St.)	$ 283,800	Replace	1,320	8.00	Ductile Iron	1960	20	CEM	System Flows and Pressure	60	2026Q4
7836	HILLSIDE	Route 22 Westbound (Bloy St. to Cornell Pl.)	$ 264,450	Replace	1,230	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9023	BRIDGEWATER TWP	Bridgewater - Phase 1 - Southside Avenue - Loeser Avenue	$ 822,500	Replace	3,826	12.00	Ductile Iron	1960	8	CI	System Flows and Pressure	90	2026Q4
9024	SOMERVILLE BOROUGH	Somerville - PHASE 2 - Loeser Avenue	$ 491,250	Replace	1,960	12.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9027	BRIDGEWATER TWP	Bridgewater - Union Avenue from Morgan Lane to North Adamsville Road	$ 588,000	Replace	1,930	16.00	Ductile Iron	1950	8	CI	Safety and Reliability	60	2026Q4
9029	SOMERVILLE BOROUGH	Somerville - Union Avenue and William Street	$ 745,500	Replace	2,428	16.00	Ductile Iron	1920	6	CI	Safety and Reliability	90	2025Q4
9031	SOMERVILLE BOROUGH	Somerville - Grove Street from William Street to East Cliff Street	$ 222,000	Replace	743	16.00	Ductile Iron	1930	6	CI	Safety and Reliability	60	2024Q4
9071	NORTH PLAINFIELD BOROUGH	Route 22 West., (Rock Ave., Greenbrook to Terrill Rd., Watchung)	$ 7,946,800	Replace	19,867	16.00	Ductile Iron	1980	12	DI	System Flows and Pressure	120	2024Q4
9072	WARREN TWP	Mountain Blvd. (Wildwood Terr. to Mt. Bethel Rd.)	$ 1,272,300	Replace	4,241	12.00	Ductile Iron	1960	12	CI	System Flows and Pressure	120	2025Q4
9079	SOMERVILLE BOROUGH	Davenport Street from W.Cliff Street to W Main Street	$ 300,000	Replace	1,178	16.00	Ductile Iron	1930	10	CI	System Flows and Pressure	60	2025Q4
9131	WESTFIELD	S. Euclid Ave. (North to E. Broad St.)	$ 462,465	Replace	2,151	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2025Q4
9132	WESTFIELD	Lenox Ave. (Elmer to Stanley)	$ 419,250	Replace	1,950	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9144	LINDEN CITY	Laurita St(between W St. George Ave and W. gibbons St)	$ 175,225	Replace	815	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2024Q4
9145	LINDEN CITY	Miltonia St (between W. St. Georges Ave to W. Gibbons St.	$ 187,050	Replace	870	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2024Q4
9151	LINDEN CITY	Gesner St(between N. Wood Ave to Laurita St.)	$ 520,300	Replace	2,420	8.00	Ductile Iron	UNK	6	CI	Water Quality	90	2025Q4
9154	BRIDGEWATER TWP	Bridgewater - Country Club Road from Garretson Rd to Talamini Rd	$ 1,969,500	Replace	3,939	24.00	Ductile Iron	1960	16	CI	Safety and Reliability	90	2024Q4
9158	LINDEN CITY	W. Henry St (between N Stiles St and N Wood Ave)	$ 696,600	Replace	3,240	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	90	2025Q4
9169	DUNELLEN BOROUGH	2nd Street (Schwartz Pl. to Lincoln Ave.)	$ 420,000	Replace	2,100	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2026Q4
9177	LINDEN CITY	Helen St (between W. Elm St and W Blancke St)	$ 191,135	Replace	889	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9179	MANVILLE BOROUGH	South 13 Ave Main replacement	$ 300,000	Replace	1,157	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
9183	DUNELLEN BOROUGH	1st Street (N. Washington Ave. to Schwartz Pl.)	$ 608,000	Replace	3,040	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2026Q4
9191	DUNELLEN BOROUGH	South Ave. & Grove St. (Hall St. to New Market Rd.)	$ 540,000	Replace	2,700	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2026Q4
9192	DUNELLEN BOROUGH	Walnut St./ 678 (Pulaski St. to W. 4th St.)	$ 800,000	Replace	4,000	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	120	2026Q4
9193	DUNELLEN BOROUGH	Prospect Ave. (Grove St. to Center St.)	$ 600,000	Replace	3,000	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2026Q4
9194	MANVILLE BOROUGH	South 7th Street Main Replacement	$ 400,000	Replace	1,722	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
9195	DUNELLEN BOROUGH	Whittier Ave. (New Market Rd. to Center St.)	$ 520,000	Replace	2,600	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2026Q4
9196	DUNELLEN BOROUGH	New Market Rd./665 (S. Washington Ave. to Bache Pl)	$ 500,000	Replace	2,500	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	90	2026Q4
9199	LINDEN CITY	W Elizabeth Ave (between N Stiles St to N Wood Ave)	$ 690,000	Replace	2,300	12.00	Ductile Iron	1930	6	CI	System Flows and Pressure	90	2024Q4
9200	LINDEN CITY	Wood Ave (between St George Ave and Amsterdam Ave)	$ 1,980,000	Replace	6,600	12.00	Ductile Iron	1970	6	CI	System Flows and Pressure	120	2024Q4
9202	DUNELLEN BOROUGH	Bache Pl. (New Market Rd. to Terminus)	$ 100,000	Replace	500	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
9205	DUNELLEN BOROUGH	Lehigh St. (High St. to Fairview Ave.)	$ 160,000	Replace	800	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
9206	DUNELLEN BOROUGH	S. Madison Ave. (Walnut St. to Center St.)	$ 328,000	Replace	1,640	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
9207	UNION TWP	Salem Rd (between Morris Ave and Galloping Hill Rd)	$ 1,765,150	Replace	8,210	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	120	2026Q4
9209	NORTH PLAINFIELD BOROUGH	North Plainfield Cleaning-Lining	$ 4,140,815	Rehab	21,455	6.00	Other	1920	6	CI	Water Quality	120	2026Q4
9210	UNION TWP	Potter Ave (between Morris Ave and Dead End)	$ 245,100	Replace	1,181	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9211	UNION TWP	Arnet Ave (between Morris Ave and Beverly Rd)	$ 211,775	Replace	985	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9212	UNION TWP	Carteret Ave (between Morris and Huquenot)	$ 317,125	Replace	2,681	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2025Q4
9213	LINDEN CITY	Carnegie St (between Middlesex St to Penn Ave)	$ 569,750	Replace	2,785	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	90	2024Q4
9214	LINDEN CITY	McCandless St (between Penn Ave and St Georges Ave)	$ 1,245,000	Replace	4,150	12.00	Ductile Iron	1960	48	CEM	System Flows and Pressure	120	2026Q4
9220	DUNELLEN BOROUGH	Penfield Pl. & Maple Ave. (New Market Rd. to Terminus)	$ 540,000	Replace	2,700	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2026Q4

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9221	DUNELLEN BOROUGH	Columbia St. (S.Washington Ave. to Terminus)	$ 160,000	Replace	800	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2026Q4
9230	MIDDLESEX BOROUGH	Beechwood Rd/Orchard Rd(between Ambrose to Lydecker Pl)	$ 586,950	Replace	2,730	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	90	2024Q4
9232	MANVILLE BOROUGH	South 10th Avenue main replacement	$ 350,000	Replace	1,477	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
9233	MANVILLE BOROUGH	South 12th Ave Main Replacement	$ 350,000	Replace	1,453	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
9234	MANVILLE BOROUGH	South 11th Street Main replacement	$ 400,000	Replace	2,079	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2024Q4
9236	UNION TWP	Townley Ave. (Broadwell Ave. to Morris Ave.)	$ 412,000	Replace	2,060	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2025Q4
9237	UNION TWP	Broadwell Ave. (Colonial Ave. to Salem Rd.)	$ 280,000	Replace	1,400	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2025Q4
9240	UNION TWP	Huguenot Ave. (Colonial Ave. to Colonial Arms Rd.)	$ 440,000	Replace	2,200	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	90	2026Q4
9241	UNION TWP	Beverly Rd. (Lorraine Ave. to Arnet Ave.)	$ 340,000	Replace	1,700	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	60	2026Q4
9242	UNION TWP	Lum Ave. (Colonial Ave. to Terminus)	$ 160,000	Replace	800	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	60	2026Q4
9243	UNION TWP	Summit Pl. (Colonial Ave. to Lorraine Ave.)	$ 104,000	Replace	520	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	60	2026Q4
9251	UNION TWP	Lancaster Rd. (Prescot Rd. to Terminus)	$ 80,000	Replace	400	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	30	2026Q4
9254	UNION TWP	Lexington Rd. (Princeton Rd. to Wayne Terrace)	$ 160,000	Replace	800	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	60	2026Q4
9258	UNION TWP	Bennington Dr. (Plymouth Rd. to Princeton Rd)	$ 140,000	Replace	700	8.00	Ductile Iron	UNK	6	CI	Safety and Reliability/Structural	60	2026Q4
9264	UNION TWP	Forest Dr. (Salem Rd. to Chesnut St)	$ 650,000	Replace	3,000	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2025Q4
9265	UNION TWP	Huntington Rd. (Galloping Hill Rd. to Salem Rd.)	$ 404,000	Replace	2,020	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	90	2026Q4
9268	SCOTCH PLAINS TWP	Evergreen Ave. (From Portland Ave. to Jerusalem Rd. Reservior)	$ 5,019,000	Replace	4,976	48.00	Ductile Iron	1940	48	CEM	Safety and Reliability/Structural	120	2025Q4
9279	CRANFORD TWP	Middlebury La. (from Gallows Hill to Canterbury)	$ 156,090	Replace	742	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9280	CRANFORD TWP	Indian Spring Rd. to Makatom Dr. looping back to Orchard.	$ 578,780	Replace	2,703	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	90	2026Q4
9281	BOUND BROOK BOROUGH	Chestnut St. Main Replacement	$ 420,000	Replace	2,100	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2025Q4
9282	CRANFORD TWP	Colby La. (Dead End to Dead End)	$ 297,130	Replace	1,396	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
9284	CRANFORD TWP	Pittsfield St. (from Orchard to Berkeley)	$ 207,475	Replace	953	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2026Q4
9285	CRANFORD TWP	Hampton St. (from Orchard to Berkeley)	$ 239,235	Replace	1,128	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2026Q4
9286	CRANFORD TWP	Berkeley Pl. (from West End to Hampton)	$ 145,125	Replace	667	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9289	UNION TWP	Forest Dr. (Galloping Hill to Salem)	$ 369,370	Replace	1,732	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
9293	BOUND BROOK BOROUGH	West Maple Ave. Main Replacement	$ 200,000	Replace	1,000	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
9296	UNION TWP	Nottingham Way & Chelsea Terr.	$ 320,780	Replace	1,544	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2026Q4
9297	UNION TWP	Randolph Pl. (from Martin to Dead End)	$ 110,295	Replace	505	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2026Q4
9299	SOMERVILLE BOROUGH	North Gaston Ave. Main Replacement	$ 222,000	Replace	2,220	8.00	Ductile Iron	1930	12	CI	Safety and Reliability/Structural	90	2024Q4
9319	SOMERVILLE BOROUGH	Sycamore St. Main Replacement	$ 80,000	Replace	400	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	30	2024Q4
9336	LINDEN CITY	Miltonia St. (From W. Curtis to Stiles)	$ 446,555	Replace	2,163	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	90	2024Q4
9337	LINDEN CITY	Knopf St. (Spruce to Stiles)	$ 266,385	Replace	1,227	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9338	LINDEN CITY	Princeton Rd. (Lenape to Sunnyfield)	$ 413,445	Replace	1,922	8.00	Ductile Iron	1960	2	CI	System Flows and Pressure	60	2024Q4
9354	PRINCETON TWP	Laurel Rd. Main Replacement	$ 420,000	Replace	2,100	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2026Q4
9357	PRINCETON TWP	Dempsey Ave. Main Replacement	$ 160,000	Replace	800	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9359	PRINCETON TWP	Loomis Ct. Main Replacement	$ 104,000	Replace	520	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q4
9360	PRINCETON TWP	Oakland St. & Hickory Ct. Main Replacement	$ 268,000	Replace	1,340	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2025Q4
9361	PRINCETON TWP	Walnut Ln. Main Replacement	$ 148,000	Replace	720	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9362	PRINCETON TWP	Ewing St. Main Replacement	$ 480,000	Replace	2,400	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
9363	PRINCETON TWP	Harrison St. North Main Replacement	$ 420,000	Replace	2,039	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2025Q4
9364	RARITAN TWP	Harrison Street South/ 629 Main Replacement	$ 140,000	Replace	700	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
9365	PRINCETON TWP	Dorann Ave. Main Replacement	$ 180,000	Replace	900	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9372	PRINCETON TWP	Birch Ave. Main Replacment	$ 340,000	Replace	1,744	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q4
9373	PRINCETON TWP	Leigh Ave. Main Replacement	$ 120,000	Replace	600	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q4
9374	PRINCETON TWP	Western Way Main Replacement	$ 204,000	Replace	1,020	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9375	PRINCETON TWP	Southern Way Main Replacement	$ 200,000	Replace	1,000	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9376	PRINCETON TWP	Cedar Ln. Main Replacement	$ 188,000	Replace	940	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9377	PRINCETON TWP	Sycamore Rd. Main Replacement	$ 200,000	Replace	1,000	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9378	PRINCETON TWP	Sycamore Road Between Cedar Ln. & Riverside Dr. West. - Main Replacement	$ 264,000	Replace	1,336	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
9379	PRINCETON TWP	Harrison Ln. Main Replacement	$ 120,000	Replace	600	8.00	Ductile Iron	1920	3	CI	Safety and Reliability/Structural	60	2025Q4
9381	PRINCETON TWP	King St. Main Replacement	$ 104,000	Replace	520	8.00	Ductile Iron	1920	3	CI	Safety and Reliability/Structural	60	2025Q4
9382	PRINCETON TWP	Eisenhower St. Main Replacement	$ 52,000	Replace	460	8.00	Ductile Iron	1920	3	CI	Safety and Reliability/Structural	30	2025Q4
9385	PRINCETON TWP	Marshall Ave. Main Replacement	$ 124,000	Replace	620	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9390	PRINCETON TWP	Halsey St. Main Replacement	$ 88,000	Replace	781	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9391	PRINCETON TWP	Butler Rd. & Butler Ave. Main Replacement	$ 280,000	Replace	1,213	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9394	PRINCETON TWP	Riverside Dr. East Main Replacement	$ 300,000	Replace	1,500	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9395	PRINCETON BOROUGH	Fitzraldolph Rd. Main Replacement	$ 128,000	Replace	640	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q4
9396	PRINCETON BOROUGH	Prospect Ave. Main Replacement	$ 220,000	Replace	1,100	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9397	PRINCETON BOROUGH	Robert Rd. Main Replacement	$ 248,000	Replace	1,240	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q4
9401	PRINCETON TWP	Greenhouse Dr. Main Replacement	$ 128,000	Replace	640	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
9403	PRINCETON BOROUGH	Aiken Ave. Main Replacement	$ 144,000	Replace	720	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q4
9411	MIDDLESEX BOROUGH	Seneca Ave. From Melrose Ave. to Pierrepont Ave.	$ 380,000	Replace	1,891	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
9412	MIDDLESEX BOROUGH	Mead Ave. & Center Place. From Seneca Ave. to Mead Ave.	$ 308,000	Replace	1,540	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
9413	MIDDLESEX BOROUGH	Oak Dr. From Lincoln Blvd. to Ashland Rd.	$ 720,000	Replace	3,600	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2024Q4
9414	MIDDLESEX BOROUGH	George Ave. From Lincoln Blvd. to Oak Dr.	$ 300,000	Replace	1,500	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
9415	MIDDLESEX BOROUGH	Ashland Rd. From Lincoln Blvd. to A Street	$ 564,000	Replace	2,917	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2024Q4
9416	MIDDLESEX BOROUGH	Oswego Ave. From George Ave. to Oak Dr.	$ 84,000	Replace	420	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2024Q4
9417	MIDDLESEX BOROUGH	Greenlawn Ave. From George Ave. to Oak Dr.	$ 80,000	Replace	400	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2024Q4
9418	MIDDLESEX BOROUGH	F Street From Chestnut St. to Ashland Rd.	$ 80,000	Replace	400	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2024Q4
9458	LINDEN CITY	Brook St. (W. Curtis to W. Blancke)	$ 402,480	Replace	1,951	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9463	MIDDLESEX BOROUGH	Washington Ave. (June Way to Bound Brook Rd.)	$ 343,355	Replace	1,598	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
9466	MIDDLESEX BOROUGH	Wilson St.	$ 205,970	Replace	959	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
9514	HILLSIDE	Long Ave(Central Ave to Pennsylvania Ave)	$ 161,250	Replace	677	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9518	NORTH PLAINFIELD BOROUGH	Belmont Ave/Leonard Pl	$ 274,125	Replace	1,277	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9519	NORTH PLAINFIELD BOROUGH	Willard Pl	$ 277,350	Replace	1,154	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
9523	CRANFORD TWP	Romore Pl (between Park Dr and Springfield Ave and Dead End)	$ 139,750	Replace	524	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9563	SCOTCH PLAINS TWP	Morse Ave 30in Main Replacement PH2(Plainfield Ave to Jerusalem Rd Station)	$ 2,500,000	Replace	2,874	30.00	Ductile Iron	1950	24	CEM	System Flows and Pressure	90	2024Q4
9569	LINDEN CITY	Peter St (Middlesex St to Monmouth Ave)	$ 308,000	Replace	569	8.00	Ductile Iron	1920	1	UNK	System Flows and Pressure	60	2026Q4
9573	MOUNTAINSIDE BOROUGH	Bechwood Ct (Long Meadows to Dead End)	$ 106,250	Replace	423	8.00	Ductile Iron	1960	6	DI	Safety and Reliability	30	2024Q4
9583	HILLSIDE	Yale Ave (Bloy St. to New York Pl)	$ 355,000	Replace	1,401	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9585	HILLSIDE	Princeton Ave (Bloy St to Liberty Ave)	$ 350,000	Replace	1,266	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9587	HILLSIDE	Columbia Ave (Bloy St to Columbia Ave)	$ 190,000	Replace	757	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9588	HILLSIDE	Columbia Pl (Bloy St to Dead End)	$ 115,000	Replace	411	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	30	2025Q4
9591	HILLSIDE	Vorhees St (Conant St to Arthur St)	$ 250,000	Replace	1,014	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9595	HILLSIDE	Herbert Ave (Liberty Ave to Gurd Ave)	$ 130,000	Replace	526	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9597	HILLSIDE	Stanley Terr (Hillside Ave to Oakland Ave)	$ 165,000	Replace	637	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9599	HILLSIDE	Oakland Ter (Liberty Ave to Maple Ave)	$ 425,000	Replace	2,363	8.00	Ductile Iron	1980	16	DI	System Flows and Pressure	90	2025Q4
9600	HILLSIDE	Belleview Terr (Liberty Ave to Maple Ave)	$ 430,000	Replace	1,689	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
9605	HILLSIDE	Dorer Ave (Liberty Ave to Maple Ave)	$ 430,000	Replace	1,616	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9607	HILLSIDE	Conklin Ave (Summit to Maple Ave)	$ 435,000	Replace	1,715	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9608	HILLSIDE	Williamson Ave (Summit Ave to N. Broad St)	$ 857,000	Replace	3,588	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
9609	HILLSIDE	Schley St (Schley St to Newark Border)	$ 275,000	Replace	1,109	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9611	HILLSIDE	Bailey Ave (Maple Ave to N. Broad St)	$ 525,000	Replace	2,011	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
9612	HILLSIDE	Chester St (Conant St to Arthur St)	$ 250,000	Replace	942	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
9613	LINDEN CITY	PSEG ROW Main replacement along railroad(from Kohler inter south to the new hot box)	$ 1,500,000	Replace	5,185	12.00	PVC	2000	10	DI	Safety and Reliability/Structural	120	2024Q4
9633	CRANFORD TWP	Beech St (Makatom Dr to TorbushSt)	$ 382,500	Replace	1,279	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9635	CRANFORD TWP	Normandie Pl (Barges Pl to Craig Pl)	$ 325,000	Replace	1,176	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9636	CRANFORD TWP	Cranford Ave (Forest Ave to Elizabeth Ave)	$ 350,000	Replace	1,486	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2025Q4
9637	CRANFORD TWP	Cranford Ave (Elizabeth Ave to Dead End)	$ 387,500	Replace	1,526	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9639	CRANFORD TWP	Bloomingdale Ave(Faitoute Ave to Birchwood Ave)	$ 425,000	Replace	2,084	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	90	2025Q4
9640	CRANFORD TWP	Roselle Ave (Albany Ave to Dead End)	$ 435,000	Replace	1,686	8.00	Ductile Iron	1930	6	CI	Water Quality	60	2025Q4
9644	LINDEN CITY	Roselle St (between St Georges and Pennsylvania Ave)	$ 1,175,000	Replace	4,262	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	120	2024Q4
9678	ROSELLE PARK BORO	Galloping Hill Rd (E. Lincoln Ave to E Grant St.)	$ 450,000	Replace	1,785	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
9687	LINDEN CITY	Hussa St(Roselle St to Lincoln St)	$ 375,000	Replace	1,573	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9688	LINDEN CITY	Hussa St(Lincoln St to W Baltimore Ave)	$ 250,000	Replace	919	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9728	ROSELLE BOROUGH	Shaffer Ave (Brooklawn Ave to Burt Dr)	$ 275,000	Replace	979	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2024Q4
9729	ROSELLE BOROUGH	Crescent ave (E.St Georges Ave to Clark St)	$ 375,000	Replace	1,258	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2025Q4
9758	HILLSIDE	Hillside Main Cleaning and Lining West of Evergreen Cemetary	$ 2,300,000	Rehab	11,150	6.00	Other	1920	6	CI	System Flows and Pressure	120	2025Q4
9763	HILLSIDE	Salem Rd / Ridgeway Ave Main Replacement	$ 700,000	Replace	3,500	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	90	2026Q4
9805	CLARK TWP	Kenneth Pl(Hutchinson St to Westfield Ave)	$ 350,000	Replace	1,201	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9806	CLARK TWP	Raritan Rd(Bridge at Featherbed Ln to Westfield Ave)	$ 475,000	Replace	1,754	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9809	CLARK TWP	Hutchinson St (Ruddy Pl and Shady Ln to Dead End)	$ 450,000	Replace	1,598	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
9810	CLARK TWP	Raritan Rd (Clarkton Dr to Westfield Ave)	$ 300,000	Replace	712	12.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9818	ROSELLE BOROUGH	Clark St (Chestnut St to Wheatsheaf Rd)	$ 125,000	Replace	443	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	30	2026Q4
9820	ROSELLE BOROUGH	Chestnut Ave (E 4th St to E 7th St)	$ 350,000	Replace	1,266	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2025Q4
9822	ROSELLE BOROUGH	Chestnut Ave (E 11th St to E St Georges St)	$ 475,000	Replace	1,466	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
9825	DUNELLEN BOROUGH	North Ave Extension Ph 1(between hydrant HDUN 115 to HDUN 211)	$ 100,000	Replace	373	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	30	2026Q4
9826	DUNELLEN BOROUGH	North Ave Extension Ph2(between HDUN 115 to Bound Brook Rd)	$ 75,000	Replace	386	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	30	2026Q4
9836	MOUNTAINSIDE BOROUGH	Summit Rd (Maple Ct to Rt 22)	$ 525,000	Replace	1,822	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
9849	MOUNTAINSIDE BOROUGH	Locust Ave(between Rt 22 to Dead End)	$ 200,000	Replace	735	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
9872	MOUNTAINSIDE BOROUGH	Briar Patch(Wood Valley Rd to Dead End)	$ 120,000	Replace	482	6.00	Ductile Iron	1940	2	CI	System Flows and Pressure	30	2024Q4

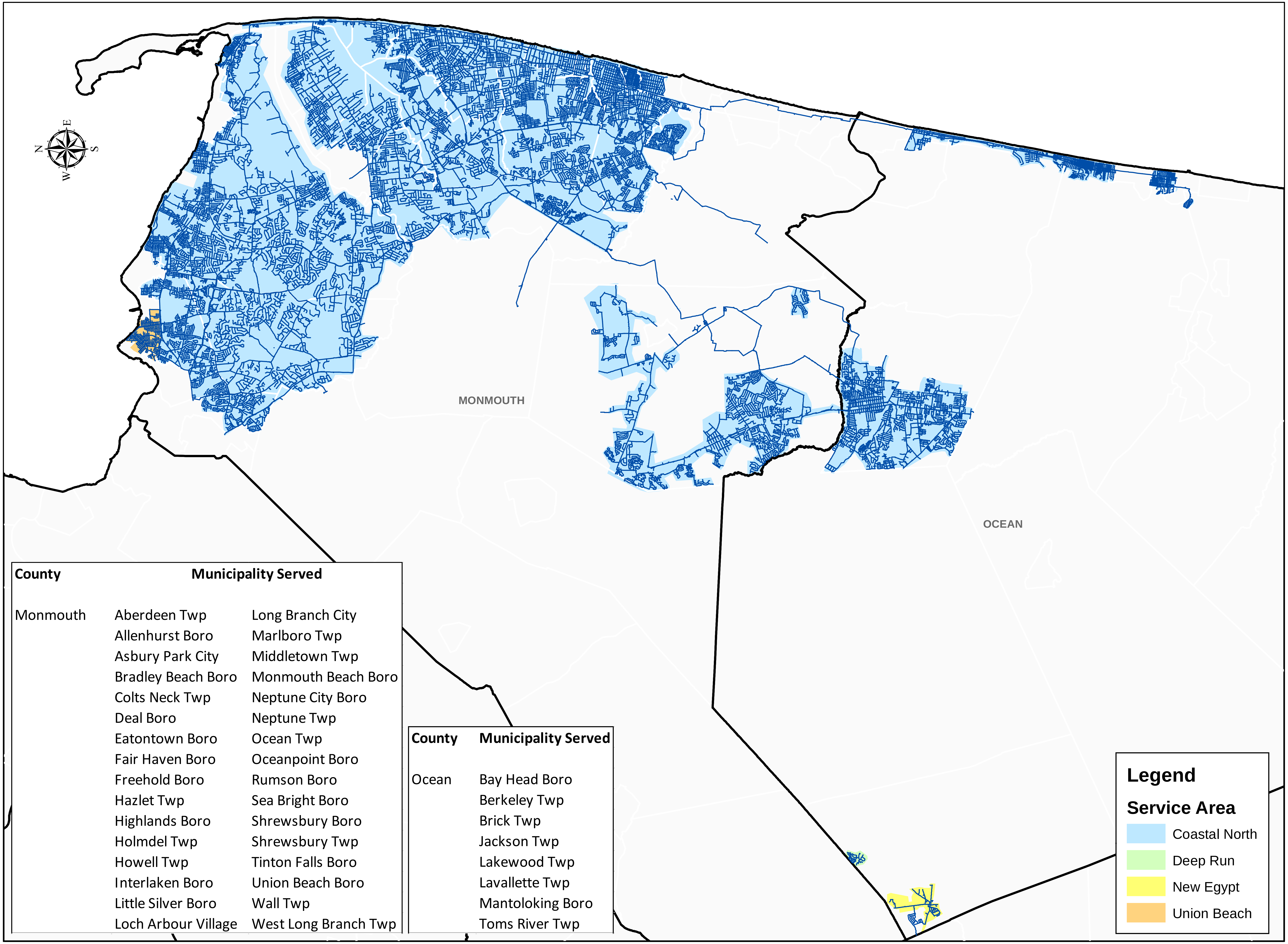
Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
9877	CLARK TWP	Runnymede Rd (between Liberty St and Lupine Way)	$ 300,000	Replace	1,200	8.00	Ductile Iron	1960	6	CI	System Flows and Pressure	60	2024Q4
9878	CLARK TWP	Oleander Way and Ascott Way(Liberty St to Lupine Way)	$ 400,000	Replace	1,800	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2024Q4
9892	SCOTCH PLAINS TWP	Lenape Way (Ashbrook Dr to Terminus)	$ 175,000	Replace	1,016	8.00	Ductile Iron	1890	6	CI	Water Quality	60	2024Q4
9896	SCOTCH PLAINS TWP	Lake Ave(Raritan Rd to Linden Ln)	$ 565,000	Replace	4,551	8.00	Ductile Iron	1940	16	CI	System Flows and Pressure	120	2024Q4
9898	SCOTCH PLAINS TWP	Gamble Rd (Lamberts Mill Rd to Terminus)	$ 230,000	Replace	857	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2024Q4
9905	LINDEN CITY	W. Baltimore Ave(St Georges Ave to Middlesex St)	$ 275,000	Replace	756	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9906	LINDEN CITY	E Blancke St (McCandless St to W Baltimore Ave)	$ 350,000	Replace	1,272	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9907	LINDEN CITY	Bergen Ave(Lincoln St to W Baltimore Ave)	$ 275,000	Replace	918	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9908	LINDEN CITY	Bergen Ave(lincoln St to Roselle St)	$ 375,000	Replace	1,369	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
9920	CLARK TWP	Parkway Dr(Highland Pl to West Ln)	$ 350,000	Replace	1,704	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2024Q4
9921	CLARK TWP	West Ln(Blake Dr to Emerson Rd)	$ 350,000	Replace	1,193	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2024Q4
9922	CLARK TWP	East Ln (West Ln to North Lane)	$ 350,000	Replace	1,107	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2024Q4
9943	ROSELLE BOROUGH	Washington Ave (Raritan Rd to W 6th Ave)	$ 400,000	Replace	1,358	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
9969	CRANFORD TWP	Ramsgate Rd (Orchard St to Dead End)	$ 200,000	Replace	796	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2025Q4
9970	CRANFORD TWP	Woods Hole Rd (Orchard St to Dead End)	$ 300,000	Replace	1,130	8.00	Ductile Iron	1960	8	CI	System Flows and Pressure	60	2025Q4
9974	CRANFORD TWP	Arlington Rd (Cranford Ave to Hamilton Ave)	$ 210,000	Replace	1,187	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2026Q4
9976	CRANFORD TWP	Hamilton Ave (Forest Ave to Elizabeth Ave)	$ 450,000	Replace	1,710	8.00	Ductile Iron	1900	6	CI	System Flows and Pressure	60	2025Q4
9977	CRANFORD TWP	Madison Ave (Arlington Rd to Elizabeth Ave)	$ 215,000	Replace	796	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
9979	SCOTCH PLAINS TWP	Austin St (Lamberts Mill Rd to Scotch Plains Ave)	$ 300,000	Replace	1,185	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9980	SCOTCH PLAINS TWP	Lamberts Mill Rd (W Broad St to Shadowlawn Dr)	$ 708,000	Replace	2,150	12.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2024Q4
9981	SCOTCH PLAINS TWP	Seward Dr (Golf St to Lamberts Mill Rd)	$ 210,000	Replace	776	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2024Q4
9984	SCOTCH PLAINS TWP	Graymill Dr (W Broad St to Wood Rd)	$ 515,000	Replace	1,799	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
9986	SCOTCH PLAINS TWP	Duncan Dr (Duncan Dr Loop)	$ 695,000	Replace	2,673	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	90	2024Q4
9993	ROSELLE BOROUGH	Thompson Ave(E 3rd Ave to E 6th Ave)	$ 560,000	Replace	2,030	16.00	Ductile Iron	1930	16	CI	System Flows and Pressure	90	2026Q4
10004	KENILWORTH	Lexington Ave (S Michigan Ave to Market St)	$ 225,000	Replace	867	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2026Q4
10006	KENILWORTH	Locust Dr (Roosevelt Ln to Belmont Ave)	$ 305,000	Replace	1,230	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
10007	KENILWORTH	Arbor St (Coolidge Dr to Belmont Ave)	$ 278,425	Replace	1,002	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
10008	LINDEN CITY	Passaic Ave (MCcandless St to Lincoln St)	$ 100,000	Replace	515	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
10013	LINDEN CITY	Union St (E Baltimore Ave to Chandler Ave)	$ 275,000	Replace	848	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
10014	ROSELLE PARK BORO	E Clay Ave (Walnut St to Sherman Ave)	$ 475,000	Replace	1,246	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
10015	ROSELLE PARK BORO	E Clay Ave (Sherman Ave to Galloping Hill Rd)	$ 312,500	Replace	1,223	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
10016	ROSELLE PARK BORO	E Lincoln Ave (Chestnut St to Sherman Ave)	$ 600,000	Replace	2,162	8.00	Ductile Iron	1960	6	DI	System Flows and Pressure	90	2025Q4
10017	ROSELLE PARK BORO	E Lincoln Ave (Sherman Ave to Galloping Hill Rd)	$ 275,000	Replace	1,177	8.00	Ductile Iron	1930	16	CI	System Flows and Pressure	60	2025Q4
10018	ROSELLE PARK BORO	Woodland Ave (Lehigh Ave to E Clay Ave)	$ 400,000	Replace	1,508	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
10019	ROSELLE PARK BORO	E Colfax Ave (Chestnut St to Walnut St)	$ 190,000	Replace	743	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
10045	KENILWORTH	Monroe Ave (N 8th St to N 14th St)	$ 375,000	Replace	1,500	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
10046	KENILWORTH	Monroe Ave (N 14th St to N 20th St)	$ 375,000	Replace	1,423	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
10047	KENILWORTH	Monroe Ave (N 20th St to N Michigan Ave)	$ 325,000	Replace	1,513	8.00	Ductile Iron	1930	16	CI	System Flows and Pressure	60	2024Q4
10048	KENILWORTH	Center St (N 22st to N Michigan Ave)	$ 160,000	Replace	498	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	30	2026Q4
10050	KENILWORTH	N 6th St (Washington Ave to Boulevard)	$ 210,000	Replace	831	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2024Q4
10051	KENILWORTH	Pembrook Dr (Sherwood Rd Loop)	$ 285,000	Replace	1,042	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
10052	KENILWORTH	Sherwood Rd (Wilshire Dr to Pembrook Dr)	$ 210,000	Replace	787	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2024Q4
10053	KENILWORTH	Brasser Ln (Pembrook Dr to Wilshire Dr)	$ 210,000	Replace	770	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	2024Q4
10054	UNION TWP	Lehigh Ave Ph 1(Galloping hill Rd to Cranbury Rd)	$ 1,100,000	Replace	2,572	16.00	Ductile Iron	1940	12	CI	System Flows and Pressure	90	2025Q4
10085	UNION TWP	Golf Ter (David Ter to Colonial Ave)	$ 510,000	Replace	1,835	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2025Q4
10086	UNION TWP	Colonial Ave (Morris Ave to Golf Ter)	$ 960,000	Replace	3,431	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	90	2025Q4
10087	UNION TWP	Homer Ter (Crawford Ter to Colonial Ave)	$ 220,000	Replace	936	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2025Q4
10088	UNION TWP	Dogwood Dr (Oakview Pl to Dead End)	$ 220,000	Replace	827	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2025Q4
10094	LINDEN CITY	E. Elizabeth Ave (E Baltimore Ave to S Park Ave)	$ 1,200,000	Replace	3,748	12.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
10098	LINDEN CITY	Meachem Ave (Grier Ave to Bedle Pl)	$ 180,000	Replace	693	8.00	Ductile Iron	1970	6	DI	System Flows and Pressure	60	2026Q4
10099	LINDEN CITY	Bedle Pl (Allen St to Worth Ave)	$ 410,000	Replace	1,344	8.00	Ductile Iron	1950	8	CI	System Flows and Pressure	60	2026Q4
10100	LINDEN CITY	Grier Ave (Dennis Pl to Allen St)	$ 185,000	Replace	600	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2026Q4
10101	LINDEN CITY	Grier Ave (Bedle Pl to McCandlessPl)	$ 370,000	Replace	1,259	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2026Q4
10102	LINDEN CITY	Bacheler Ave (Grier Ave to Bedle Pl)	$ 190,000	Replace	690	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2026Q4
10103	LINDEN CITY	Worth Ave (Grier Ave to Bedle Pl)	$ 205,000	Replace	769	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2026Q4
10104	LINDEN CITY	Mack Pl(Rt 1&9 to Bedle Pl)	$ 320,000	Replace	1,194	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2026Q4
10105	LINDEN CITY	Malcolm Pl (Rt 1&9 to Bedle Pl)	$ 225,000	Replace	543	8.00	Ductile Iron	1890	6	CI	System Flows and Pressure	60	2026Q4
10124	MANVILLE BOROUGH	Dominic Street Main Replacement	$ 400,000	Replace	1,300	8.00	Ductile Iron	1950	6	AC	System Flows and Pressure	60	2024Q4
10133	PISCATAWAY TWP	Old New Brunswick Rd (Centennial Rd to Hydrant HPIS-672)	$ 280,000	Replace	1,294	12.00	Ductile Iron	1960	12	DI	System Flows and Pressure	60	2025Q4
10138	RARITAN BOROUGH	Meehan Ave Main Replacement	$ 450,000	Replace	1,855	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
10154	HILLSIDE	Ramsey Ave (Chestnut Ave to Sweetland Ave)	$ 1,400,000	Replace	3,016	20.00	Ductile Iron	1960	20	CEM	Safety and Reliability	90	2026Q4
10155	LINDEN CITY	E ELizabeth Ave (Wood Ave to Roselle St)	$ 697,000	Replace	2,461	12.00	Ductile Iron	1920	4	CI	System Flows and Pressure	90	2026Q4

2024 Foundational Filing
Table 5.5 - Central Operating Area
2024 - 2026 Priority Projects

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
10171	ROSELLE PARK BORO	W Summer Ave (Locust St to S 31st St)	$ 500,000	Replace	1,819	8.00	Ductile Iron	1970	8	DI	System Flows and Pressure	60	2025Q4
10175	SOMERVILLE BOROUGH	South Doughty Ave Main Replacement	$ 225,000	Replace	1,030	8.00	Ductile Iron	1790	8	CI	System Flows and Pressure	60	2025Q4
10247	PLAINSBORO TWP	Rt @ Forrestal Rd replacement	$ 300,000	Replace	158	16.00	Ductile Iron	2000	16	ST	Safety and Reliability/Structural	30	2025Q4
10295	MIDDLESEX BOROUGH	Middlesex Boro Main Cleaning and Lining	$ 3,300,000	Rehab	17,076	6.00	Other	1930	6	CI	Water Quality	120	2026Q4
10314	NORTH PLAINFIELD BOROUGH	North Plainfield Cleaning and Lining between Watchung Ave and Sanford Ave	$ 3,700,000	Rehab	16,464	6.00	Other	1910	6	CI	Water Quality	120	2024Q4
10607	SOMERVILLE BOROUGH	Warren St Main replacement	$ 200,000	Replace	672	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2024Q4
10617	BRIDGEWATER TWP	North Bridge St Main Replacement	$ 1,200,000	Replace	3,400	12.00	Ductile Iron	1960	8	DI	Safety and Reliability/Structural	90	2024Q4
10648	MANVILLE BOROUGH	South Main St 10" Replacement Phase -2	$ 350,000	Replace	525	12.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	60	2026Q4
10663	SOMERVILLE BOROUGH	Replace 750 feet of 6-inch main with 12-inch DI main.	$ 255,000	Replace	726	12.00	Ductile Iron	1930	6	CI	Safety and Reliability	60	2025Q4
10669	CRANFORD TWP	Woodlawn Ave(S Union Ave to Dead End)	$ 145,000	Replace	540	8.00	Ductile Iron	1930	6	CI	Water Quality	60	2025Q4
10677	ROSELLE PARK BORO	W Lincoln Ave(Amsterdam Ave to Faitoute Ave)	$ 255,000	Replace	970	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q4
10678	CRANFORD TWP	Hawthorne St(Mansion Ter to Dead End)	$ 310,000	Replace	1,155	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
10679	CRANFORD TWP	Pine St (Mansion Ter to Dead End)	$ 300,000	Replace	973	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	2025Q4
10689	LINDEN CITY	Hussa St(E Baltimore Ave to Sherman St)	$ 455,000	Replace	1,505	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
10690	LINDEN CITY	E Blancke St (E Baltimore Ave to Cranford Ave)	$ 330,000	Replace	1,100	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2026Q4
10691	CLARK TWP	Madison Hill Rd (Winthrop Rd to Doris Way)	$ 300,000	Replace	949	12.00	Ductile Iron	1790	6	CI	System Flows and Pressure	60	2024Q4
10692	LINDEN CITY	Chandler Ave(St Georges Ave to E Elizabeth Ave)	$ 925,000	Replace	2,648	12.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
10693	LINDEN CITY	Elmwood Ter (Wood Ave to N Stiles)	$ 1,050,000	Replace	4,666	8.00	Ductile Iron	1790	6	CI	System Flows and Pressure	120	2026Q4
10694	LINDEN CITY	Orchard Ter(Raritan Rd to St George Ave)	$ 130,000	Replace	5,336	8.00	Ductile Iron	1990	12	CI	System Flows and Pressure	120	2026Q4
10869	RARITAN BOROUGH	Lagrange St Ph II Main Replacement	$ 225,000	Replace	909	8.00	Ductile Iron	1790	6	CI	Safety and Reliability/Structural	60	2024Q4
10870	RARITAN BOROUGH	Elmer St. Main Replacement	$ 150,000	Replace	381	8.00	Ductile Iron	1790	6	CI	Safety and Reliability/Structural	30	2025Q4
10871	RARITAN BOROUGH	Anderson St Main Replacement	$ 300,000	Replace	2,254	8.00	Ductile Iron	1980	8	DI	Safety and Reliability/Structural	90	2025Q4
10872	SOUTH BOUND BROOK BOROUGH	Canal Rd / Main St replacement	$ 350,000	Replace	700	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10874	SOMERVILLE BOROUGH	3rd Street Main Replacement	$ 350,000	Replace	1,426	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2024Q4
10876	SOMERVILLE BOROUGH	Center St Main replacement	$ 250,000	Replace	1,103	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2025Q4
10877	SOMERVILLE BOROUGH	Hamilton Street main Replacement	$ 400,000	Replace	1,159	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q4
10898	BRIDGEWATER TWP	Riha Street Main Replacement	$ 300,000	Replace	1,304	8.00	Ductile Iron	1950	6	CI	Safety and Reliability	60	2024Q4
10899	BRIDGEWATER TWP	Field Street Main Replacement	$ 300,000	Replace	1,154	8.00	Ductile Iron	1950	6	CI	Safety and Reliability	60	2024Q4
10905	BRIDGEWATER TWP	Manville Boulevard Main Replacement	$ 250,000	Replace	997	8.00	Ductile Iron	1970	6	CI	Looping	60	2025Q4
10906	BRIDGEWATER TWP	Newberry Street Main Replacement	$ 300,000	Replace	932	8.00	Ductile Iron	1950	6	CI	Looping	60	2025Q4
11069	ROSELLE PARK BORO	Roselle Park Borough - 12-inch to 16-inch Connection Upgrade	$ 52,500	Replace	146	16.00	Ductile Iron	1940	12	CI	System Flows and Pressure	30	2024Q2
11106	PRINCETON TWP	Wittmer Court Main Replacement	$ 300,000	Replace	584	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2025Q4
11109	MANVILLE BOROUGH	Dukes Parkway Main Replacement	$ 2,500,000	Replace	1,346	12.00	Ductile Iron	1960	10	AC	System Flows and Pressure	60	2025Q4
11127	WEST WINDSOR TWP	Galston Drive Main Replacement	$ 750,000	Replace	3,452	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	90	2025Q4
11129	HILLSIDE	"Manor Dr" (from Walker Ave to Village)	$ 530,700	Replace	1,769	12.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2024Q4
11130	HILLSIDE	"Walker Ave" (from Elaine Ter N to Manor Dr)	$ 147,000	Replace	490	12.00	Ductile Iron	1960	8	DI	Safety and Reliability/Structural	30	2026Q4
11133	GREEN BROOK TWP	"US Highway 22" (from VGRE-261 to N Washington Ave/VGRE-768)	$ 195,000	Replace	646	12.00	Ductile Iron	1930	8	CI	System Flows and Pressure	60	2024Q4
11152	HILLSIDE	"Leslie Street" (from Valve VHSD-1680 to Field Pl)	$ 110,000	Replace	440	8.00	Ductile Iron	1920	8	CI	Safety and Reliability	30	2024Q4
11195	JAMESBURG	Ridgeview Avenue Main Replacement	$ 500,000	Replace	2,503	8.00	Ductile Iron	1960	8	AC	Water Quality	90	2024Q4
11196	JAMESBURG	Hilltop Court Main Replacement	$ 250,000	Replace	685	8.00	Ductile Iron	1960	6	AC	Water Quality	60	2024Q4
11231	UNION TWP	N Greenwood Rd Main Replacement	$ 125,000	Replace	275	8.00	Ductile Iron	1790	6	CI	Water Quality	30	2024Q4
11235	BOUND BROOK BOROUGH	Somerset Street Main Replacement	$ 300,000	Replace	900	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2025Q4
11262	PRINCETON TWP	Ridgeview Circle Main Replacement	$ 500,000	Replace	2,780	8.00	Ductile Iron	1960	6	DI	Water Quality	90	2024Q4
11280	MONTGOMERY TWP	Rolling Hill Road Main Replacement	$ 1,000,000	Replace	4,689	8.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	120	2024Q4
11282	PRINCETON BOROUGH	Spruce Street Main Replacement	$ 500,000	Replace	900	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2025Q4
11287	PRINCETON BOROUGH	Hawthorne Avenue Main Replacement	$ 750,000	Replace	741	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2026Q4
11302	PRINCETON BOROUGH	Witherspoon Lane Main Replacement	$ 500,000	Replace	373	8.00	Ductile Iron	1990	4	DI	Safety and Reliability	30	2024Q4
11303	PRINCETON TWP	Prospect Avenue Main Replacement	$ 1,500,000	Replace	2,700	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
11322	JAMESBURG	Perrineville Road Main Replacement	$ 1,500,000	Replace	1,500	8.00	Ductile Iron	1960	6	DI	Safety and Reliability	60	2025Q4
11337	MONTGOMERY TWP	Colfax Road Main Replacement	$ 1,500,000	Replace	3,573	8.00	Ductile Iron	1980	8	DI	Safety and Reliability	90	2025Q4
11347	RARITAN BOROUGH	Bell Avenue Main Replacement/Upgrade	$ 250,000	Replace	560	12.00	Ductile Iron	1980	8	DI	Safety and Reliability	60	2024Q4
11357	RARITAN BOROUGH	Anderson Street Main Replacement	$ 500,000	Replace	403	12.00	Ductile Iron	1790	6	CI	System Flows and Pressure	30	2025Q4
11397	RARITAN BOROUGH	5th Street Part 2 Main Replacement	$ 500,000	Replace	348	12.00	Ductile Iron	1790	6	CI	System Flows and Pressure	30	2026Q4
11400	MANVILLE BOROUGH	Evans Drive Main Replacement	$ 500,000	Replace	1,011	8.00	Ductile Iron	1960	6	AC	Safety and Reliability	60	2026Q4
11434	PISCATAWAY TWP	Lake Park Dr Culvert	$ 150,000	Replace	100	8.00	Ductile Iron	1980	8	DI	Safety and Reliability/Structural	30	2024Q4
11435	UNION TWP	Leigh Bridge main replace.	$ 200,000	Replace	100	12.00	Ductile Iron	1940	12	CI	System Flows and Pressure	30	2024Q4
11438	WARREN TWP	Mountain Blvd Phase 2	$ 1,500,000	Replace	2,900	16.00	Ductile Iron	1990	12	DI	Safety and Reliability/Structural	90	2024Q4
		subtotal	**$ 162,928,585**										

Exhibit 6.1

New Jersey American Water
2024 DSIC Foundational Filing
Coastal Operating Area



County	Municipality Served	
Monmouth	Aberdeen Twp	Long Branch City
	Allenhurst Boro	Marlboro Twp
	Asbury Park City	Middletown Twp
	Bradley Beach Boro	Monmouth Beach Boro
	Colts Neck Twp	Neptune City Boro
	Deal Boro	Neptune Twp
	Eatontown Boro	Ocean Twp
	Fair Haven Boro	Oceanpoint Boro
	Freehold Boro	Rumson Boro
	Hazlet Twp	Sea Bright Boro
	Highlands Boro	Shrewsbury Boro
	Holmdel Twp	Shrewsbury Twp
	Howell Twp	Tinton Falls Boro
	Interlaken Boro	Union Beach Boro
	Little Silver Boro	Wall Twp
	Loch Arbour Village	West Long Branch Twp

County	Municipality Served
Ocean	Bay Head Boro
	Berkeley Twp
	Brick Twp
	Jackson Twp
	Lakewood Twp
	Lavallette Twp
	Mantoloking Boro
	Toms River Twp

NEW JERSEY AMERICAN WATER

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
244	ABERDEEN	Aberdeen - Idlebrook, from InnerHill to "I" tank 10"	$ 120,000	Replace	725	8.00	PVC	1950	10	CI	Safety and Reliability/Structural	60	2026Q3
5293	ABERDEEN	Idaho Lane, Main Replacement	$ 195,000	Replace	1,327	8.00	PVC	1960	6	AC	Safety and Reliability	60	2025Q1
8905	ABERDEEN	Blair Rd. 8"AC	$ 160,000	Replace	800	8.00	PVC	1960	8	AC	Safety and Reliability/Structural	60	2025Q3
11024	ABERDEEN	Overlea Lane Eastment Rehab	$ 250,000	Rehab	964	8.00	Other	1960	8	AC	Safety and Reliability/Structural	60	2025Q4
11050	ABERDEEN	Idlewild Lane to Ivy Hill Main Rehab	$ 120,000	Rehab	424	12.00	Other	1950	12	AC	Safety and Reliability/Structural	30	2025Q4
6979	ALLENHURST	Cedar Ave Railroad Crossing	$ 160,000	Replace	384	8.00	Ductile Iron	2000	4	DI	System Flows and Pressure	30	2025Q4
7158	ALLENHURST	Allen Ave - Main Replacement of 4-inch CI with 8-inch DI	$ 540,000	Replace	4,378	8.00	PVC	1980	4	CI	System Flows and Pressure	120	2025Q3
7373	ASBURY PARK	Drummond	$ 210,000	Replace	1,382	8.00	Ductile Iron	1920	2	CI	Safety and Reliability	60	2024Q1
7449	ASBURY PARK	Comstock st	$ 75,000	Replace	171	6.00	Ductile Iron	1890	2	GALV	Safety and Reliability	30	2024Q4
7512	ASBURY PARK	RT. 71 NDOT Utility relocation work	$ 750,000	Replace	8,085	12.00	Ductile Iron	1920	12	CI	Relocation/Opportunity	120	2024Q3
7777	ASBURY PARK	Sewall Ave. 4" CI	$ 110,000	Replace	1,100	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q3
7778	ASBURY PARK	Sewall Ave. 4" CI BTWN Terminus & Main St.	$ 30,000	Replace	300	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	30	2024Q3
7779	ASBURY PARK	Monroe Ave. 4" CI	$ 50,000	Replace	500	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q3
7783	ASBURY PARK	Dunlewy Street 4" CI	$ 110,000	Replace	1,100	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q4
7784	ASBURY PARK	Winn Ave. 2" CI	$ 40,000	Replace	400	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	30	2024Q1
7785	ASBURY PARK	Drummond Ave. 2" CI	$ 70,000	Replace	700	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q4
7786	ASBURY PARK	Central Ave 2" CI BTWN 4th Ave. & Terminus.	$ 20,000	Replace	200	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2024Q1
7787	ASBURY PARK	2nd Ave. 4" CI	$ 110,000	Replace	2,466	8.00	Ductile Iron	1920	8	CI	Safety and Reliability/Structural	90	2025Q3
7788	ASBURY PARK	Comstock Street 2" GALV BTWN 1st & 2nd. Ave.	$ 40,000	Replace	400	8.00	Ductile Iron	1900	2	GALV	Safety and Reliability/Structural	30	2025Q4
7789	ASBURY PARK	Comstock Street 2" GALV & 6" CI BTWN 5th Ave & Terminus	$ 150,000	Replace	15,000	8.00	Ductile Iron	1900	6	CI	Safety and Reliability/Structural	120	2024Q4
7791	ASBURY PARK	Summerfield Ave. 2" CI	$ 40,000	Replace	400	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	30	2024Q3
7794	ASBURY PARK	Steiner Place 2" GALV	$ 50,000	Replace	500	8.00	Ductile Iron	1950	2	GALV	Safety and Reliability/Structural	60	2024Q1
8369	ASBURY PARK	Bangs Ave 6" CI BTWN Memorial Dr. & Comstock St.	$ 180,000	Replace	900	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q3
8342	BAY HEAD	Lake Ave, 6" CI, 6" AC	$ 1,113,000	Replace	4,416	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	120	2025Q1
8349	BAY HEAD	Cranberry Ave, 6" CI, AC, DI	$ 141,600	Replace	837	6.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2024Q2
8350	BAY HEAD	Woodland Ave, 6" CI	$ 68,800	Replace	435	6.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	30	2024Q3
10471	BAY HEAD	Bridge Avenue	$ 1,000,000	Replace	1,442	12.00	HDPE	1930	6	CI	Safety and Reliability/Structural	60	2026Q3
7723	BRADLEY BEACH	Madison Ave. 2"CI	$ 700,000	Replace	3,500	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	90	2026Q3
7725	BRADLEY BEACH	4th Ave. 6" CI	$ 1,150,000	Replace	5,000	8.00	Ductile Iron	1900	6	CI	Safety and Reliability/Structural	120	2026Q3
7726	BRADLEY BEACH	5th Ave. 6" CI & 2" CI	$ 800,000	Replace	4,000	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	120	2024Q1
7733	BRADLEY BEACH	Fletcher Lake Ave. 2" CI, 2.25" CI, 6" CI & 6" AC BTWN 3rd Ave & Lake Terrace (RT-18)	$ 560,000	Replace	1,926	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q4
7734	BRADLEY BEACH	3rd Ave 2" GALV	$ 80,000	Replace	400	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	30	2024Q3
7735	BRADLEY BEACH	Madison Ave. 1" GALV & 2" CI BTWN Park Place & Lake Terrace	$ 120,000	Replace	600	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q1
7736	BRADLEY BEACH	Kent Ave. 2" GALV	$ 60,000	Replace	600	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2024Q3
7737	BRADLEY BEACH	Lake Terrace / RT-18 2" GALV BTWN Beach Ave. & Flethcher Lake	$ 260,000	Replace	1,300	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2025Q4
784	BRICK TWP	Brick Twp - Bowline Ave from Rt 35 N to Sunset Ln.	$ 21,600	Replace	131	6.00	Ductile Iron	1950	2	DI	Safety and Reliability/Structural	30	2024Q1
8435	BRICK TWP	7th Ave, 6" AC	$ 24,000	Replace	141	6.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	30	2024Q4
8437	BRICK TWP	Normandy Dr, 6" AC	$ 152,800	Replace	973	6.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q3
8439	BRICK TWP	Baytree Ct, 6" AC	$ 40,000	Replace	250	6.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	30	2025Q3
582	DEAL	Deal- Phillips Ave, From Norwood to HOT-306	$ 250,000	Replace	730	12.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
583	DEAL	Deal- Railrood Ave, from Phillips to Brighton	$ 140,000	Replace	304	12.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	30	2024Q1
5493	DEAL	Deal - Main Replacement Runyan ave Deal. From Norwood to end of street	$ 120,000	Replace	739	8.00	Ductile Iron	1940	6	CI	Water Quality	60	2024Q1
7756	DEAL	Sydney Ave. 4" CI BTWN Atlantic Ave. & Richmond Ave. -Revised	$ 60,000	Replace	600	8.00	Ductile Iron	1900	4	CI	Safety and Reliability/Structural	60	2026Q3
7757	DEAL	Sydney Ave. 4" CI & 6" CI	$ 400,000	Replace	4,000	8.00	Ductile Iron	1900	4	CI	Safety and Reliability/Structural	120	2024Q3
7799	DEAL	Marine Place 4" CI & 6" CI	$ 80,000	Replace	800	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2024Q4
7801	DEAL	Roseld Ave. 4" CI	$ 90,000	Replace	900	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2024Q1
7803	DEAL	Roseld Court 2.25 CI	$ 50,000	Replace	500	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2025Q1
7806	DEAL	Lehman Ave. 2' CI and 6" CI	$ 70,000	Replace	700	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2026Q3
8275	DEAL	Popular Ave. 4" CI	$ 120,000	Replace	600	6.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2026Q4
11053	DEAL	Atlantic Ave to Lady Bess Drive Water Main Rehabilitation	$ 120,000	Rehab	344	6.00	Other	1950	6	AC	Safety and Reliability/Structural	30	2025Q4
5557	EATONTOWN	Eatontown - Locust Ave main replacement	$ 102,000	Replace	613	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q1
7500	EATONTOWN	Tinton ave at Rail Road crossing	$ 100,000	Replace	733	24.00	Ductile Iron	1950	6	CI	Safety and Reliability	60	2024Q4
571	FAIR HAVEN	Hillside Pl. - Buena Vista to terminus	$ 105,000	Replace	126	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	30	2024Q3
573	FAIR HAVEN	Forman Street - Cedar to Hance Ave.	$ 225,000	Replace	1,505	8.00	Ductile Iron	2010	8	DI	Safety and Reliability/Structural	60	2024Q3
8092	FAIR HAVEN	Highland Ave. 2" CI	$ 220,000	Replace	1,100	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2025Q4
8093	FAIR HAVEN	Heights Terrace 2" CI	$ 160,000	Replace	800	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2026Q3
8097	FAIR HAVEN	Sycamore Ln. 6" CI	$ 80,000	Replace	400	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	30	2024Q3
8098	FAIR HAVEN	Doughty Ln. 4" PVC & 2" CI	$ 80,000	Replace	400	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2026Q3
8100	FAIR HAVEN	Milton Ln. 2" CI	$ 60,000	Replace	300	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q1
8103	FAIR HAVEN	Fair Haven Rd. 2" CI, 4" CI, & 6" AC	$ 520,000	Replace	2,600	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	90	2024Q1
8105	FAIR HAVEN	Browns Ln. 2" CI & 6" CI	$ 180,000	Replace	900	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q3
8108	FAIR HAVEN	3rd St. 6" CI	$ 700,000	Replace	3,500	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2025Q4
8111	FAIR HAVEN	Hagger Ln. 2.5"CI	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2026Q3
8118	FAIR HAVEN	Parker Ave. 6" CI	$ 300,000	Replace	1,500	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q1
8119	FAIR HAVEN	Smith St. 2" CI & 6" CI	$ 240,000	Replace	1,200	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q3
8122	FAIR HAVEN	Colonial Ct. 2" CI	$ 64,000	Replace	320	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q4
8126	FAIR HAVEN	Park Ave. 2" CI	$ 152,000	Replace	760	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q4
11055	HAZLET	Moak Drive to Webster Drive Water Main Rehabilitation	$ 100,000	Rehab	139	6.00	Other	1960	6	AC	Safety and Reliability/Structural	30	2025Q4
11060	HAZLET	13th Street to Munroe Avenue Main Rehabilitation	$ 100,000	Rehab	223	6.00	Other Plastic	1950	6	CI	Safety and Reliability/Structural	30	2025Q4
7444	HIGHLANDS	Shore Drive - Replacement of approximately 2500 LF of 6-inch CI with 12-inch	$ 600,000	Replace	2,213	12.00	Ductile Iron	1950	6	CI	System Flows and Pressure	90	2025Q3

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
11025	HOLMDEL	Beers Street Rehabilitation	$ 225,000	Rehab	1,160	12.00	Other Plastic	1960	12	AC	Safety and Reliability/Structural	60	2025Q4
11026	HOLMDEL	Route 34 Easement Rehab	$ 200,000	Rehab	667	8.00	Other	1960	8	CI	Safety and Reliability/Structural	60	2025Q4
11058	HOLMDEL	Takolusa Drive to Morse Way South Water Main Rehabilitation	$ 100,000	Rehab	265	8.00	Other	1980	8	AC	Safety and Reliability/Structural	30	2025Q4
11059	HOLMDEL	East Brook Drive to Overlook Drive Water Main Rehabilitation	$ 250,000	Rehab	770	12.00	Other	1970	12	AC	Safety and Reliability/Structural	60	2025Q4
9057	HOWELL TWP	Windsor Rd. 6" AC	$ 160,000	Replace	800	8.00	Ductile Iron	1970	6	AC	Safety and Reliability/Structural	60	2024Q1
9064	HOWELL TWP	Livingston Dr. 6" AC	$ 280,000	Replace	1,400	8.00	Ductile Iron	1970	6	AC	Safety and Reliability/Structural	60	2024Q1
10387	HOWELL TWP	Stratton Drive : From Winsted Dr to Berkshire Dr	$ 199,750	Replace	850	8.00	Ductile Iron	1970	8	AC	Safety and Reliability/Structural	60	2025Q4
10390	HOWELL TWP	Berkshire Drive: From Markwood Drive to Stratton Drive	$ 517,000	Replace	2,570	8.00	Ductile Iron	1970	8	AC	Safety and Reliability/Structural	90	2025Q1
10492	HOWELL TWP	Alpen Strasse / Halden Strasse	$ 250,000	Replace	1,178	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	60	2024Q3
10565	HOWELL TWP	Carrera Del Darro Road: From Dag Hammarskjold Blvd to Guesta De Gomerez Rd / perimeter main	$ 177,375	Replace	909	8.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	60	2024Q4
7768	INTERLAKEN	Barra Street 2" CI	$ 60,000	Replace	600	8.00	Ductile Iron	1960	2	CI	Safety and Reliability/Structural	60	2025Q3
7770	INTERLAKEN	Fernmere Ave. 2" CI	$ 110,000	Replace	1,100	8.00	Ductile Iron	1960	2	CI	Safety and Reliability/Structural	60	2024Q3
6178	LAKEWOOD	12th Street from Monmouth Ave to Squankum Rd	$ 316,000	Replace	1,594	8.00	Ductile Iron	1930	6	AC	Safety and Reliability/Structural	60	2025Q1
6179	LAKEWOOD	Cedar Bridge from Rt 88 to Dr. MLK Drive	$ 516,600	Replace	2,583	12.00	Ductile Iron	1960	8	CI	Safety and Reliability	90	2024Q2
6297	LAKEWOOD	W County Line Rd from Clifton Ave to Laurelwood Ave	$ 1,067,150	Replace	3,049	16.00	Ductile Iron	1930	8	CI	Sustained Economic Growth	90	2025Q4
6924	LAKEWOOD	Hope Chapel Road from W. County Line Road to 14th Street	$ 285,000	Replace	1,913	12.00	Ductile Iron	1980	6	AC	System Flows and Pressure	60	2026Q3
7437	LAKEWOOD	Cypress Ave Replace 1150 of 8" AC pipe on Cypress from 12" on Oak to Carol	$ 265,000	Replace	1,123	8.00	Ductile Iron	1950	8	AC	Safety and Reliability/Structural	60	2025Q4
7438	LAKEWOOD	Canterberry Rd. Replace 1770' of 6" AC pipe between W. County Line Rd. and Tanglewood	$ 440,000	Replace	1,720	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2026Q3
7935	LAKEWOOD	Spruce St, 2" Galvinized	$ 142,500	Replace	1,452	8.00	Ductile Iron	1950	2	GALV	Safety and Reliability/Structural	60	2024Q2
7983	LAKEWOOD	Sunset Rd, 2" CI	$ 105,000	Replace	1,018	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	60	2024Q2
7999	LAKEWOOD	Monmouth Ave, 4" CI, 6" DI	$ 64,000	Replace	633	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2025Q1
8001	LAKEWOOD	4th St, 4", 6" CI	$ 125,000	Replace	1,258	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q3
8003	LAKEWOOD	4th St, 4", 6"	$ 116,000	Replace	1,176	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2024Q2
8006	LAKEWOOD	Clifton Ave, 4" CI, 6" CI	$ 162,500	Replace	1,608	12.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2024Q4
8019	LAKEWOOD	E 8th Street: Princeton Avenue-DE/	$ 137,500	Replace	1,364	8.00	Ductile Iron	2000	6	DI	Safety and Reliability/Structural	60	2024Q1
8024	LAKEWOOD	6th St, 4" CI, 6" CI	$ 115,000	Replace	1,140	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2026Q3
8735	LAKEWOOD	Regent Dr., 8" AC	$ 626,430	Replace	3,064	8.00	Ductile Iron	1980	8	AC	Safety and Reliability/Structural	90	2024Q4
8963	LAKEWOOD	State Hwy 88- 6" CI	$ 217,000	Replace	620	12.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2024Q1
8983	LAKEWOOD	3rd St. 6" CI	$ 504,000	Replace	2,520	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2024Q2
8987	LAKEWOOD	7th St. 6" CI	$ 780,000	Replace	3,900	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	90	2025Q3
9001	LAKEWOOD	14th Street 6" CI	$ 1,400,000	Replace	6,851	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	120	2025Q3
9028	LAKEWOOD	Tanglewood Ln. 6" AC	$ 340,000	Replace	1,703	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q4
9036	LAKEWOOD	Cedarview Ave. 6" CI & 6" AC	$ 300,000	Replace	990	8.00	Ductile Iron	1930	6	AC	Safety and Reliability/Structural	60	2024Q3
9075	LAKEWOOD	W. Spruce St. 6" AC	$ 200,000	Replace	1,000	8.00	Ductile Iron	1980	6	AC	Safety and Reliability/Structural	60	2025Q1
9085	LAKEWOOD	Pine St. 6" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
9093	LAKEWOOD	Murray St. 6" CI	$ 160,000	Replace	800	8.00	Ductile Iron	1980	6	CI	Safety and Reliability/Structural	60	2024Q4
9096	LAKEWOOD	Cedar Ct. 6" CI	$ 300,000	Replace	1,500	8.00	Ductile Iron	1980	6	CI	Safety and Reliability/Structural	60	2026Q3
9099	LAKEWOOD	High St. 6" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q2
10254	LAKEWOOD	Martin Street	$ 172,000	Replace	450	8.00	Ductile Iron	1930	6	DI	Safety and Reliability	30	2025Q1
10256	LAKEWOOD	Sherie Court	$ 86,000	Replace	347	8.00	Ductile Iron	1930	6	CI	Safety and Reliability	30	2024Q3
10262	LAKEWOOD	Lisa Court	$ 33,000	Replace	140	4.00	Ductile Iron	1930	2	CI	System Flows and Pressure	30	2024Q4
10264	LAKEWOOD	Hope Terrace	$ 105,000	Replace	445	6.00	Ductile Iron	1930	6	AC	Safety and Reliability/Structural	30	2025Q1
10265	LAKEWOOD	Cathedral Drive	$ 295,000	Replace	1,348	8.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	60	2024Q4
10268	LAKEWOOD	Hawthorne Street / Poplar Street	$ 75,000	Replace	777	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2026Q3
10270	LAKEWOOD	Metedeconk Lane	$ 85,000	Replace	342	8.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	30	2024Q4
10356	LAKEWOOD	Avis Avenue	$ 140,000	Replace	608	8.00	Ductile Iron	1930	6	DI	Safety and Reliability/Structural	60	2025Q1
10363	LAKEWOOD	Pricneton Ave (Conventry Square)	$ 475,000	Rehab	2,173	8.00	Ductile Iron	1950	8	CI	Safety and Reliability/Structural	90	2025Q4
10364	LAKEWOOD	Tudor Ct	$ 305,000	Rehab	1,112	6.00	Other	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10365	LAKEWOOD	Colony Circle	$ 425,000	Rehab	1,493	6.00	Other	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10366	LAKEWOOD	Williamsburg Lane	$ 325,000	Rehab	1,141	6.00	Other	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10367	LAKEWOOD	Conventry Drive	$ 425,000	Rehab	1,518	6.00	Other	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10368	LAKEWOOD	Governors Road	$ 425,000	Rehab	1,526	6.00	Other	1950	6	CI	Safety and Reliability/Structural	60	2025Q4
10377	LAKEWOOD	Lakeview Drive	$ 450,000	Replace	2,165	8.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	90	2024Q3
10380	LAKEWOOD	Lapsley Ln	$ 200,000	Replace	764	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q4
11028	LAKEWOOD	Glen Ave from Central Ave to Carlton Ave_AC Pipe	$ 298,600	Replace	1,185	8.00	Ductile Iron	1970	6	AC	System Flows and Pressure	60	2024Q3
11041	LAKEWOOD	Clairmont Ct from Hearthstone Dr to Princewood Ave	$ 159,300	Replace	632	8.00	Ductile Iron	1950	8	AC	Safety and Reliability	60	2024Q4
11203	LAKEWOOD	Ridge Ave from E 4th St to Hackett St	$ 311,500	Replace	1,232	6.00	Ductile Iron	1950	6	CI	Safety and Reliability	60	2026Q3
250	LITTLE SILVER	Little Silver - Seven Bridges Road (from Little Silver Pt Rd to Holly Dr)	$ 180,000	Replace	1,049	8.00	Ductile Iron	1920	6	CI	Relocation/Opportunity	60	2025Q3
5814	LITTLE SILVER	Winfield Dr Main Replacement	$ 154,500	Replace	1,030	8.00	Ductile Iron	1920	2	CI	Safety and Reliability	60	2025Q4
8135	LITTLE SILVER	Branch Ave. 2" CI	$ 80,000	Replace	400	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	30	2025Q4
8186	LITTLE SILVER	Rosslyn Ct. 2" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	60	2025Q3
8187	LITTLE SILVER	Shrewood Circle 2.25" CI	$ 40,000	Replace	200	8.00	Ductile Iron	1960	2	CI	Safety and Reliability/Structural	30	2026Q3
9708	LITTLE SILVER	Rumson Place Main Replacement Phase 3	$ 1,200,000	Replace	3,358	36.00	Ductile Iron	1920	36	CI	Crossing Risk Reduction	90	2026Q4
7754	LOCH ARBOUR	Edgemont Dr. 4" CI	$ 290,000	Replace	2,900	8.00	Ductile Iron	1900	4	CI	Safety and Reliability/Structural	90	2024Q1
261	LONG BRANCH	Long Branch - Hoey Ave between Marshall and lennox	$ 22,500	Replace	221	8.00	PVC	1920	6	DI	Safety and Reliability/Structural	30	2024Q4
7528	LONG BRANCH	Cooper Avenue from Long Branch Ave to Ocean Blvd	$ 150,000	Replace	659	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	2025Q3
7807	LONG BRANCH	Stratton Place 4" CI	$ 40,000	Replace	400	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	30	2024Q2
7812	LONG BRANCH	Stuyveasant Place 2" CI	$ 70,000	Replace	700	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q1
7813	LONG BRANCH	Pullman Ave. 2 " CI	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q3

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7814	LONG BRANCH	Lincoln Court 2" CI	$ 240,000	Replace	1,200	8.00	Ductile Iron	1920	6	AC	Safety and Reliability/Structural	60	2025Q4
7815	LONG BRANCH	Bethal Ave. 4" CI	$ 64,000	Replace	320	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2024Q1
7819	LONG BRANCH	Norgrove Ave. 2" GALV	$ 280,000	Replace	1,400	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2024Q4
7820	LONG BRANCH	Castlewall Ave. 2" GALV	$ 260,000	Replace	1,300	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2024Q3
7821	LONG BRANCH	Elizabeth Terrace 2" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q4
7827	LONG BRANCH	Fairfield Ave. 2" CI & 6" CI	$ 160,000	Replace	800	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2026Q4
7828	LONG BRANCH	Yorke Ave. 2" CI & 6" CI	$ 164,000	Replace	820	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q3
7833	LONG BRANCH	Marshall Court 2" CI	$ 80,000	Replace	400	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2024Q1
7834	LONG BRANCH	Lenox Ave. & Woodgate Ave. 4" CI	$ 220,000	Replace	1,100	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q3
7837	LONG BRANCH	Hoey Street 2" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q1
7838	LONG BRANCH	Cottage Ave. 4" UNK, 2" CI & 4" CI	$ 300,000	Replace	1,500	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q3
7839	LONG BRANCH	Shrewsbury Ave. 4" CI & 6" AC	$ 400,000	Replace	2,000	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	90	2025Q4
7840	LONG BRANCH	W. End Ave. 2" CI	$ 200,000	Replace	1,000	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q4
7841	LONG BRANCH	Indiana Ave. 2" GALV & 4" CI	$ 600,000	Replace	3,000	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	90	2024Q2
7842	LONG BRANCH	Cottage Place 4" CI & 6" CI	$ 360,000	Replace	1,800	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q3
7843	LONG BRANCH	Matilda Terrace & Eastbourne Ave. 2" GALV & 6" CI	$ 300,000	Replace	1,500	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2024Q3
7844	LONG BRANCH	Howland Ave. 2"	$ 220,000	Replace	1,100	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q3
7847	LONG BRANCH	W. End Court 4" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q4
7848	LONG BRANCH	Eastbourne Ave. 1.25" CI & 2" CI	$ 360,000	Replace	1,800	8.00	Ductile Iron	1920	1	CI	Safety and Reliability/Structural	60	2025Q4
7849	LONG BRANCH	Ricky Ln. 6" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
7852	LONG BRANCH	Westbourne Ave. 4" CI	$ 200,000	Replace	1,000	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q1
7856	LONG BRANCH	Cleveland Ave. 2" CI & 6" AC	$ 400,000	Replace	2,000	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	90	2024Q4
7857	LONG BRANCH	N. Bath Ave. 2" GALV & 4" CI	$ 220,000	Replace	1,100	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q3
7859	LONG BRANCH	Vanpelt Place 2" CI	$ 60,000	Replace	300	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2024Q3
7861	LONG BRANCH	Ocean Blvd. 2" BTWN Dunbar Ave. & Arthur Ave.	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q4
7863	LONG BRANCH	Court Street 2" GALV	$ 40,000	Replace	200	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	30	2026Q4
7864	LONG BRANCH	Nesto Terrace 2" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q3
7871	LONG BRANCH	William Street 2.25 & 2" CI	$ 400,000	Replace	2,000	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	90	2025Q1
7872	LONG BRANCH	Washington Street 4" & 6" CI	$ 600,000	Replace	3,000	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2024Q1
7875	LONG BRANCH	Lafayette St. 2" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q1
7877	LONG BRANCH	Jay Street 2" CI	$ 80,000	Replace	400	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2024Q3
7878	LONG BRANCH	S 7th Ave. 4" & 6" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q3
7880	LONG BRANCH	Jeffrey St. & Hillside Ave. 6" CI	$ 260,000	Replace	1,300	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q1
7883	LONG BRANCH	Warburton Pl. 2" & 6" CI	$ 260,000	Replace	1,300	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q4
7885	LONG BRANCH	W. Columbus Pl 6" CI	$ 144,000	Replace	720	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q3
7887	LONG BRANCH	Brinley St. 2" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	DI	Safety and Reliability/Structural	60	2025Q3
7888	LONG BRANCH	Conover Pl. 2" GALV	$ 44,000	Replace	220	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	30	2024Q3
7889	LONG BRANCH	Edwards Ave. 2" & 6" CI	$ 404,000	Replace	2,020	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2024Q3
7891	LONG BRANCH	Slocum Pl. 2" & 6" CI	$ 240,000	Replace	1,200	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q1
7892	LONG BRANCH	4th Ave. 6" CI	$ 260,000	Replace	1,300	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q3
7893	LONG BRANCH	Van Dyke Pl. 8" CI	$ 108,000	Replace	540	8.00	Ductile Iron	1920	8	CI	Safety and Reliability/Structural	60	2024Q1
7894	LONG BRANCH	3rd Ave. 6" CI	$ 280,000	Replace	1,400	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q4
7897	LONG BRANCH	Memorial Pkwy. 2" CI	$ 60,000	Rehab	300	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	30	2025Q4
7903	LONG BRANCH	Monmouth Ave. 2" CI	$ 160,000	Replace	800	8.00	Ductile Iron	1930	8	CI	Safety and Reliability/Structural	60	2024Q1
7906	LONG BRANCH	Seaview Ave. 2" GALV 6" AC, 6" CI & 8" CI	$ 540,000	Replace	2,700	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2025Q3
7911	LONG BRANCH	Elmwood Ave. 2" GALV	$ 80,000	Replace	400	8.00	Ductile Iron	1940	2	GALV	Safety and Reliability/Structural	30	2026Q3
7918	LONG BRANCH	East Hillsdale Ave. 2" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q4
11064	LONG BRANCH	Hennessey St Main Replacement	$ 65,000	Replace	260	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q4
11065	LONG BRANCH	S Cookman St Main Replacement	$ 80,000	Replace	318	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q4
11066	LONG BRANCH	Columbia Ave Main Replacment	$ 105,000	Replace	402	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	30	2025Q4
10473	MANTOLOKING	Williams Place	$ 55,000	Replace	157	6.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2025Q4
580	MIDDLETOWN	Middletown - Campbell Avenue Bridge over Creek	$ 30,000	Replace	759	8.00	HDPE	1960	8	AC	Safety and Reliability/Structural	60	2024Q3
5429	MIDDLETOWN	10th Street Main Replacement	$ 195,000	Replace	1,279	8.00	Ductile Iron	1950	2	CI	Safety and Reliability	60	2025Q1
5468	MIDDLETOWN	Middletown - Pine St main Replacement	$ 129,000	Replace	568	8.00	Ductile Iron	1960	6	CI	Relocation/Opportunity	60	2025Q1
5799	MIDDLETOWN	Viola Ave Main Replacement	$ 60,000	Replace	393	8.00	Ductile Iron	1940	2	CI	Safety and Reliability	30	2024Q1
5818	MIDDLETOWN	Montana Ave Main Replacement	$ 210,000	Replace	1,170	8.00	Ductile Iron	1950	2	CI	System Flows and Pressure	60	2025Q4
5900	MIDDLETOWN	Navesink River Road (west) Main Replacement	$ 600,000	Replace	2,864	12.00	Ductile Iron	1950	12	CI	Safety and Reliability/Structural	90	2025Q4
7040	MIDDLETOWN	Lexington Ct Main Replacement	$ 150,000	Replace	1,031	8.00	PVC	1970	6	AC	Safety and Reliability/Structural	60	2024Q4
7234	MIDDLETOWN	Middletown - Bray Avenue Bridge over Pews Creek Phase 2	$ 100,000	Replace	519	8.00	Ductile Iron	2010	8	DI	Safety and Reliability/Structural	60	2024Q3
7446	MIDDLETOWN	Leonardville Rd to Navesink and Water Witch	$ 14,800,000	Replace	32,897	16.00	Ductile Iron	1930	12	CI	System Flows and Pressure	120	2024Q2
7506	MIDDLETOWN	Replace Valve VMT-517	$ 40,000	Replace	65	16.00	Ductile Iron	1980	16	DI	Safety and Reliability	30	2025Q4
7921	MIDDLETOWN	Clinton Place 2" CI	$ 100,000	Replace	500	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2025Q3
7928	MIDDLETOWN	Main Street 2.25" CI & 6" CI	$ 180,000	Replace	900	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2026Q4
7930	MIDDLETOWN	Ridge Ave. 2" CI	$ 1,400	Replace	700	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2024Q3
7933	MIDDLETOWN	Campbell Ave. 2" CI and Compton Creek Crossing	$ 600,000	Replace	1,983	8.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	60	2024Q4
7936	MIDDLETOWN	Compton St. 2" CI	$ 24,000	Replace	120	6.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	30	2025Q3
7938	MIDDLETOWN	Collins Ave 2" CI	$ 120,000	Replace	552	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2026Q3
7940	MIDDLETOWN	Campbell Ave. 2" CI BTWN Wilson Ave. & Main St.	$ 40,000	Replace	200	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	30	2024Q4
7949	MIDDLETOWN	Sharon Pl. 2" CI	$ 60,000	Replace	300	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	30	2026Q3
7954	MIDDLETOWN	Poplar St. 2" CI & 6" CI	$ 100,000	Replace	1,000	8.00	Ductile Iron	1960	2	CI	Safety and Reliability/Structural	60	2024Q1
7955	MIDDLETOWN	Eastmond Pl 2" CI	$ 40,000	Replace	200	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	30	2025Q3
7956	MIDDLETOWN	Hudson Ave. 2" CI & 6" CI	$ 320,000	Replace	1,758	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2025Q4
7957	MIDDLETOWN	Mills Ave, Middletown, NJ	$ 300,000	Replace	1,500	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2025Q3
7959	MIDDLETOWN	Briarcliff Pl. 2" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2024Q3
7961	MIDDLETOWN	Mercer Ave. 2" CI	$ 300,000	Replace	1,500	8.00	Ductile Iron	1940	2	CI	Safety and Reliability/Structural	60	2024Q3
7968	MIDDLETOWN	Woodlawn Ave. 6" CI	$ 60,000	Replace	300	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	30	2026Q3
7969	MIDDLETOWN	Morningside Pl. 2" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1970	2	CI	Safety and Reliability/Structural	60	2024Q3
7971	MIDDLETOWN	Sunset Pl. 2" CI & 6" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2024Q1

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
7977	MIDDLETOWN	Clinton Ave. 2" CI BTWN Raynor Ave. & Terminus	$ 144,000	Replace	720	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2024Q3
7978	MIDDLETOWN	Carter Ave. 6" CI BTWN Thompson Ave. & S. End Ave.	$ 128,000	Replace	640	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q4
7979	MIDDLETOWN	S End Ave. 6" CI	$ 88,000	Replace	440	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	30	2026Q3
7982	MIDDLETOWN	Baldwin Ave. 2" CI & 6" CI	$ 408,000	Replace	2,040	8.00	Ductile Iron	1960	2	CI	Safety and Reliability/Structural	90	2025Q1
7998	MIDDLETOWN	Atlantic Ave. 2" CI	$ 260,000	Replace	1,300	8.00	Ductile Iron	1980	2	CI	Safety and Reliability/Structural	60	2025Q1
8000	MIDDLETOWN	Sycamore Ave. and Atlantic Ave 2" CI, 4" CI & 6" CI	$ 743,000	Replace	3,738	8.00	Ductile Iron	1980	2	CI	Safety and Reliability/Structural	90	2025Q1
8005	MIDDLETOWN	Atlantic Ave. 4" CI BTWN Port Monmouth RD. & Park Ave.	$ 224,000	Replace	1,120	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2024Q1
8011	MIDDLETOWN	Union Ave. 6" CI	$ 200,000	Replace	1,000	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q3
8028	MIDDLETOWN	Bray Ave. BTWN Monmouth Ave. & Bayside Pkwy	$ 120,000	Replace	600	8.00	Ductile Iron	1940	4	CI	Safety and Reliability/Structural	60	2026Q4
8030	MIDDLETOWN	Hudson Ave. 4" CI & 6" CI BTWN Monmouth Ave. & Bayside Pkwy	$ 100,000	Replace	500	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q3
8058	MIDDLETOWN	Linden AVENUE 2" CI	$ 100,000	Replace	410	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	30	2024Q4
8064	MIDDLETOWN	Division St. 2" CI & 2" PE	$ 140,000	Replace	700	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	60	2026Q3
8068	MIDDLETOWN	Brotherton Ave. 2" CI	$ 160,000	Replace	800	8.00	Ductile Iron	1970	2	CI	Safety and Reliability/Structural	60	2026Q3
10278	MIDDLETOWN	Center Ave 6" CI	$ 642,000	Replace	3,214	8.00	Ductile Iron	1940	6	CI	Safety and Reliability	90	2026Q4
10280	MIDDLETOWN	Appleton Ave and Bay Ave 2" & 6" CI	$ 194,000	Replace	970	8.00	Ductile Iron	1930	2	CI	Safety and Reliability	60	2026Q4
10283	MIDDLETOWN	Vanderbilt Ave 2" CI	$ 97,000	Replace	485	8.00	Ductile Iron	1940	2	CI	Safety and Reliability	30	2026Q3
10288	MIDDLETOWN	S End Ave 6" CI	$ 125,000	Replace	629	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2026Q4
10291	MIDDLETOWN	Navesink Ave 6" CI	$ 266,000	Replace	1,330	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	60	2026Q4
10327	MIDDLETOWN	Vermont Ave 6" CI	$ 240,000	Replace	1,193	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2026Q4
10330	MIDDLETOWN	Bayberry Ln and Elinor Dr 6" CI	$ 340,800	Replace	2,289	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2026Q4
10398	MIDDLETOWN	Gerald Ave and Denise Dr 6" CI	$ 251,000	Replace	1,256	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
11052	MIDDLETOWN	Rutledge to Iler Water Main Rehabilitation	$ 12,000	Rehab	547	8.00	Other	1950	8	AC	Safety and Reliability/Structural	60	2025Q4
11054	MIDDLETOWN	Daniel Drive to Rosewood Terrace Water Main Rehabilitation	$ 100,000	Rehab	195	8.00	Other	1950	8	AC	Safety and Reliability/Structural	30	2025Q4
5805	MONMOUTH BEACH	Riverdale Ave Main Replacement	$ 352,000	Replace	2,773	12.00	Ductile Iron	1930	6	CI	Safety and Reliability	90	2025Q3
8149	MONMOUTH BEACH	Central Rd. 4" CI	$ 200,000	Replace	1,000	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q4
8152	MONMOUTH BEACH	Willow Ave. 2.25 GALV	$ 240,000	Replace	1,200	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2024Q3
8154	MONMOUTH BEACH	Hastings Pl. 6" CI	$ 164,000	Replace	820	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2024Q1
11051	MONMOUTH BEACH	River Ave to Channel Drive Water Main Rehabilitation	$ 230,000	Rehab	760	6.00	Other	1940	6	CI	Safety and Reliability/Structural	60	2025Q4
6041	NEPTUNE	Couse Rd.	$ 236,000	Replace	1,476	8.00	Ductile Iron	1940	2	CI	Safety and Reliability	60	2025Q3
7484	NEPTUNE	MT TABOR WAY	$ 300,000	Replace	1,949	8.00	Ductile Iron	1920	4	CI	System Flows and Pressure	60	2025Q1
7739	NEPTUNE	Inskip Ave. 4" CI	$ 140,000	Replace	1,416	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q2
7741	NEPTUNE	Stockton Ave. 4" CI & 12" AC	$ 800,000	Replace	4,000	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	120	2025Q4
7744	NEPTUNE	Embury Ave. 4" CI	$ 140,000	Replace	1,400	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q1
7747	NEPTUNE	Pitman Ave. 4" CI	$ 140,000	Replace	1,400	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q1
7752	NEPTUNE	Atlantic Ave. 4" CI	$ 80,000	Replace	800	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2024Q1
8200	NEPTUNE	Poppy Ave. 4" CI	$ 20,000	Replace	100	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	30	2026Q3
8203	NEPTUNE	Cortland St. 2" GALV & 6" DI	$ 64,000	Replace	320	8.00	Ductile Iron	1950	2	GALV	Safety and Reliability/Structural	30	2025Q4
8205	NEPTUNE	Sayre St. 2" CI & 6" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q1
8207	NEPTUNE	Brockton Ave. 6" CI & 6" AC	$ 280,000	Replace	1,400	8.00	Ductile Iron	1900	6	AC	Safety and Reliability/Structural	60	2026Q4
8212	NEPTUNE	Rutherford Ave. 2" CI & 6" CI	$ 300,000	Replace	1,500	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	60	2026Q3
8220	NEPTUNE	Lafayette Ave. & 9th Ave. 2" GALV	$ 148,000	Replace	740	8.00	Ductile Iron	1920	2	GALV	Safety and Reliability/Structural	60	2025Q3
8222	NEPTUNE	8th Ave. 2" GALV, 2" CI,6" CI, 4" CI & 6" AC	$ 840,000	Replace	4,200	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	120	2025Q1
8233	NEPTUNE	Carton Ave. 4" CI	$ 164,000	Replace	820	8.00	Ductile Iron	1940	4	CI	Safety and Reliability/Structural	60	2024Q4
8234	NEPTUNE	Oakdale Dr. 4" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1950	4	CI	Safety and Reliability/Structural	60	2026Q3
8241	NEPTUNE	Fairview Pl. 4" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
8247	NEPTUNE	Arnold Pl. 4" CI	$ 104,000	Replace	520	8.00	Ductile Iron	1940	4	CI	Safety and Reliability/Structural	60	2026Q4
8456	NEPTUNE	Heck Ave. 6" CI & 6" AC BTWN RT-35 & Neptune Blvd.	$ 360,000	Replace	1,800	8.00	Ductile Iron	1900	6	AC	Safety and Reliability/Structural	60	2025Q1
8515	NEPTUNE	RT-35 BTWN Monroe Ave. & Bradford Ave.	$ 104,000	Replace	520	12.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2026Q4
8552	NEPTUNE	Huntington Ave. 6" CI & 6" AC	$ 152,000	Replace	760	8.00	Ductile Iron	1900	6	AC	Safety and Reliability/Structural	60	2026Q4
8555	NEPTUNE	7th Ave. 6" CI & 10" CI	$ 700,000	Replace	3,500	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	90	2026Q4
8565	NEPTUNE	Mayfair Ln. 6" CI	$ 480,000	Replace	2,400	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2026Q3
8570	NEPTUNE	Harrow Ct. 6" AC	$ 160,000	Replace	800	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2026Q4
8654	NEPTUNE	Edgeware Pl. 6" AC	$ 140,000	Replace	700	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2025Q3
8672	NEPTUNE	Rt-35/ River rd. - Shark River 6" CI	$ 200,000	Replace	1,000	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
5628	NEPTUNE CITY	County Rt40A (memorial Dr) and Evergreen ave	$ 30,000	Replace	454	8.00	Ductile Iron	1890	4	AC	Safety and Reliability/Structural	30	2024Q4
8252	NEPTUNE CITY	Locust Ave. 6" CI & 6" AC	$ 300,000	Replace	1,500	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2025Q1
8261	NEPTUNE CITY	RT-35 S/ Morris Ave. 2" CI	$ 220,000	Replace	1,100	8.00	Ductile Iron	1960	2	CI	Safety and Reliability/Structural	60	2026Q4
8612	NEPTUNE CITY	5th Ave.6" CI, 6" AC & 8" CI	$ 640,000	Replace	3,200	8.00	Ductile Iron	1920	8	CI	Safety and Reliability/Structural	90	2026Q3
8698	NEPTUNE CITY	Oliver Dr. 8" CI	$ 204,000	Replace	1,020	8.00	Ductile Iron	1960	8	CI	Safety and Reliability/Structural	60	2026Q4
8722	NEPTUNE CITY	RT-35 6" CI	$ 180,000	Replace	900	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2025Q3
8729	NEPTUNE CITY	Riverview Ave. 6" AC, 2" GALV, 1.25" CI, 6" CI, 12" CI & 12" DI	$ 600,000	Replace	3,000	12.00	PVC	1900	6	AC	Safety and Reliability/Structural	90	2026Q4
264	OCEAN	Ocean - Laurel Avenue (from ___ to ____)	$ 60,000	Replace	419	8.00	Ductile Iron	1920	2	CI	System Flows and Pressure	30	2024Q1
563	OCEAN	Ocean - Highwood from Woodcrest to Hyf 56 (Brookside)	$ 375,000	Replace	1,704	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q4
567	OCEAN	Ocean - Golf Road from Sherman to Runyon	$ 150,000	Replace	898	8.00	Ductile Iron	1920	4	GALV	Safety and Reliability/Structural	60	2024Q3
6014	OCEAN	Freehold Street from Highwood Road to Whalepond Road	$ 270,000	Replace	2,091	8.00	Ductile Iron	1920	6	AC	Safety and Reliability/Structural	90	2025Q4
6048	OCEAN	Belmar Avenue from W lincoln Avenue to Elizabeth Street	$ 355,250	Replace	1,755	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q4
6068	OCEAN	Ampere Avenue from W Lincoln Avenue to Freehold Street	$ 253,750	Replace	1,164	6.00	Ductile Iron	1940	2	CI	Safety and Reliability	60	2024Q1
6092	OCEAN	Elizabeth Street from Chatham Avenue to Delaware Avenue	$ 41,125	Replace	232	6.00	Ductile Iron	1920	2	CI	Safety and Reliability	30	2024Q2
6096	OCEAN	Orange Street, W Lincoln Avenue & Arlington Street from Orange Avenue to Dover Avenue	$ 183,750	Replace	410	6.00	Ductile Iron	1960	2	CI	Safety and Reliability	30	2025Q3

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
6128	OCEAN	Berger Avenue from Norwood Road to VOT-1451 & from VOT-1482 to Michael Street	$ 153,125	Replace	1,158	6.00	Ductile Iron	1950	2	GALV	Safety and Reliability	60	2024Q2
6151	OCEAN	Overbrook Ave from Roosevelt Rd to HOT-22	$ 112,000	Replace	806	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2026Q3
6163	OCEAN	Maple Avenue from Sherman Avenue to Parker Avenue	$ 112,000	Replace	431	6.00	Ductile Iron	1940	2	GALV	Safety and Reliability	30	2025Q4
6172	OCEAN	Wallace Ave from end of exist 6" to W Park Ave	$ 122,500	Replace	703	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2025Q3
7758	OCEAN	Beechwood Ave. 2" CI	$ 60,000	Replace	600	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	60	2025Q4
7762	OCEAN	Palmer Ave. 2" CI	$ 50,000	Replace	500	8.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q3
7773	OCEAN	Laurel Ave. 2" CI , DI, & GALV	$ 40,000	Replace	400	8.00	Ductile Iron	1930	2	CI	Safety and Reliability/Structural	30	2024Q2
7808	OCEAN	Lockwood Place 2" CI	$ 30,000	Replace	300	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q1
7898	OCEAN	Berger Ave. 2" GALV 6" CI, 6"AC, 6" DI	$ 540,000	Replace	2,700	8.00	Ductile Iron	1950	2	GALV	Safety and Reliability/Structural	90	2025Q1
7899	OCEAN	Ridgewood Ave. 2" CI	$ 80,000	Replace	400	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q3
8371	OCEAN	Griffin Pl. 6" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2025Q1
8743	OCEAN	Franklin Ave. 6" CI	$ 500,000	Replace	2,500	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2026Q4
8748	OCEAN	Maple St. 6" CI	$ 40,000	Replace	200	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	30	2026Q3
6522	OCEANPORT	Shore Rd	$ 260,000	Replace	1,347	6.00	PVC	1970	6	DI	Safety and Reliability	60	2025Q1
11057	OCEANPORT	Maple Avenue to Turf Drive Water Main Rehabilitation	$ 120,000	Rehab	301	8.00	Other	1960	8	CI	Safety and Reliability/Structural	30	2025Q4
7865	PLUMSTED TWP	Surrey Dr, 4"	$ 83,000	Replace	1,000	8.00	Ductile Iron	1970	4	PVC	Safety and Reliability/Structural	60	2024Q2
7870	PLUMSTED TWP	Longview Dr, 4"	$ 72,000	Replace	714	8.00	Ductile Iron	1970	4	PVC	Safety and Reliability/Structural	60	2024Q1
7909	PLUMSTED TWP	Copperfield Dr, 4" PVC	$ 23,000	Replace	227	8.00	Ductile Iron	1980	4	PVC	Safety and Reliability/Structural	30	2025Q1
8034	RUMSON	1st Street 1" CU	$ 1,600	Replace	800	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	60	2025Q1
8036	RUMSON	Cherry Ln. 2" CI	$ 164,000	Replace	820	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q3
8037	RUMSON	Bingham Ave. 6" CI BTWN N. Cherry Ln & Ridge Rd.	$ 244,000	Replace	1,220	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2024Q3
8038	RUMSON	Black Point Rd. 6" CI BTWN Bingham Ave. & Terminus	$ 60,000	Replace	300	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	30	2026Q3
8040	RUMSON	Hunt St. 2" CI	$ 40,000	Replace	200	8.00	Ductile Iron	1920	2	CI	Sustained Economic Growth	30	2025Q1
8049	RUMSON	Robin Rd. 2" CI & 6" CI	$ 260,000	Replace	1,300	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	2026Q3
8050	RUMSON	Tulip Tree Ln. 2" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2025Q1
8052	RUMSON	Oyster Bay Dr. 2" CI	$ 500,000	Replace	2,500	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	90	2024Q1
8054	RUMSON	Bellevue Ave. 4" CI	$ 600,000	Replace	3,000	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	90	2025Q4
8057	RUMSON	Linden Ln. 2" CI	$ 420,000	Replace	2,100	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	90	2025Q3
9246	RUMSON	Rumson Cleaning and Lining - 2018	$ 2,200,000	Rehab	213,125	8.00	Other	1920	4	CI	Safety and Reliability/Structural	120	2025Q4
8162	SEA BRIGHT	E. Church St.	$ 60,000	Replace	300	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	30	2026Q3
8138	SHREWSBURY	Alameda Ct. 2" CI & 6" AC	$ 300,000	Replace	1,500	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2026Q3
8139	SHREWSBURY	Allen St. 6" CI	$ 120,000	Replace	600	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2025Q1
8142	SHREWSBURY	Borden St. 2" CI	$ 360,000	Replace	1,800	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2025Q4
8144	SHREWSBURY	Buttonwood Dr. 2" CI & 6" CI	$ 380,000	Replace	1,900	8.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	60	2024Q3
8179	TINTON FALLS	Braeburn Dr. 2.25" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2026Q3
8180	TINTON FALLS	Holly Dr. 2" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2026Q4
125	TOMS RIVER	Toms River Twp - Monterey - Bryn Mawr Ave from Rt 35 S to terminus (boardwalk).	$ 196,500	Replace	1,112	8.00	Ductile Iron	1950	4	CI	Safety and Reliability/Structural	60	2024Q1
689	TOMS RIVER	Toms River Twp - Monterey - Westmont Ave from Rt 35 N to terminus (boardwalk).	$ 109,500	Replace	695	8.00	Ductile Iron	1950	4	CI	Safety and Reliability/Structural	60	2025Q1
694	TOMS RIVER	Toms River Twp - Monterey - Rutherford Ln from Rt 35 S to Rt 35 N.	$ 74,400	Replace	518	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2025Q1
764	TOMS RIVER	Toms River Twp - Monterey - 2nd Ave from Rt 35 N to 8"-2" reducer.	$ 67,500	Replace	433	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	2024Q3
8250	TOMS RIVER	Ortley Beach - 7th Ave, 6" CI	$ 216,000	Replace	1,310	6.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q1
8270	TOMS RIVER	Ortley Beach - Coolidge Ave, 6" CI	$ 248,000	Replace	1,520	6.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2024Q1
8315	TOMS RIVER	Eisenhower Ave, 6" CI	$ 240,000	Replace	1,487	6.00	Ductile Iron	1930	6	CI	Safety and Reliability/Structural	60	2025Q3
8319	TOMS RIVER	Ortley Beach - Bay Blvd, 12" CI	$ 320,000	Replace	1,966	12.00	Ductile Iron	1940	12	CI	Safety and Reliability/Structural	60	2024Q1
8320	TOMS RIVER	Ortley Beach - Anna Ohankins Blvd, 10" CI	$ 16,000	Replace	103	12.00	Ductile Iron	1930	10	CI	Safety and Reliability/Structural	30	2025Q3
8322	TOMS RIVER	Ortley Beach - Shuster Ave, 6" CI, 4" CI	$ 176,000	Replace	1,103	6.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2024Q3
8441	TOMS RIVER	W Cove Way, 2" CI	$ 88,000	Replace	534	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	60	2025Q1
8443	TOMS RIVER	San Fernando Dr, 8" CI	$ 106,400	Replace	665	8.00	Ductile Iron	1950	8	CI	Safety and Reliability/Structural	60	2024Q3
8452	TOMS RIVER	Haddonfield Ave, 6" AC	$ 125,600	Replace	728	6.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2024Q3
8500	TOMS RIVER	Ivy Ln, 6" CI	$ 40,000	Replace	498	6.00	Ductile Iron	1950	2	CI	Safety and Reliability/Structural	30	2024Q3
8513	TOMS RIVER	Ocean Terrace, 6" CI	$ 160,000	Replace	934	6.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2024Q1
7626	UNION BEACH	4th Street Main Replacement Union Beach	$ 425,000	Replace	1,518	8.00	PVC	1950	6	CI	Safety and Reliability	60	2024Q3
7627	UNION BEACH	Sydney Avenue Main Replacement Union Beach	$ 400,000	Replace	1,584	8.00	PVC	1950	6	CI	Safety and Reliability	60	2024Q3
7628	UNION BEACH	Center Street Main Replacement Union Beach	$ 400,000	Replace	1,334	8.00	PVC	1950	6	CI	Safety and Reliability	60	2025Q3
7630	UNION BEACH	Bayview Avenue Main Replacement Union Beach (West of creek, East of Spruce St)	$ 200,000	Replace	534	8.00	PVC	1950	6	CI	Safety and Reliability	60	2026Q3
8076	UNION BEACH	Patterson Ave. 4" CI	$ 140,000	Replace	700	8.00	Ductile Iron	1950	4	CI	Safety and Reliability/Structural	60	2024Q4
8077	UNION BEACH	Vista Shores Dr. 6" CI	$ 100,000	Replace	500	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	2026Q4
8091	UNION BEACH	Central Ave. 6" CI	$ 600,000	Replace	3,000	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	90	2026Q3
10301	UNION BEACH	Shore Rd 6" CI	$ 160,000	Replace	793	8.00	PVC	1940	6	CI	Safety and Reliability	60	2026Q3
6069	WEST LONG BRANCH	West Long Branch - Maple Avenue on either side on Pinewood Avenue	$ 68,250	Replace	467	6.00	Ductile Iron	1950	2	CI	System Flows and Pressure	30	2025Q4
6071	WEST LONG BRANCH	West Long Branch - Elmwood Avenue from Wall Street to north of Hollywood Avenue	$ 78,000	Replace	610	8.00	Ductile Iron	1950	2	GALV	System Flows and Pressure	60	2024Q1
6146	WEST LONG BRANCH	West Long Branch - Woodland Drive	$ 118,500	Replace	753	8.00	Ductile Iron	1950	6	AC	System Flows and Pressure	60	2025Q4
11056	WEST LONG BRANCH	Norwood Ave to Mitchell Terrace Water Main Rehabilitation	$ 200,000	Rehab	489	18.00	Other	1920	18	CI	Safety and Reliability/Structural	30	2025Q4
		subtotal	**$ 93,867,955**										

Appendix A
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APPENDIX A. WATER MAIN CONDITION ASSESSMENT

1.1 SYSTEM EVALUATIONS

NJAWC's water systems are routinely evaluated based on a number of factors to determine the level of renewal needed. These include issues around safety, reliability, water quality, service quality including system flow and pressure, and conservation. The analyses are based on the historic rate of deterioration of mains including their structural integrity, hydraulic condition, extent of tuberculation and leakage rates. Computer modeling is used to assess hydraulic capacity, operations data on leakage and break rates are used to identify areas of concern based on structural integrity, and water quality data is tracked and reviewed to identify areas eligible for cleaning and lining. The structural integrity of a main depends on its inherent strength of the material of construction, its dimensions and its effective wall thickness. Generally, main breaks occur when a main's structural integrity is no longer sufficient to withstand the internal and external forces imposed upon it.

Since water systems evolve as communities evolve, the existing pipe materials are not uniform across a system. Materials and construction standards changed over the decades, leading to a variety of service issues experienced today. The following section discusses the types of materials used in constructing water systems since the late 1800s.

1.2 MATERIAL OF CONSTRUCTION[1]

The majority of distribution piping installed in the United States, beginning in the late 1800's up until the 1960's, was manufactured from cast iron. The first cast iron pipe manufacturing process consisted of pouring molten iron into a sand mold, which stood on end in a pit in the ground, similar to how concrete is poured into a form. Pipe which was manufactured by this method is referred to today as "pit" cast iron pipe. Due to the potential inconsistencies that could occur in the pipe wall thickness, the pipe was designed with a wall thickness that was greater than that required for the internal working pressure or external loading to which the pipe would be subjected. When installing the pipe in the field, the joints were sealed with rope and lead which was heated, poured in a molten state, and allowed to cool. Although pit cast iron pipe has no interior or exterior corrosion protection, it has performed well within the industry largely as a result of the added wall thickness.

In 1920, the process of centrifugally casting pipe in a sand mold was developed. Pipe which was manufactured by this process is referred to today as "spun" cast iron pipe or "centrifugally" cast iron pipe. The centrifugal forces which are applied to the molten iron alter the molecular composition of the

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[1] See attached excerpt from "*AWWA - Rehabilitation of Water Mains - Manual of Water Supply Practices*" (pgs. 4-7).

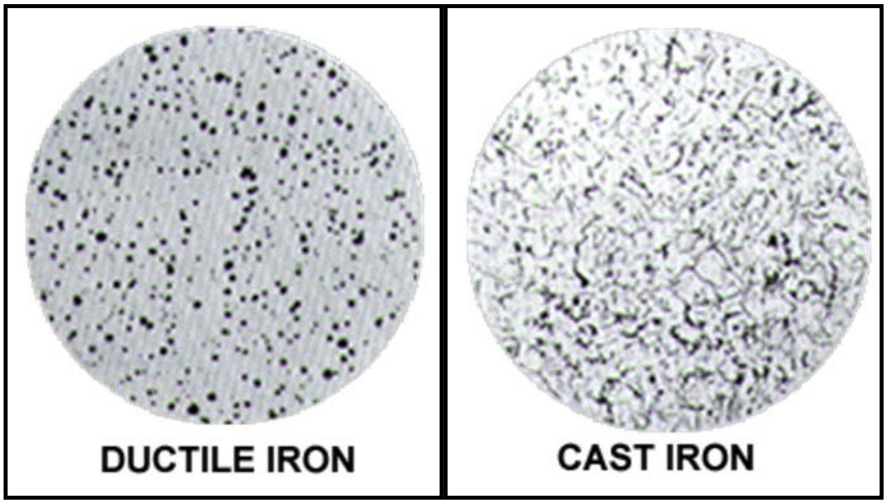
metal and increase its tensile strength. The higher strength coupled with the lack of inconsistencies in the wall thickness resulting from the centrifugal action allowed the pipe to have an approximately 25% thinner wall than pit cast iron pipe. Interior lining of the pipe with cement to prevent corrosion was also introduced in the early 1920's; however, it did not gain wide acceptance until after the late 1930's. The process of centrifugally casting pipe was improved in the early 1930's with the use of a water cooled metal mold which allowed the pipe to be immediately withdrawn from the centrifuge. This process, which is known as the "deLavaud" process, is still in use today for the manufacturing of ductile iron pipe. Although the centrifugal casting process improved pipe strength and minimized casting imperfections, the reduction in wall thickness coupled with the lack of exterior and interior corrosion protection has resulted in a failure rate in the industry that is higher than the older pit cast iron pipe.

Pipe joint technology also changed. In the late 1920's, a plasticized sulfur cement compound was developed as an alternative to lead for sealing the pipe joints in the field. This compound is referred to as "leadite". Leadite was commercially produced up until the early 1970's, and was used extensively from 1941 to 1945 when lead was scarce as a result of raw material needs associated with World War II. Ultimately, leadite was found to be an inferior product to lead for two reasons. First, leadite is rigid but non-metallic and has a different coefficient of thermal expansion than cast iron resulting in stress on the pipe which can result in longitudinal splits in the pipe bell. Second, the sulfur in the leadite allows for localized pitting corrosion which ultimately results in circumferential breaks on the spigot end of the pipe near the leadite joint. The failure rate in the industry for leadite joint pipe is significantly higher than for lead joint pipe even though the pipe may not be as old.

Beginning in the mid-1950's, improvements in iron pipe manufacturing and technology emerged. The first improvement was the advent of the rubber gasketed joint which alleviated the shortcomings associated with rigid and leadite joints. The next major improvement was the introduction of ductile iron pipe in the late 1960's. Ductile iron differs from cast iron in that its graphite form is spheroidal, or nodular, instead of the flake form found in cast iron. This change in graphite form is accomplished by adding an inoculant, usually magnesium, to molten iron of appropriate composition during manufacture. Not only is ductile iron pipe stronger than cast iron pipe, but it is also more resistant to corrosion. Cast iron pipes, whether pit cast or spun cast, are susceptible to graphitic corrosion where an electrochemical reaction occurs between the cathodic graphite component and the anodic iron matrix which does not occur in ductile iron pipe. Due to its spheroidal graphite form, ductile iron has approximately twice the strength of cast iron as determined by tensile, beam, ring bending, and bursting tests. Its impact strength and elongation are many times greater than cast iron's. Exhibit 1.2.a below shows the molecular differences in ductile iron and cast iron.

Exhibit 1.2.a

Differences in Graphite Form Between Ductile and Cast Iron



Polyethylene wrap was also introduced into the market about the same time as ductile iron pipe. This product, when properly installed, provides a barrier to prevent the occurrence of external corrosion from soil. This polyethylene sleeve (polywrap) is placed over ductile iron pipe in areas with aggressive soil conditions; it does not have to be sealed watertight, but it should be installed so that no dirt or bedding material comes in contact with the pipe. All lumps of clay, mud, cinders, etc., on the pipe surface should be removed before the pipe is covered with polyethylene. If the polyethylene is damaged, it must be repaired before the trench is backfilled. Small holes or tears can be repaired with a piece of tape placed over the hole. Large holes or tears should be repaired by taping another piece of polyethylene over the hole. Overlaps, ends, and repairs can be held in place with tape or plastic tie straps until the trench is backfilled.

The use of asbestos cement and concrete pipe began in the 1940's as an alternative to iron pipe. These pipe materials do not have the strength of ductile iron and are not expected to maintain as long a service life as ductile iron mains. While their resistance to metallic corrosion is improved over cast iron, repairs on these mains are more difficult and costly. The deterioration process for these mains results from a combination of water quality, soil conditions, pipe diameter, and pipe age. Internal degradation can occur if the conveyed water has a low aggressiveness index, is considered a soft water, or has low alkalinity. Experience has shown that failures on asbestos cement or transite pipe are more difficult and time consuming to repair since the pipe is generally not sound enough for repair clamps and as a result the entire pipe segment needs to be replaced. Operational experience has also shown that the disturbance of these mains in one area may transfer stresses to adjoining main segments leading to a pattern of repeat failures in the vicinity of the first main break.

A form of cement pipe installed prior to 1925 is commonly referred to as stovepipe and can still be found in service today. Stovepipe is a combination of cement lining wrapped in thin-walled tin or galvanized steel in two layers. Because these mains were placed in service many decades ago when records may not have indicated material, the inventory of this material may be understated. When this pipe is found to still be in use, it likely has exceeded 85 years of service, is leaking, and has reached the end of its useful life. These mains are scheduled for replacement when identified. Lining of these mains is not an appropriate renewal method.

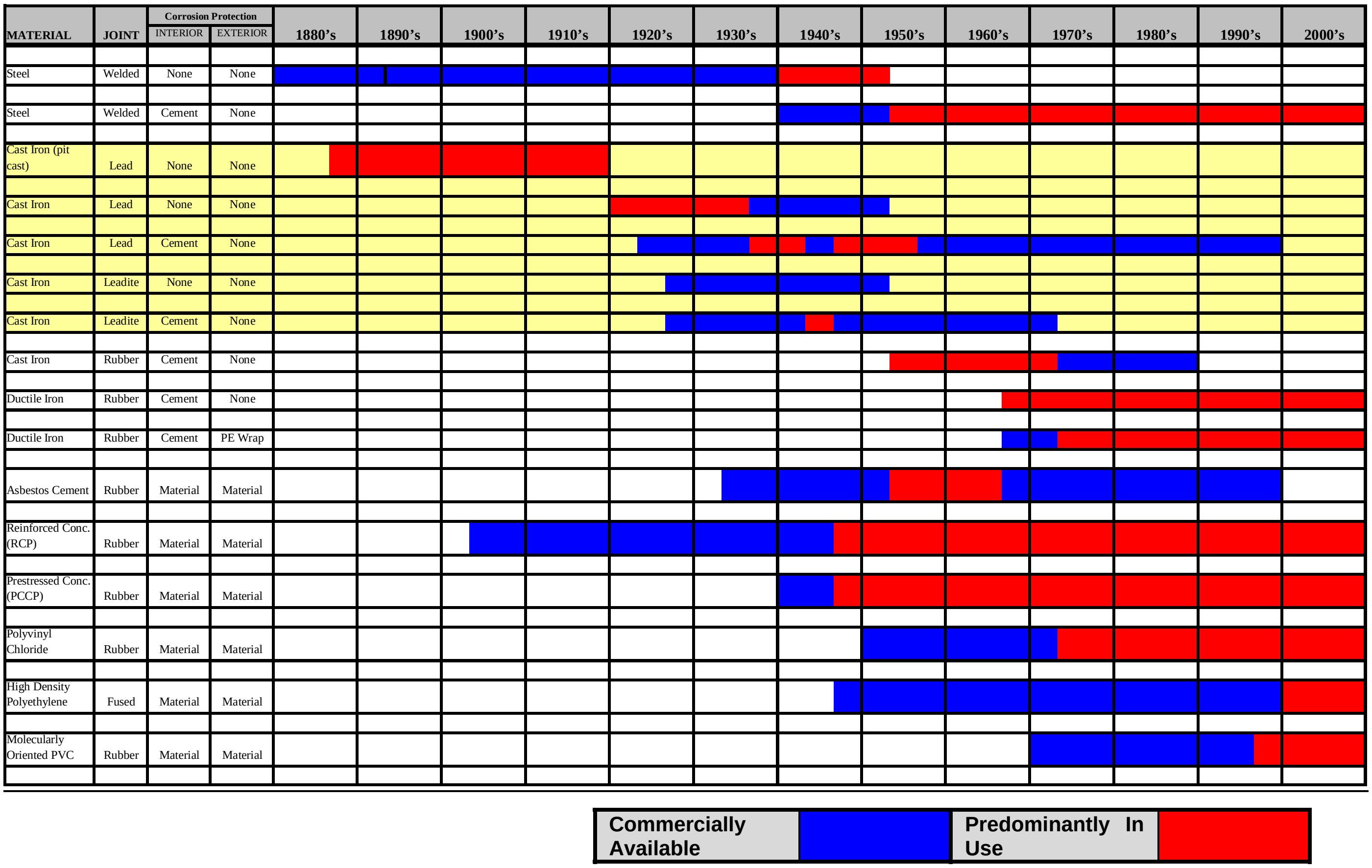
The use of both polyvinyl chloride (PVC) and high density polyethylene (HDPE) began to emerge in this country in the 1970’s and 1990’s respectively. These mains have the advantage of resistance to corrosion; however, the service life is not expected to be as long in areas with recurring pressure fluctuations, especially for PVC pipe. However, with recent developments of HDPE pipes including the heat butt-fusion of every joint, these have a significant advantage over PVC and other metallic pipes in sustaining pressure fluctuations and ground movement including earthquakes.

Exhibit 1.2.b below shows the progression of pipe technology in this country during the 20th century. The first four columns represent the 1) material from which the pipe is manufactured, 2) type of joint, 3) interior corrosion protection, and 4) exterior corrosion protection.

Another important issue for water systems in developing an asset renewal plan is the difference in expected service life of the various materials still in use today. The three older vintages of cast iron pipe (pit cast, spun cast, and spun cast with leadite joints) that were primarily installed prior to the 1960’s are highlighted in yellow in Exhibit 1.2.b. As technology was thought to be improving during this period, it would ultimately be found that the failure rate of the pipe would increase. The result is that even though the three vintages of pipe were installed in different time periods, they all may be reaching an unacceptable rate of failure at the same time. Additionally, there have been an increasing number of significant failures with asbestos cement pipe and larger steel pipe and prestressed concrete cylinder pipe (PCCP). Having pipes installed over multiple decades reach the end of their useful lives around the same time puts a heavy financial strain on water utilities as the cost of replacement cannot be spread out over the same period of time as when the pipes were originally installed.

Exhibit 1.2.b

Timeline of Pipe Technology in the U.S.



1.3 . NJAWC PIPE STANDARD

NJAWC's current pipeline standard includes the installation of water mains in compliance with the appropriate AWWA standard for the proposed material type. Ductile Iron (AWWA C-150), and small diameter PVC (AWWA C-900) water mains are predominantly used in new installations. The use of Steel (AWWA C-200) and HDPE (AWWA C-906) are used when construction using standard materials is not the best option. The selection of pipe material is based on site conditions and method of construction to insure the best material is selected for the intended use. The construction of larger diameter transmission mains requires a more detailed design and alternative analysis when selecting the piping material.

Exhibit 1.3.a

Comparison of Distribution Size Pipe Materials - Material Properties

Material Property	DI	PVC	HDPE
Tensile strength	60,000 psi	7,000 psi	3,200 psi
Compressive strength	48,000 psi	9,000 psi	1,600 psi
Yield strength	42,000 psi	14,500 psi	5,000 psi
Ring bending stress	48,000 psi	none specified	none specified
Impact strength	17.5 ft-lbs/in	0.75 ft-lbs/in	3.5 ft-lbs/in
Density	441 lbs/ft^3	88.6 lbs/ft^3	59.6 lbs/ft^3
Modulus of elasticity	24,000,000 psi	400,000 psi	110,000 psi
Temperature range	< 150º F	< 140º F	-50 to 140º F under press.
Thermal expansion	0.07” per 10º F per 100’	0.33” per 10º F per 100’	1” per 10º F per 100’
Corrosion resistance (internal)	Good - w/cement lining	Excellent	Excellent
Corrosion resistance (external)	Good - w/PE encasement	Excellent	Excellent
UV resistance	Excellent	Gradual strength decline	Yes - w/carbon black
Abrasion resistance	Excellent	Good	Good
Cyclic/creep resistance	Excellent	Poor	Poor
Permeation resistance	Yes	No - solvents & petroleum	No - solvents & petroleum
Scale & growth resistance	Good	Excellent	Excellent

1.4 SYSTEM PERFORMANCE

In recent years, New Jersey American Water has implemented a statewide computerized maintenance program where records of water main repairs and replacements are kept in a uniform dataset statewide. Tables 1.4.1 and 1.4.2, below, provide a summary of the main break repairs and replacements performed throughout NJAWC by lengths of material and material type for the year 2023. Aggregate main break data for 2004-2023 is provided in Section 1 of this report; the 2023 data is consistent with the Company's historic data.

Table 1.4.1

Summary of Main Lengths by Material (2023)

2023 Miles of Main					
	Central	**Coastal**	**North**	**South**	**Total**
Asbestos Cement	50	338	60	148	649
Cast Iron	1,276	615	754	752	3,396
Ductile Iron	1,758	1,010	584	1,626	4,572
Other Metallic	9	10	3	5	34
Plastic	7	67	8	45	102
PCCP	140	28	25	25	201
Total	**3,240**	**2,068**	**1,434**	**2,601**	**9,343**

Table 1.4.2

Summary of Main Repairs by Material (2023)

2023 Breaks by Material Type					
	Central	**Coastal**	**North**	**South**	**Total**
Asbestos Cement	1	29	3	14	47
Cast Iron	159	78	163	157	557
Ductile Iron	60	20	28	12	120
Other Metallic	1	0	1	0	2
Plastic	0	3	0	0	3
PCCP	1	2	3	0	6
Total	222	132	198	183	735

Combining the main break data from NJAWC's Computerized Maintenance Management System (via MapCall) and the GIS water main lengths by service area, it becomes apparent that failure rates can vary by material. Cast Iron, plastic, and other metallic water mains have considerable higher break rates than the newer materials installed after 1960. A further breakdown by service area shows additional trends in failure rates. For NJAWC, the water main break rates are generally higher in areas receiving treated surface water supplies due in part to the seasonal fluctuation in water temperature.

Table 1.4.3

Summary of Break Rate by Material (2023)

2023 Breaks per Mile by Material Type					
	Central	**Coastal**	**North**	**South**	**Total**
Asbestos Cement	0.02	0.09	0.05	0.09	0.07
Cast Iron	0.12	0.13	0.22	0.21	0.16
Ductile Iron	0.03	0.02	0.05	0.01	0.03
Other Metallic	0.11	0.00	0.33	0.00	0.06
Plastic	0.00	0.04	0.00	0.00	0.03
PCCP	0.01	0.07	0.12	0.00	0.03
Total	**0.07**	**0.06**	**0.14**	**0.07**	**0.08**

Numbers in red are above the AWWA Partnership goal of 15 breaks per 100 miles of main (0.15)

The highest overall failure rate has been found to be the failure of other metallic pipe in all operating areas and in particular in the Coastal Operating Area caused primarily due to the galvanized steel mains which have surpassed their useful life and are underperforming in both structural and hydraulic capacity. These mains are obsolete and prone to failure.

The greatest number of failures has occurred with cast iron water mains, which are generally among the

oldest and most prevalent assets, and which currently make up a significant portion (40%) of the Company's older distribution system assets. Most cast iron pipes fail because of a combination of factors that include external loading, internal pressure, manufacturing flaws and corrosion damage. These failures usually result in any one of the following standard type of breaks: bell splitting, consisting of a longitudinal break starting at the bell; corrosion pitting (pinholes, deterioration, or blow outs); circumferential cracking, where the pipe splits in a circle across its diameter; longitudinal cracking (stress), where the pipe breaks along its length; or from physical damage caused by outside influences.

NJAWC's current practice is to record the failure type observed when a water main is repaired or replaced. Table 1.4.4 shows the type of main failure, diameter, and material type for the past year.

Table 1.4.4

Type of Main Failure, Diameter, and Material Type (2023)

2023 Main Breaks		Failure Type							
Material	**Diameter**	**Circular**	**External Corrosion**	**Joint Leak**	**Physical Damage**	**Pinhole**	**Split**	**Stress**	**Total**
Asbestos Cement	< 6"	1							1
	6"	7	4	4	2		12	2	31
	8"	3	1				4		8
	10" to 16"			1	2	2	1	1	7
Asbestos Cement Total		**11**	**5**	**5**	**4**	**2**	**17**	**3**	**47**
Cast Iron	< 6"	13	2	2	5	8	5		35
	6"	171	35	15	7	12	93	6	339
	8"	74	12	7	5	6	40	1	145
	10" to 16"	11		7	3	2	11		34
	> 16"			3			1		4
Cast Iron Total		**269**	**49**	**34**	**20**	**28**	**150**	**7**	**557**
Ductile Iron	< 6"	1					3		4
	6"	7	2	2		5	21		37
	8"	12	15	3		12	13		55
	10" to 16"	1	7	1	2	5	7	1	24
Ductile Iron Total		**21**	**24**	**6**	**2**	**22**	**44**	**1**	**120**
Other Metallic	< 6"		1						1
	6"					1			1
	8"					1	1	1	3
	> 16"			1			1		2
Other Metallic Total			**1**	**1**		**2**	**2**	**1**	**7**
PCCP	10" to 16"				1				1
PCCP Total					**1**				**1**
Plastic	6"				1				1
	8"				2				2
Plastic Total					**3**				**3**
Total		**301**	**79**	**46**	**30**	**54**	**213**	**12**	**735**

Table 1.4.4, above, once again highlights the need to replace the aging cast iron mains. Circular failures are typically a double failure. Initially corrosion causes a small leak, causing the soil bedding surrounding the pipe to become compromised and washed away. Without the support of proper pipe bedding, the water main experiences bending stresses which results in the larger circumferential failure. Split type failures are primarily caused by internal stress on a main with reduced pipe thickness due to internal or external corrosion. As corrosion continues, the main weakens to a point of failure caused by internal stress within a pipe. The data also shows that a majority of breaks occur on cast iron mains less than 12-inch in diameter.

Throughout NJAWC's service territories, the North Operating Region has the highest main break rate in all pipe material categories as well as the highest overall break rate, which is nearly twice that of NJAWC's average. As a result, NJAWC's pipe renewal investment level favors the North Operating Region.

1.5 PROPOSED PROJECTS—2024 FOUNDATIONAL FILING

The Foundational Filing identifies pipe projects across the state. Relocations have been identified where known for 2024 and beyond. Future year relocation projects may be substituted as needed depending on external stakeholder schedules. The projects have been prioritized based on a ranking described in Appendix B of this report. Approximately 78% of the mains are cast iron; 1% are galvanized steel or other metallic piping; and 13% are asbestos cement pipe. The remaining 8% are a combination of different pipe materials that have either hydraulic or structural deficiencies which need to be addressed.

2.1. REHABILITATION AND REPLACEMENT OPTIONS

2.1.1 PIPE

NJAWC follows the AWWA Manual M28 for the Rehabilitation of Water Mains. This Manual provides a strategy to make appropriate, cost effective decisions regarding distribution system infrastructure life extension or renewal. This section will further elaborate on the failure mechanisms of pipe, potential rehabilitative and preventative technologies, and recommendations for pipe materials for future use. Decision matrices from M28 are included at the end of this Appendix.

2.1.2 RECOMMENDATIONS FOR EXTENDING PIPE LIFE

In order to minimize main failures and maximize the life of the assets, it is necessary to understand the failure mechanisms of pipe. These failure mechanisms, which are a result of either Operational/Physical or Chemical means, are identified in Exhibit 2.1.2.a.

Exhibit 2.1.2.a

Operational/Physical	Applies to	Chemical	Applies to
Manufacturing defects	M,P,C	Internal corrosion	Unlined M,C
Improper design	M,P,C	External corrosion - soil	M,C
Geologic instability	M.P.C	External corrosion - other	M,C
Higher operating pressures	M,P,C	Leadite corrosion	M
Hydraulic transients	M,P,C	Leadite expansion	M
Change in water temperature	M	Material incompatibilities	M
Excessive external loads	M,P,C	Gasket deterioration	M, Jointed P,C
Damage from digging	M.P.C	Material fatigue	P
Improper bedding/backfill	M,P,C	Hydrocarbon Permeation	P

Pipe Code for Failure Mechanisms
M = Metallic (ductile iron and/or cast iron)
P = Plastic (PVC or HDPE), C = Concrete (RCP or PCCP)

This exhibit indicates the type of pipe (metallic, plastic, or concrete) and the resulting failure mechanism. Nearly all of these failure mechanisms can be addressed or controlled for new installations as a result of newer pipe materials, current manufacturing technology, and improved utility operational practices. A few of these failure mechanisms warrant additional discussion as follows:

A. *Hydraulic Transients:* Hydraulic transients (or water hammers) occur as a result of a sudden change in flow velocity. Some ways that this can occur are due to a sudden starting or stopping of a pump, closing or opening a hydrant or valve too quickly, or sudden starting and stopping of water usage by large customers. As a rule of thumb, for every 1 ft/sec instantaneous change in flow velocity, the pressure head can change by 100 ft (or 43.3. psi). Pressure variations and other challenges associated with system pressures affecting NJAWC are discussed in the Operating Area sections in this report.

B. *Change in Temperature*: Cast iron pipes typically experience an increase in main failures when subjected to freezing temperatures. Although plastic pipes also are affected by a change in temperature due to their high coefficient of thermal expansion, it is less of an issue due to the flexibility of the pipe, and the phenomena of concern discussed here applies only to ferrous pipes. One theory of why iron pipes fail in freezing temperatures is that the ground movement imposes a stress on the pipe. Although this may be true, the primary reason for the failures relates to the differences in thermal expansion between water and iron. As water and the pipe cool, they are both contracting until the temperature reaches 39^{o}F. At this point, the pipe continues to contract, but the water begins to expand. This can result in a stress equivalent to that of increasing the hydrostatic pressure in the pipe by approximately 200 psi. NJAWC has significant surface water supplies, which are more sensitive to cold ambient temperatures than groundwater. The Operating Area sections of this report discuss specific thermal challenges where they exist.

C. *Corrosion (internal or external)*: Corrosion can occur in any metallic pipe. The potential for corrosion is higher in cast iron pipes than in ductile iron pipes but because cast iron is thicker, ductile iron may be more vulnerable with time. The corrosion phenomenon that occurs in cast iron (pit cast or spun cast) is called graphitic corrosion. Graphitic corrosion generally is a slow process. It can create significant problems since no dimensional or physical changes occur which are visible, yet the cast iron loses its strength and becomes brittle. NJAWC has implemented robust corrosion control practices for its finished water supply, as discussed in the Operating Area sections of this report, to address internal corrosion. Soil conditions vary among NJAWC Operating Areas, and specific challenges posed by external corrosion are discussed in those sections.

D. *Leadite Joint Corrosion and Expansion*: Leadite joint material has a different coefficient of thermal expansion than cast iron, resulting in stress on the pipe. This stress ultimately results in longitudinal splits in the pipe bell. Secondly, the sulfur in the leadite serves as an energy source for sulfur reducing bacteria resulting in localized pitting corrosion which ultimately results in circumferential breaks on the spigot end of the pipe near the leadite joint.

E. *Material Fatigue*: There is no measurable relationship between ductile iron's applied tensile strength and time to failure. However, both PVC and HDPE pipe experience a reduction in strength over time. When a load is applied to a plastic pipe, it has an initial deformation, and then it continues to deform over time until failure. This is known as "tensile creep". The modulus of elasticity used in the design of HDPE pipe corresponds to a 50-year life. This does not necessarily mean that the pipe will fail in 50 years since it can recover from creep depending on the load duration and magnitude. However, tensile creep in plastic pipes is still a variable of which we need to be cognizant. There is also some evidence that chlorination affects plastic pipe integrity over time. Further study of these issues with plastics is on-going.

F. *Changes in Soil Moisture Content:* Tensile stresses similar to those mentioned in dropping water temperature in the pipe can be induced when pipes attempt to resist deformation imposed by soil shrinking as moisture content drops. Frictional resistance can also increase if either the frictional angle or the vertical load increases. This phenomenon has been reported in Texas during extreme drought and modeled by Thames Water and the National Research Council of Canada.

Exhibit 2.1.2.b identifies the strategies NJAWC has used to reduce pipe failures for installed pipes and continues to evaluate as part of its planning process. Additional information regarding some of the potential rehabilitation strategies (e.g. cleaning and lining protection) are discussed subsequently in this section

Exhibit 2.1.2.b

Operational Strategies for Reducing Pipe Failures

Failure Mechanism	**Strategy**
Higher operating pressures	Redistribution of pressure zones where feasible, install district metering and pressure reducing valves
Hydraulic transients	Provide surge control and operator training
Change in water temperature	Blend with ground water sources, where possible
Internal corrosion	Cleaning and lining, orthophosphate, pH buffering

Failure Mechanism	Strategy
Leadite corrosion	Replace, repair joint only
Leadite expansion	Replace, repair joint only
Material transitions	Install dielectrics at corporation stops, curb stops
Gasket deterioration	Replace the joint only

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2.2 REHABILITATION TECHNOLOGIES

Once a water main has been identified as failing to meet its service requirements, the method of replacement or renewal is considered. Currently, the majority of water main replacement at NJAWC is performed using an open-cut method as this is generally the least cost option. In specific cases, directional drilling or other structural rehab methods are used. Conventional open-cut construction is still the most frequently and cost-effective method of water main replacement in the United States, and therefore, contractors are usually well versed in the construction techniques and available locally at competitive costs. Once the new main has been installed, pressure tested and passes bacteriological testing, services are transferred from the old pipe to the new. Concern over potential hazards associated with asbestos cement pipe has created challenges around selecting the appropriate method for taking such pipes out of service (e.g. abandon in place or remove and risk airborne issues). Because the old main is kept in service until the new main is in place and ready for connection to the customers' service lines, service interruptions are minimized. In those unusual cases where the old main has to be shut down before the new main is in place, bypass pipes can be laid to avoid interrupting service to customers.

Trenchless technologies have attracted the attention of the water industry in recent years as an alternative to open-trench methods. Based on the site-specific main replacement, trenchless technologies can potentially reduce both direct rehabilitation costs and the additional financial and commercial costs associated with excavation in the road.

For over 30 years, trenchless renovation technologies have been steadily increasing and playing an increasingly important role in the wastewater and gas industries, and for many of those utilities, it is now their method of choice.

Both the AWWA Research Foundation (AWWARF) and a number of AWWA technical committees have evaluated alternative rehabilitation technologies for application in the water utility industry. The AWWA Water Mains Rehabilitation Committee has developed guidelines for those technologies that have a proven track record within the industry while the Water Main Rehabilitation Standards Committee is developing AWWA standards for various techniques. Standards now exist for cement lining and epoxy lining with other standards in development.

Alternative rehabilitation techniques can be classified into three categories according to their effect on the performance of the existing pipe. The three categories include: non-structural systems; semi-structural systems; and structural systems.

2.2.1 NONSTRUCTURAL LINING TECHNIQUES

One of the most common and effective renewal methods used in the piping industry is the application of a non-structural protective lining on the interior of the water main. Nonstructural lining systems are used primarily to protect the inner surface of the host pipe from corrosion and tuberculation. They have no appreciable effect on the structural performance of the host pipe and have a minimal ability to bridge any existing discontinuities, such as corrosion holes or joint gaps. Since non-structural lining systems have minimal effect on leakage, the pipe to be lined must be structurally sound and leak tight at the time of lining and expected to remain so for the foreseeable future. Examples of nonstructural techniques include cement-mortar lining and polymer (epoxy resin and urethane) lining. Statements regarding the effect of service connections, valves, bends, and appurtenances on efficiency and the expected service life extension from non-structural pipe lining apply to both lining methods are discussed.

The advantages of non-structural pipe lining are that a smooth protective non-structural coating is applied to the interior surface of the pipe that restores hydraulic capacity to the water main. Valves and appurtenances are generally replaced as the life of these assets is less than the main. Care must be taken to prevent cement mortar lining from blocking service connections. The expected service life of the pipe with reasonably good structural condition can be extended approximately by 50 years with cement mortar lining or epoxy lining procedures.

Prior to the application of any lining system, the host pipe must be evaluated for structural integrity. Once determined to be structurally sound, it must be adequately cleaned to remove tuberculation and produce a clean surface to which the lining will adhere. For effective lining results, a thorough cleaning of the water main is essential. Successful cleaning may be performed by various techniques such as, flushing, cable attached devices (drag cleaning, hydraulic-jet cleaning), fluid propelled cleaning devices (foam pig, metal scrapers) or power boring.

A. Cement-Mortar Lining: Cement mortar lining is the most common rehabilitation technique in the US today and is effective and reliable. This technique is used frequently and successfully by NJAWC. Cement mortar is applied to new ductile iron pipes and most new steel pipes before installation, making this method a standard in the water industry. The water quality parameters for the area are reviewed prior to selection of this process.

After the host pipe is cleaned, and free of water, a 1/8 inch (+/-) layer of cement mortar is applied to the pipe wall by the rotating head of an electric or air-powered machine. It should be noted, NJAWC uses a minimum specification of 3/16 inch. During the lining process, mortar, sand, and water are mixed in a hopper near the access hole and pumped to the lining machine through high pressure hoses. The lining machine is equipped with rotating trowels or a conical drag trowel positioned just behind the dispensing head. As the machine moves through the pipe, it leaves a smooth, troweled finish that enhances the carrying capacity and flow characteristics of the pipe. Service lines and laterals less than 2-inch in diameter must be cleared after the lining application. Laterals over 2-inches are not plugged by centrifugal lining and do not require excavation or blow back

B. Polymer Spray Lining: The process for in-situ epoxy resin lining of iron and steel pipelines has been performed in North America since the early 1990's. The process has been used effectively to rehabilitate old, unlined water mains and is also classified as a nonstructural renewal method. As with other lining techniques, pipelines must be thoroughly cleaned before application of the lining. Different products vary in the acceptability of moisture in the pipe but at a minimum the pipe must be puddle free. The polymer is applied to the interior of the pipeline using a centrifugal method. Several epoxy lining and polyurea materials are currently approved for use in the potable water systems under ANSI/NSF In the past several years, NJAWC's experience with the polyurea method as provided by 3M™Scotchkote™ has been positive and is being expanded in areas of low alkalinity source water. More recently, NJAWC has been using Warren Epoxy-301-01. As new products become available, the expanded use of this technique may be possible.

2.2.2 SEMI-STRUCTURAL LINING TECHNIQUES

Semi-Structural renovation systems generally involve the installation of a thin plastics-based lining tube which achieves a "tight fit" to the pipe wall. Since the stiffness of the liner is less than that of the host pipe, some internal pressure loads are transferred to the original pipe. Such a lining is required only to independently sustain internal pressure loads at discontinuities, in the host pipe, such as corrosion holes or joint gaps. NJAWC has used this type of rehabilitation method in specific applications depending on the adequacy of the final internal diameter after lining is complete.

A liner is usually considered a semi-structural liner if its long term (50 year) internal burst strength, when tested independently from the host pipe, is less than the maximum allowable operating pressure of the pipeline to be rehabilitated. Such a liner would not be expected to survive a burst failure of the host pipe, so it cannot be considered as a replacement pipe. Semi-structural lining techniques are best suited for long transmission mains with few service connections and for situations in which obstacles such as buildings, underground utilities, and railroads do not permit the excavation of the old pipes. Examples of semi-structural lining techniques include: close-fit slip-lining and cured in place pipe lining.

A. Modified Slip-Lining Techniques: Modified or close-fit slip-lining techniques involve inserting a polyethylene pipe into the host pipe, which has been temporarily deformed to allow sufficient clearance for insertion. After installation into the host pipe the replacement pipe is reverted back to its original size (by using heat, pressure and/or reducing tension on the pipe) resulting in a tight fit between the host pipe and replacement pipe thus maximizing the available diameter of the new pipe.

   Modified slip-lining techniques differ from conventional slip-lining such that greater retention of hydraulic cross section area may be attained and the flexibility of liner thickness. Liner thickness can be selected to provide either a fully structural or semi-structural internal pressure capability. Existing services are usually handled by cutting out a window in the host pipe prior to slip lining. Service connections, valves bends and appurtenances can then be heat fused or mechanically connected to the thermoplastic pipe.

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B. Cured-In-Place Pipe: Cured-in-place pipe (CIPP) lining techniques involve inserting a polymer fiber tube or hose impregnated or coated with a thermoset resin system into the host pipe. The resin is then cured by the application of heat using steam or water to produce a rigid or semi-rigid liner which depends on adherence to the pipe wall for support. The hose is constructed to meet internal pressure requirements, and the cured resin layer serves merely as an adhesive to the host pipe. This technique has become more attractive as a robotic method to restore water connections from inside the pipe is becoming increasingly reliable.

C. Hi Build Polymer Spray Lining: Just on the horizon is the development of thicker polymer spray linings that will offer some structural support and bridge joints. NJAWC has gained some experience with 3M Scothkote™ and Warren Epoxy-301-01 in semi-structural lining rehabilitation. Due to its considerable increase in cost, it is only used where the host pipe still has 50% or more remaining wall thickness.

2.2.3 STRUCTURAL LINING TECHNIQUES

Structural lining techniques are capable of sustaining long term (50-year) internal burst strength, when tested independently from the host pipe, equal or greater than the Maximum Allowable Operating Pressure (MAOP) of the pipe to be rehabilitated. Additionally, structural linings have the ability to survive any dynamic loading or other short-term effects associated with sudden failure of the host pipe due to internal pressure loads. Structural lining techniques are sometimes considered to be equivalent to the replacement pipe, although they may not be designed to meet the same requirements for external buckling or longitudinal/bending strength as the original pipe. NJAWC has used these techniques for specific projects where feasible and cost effective.

Structural linings can be used in circumstances similar to those for semi-structural lining, but their use is essential for host pipes suffering from generalized external corrosion where the mode of failure has been, or is likely to be, catastrophic longitudinal cracking. Examples of structural lining techniques include structural slip lining and pipe bursting. Structural slip-lining techniques are similar to the semi-structural slip lining methods, but with varying design parameters for the new pipe regarding wall thickness, pressure rating, and operating requirements.

A. Slip-Lining: Conventional slip-lining is the insertion of a loose, undersized, flexible thermoplastic liner directly into the water main. The most common type of material used for slip-lining is HDPE pipe of standard sizes. The ends of several consecutive 40-foot lengths of HDPE pipe are joined (using a process known as thermal butt fusion) to form a single length of pipe. One end of this pipe is then pulled by a cable into the entry pit and through the section of the old pipe. The new pipe is then reconnected to the existing pipe. The benefit of slip-lining is that it creates a new, integral pressure pipe inside the old deficient pipeline without a complete excavation.

Potential applications for conventional slip-lining are numerous. Slip-lining is well suited for renewal of sections of main with few service connections or sharp bends. Most existing pipelines can be slip-lined, but certain applications are ideally suited to this method:

- Where poor structural integrity of the existing pipes make other lining methods such as cement mortar lining or epoxy lining, inadvisable.
- Where service connections and branches are limited.
- Where a structure has been built over the exiting main, making replacement economically impractical.
- Where a main crosses over or under railroads, bridges, rivers or other obstacles, making alternative linings impractical or not economically feasible.
- Where other unique circumstances make alternative lining methods impractical.

In general, except for HDPE swaging, the insertion pipe is sized so that its outside diameter is at least 10% smaller than the inside diameter of the pipe being lined to allow for smooth insertion. The insertion liner does substantially reduce the effective cross-sectional area of the pipe. Therefore, post lining flow requirements must be considered when deciding to slip-line. However, the reduction in the friction factor of the liner pipe as compared to the old, unlined pipe should significantly compensate for the reduced cross sectional area. In addition, the flow rate will not be reduced by corrosion over time. The geometry of the unlined pipe must also be considered, as liners generally do not turn well through elbows. HDPE lining by the swaging method is gaining useage and acceptance in pipe rehabilitation method within the water industry. However, the major drawback in any slip-lining is its cost and significant reduction in the original pipe inside diameter which may render slip-lining not feasible in some applications.

B. Pipe Bursting: Pipe bursting is a patented process of replacing existing water mains by breaking and displacing them and installing a replacement pipe along the same route and in the void created. The pipe bursting technology is a total pipe replacement method. The pipe bursting process replaces the original pipe with a new pipe of the same diameter or larger. The ability to upsize, replace an existing pipe with a larger pipe makes this an attractive option in many situations.

The system consists of a pneumatic, hydraulic or static bursting unit that splits the existing pipe while simultaneously installing a replacement pipe of the same or larger diameter and pressure rating. The pipe-bursting tool is designed to force its way through the existing pipe by fragmenting or splitting the pipe and compressing the materials into the surrounding soil as it progresses.

The use of high density polyethylene pipes as the replacement pipe is desirable due to their flexibility, especially when the pipes to be replaced are not straight. All service connections should be completely disconnected and isolated from the existing pipe before pipe-bursting operations begin. All service connections, valves, bends and appurtenances must be individually excavated and connected to the new main. A temporary bypass system is usually provided to maintain service to consumers.

3.1 COST CONSIDERATIONS

The construction technique and material used for pipeline renewal projects are based on feasibility, cost, availability and customer impact parameters. Scheduling constraints also consider such factors as the impact of detours on significant traffic flow in coastal areas during summer months. Likewise, the availability of paving material and the approval of road opening permits can impact schedules and construction techniques.

The potential cost savings for alternative rehabilitation methods remains promising as new materials are made available. The costs of these types of projects are dependent on the minimization of site restoration activities and the number of service connections on the existing main. There is usually less excavation for alternative technologies than compared with traditional open cut replacement methods. In order to avoid disruption of water supply to customers, temporary service connections may be required to serve customers during the construction period. Equipment and crew mobilization costs, length of mains being replaced and the "learning curve" all affect the unit cost of the alternative methods.

Key elements in the selection of a renewal method (replace, re-line, structurally line) are:

- The exact nature of the problem(s) to be solved.
- The hydraulic and operating pressure requirements for the renewed main.
- The material, dimensions, and geometry of the water main.
- The quantity, types and locations of valves, fittings and service connections.
- The length of time in which the main can be taken out of service.
- Site-specific factors such as traffic conditions, paving requirements or customer special needs for fire protection.

The aim of the selection process is to consider all these factors to arrive at the most cost-effective, technically viable solution. Ideally, the cost estimate should include not only direct contracting and related costs, but also indirect costs associated with public disruption and longer term maintenance. Exhibit 3.1.a highlights the considerations used by NJAWC in project selection process.

Exhibit 3.1.a

Summary of Applicable Technology and Recommended Use

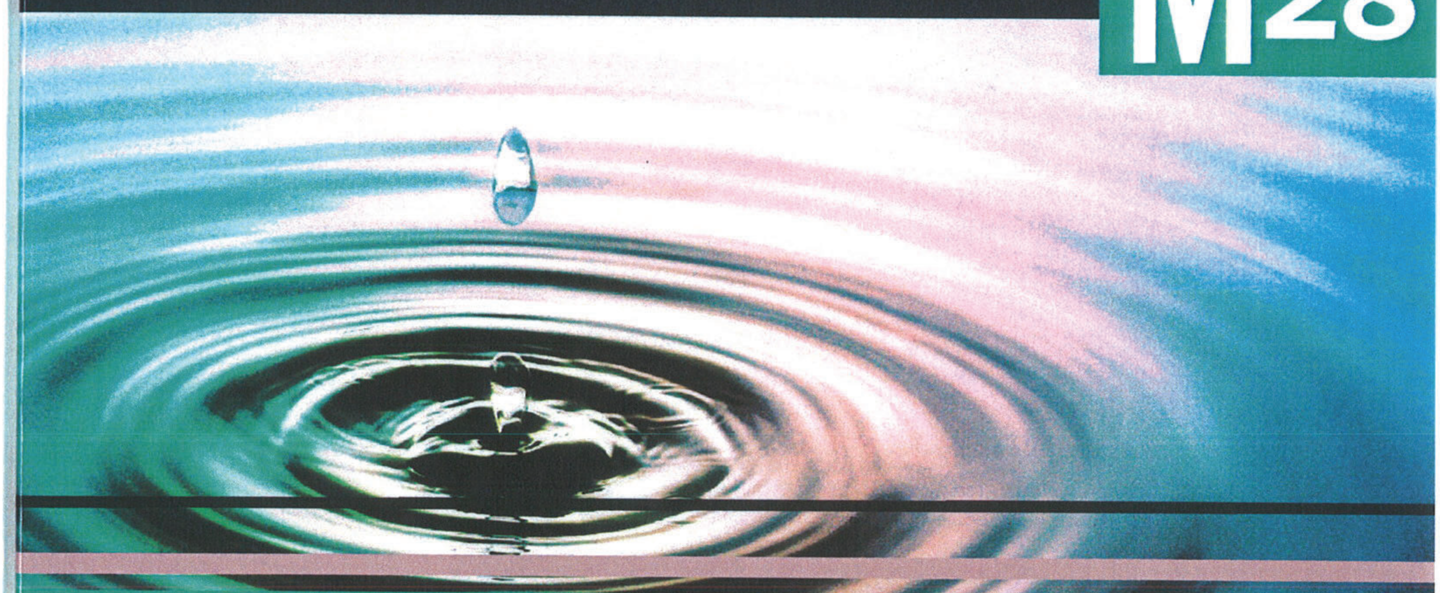
Technology	**Recommended Application**
Cement Mortar Lining	• Prevent scale formation, internal corrosion and reduce pipe roughness (improve Hazen Williams C-value). • Considered with hydraulic and water quality (WQ) problems when there are no structural and joint leaks and original pipe material is iron or steel. • Should not be considered when soft or acidic water is conveyed due to possible deterioration of CML. • Consider the thickness of the cement mortar as it diminishes the effective diameter of the pipe, Not applicable for small undersized mains.
Polymer Spray Lining	• Protects original pipe against corrosion and provides an increased Hazen-Williams C-value. • Considered with hydraulic and WQ problems when there are no structural and joint leak problems. • Dead end lines do require some continuous low level flushing following the curing process

Technology	Recommended Application
	• Not applicable for undersized mains
Close-Fit Slip-lining	• Classified as structural or semi-structural lining depending on the thickness of the liner. The inserted pipe adds strength, prevents further internal corrosion and improves Hazen-Williams C-value. • Considered for hydraulic, joint leak and water quality problems with no structural problems are involved.
Cured in Place Pipe	• Compared to close-fit lining, the thickness of CIPP liner is typically less than a close-fit liner. • As with the close-fit liner, the loss of diameter is compensated for by an improved Hazen-William C-value. • As opposed to epoxy lining, CIPP also provides a certain measure of leakage protection. • Considered a semi-structural liner and is applicable for hydraulic, joint leak and water quality problems when no structural problems are involved.
Conventional Slip Lining	• Effective diameter of pipe is reduced; new pipe has a smooth interior surface. • Excavations are required for service connections, entrance and exit pits. • Various pipe materials (DI, PVC, HDPE and steel) may be used as new pipe. No strength is added to the host pipe in conventional slip lining.
Pipe Bursting	• Pipe bursting is a structural lining technique and is considered suitable for CI, PVC and thin wall steel pipes. Pipe bursting is not recommended for AC pipe if airborne asbestos results. • Pipe Bursting recommended for deep mains with sufficient cover and compressible soils to avoid heaving. • Pipe Bursting not recommended if adjacent utilities are extremely close to pipe being burst • Host pipe should not have offset pipe joints or clamps with bolts. • Applicable for replacing pipes of the same diameter or larger. • Excavations are required for service connections, entrance and exit pits.

Rehabilitation of Water Mains

MANUAL OF WATER SUPPLY PRACTICES

M28



Second Edition

American Water Works Association

Advocacy
Communications
Conferences
Education and Training
▸ **Science and Technology**
Sections

The Authoritative Resource on Safe Water℠

REHABILITATION SOLUTIONS

This manual describes a number of possible solutions to problems arising from corrosion and deposition. These range from simple periodic cleaning to replacement of the pipe using "trenchless" techniques. All of the solutions discussed in the manual make some use of the existing pipe, either as part of the rehabilitated system (renovation solutions) or as a convenient route for installation of new piping (replacement solutions). Solutions involving installation of a replacement pipe along a new route, such as open trench laying, directional drilling, and microtunneling, are outside the scope of this manual.

Selecting the optimal solution to a specific pipeline problem is a complex process involving both technical and economic considerations. Both the American Water Works Association Reseach Foundation and a number of AWWA technical committees are developing computer-based decision tools to assist utility engineers in this process. This work is expected to come to fruition while this edition of the manual remains in effect. In the meantime, the following guidelines may prove useful.

SELECTION OF REHABILITATION SOLUTIONS

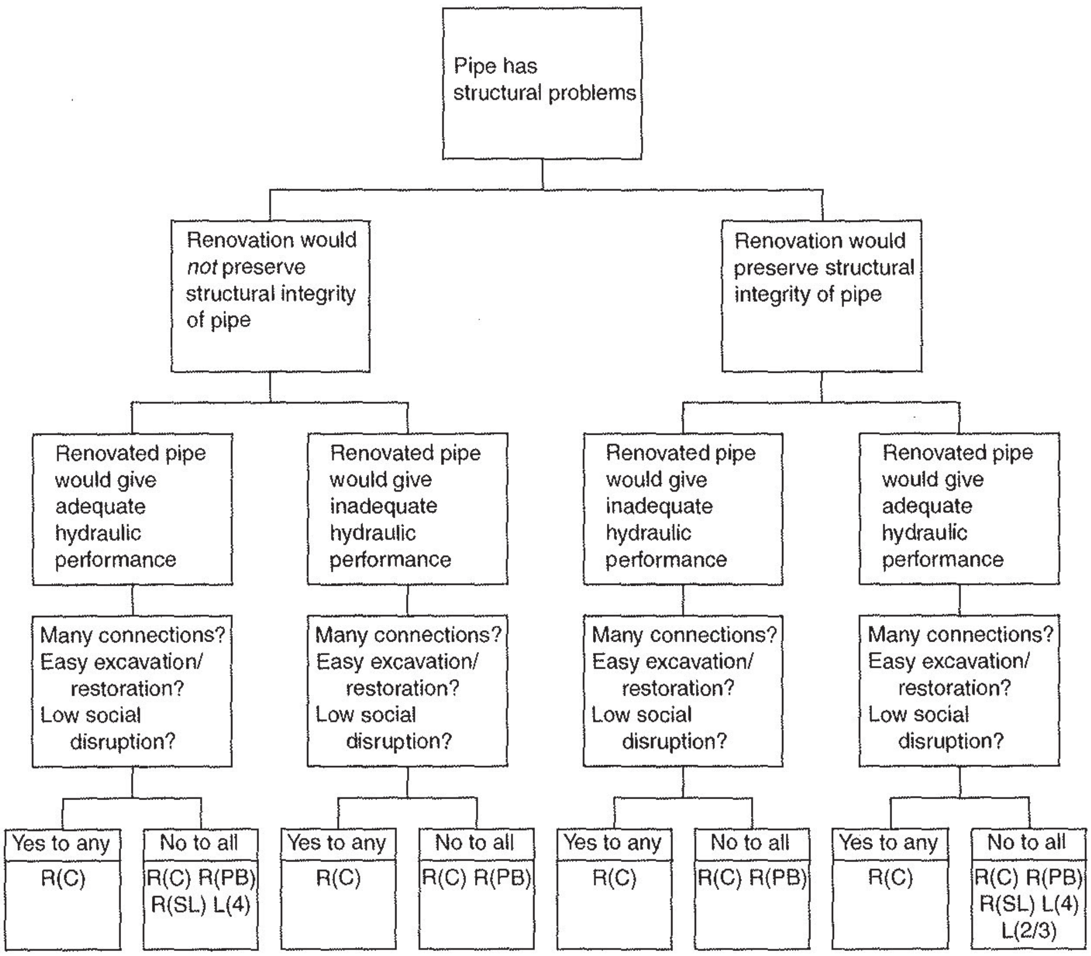
Key elements in the selection of a rehabilitation solution are

1. The exact nature of the problem(s) to be solved
2. The hydraulic and operating pressure requirements for the rehabilitated main
3. The materials, dimensions, and geometry of the water main
4. The types and locations of valves, fittings, and service connections
5. The length of time in which the main can be taken out of service
6. Site-specific factors

The aim of the selection process is to consider all these factors to arrive at the most cost-effective, technically viable solution. Ideally, the cost estimate should include not only direct contracting and related costs but also indirect costs associated with public disruption and longer-term maintenance and other "life cycle" costs.

One approach to technique selection is summarized in Figures 1-2, 1-3, and 1-4. Together, these charts provide a framework for selecting or rejecting groups of techniques, depending on the nature of the performance problems, hydraulic requirements, and some site-specific factors. In some cases, the charts indicate use of lining techniques classified as either Class I (nonstructural), Class II/III (semistructural), or Class IV (structural). A more detailed discussion of this classification system and of other key design issues associated with such lining techniques is presented in appendix A.

The figures do not list cleaning as a solution for water quality or flow and pressure problems. Cleaning with one of the various techniques discussed in the manual may well offer the lowest-cost immediate solution to many of these problems. It may offer a long-term solution if repeated as required or combined with chemical treatment of water to prevent or delay recurrence of the original problem. However, cleaning is more frequently used as a necessary preliminary step before carrying out one of the lining processes described in the manual.



R(C)–Replacement (conventional or boring/directional drilling)
R(PB)–Replacement (pipe bursting)
R(SL)–Replacement (slip-lining)
L(2/3)–Lining (semistructural—Class II/III)
L(4)–Lining (structural–Class IV)

Figure 1-2 Selection of rehabilitation techniques to resolve structural problems

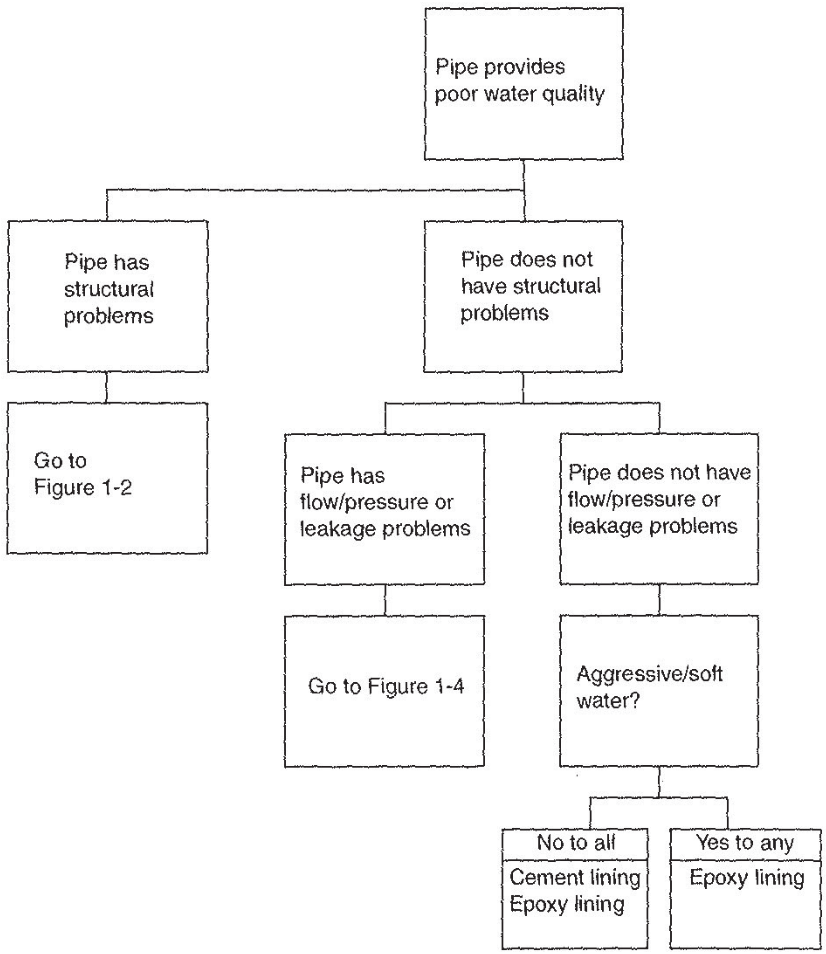
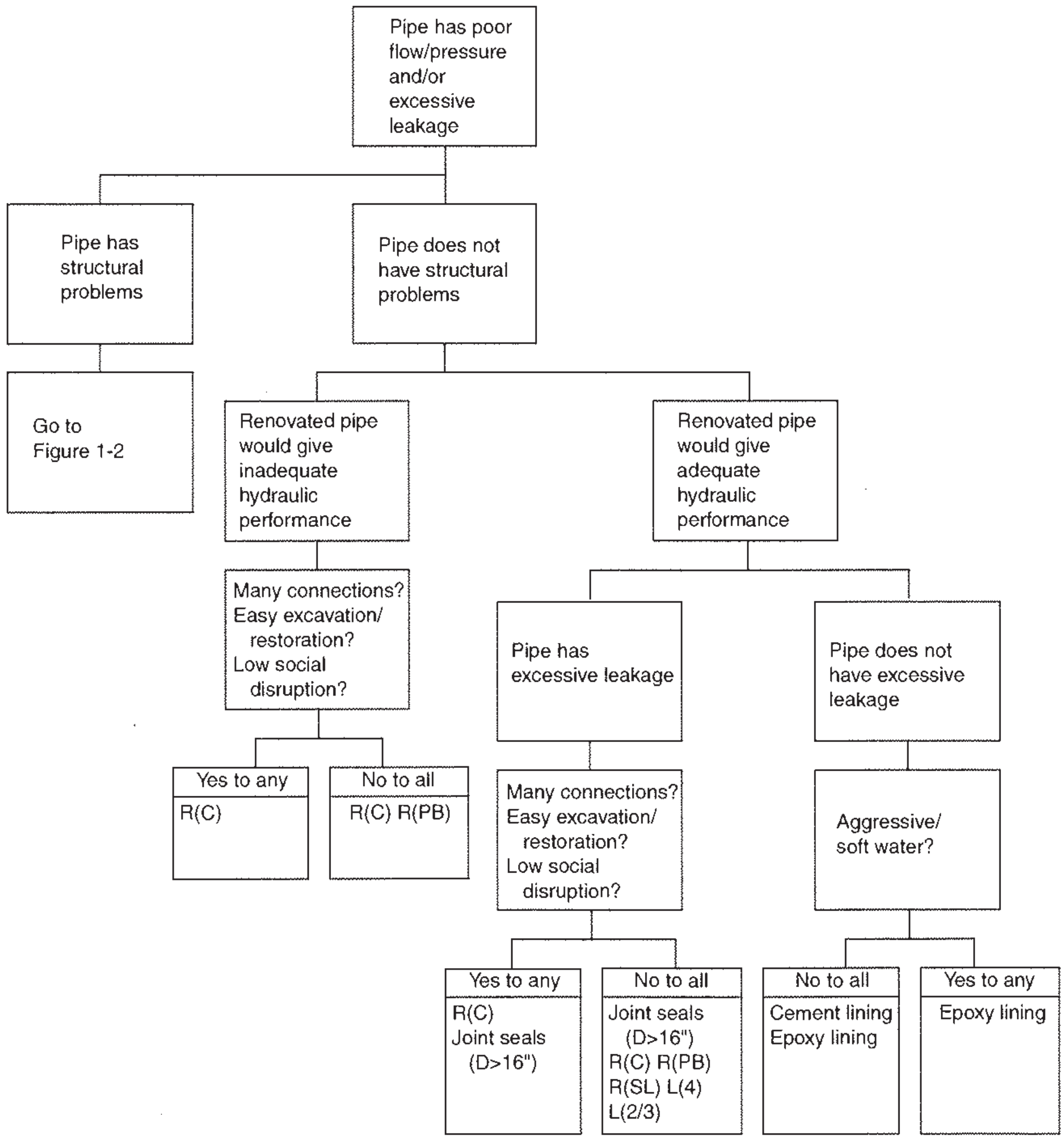


Figure 1-3 Selection of rehabilitation techniques to resolve water quality problems



R(C)–Replacement (conventional or boring/directional drilling)
R(PB)–Replacement (pipe bursting)
R(SL)–Replacement (slip-lining)
L(2/3)–Lining (semistructural—Class II/III)
L(4)–Lining (structural—Class IV)

Figure 1-4 Selection of rehabilitation techniques to resolve flow, pressure, and leakage problems

Appendix B

Prioritization Model Description

Summary

This appendix has been updated in March 2022 with a brief “Year 3 / Year 4” section, which discusses the predictive ability of the New Jersey American Water pipeline prioritization model during the two years trailing the official case study described below.

Recent studies have shown that the water mains are failing at an accelerating rate. In the meantime, water utilities are challenged with limited funding. It is important that water mains with much higher likelihood of failure are replaced before they fail, to avoid possible high consequences such as public safety threats, high financial losses, and environmental damages.

This appendix describes the model New Jersey American Water utilizes to evaluate the likelihood of water main failure (LOF) using data available in Geographic Information Systems (GIS). A case study is presented comparing two-years of actual water main break data with the results of the model. The comparison shows a strong correlation between the model prediction and the actual main break rates of pipes; thus, it validates the robustness of the model and shows that funding can be used more efficiently by focusing on the water mains with a high likelihood of failure as predicted by the GIS model.

Introduction

In the face of the high demand in pipe replacement, water utilities struggle with limited funding and the high pressure of raising water rates for their customers. Since not all pipes fail at the same time, it makes more sense to spend the funding on pipes that are more likely to fail, to improve capital efficiency while maintaining or increasing the level of service to the customers.

Significant efforts have been made to predict and prioritize water main replacements which includes top-down approaches and bottom-up approaches. For top-down approaches, Nessie Curve tools such as the Buried No Longer tool released by AWWA provides a forecast of long-term pipe replacement needs using some basic factors such as pipe age, pipe size, and pipe material. While it has a value in providing an overall view of the pipe replacement, it is not designed for granular project level determinations such as where specifically to replace the pipe.

New Jersey-American Water Company, Inc. (the “Company”) owns and operates roughly 9,000 miles of water main and maintains copious amounts of condition data. The company operates a $350 million annual Capital Investment Program, which in 2021 included over $160 million toward investments in distribution system improvements. The program replaces between 75 – 100 miles of water main annually (~1% of the state-wide system). Informed decision making is central to ensuring investments have the greatest positive impact, while limiting removal of infrastructure that may have many years of useful life remaining. It is imperative that Company asset managers make consistent, measurable, and comparable investment decisions across multiple construction offices. It is important for managers to be able to measure the results of investment decisions to determine which are having the greatest impact on reducing operating and maintenance (“O&M”) cost and disruption to customers associated with main breaks, and ultimately extending the useful life of existing infrastructure. A Water Research Foundation study showed that 75% of water utilities used pipe breaks as the key factor in prioritizing pipe replacements. Replacement of only pipes that break is a reactionary posture that, while necessary, can be improved. From a high level planning perspective, it is generally acceptable to use pipe-age based pipeline replacement. However, since pipes fail due to many factors, many pipes are still in good condition even though they may be defined as “beyond useful life” based on age alone. The Company felt developing a reliable and ***granular*** failure prediction model for its distribution main asset replacement program would facilitate the Company's ability to quantify and reduce resources spent "reacting" to breaks, and to increase resources in strategic capital investment.

Efficient replacement planning is a complex process that involves many variables. These variables include considerations such as paving schedules, customer impact, water quality, hydraulic requirements, safety, and more. The goal of the model development was to analyze nearly 9,000 miles of small diameter water main (< 16" diameter) and produce granular, reliable, and measurable predictive results that could quantify the relationship between prioritization decisions and a reduction in emergency O&M work, in order to improve capital renewal efficiency.

New Jersey American Water has successfully validated the GIS-based model across all districts and all material types of pipeline. To make it simple, this appendix only focuses on likelihood of failure (LOF) of small-diameter (< 16" diameter) cast iron pipes. In practice, all small diameter material types participate in the model, and are ranked into cohorts. The Company has found that all material types show similar correlations to break rates as described for cast-iron. The appendix demonstrates that, by utilizing a specific GIS-based modeling, with well-cleaned GIS data, water utilities can quite effectively determine which small groups of water mains have a much higher likelihood to fail earlier than peers. Further, the appendix demonstrates that replacing the highest LOF cohort of main first, can reduce annual O&M expenses directly related to main breaks by over 13% annually, leading to more investment capital available for proactive main replacements, and fewer disruptions to customers.

Methodology

Hypothesis:

1) GIS-based modeling can classify water mains into cohorts according to LOF
    a. Higher LOF cohorts will experience significantly higher break rates over time.
    b. Lower LOF cohorts contain a larger percentage of main, while Higher LOF cohorts contain a much smaller percentage of main.

2) By aligning more water main replacement opportunities with higher LOF cohorts, water utilities can reduce O&M costs and service disruptions related to emergency main break repair.

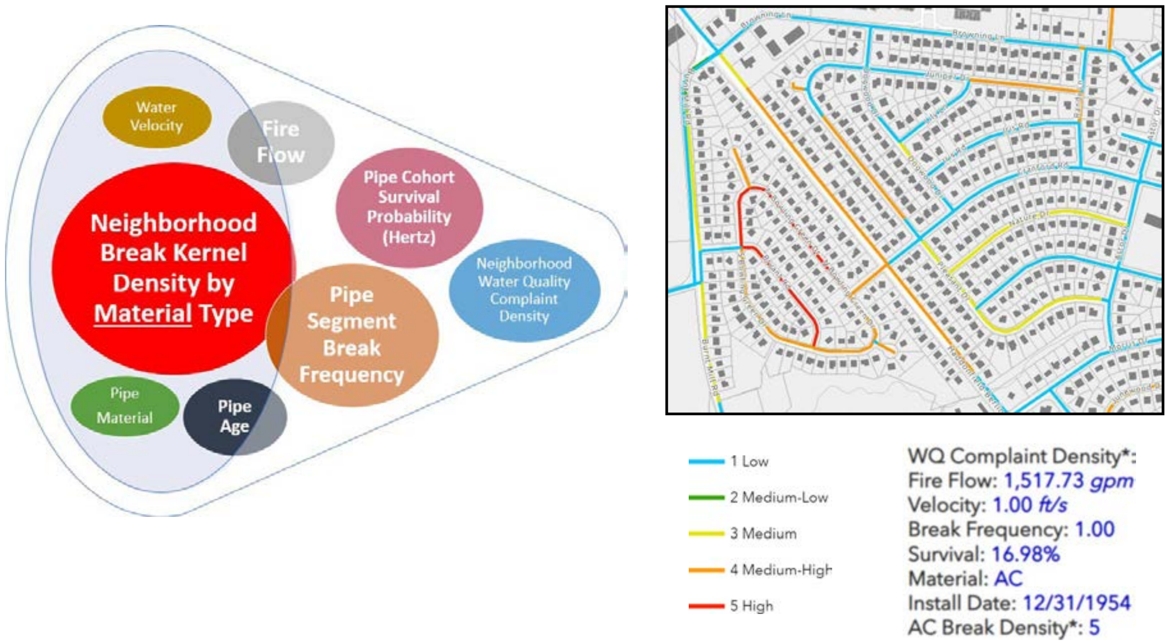


Figure 1 (not to scale) - Schematic of GIS-based LOF model. Variables are weighted, scored, and create five LOF cohorts. Water mains are assigned with LOF. End-users have the ability to select main from the map, and receive the raw variable values that contributed to the assignment of LOF (example attribute values of a main are displayed bottom-right).

The study tracked pipeline performance following a GIS-based model run in September 2017. This paper presents the results of the predictive model run, and the ***actual*** failure rates of water mains within each of five likelihood of failure (LOF) cohorts generated by the model. Specifically, the study tracked failures on each water main for two full calendar years trailing the GIS-based model run. Mains that were replaced during the interim years were excluded from annual failure rates.

Creating an "All Pipe" GIS Variable Analysis

Reliance on model guidance requires a high confidence in the validity of the data entered. Most utilities use GIS to track some portion of their asset inventory (EPA, 2013). The amount of time necessary to bring GIS & Field Transactional Data (i.e. break locations) to an acceptable level of accuracy for prediction will vary by utility. The prerequisite data cleansing is an exercise that is necessary for accurate predictive results, however, The Company has found that the labor cost is small compared to value delivered.

Case Study Areas & Data Quality Description - New Jersey

The Company has 3,779 miles of Cast-Iron main in New Jersey, spanning five geographic districts. Cast-Iron is a prevalent material in most of the 9,000+ mile study area and experiences the most breaks (% of main breaks for CI pipes), which makes it the largest sample available.

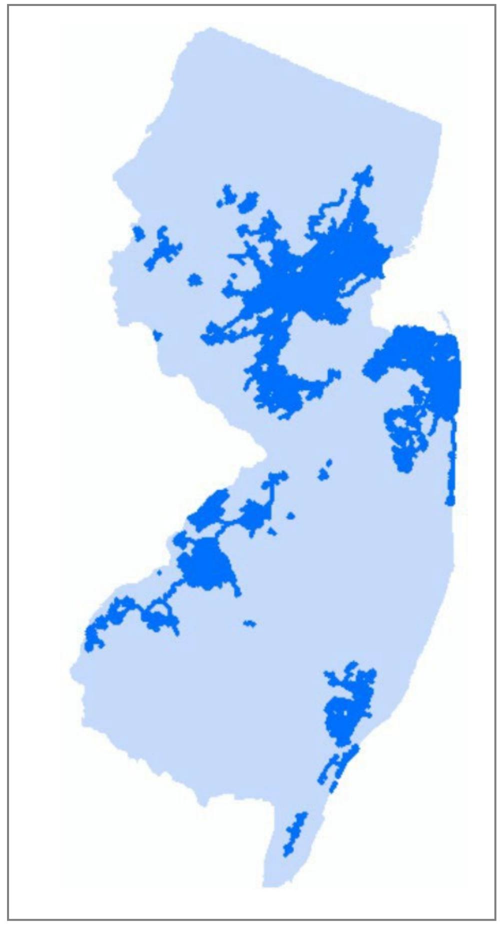


Figure 2 - *New Jersey American Water Distribution Network*

GIS data within the study area is considered excellent. Greater than **97%** of assets have assigned dates of install with reasonable expectations of accuracy, greater than **99%** have populated diameter with reasonable expectations of accuracy, and greater than **99%** have populated material type with reasonable expectation of accuracy. Greater than **99%** of the GIS assets have sub-foot GPS coordinates associated with the location. Every main break in the system, dating back five years prior to model run, has been manually snapped to the exact failure main segment within GIS. This effort was undertaken to eliminate the assignment of failure data to "good" mains by commonly used automated methods such as "Geocoding". Water quality complaints were similarly reviewed to ensure complaints were related to water quality, rather than temporary maintenance activity, such as hydrant flushing. Fire flow data and velocity data were appended to the GIS-based model from the company's hydraulic model.

Variable Weighting

In the model, each variable has a corresponding GIS layer. Every main segment in the model is assigned a value for each variable associated with it (if applicable). Table 1 displays variables and corresponding weights within the GIS-based model. Weights are applied to variable scores on a segment by segment basis within the model. Note that Consequence of Failure (COF) variables are available if desired. The authors considered most COF variables, apart from Water Quality Complaints, not to have any influence on water main failure predictions (LOF). As such, COF has been mostly excluded from this case study. The COF values, and other considerations, are certainly considered in later portions of the capital investment planning process, which are outside the scope of this appendix.

Table 1 Variables employed by the GIS model

Prioritization Criteria Variables & Weights			
Likelihood of Failure (LOF)	**Weight**	**Consequence of Failure (COF)**	**Weight**
Segment Break Frequency	20	Stream Crossing*	-
Break Density (Material 1 - Cast Iron)	20	Large Water Body Crossing*	-
Break Density (Material 2 - Ductile Iron)	20	Commercial Customer Density*	-
Break Density (Material 3 - Asbestos)	20	Water Quality Complaint Density	2
Break Density (Material 4 - Cement)	20	Railroad Crossing*	-
Break Density (continue as required)	20	Major Road Easement or Crossing*	-
Water Velocity	8	Connection Count*	-
Cohort Survival Probability	15	Medical Facilities*	-
Material	10	Company Critical Customers*	-
Age	10	School Facilities*	-
Available Fire Flow	8	Main Diameter*	-

** Most COF values are considered individually by project managers after LOF values are calculated*

Variable Scoring

Main Breaks (and leaks)

The GIS staff at New Jersey American Water developed two mechanisms for including failure data (main breaks or leaks) within the LOF prediction model. **"Frequency"** takes into account prior failure of a specific main, while **"Kernel Density Analysis" (ESRI, 2019a)** takes into account micro-geographies (neighborhoods) that may be adversely affecting certain material types of main within a very specific location, causing main of a certain material type to be particularly vulnerable to near-term failure.

a) Break *Frequency* per Segment (count of breaks and/or leaks by segment)

Break Frequency identifies individual segment failure counts. It is not a perfect measure, due to the arbitrary nature of pipe segmentation within a given GIS, however, it is a far more appropriate measure for segments analysis than using a break rate per segment. The American Water GIS (and most utility GIS) contain segment lengths that are often very small as well as *arbitrary in length*. Individual segment break rates, therefore, are not a useful variable for this study. The scores assigned to the pipe based on break frequency is shown in Table 2.

Table 2. Break Frequency Score Table

Break Frequency (count of breaks)	
Range	Score
0	0
1	8
>= 2	10

b) Break Kernel Density (rate of main breaks by neighborhood & material type)

Kernel Densities are the **most important** part of the GIS methodology, because they rank the anticipated performance of water main within a neighborhood whose boundaries are *governed by a phenomenon*, rather than by an imposed “zone”. This variable calculates from the data that ***something*** - the authors are not concerned ‘what’ - is negatively affecting a material in a small neighborhood, which places the remaining *matching* material within that neighborhood at a significantly elevated risk of failure. Break Kernel Densities are mathematical curves of spatial densities of main break activity. The GIS Kernel Densities can add nuance ranking that a human being could not easily perform, because it is able to add contributing factors that humans cannot easily observe or infer from the data.

In effect, Kernel Densities isolate supercharged break rates. Rather than measure on a system, town, or district meter zone level, Kernel Densities measure the intensity of the problem where it has been occurring. The extremely high break rates within these very small “hot spot” zones are the most influential factor on break rates within any size system. If a matching material main is within a hot spot, the GIS-based model does not automatically rank it as “High LOF”, but the main is scored quite high. If the main also has other negative variable scores, it will almost certainly fall within the High LOF cohort.

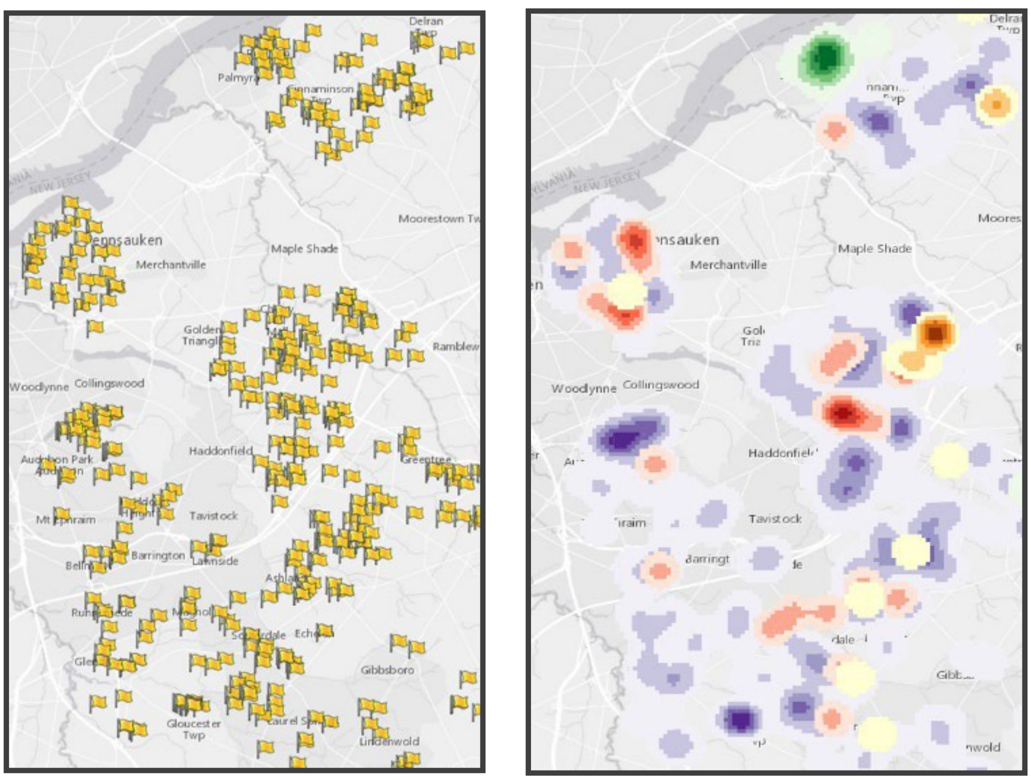


Figure 3. Break point locations and the corresponding Kernel Density “hot spots” of each material type. The case study in this paper focuses on cast iron, however, the full model ranks all material types.

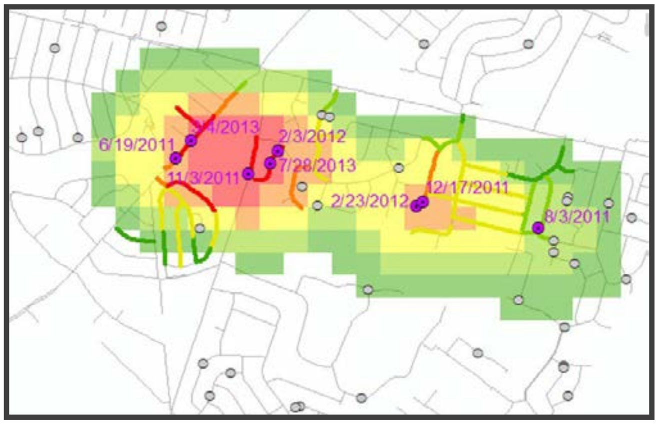


Figure 4. Break Kernel Density results revealing a localized Asbestos Cement material break "hot spot". Only water mains that are of this material type will receive a score from the hot spot by the GIS model. The matching main receives the "hottest" score that it "touches". Light gray mains in Figure 4 are of different material types, so they do not receive a negative score from this hot spot.

Break Kernel Density (rate) – Break Kernel Densities are calculated for material types that make up more than 5% of total breaks within a district. Density ranges are relative to the break population within each material and are classified by GIS with the Jenk's Natural Breaks (ESRI, 2019b) formula. The density scoring charts below are examples. Relative scores are determined by a density formula driven by location and frequency of breaks.

Note: Score classes for materials other than Cast Iron are displayed but not part of this case study.

Table 3 Break Kernel Density score chart examples.

Break Density Cast Iron (relative rate)	
Range	Score
<= 4	1
4 - 9	2
9 - 15	6
15 - 22	8
> 22	10
UNK	0

Break Density Ductile (relative rate)	
Range	Score
<= 2	1
2 - 4	2
4 - 7	6
7 - 11	8
> 11	10
UNK	0

Break Density Cement (relative rate)	
Range	Score
<= 4	1
4 - 8	2
8 - 12	6
12 - 16	8
> 16	10
UNK	0

Break Density Asbestos (relative rate)	
Range	Score
<= 2	1
2 - 4	2
4 - 6	6
6 - 8	8
> 8	10
UNK	0

Pipe Age

Several variable weights were attempted in early model testing, and the results were viewed side by side in test neighborhoods. The best and most granular results came from including Age & Material as individual variables in the model. Below is the Age variable scoring chart.

Table 4. Age score chart.

Age (install date)	
Range	Score
< 1910	10
1910 - 1930	9
1930 - 1950	7
1950 - 1970	6
1970 - 1990	4
1990 - 2010	2
> 2010	0

Cohort Survival Probability (Weibul algorithm) - These curves are applied within the GIS model and scored and weighted to appropriately reflect their *generalized* impact to predictive value. These curves represent water main material populations' life expectancies over time. Short, medium, and long-life expectancies for each material type are entered in a table that creates the curves by applying the algorithm. The formula creates a survival probability curve based on the material and age of the study area. For this analysis, the percent chance of survival at 5-years out from model runtime (2023) was chosen. The chart below (Figure 5) is an example with all material types and is not the actual data from the study.

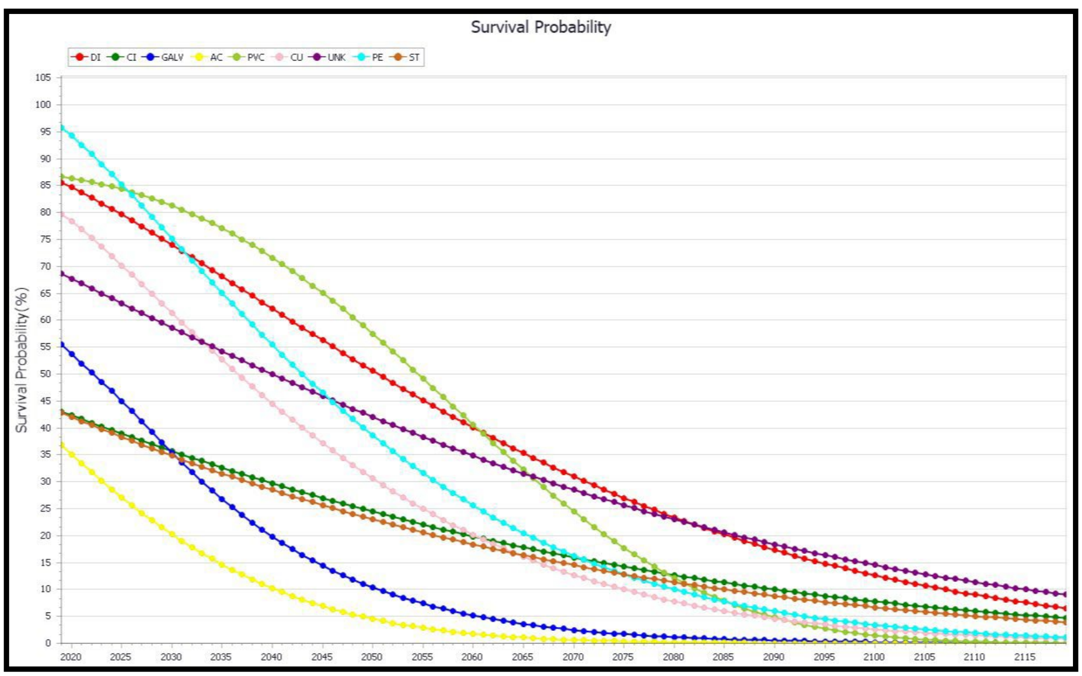


Figure 5. Weibul survival probability curves. This variable is produced by an industry standard algorithm that evaluates survival probability based on material type and age. This variable is very similar to "Nessie" curve guidance on pipe age replacement rates. As a variable within the GIS model, a point in time five years out (in this case 2023) is chosen to score the general survival probability of the pipe segment as part of its class.

Pipe Material

Below is the Material scoring chart for an all material type model run. This study only includes Cast Iron.

Table 5. Material score chart.

Material (type)	
Range	Score
Cast Iron	3
Ductile Iron	1
Asbestos	6
Cement	6
Galvanized	8
Unknown	3
Copper	5
PE	1
Steel	2
HDPE	1
Lead	7

Velocity

High flow velocity in distribution main can be an indicator of potential risk. Below is the Velocity scoring chart.

Table 6. Velocity score chart.

Velocity (feet/second)	
Range	Score
< 4	0
4 - 7	5
> 7	10

Water Quality Complaints

This variable is scored by Kernel Density, using a similar workflow as the other variables that use relative rates. Water quality complaint points are turned into hot spots. The classification of the scores is performed by the Jenks Natural Breaks method. Ranges are driven by location and frequency of complaints.

Table 7. Water quality complaint score chart. Classification performed by Jenks Natural Breaks.

Quality Complaint Density (relative rate)	
Range	Score
<= 4	0
4 - 9	2
9 - 16	5
16 - 27	8
> 27	10

Available Fire Protection

The Fire Flow (FF) scoring chart scores severity of low flows below the general desired 3500 gpm. Future plans include a more granular FF score based on local zoning layers, but this is not possible with current data availability.

Table 8. Fire Protection score chart.

Available Fire Flow (gpm)	
Range	Score
< 250	10
250 - 500	9
500 - 750	8
750 - 1000	7
1000 - 1500	4
1500 - 2500	3
2500 - 3500	2
> 3500	0

Case Study – Statewide Validation Results

Break rates are reported using the industry standard: Breaks / 100 Miles / Year. Colors within the table and the graph represent five LOF cohorts created by the GIS model (Low – High Risk of Failure). As discussed earlier, there are many valid reasons to replace water main besides the likelihood of failure. A Low LOF GIS cohort does not necessarily indicate a 'healthy' pipe or a pipe that is properly sized for the system. It simply indicates the pipe is not considered by the GIS LOF model to be of **imminent** risk for a near-term failure.

Figure 14 – Statewide GIS model cohort prediction performance of case cast iron main. The chart indicates a strong correlation between GIS model higher LOF cohorts and elevated near-term higher break rates. The data also indicates that the age variable alone is not a reliable differentiator between large deltas in break rates.

Cast Iron - Statewide				**Year 1**		**Year 2**	
Risk Cohort	Avg. Age (years)	Miles	% of Total	Breaks	Breaks / 100 miles / Year	Breaks	Breaks / 100 miles / Year
Low	57	1799	47.6%	329	18	200	11
Medium-Low	72	1142	30.2%	306	27	181	16
Medium	75	509	13.5%	209	41	139	27
Medium-High	89	248	6.6%	149	60	107	43
High	92	81	2.1%	87	107	114	141

Figure 14 illustrates that, over the two-year study period, greater than 77% of The Company's cast iron pipes experienced a significantly lower break rate than the 2018 national average of 34.8 breaks / 100 miles / Year for cast iron pipe (Folkman, 2018). Further, the table indicates that age alone is not a reliable indicator of large increases in break rates. The average age difference between Medium-Low and Medium GIS LOF cohorts is only three years; however, the break rate increases an average of 138%. Similarly, the

Medium-High and High-LOF cohorts have only a three-year delta of average age, however, the break rate of the High-LOF cohort is 240% greater than the Medium-High LOF cohort over the study period. Indeed, a mere 2.14% of Cast Iron pipe experienced break rates more than 3x the national average. This is not to say that age does not matter. Age is included as a variable within the GIS LOF model, both directly, and indirectly as part of the Weibul survival variable. The overall validation results chart indicates, however, that age as an individual factor is more pronounced at roughly the 60-year-old and 80-year-old thresholds.

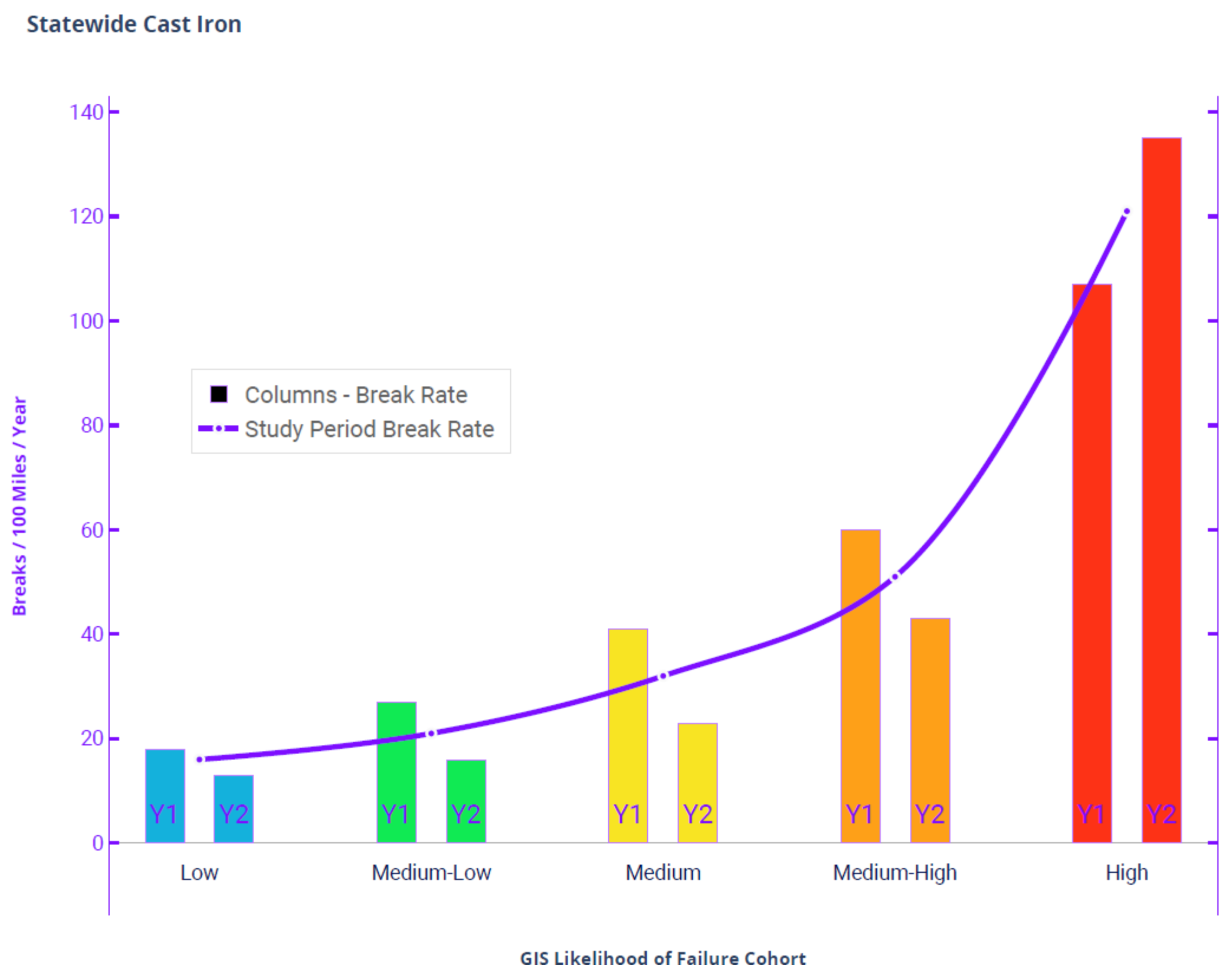


Figure 15 – Statewide GIS model cohort prediction performance of case cast iron main. The graph and purple trend line indicate a strong correlation between the GIS model LOF cohorts and elevated near-term break rates.

Each LOF cohort in **Figure 15** has two bars representing the Year 1 & Year 2 actual failure rates. The purple right-axis measures the actual failure rate. The purple trend line displays the Years 1 & 2 actual break rate average within each GIS prediction cohort. The trend line illustrates the potential of the GIS model to refine asset replacement strategies. The AWWA "Buried No Longer" and other similar high-level age-based guidance are not granular enough to inform individual replacement decisions, leaving professionals to call on institutional knowledge, system records, and human processes to guide prioritization with limited funds available.

The GIS model developed by New Jersey American Water, however, has performed a completely different type of assessment of pipes than age-based guidance methods are designed to identify. The GIS model applies simple mathematics, using a limited number of important variables, to each pipe segment in a "bottom-up" manner. As a result of careful attendance to GIS data quality, the model can identify trends within small groups of pipes which will experience failure first. Note, there is a higher raw number of breaks in lower LOF cohorts. This is expected random failure behavior, given the far larger population within these cohorts. While there is variation year-to-year in the total number of breaks, as well as in the magnitude of break rate within cohorts, the validation study indicates there is a high degree of correlation between actual failure rates and GIS model LOF prediction cohorts.

Validation Conclusions

The GIS-based model and validation study confirmed the two hypotheses:

1) GIS-based modeling can identify small cohorts of water main at high LOF for near-term failure.
    a. Higher LOF cohorts will experience higher break rates over time.
2) By aligning more main replacement opportunities with higher LOF cohorts, water utilities can reduce O&M costs and service disruptions related to emergency main break repair.

The GIS-based model has performed a far more granular, as well as comprehensive, assessment of all pipes than traditional industry age-based guidance and assessment methods are designed to identify. While there is variation year-to-year in the total number of breaks, as well as in the magnitude of break rate within cohorts, the case study suggests a high degree of correlation between actual failure rates and GIS LOF prediction cohorts. It is imperative, however, that the GIS data be properly maintained and curated. GIS data is central to utilities' ability to predict LOF reliably. While largely a manual effort, labor costs associated with GIS data cleansing are low compared to the value delivered.

New Jersey American Water's GIS-based computer LOF model removes a significant amount of subjectivity from baseline prioritization, by providing a "bottom up" comprehensive score of each main. No artificial intelligence is required. The variables considered are not novel, however, the attention to precision & accuracy within the GIS system is. The validation results show that, when variables that effect the condition of a main are assigned as attribution to the *correct* mains within a GIS system, the system can then produce a remarkably accurate, reproducible, and granular failure prediction model.

March 2022 Update – Year 3 and Year 4 Prediction Performance

New Jersey American Water continues to track the predictive performance of its pipeline prioritization model on the original cohorts of LOF risk year over year. The predictive ability of the model has remained remarkably stable within the Low to Medium-High cohorts in Year Two through Year Four. Figure 16 displays a chart of main failure statistics (breaks) upon the original Low, Medium-Low, Medium, Medium-High, and High Risk Cohorts. As a reminder, this chart tracks the *original* cohorts of main failure statistics. As the years progress, the length of miles of water main within each cohort decreases, particularly rapidly within the "High" Risk Cohort, as the company replaces infrastructure.

Cast Iron - Statewide				Year 1		Year 2		Year 3		Year 4	
Risk Cohort	Miles (circa 2017)	Avg Age (Years)	% of Total	Breaks	Breaks/100 Mile/Year	Breaks	Breaks/100 Mile/Year	Breaks	Breaks/100 Mile/Year	Breaks	Breaks/100 Mile/Year
Low	1,799	57	47.6%	329	18	200	11	211	12	262	15
Medium-Low	1,142	72	30.2%	306	27	181	16	174	15	237	21
Medium	509	75	13.5%	209	41	139	27	114	22	134	26
Medium-High	248	89	6.6%	149	60	107	43	98	40	99	40
High	81	92	2.1%	87	107	114	141	43	53	58	72

Figure 16 – Statewide GIS model cohort prediction performance of case cast iron main. The chart indicates a strong correlation between GIS model higher LOF cohorts and elevated near-term higher break rates. The data also indicates that the age variable alone is not a reliable differentiator between large deltas in break rates.

Figure 17 displays the same information as Figure 16, for Year 3 and Year 4, in graph form. The graph has two bars representing the Year 3 & Year 4 actual failure rates of Cast-Iron main (statewide). The purple right-axis measures the actual failure rate. The purple trend line displays the Years 3 & 4 actual break rate average within each GIS prediction cohort. Both the chart and the graph show that a strong correlation between the prioritization model LOF Risk Cohorts and observed water main failures has continued throughout the four-year period. The authors attribute the variability within the highest risk cohort to small (and shrinking) length of main within the "High" risk cohort. The other four risk cohorts show remarkable "Breaks/100 Mile/Year" stability throughout the four-year observation.

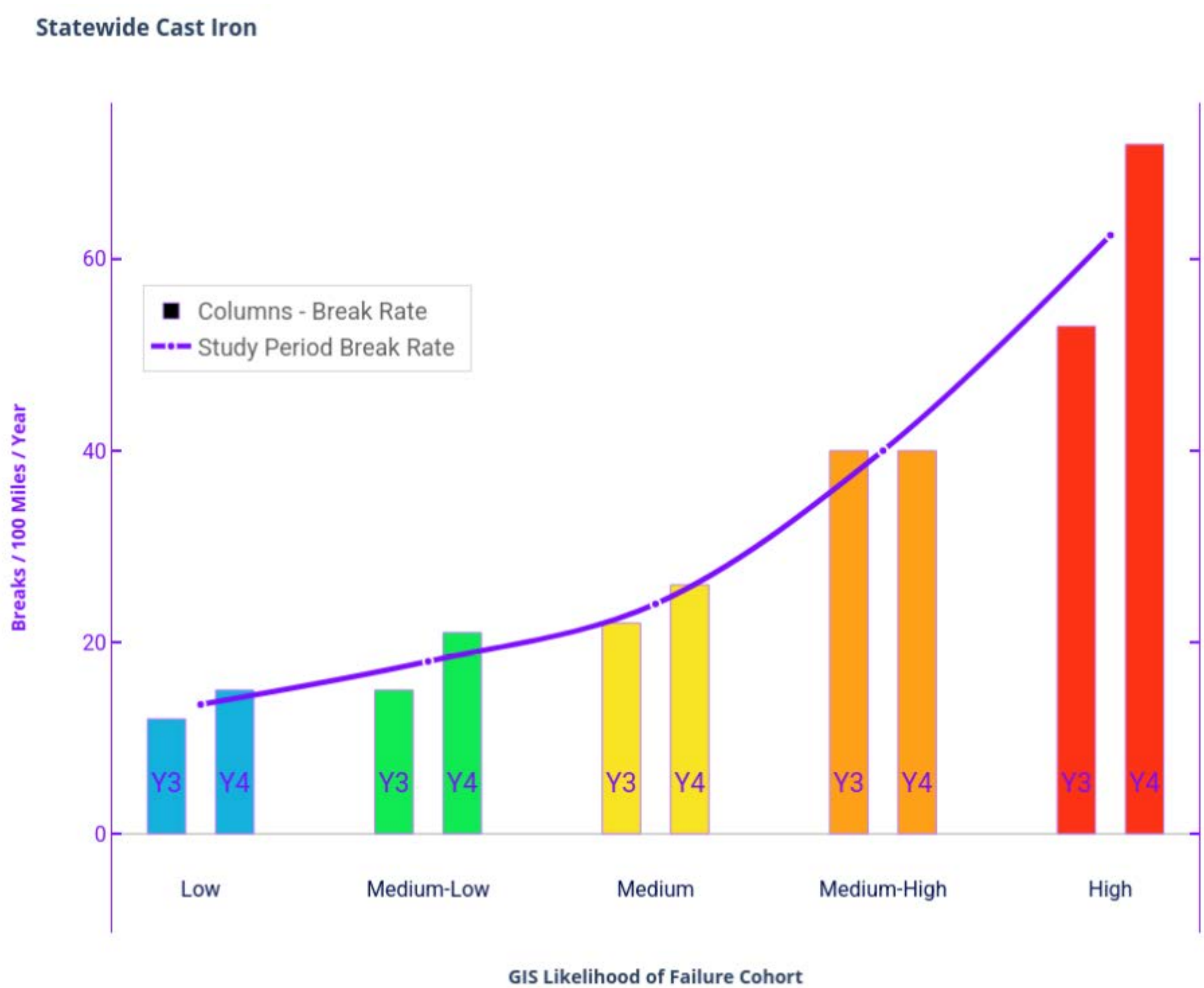


Figure 17 – Statewide GIS model cohort prediction performance of case cast iron main Year 3 and Year 4. The graph and purple trend line indicate a continued strong correlation between the GIS model LOF cohorts and elevated near-term break rates.

Reference

ESRI. (2019a). *Kernel Density*. Retrieved from http://resources.arcgis.com/en/help/main/10.2/index.html#//009z0000000s0

ESRI. (2019b). *Jenk's Natural Breaks*. Retrieved from http://support.esri.com/en/knowledgebase/GISDictionary/term/Jenks'%20optimization http://resources.arcgis.com/en/help/main/10.1/index.html#//00s50000001r000000

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
11277	ABSECON	Pine Street & Shady Lane (Pitney Road to	$ 630,000	Replace	1803	8.00	Ductile Iron	1940	6	AC	Safety and Reliability/Structural	60	> 2026
11278	ABSECON	Spruce Street (Pitney Road to Sycamore	$ 540,000	Replace	587	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	> 2026
11279	ABSECON	Mill Road (12th St to Pitney Rd), Seminole	$ 817,500	Replace	2179	8.00	Ductile Iron	1940	6	AC	Safety and Reliability/Structural	90	> 2026
11348	ABSECON	Cherokee Lane from Shore Rd to End	$ 82,500	Replace	297	6.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	30	2025Q4
11232	AUDUBON	Kings Highway- E. Lake to West Atlantic	$ 2,000,000	Replace	5032	12.00	Ductile Iron	1920	12	CI	Relocation/Opportunity	120	> 2026
11340	BEDMINSTER	Somerville Rd from Main St south to VBED-624	$ 200,000	Replace	507	8.00	Ductile Iron	1980	4	CI	Safety and Reliability	60	2025Q4
11427	BELVIDERE	Kensington Cir and Brookfield Dr (Brass Castle	$ 1,200,000	Replace	1937	12.00	Ductile Iron	2000	8	DI	System Flows and Pressure	60	> 2026
11429	BELVIDERE	2nd St & 3rd St (From Mansfield St to	$ 540,000	Replace	860	12.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	> 2026
11431	BELVIDERE	2nd St & 3rd St (Hardwick St to Oxford St)	$ 880,000	Replace	1600	8.00	Ductile Iron	1930	4	CI	System Flows and Pressure	60	> 2026
11433	BERKELEY HEIGHTS	Rogers Pl	$ 230,000	Replace	554	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
11235	BOUND BROOK BOROUGH	Somerset Street Main Replacement	$ 300,000	Replace	900	8.00	Ductile Iron	1950	6	CI	System Flows and Pressure	60	2025Q4
11319	BOUND BROOK BOROUGH	Talmage Avenue	$ 1,000,000	Replace	530	10.00	PVC	1960	10	CI	Safety and Reliability	60	2024Q4
11086	BRIDGEWATER TWP	Talamini Road 16" Main Rehabilitation	$ 250,000	Replace	1053	16.00	Ductile Iron	1960	16	ST	Crossing Risk Reduction	60	> 2026
11426	BRIDGEWATER TWP	Bridgewater - Alternative 3 (Concord Dr from	$ 1,375,000	Replace	2079	8.00	Ductile Iron	2010	8	DI	System Flows and Pressure	90	> 2026
11390	CAMDEN	Pierce Avenue and North 16th Avenue	$ 400,000	Replace	1573	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	60	> 2026
11121	CHATHAM TWP	Shunpike Rd from Loantaka to Southern Blvd	$ 1,200,000	Replace	2377	12.00	Ductile Iron	1980	12	DI	Safety and Reliability/Structural	90	2024Q3
11234	CHERRY HILL	Cherry Hill- Park Blvd	$ 600,000	Replace	1822	8.00	Ductile Iron	1980	8	DI	Relocation/Opportunity	60	> 2026
11281	CHERRY HILL	Howard Johnson Rd	$ 260,000	Replace	1300	8.00	Ductile Iron	1960	12	CI	Safety and Reliability/Structural	60	> 2026
11342	CHERRY HILL	Cherry Hill - Viking Road, West Country Club Court, Queen Anne Road	$ 400,400	Replace	1777	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	60	> 2026
11343	CHERRY HILL	Cherry Hill - Wesley Avenue, Cooper Avenue,	$ 1,276,000	Replace	5749	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	120	2026Q4
11344	CHERRY HILL	Cherry Hill - Harrison Avenue, Harding	$ 1,575,200	Replace	7152	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	120	2025Q4
11345	CHERRY HILL	Cherry Hill- Wheelwright Lane, Meadow Lane	$ 500,000	Replace	1740	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2025Q4
11346	CHERRY HILL	Cherry Hill- Regent Road	$ 500,000	Replace	1831	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2026Q4
11328	CINNAMINSON	Cinnaminson - Wedgewood Drive; Winding	$ 1,240,000	Replace	5636	8.00	Ductile Iron	1960	6	AC	Safety and Reliability/Structural	120	> 2026
11338	CINNAMINSON	Meadowview Drive and Berkshire Drive	$ 420,000	Replace	1834	8.00	Ductile Iron	1970	6	CI	Safety and Reliability/Structural	60	> 2026
11387	DELANCO	Franklin Street, Pine Street, Rancoas Avenue	$ 400,500	Replace	1543	8.00	Ductile Iron	1930	4	CI	Safety and Reliability/Structural	60	2025Q4
11119	DELRAN	Dartmouth Rd, Penn Dr, Rutgers Drive, Princeton Drive	$ 1,400,000	Replace	5702	8.00	Ductile Iron	1960	8	CI	Relocation/Opportunity	120	> 2026
11120	DELRAN	Delran- Suburban Blvd, Hollyoake Drive and Princeton Drive	$ 1,400,000	Replace	6115	8.00	Ductile Iron	1960	8	CI	Relocation/Opportunity	120	> 2026
11351	EGG HARBOR CITY	Atlantic Ave from 1st Terr to Philadelphia Ave	$ 898,000	Replace	1862	12.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	2024Q4
11353	EGG HARBOR CITY	London Ave, Liverpool Ave, W. Atlantic and	$ 826,200	Replace	1589	12.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2024Q4
11354	EGG HARBOR CITY	Philadelphia Avenue from W. Atlantic Avenue to Belladonna Avenue	$ 695,000	Replace	2000	12.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2024Q4
11358	EGG HARBOR CITY	Aloe Street (Philadelphia Ave to St. Louis	$ 755,000	Replace	2850	12.00	Ductile Iron	1960	6	DI	Safety and Reliability/Structural	90	2026Q4
11359	EGG HARBOR CITY	North Street & Main Street (Philadelphia to Cape May) Cincinnati Ave & Cape May Ave	$ 764,500	Replace	2780	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2025Q4
11360	EGG HARBOR CITY	Central Ave (Philadelphia to Cape May),	$ 539,000	Replace	1960	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2025Q4
11363	EGG HARBOR CITY	8th Terrace from Claudius St to Beethoven St -	$ 900,000	Replace	2000	16.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2024Q4
11364	EGG HARBOR CITY	8th Terrace from Claudius St to Beethoven St -	$ 650,000	Replace	2284	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2025Q4
11365	EGG HARBOR CITY	Beethoven Street from 8th Terrace to 12th	$ 947,000	Replace	1660	16.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11366	EGG HARBOR CITY	Beethoven St (8th Terr to 5th Terr), 5th Terrace (Beethoven to Arago St), Arago St (5th Terr to 3rd Terr)	$ 1,115,000	Replace	2700	16.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2025Q4
11367	EGG HARBOR CITY	6th Terrace (Claudius Street to Buerger Street)	$ 567,000	Replace	1260	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11368	EGG HARBOR CITY	5th Terrace from Diesterweg Street to Buerger Street	$ 832,500	Replace	1860	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11369	EGG HARBOR CITY	Liverpool Ave (Claudius St to Campe St), Campe Street (Liverpool to 3rd Terr), 4th	$ 1,075,000	Replace	2500	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2025Q4
11370	EGG HARBOR CITY	London Ave and 3rd Terrace (Campe St to	$ 920,000	Replace	2300	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2025Q4
11371	EGG HARBOR CITY	9th Terrace (Campe Street to Beethoven Street)	$ 500,800	Replace	1270	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11372	EGG HARBOR CITY	10th Terrace (Campe Street to Beethoven	$ 508,000	Replace	1270	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4

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11373	EGG HARBOR CITY	11th Terrace (Campe Street to Beethoven Street)	$ 640,000	Replace	1600	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11374	EGG HARBOR CITY	12th Terrace (Campe St to Beethoven St), Buerger St (12th Terr to 14th Terr) & 13th	$ 1,052,000	Replace	2630	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
11375	EGG HARBOR CITY	Claudius St (8th Terr to 10th Terr), 9th and	$ 800,000	Replace	2000	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2025Q4
11376	EGG HARBOR CITY	Diesterweg Street (Chicago Ave to 10th Terr),	$ 760,000	Replace	1900	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11377	EGG HARBOR CITY	Baltimore Ave (Atlantic to Beethoven),Beethoven to Bremen Avenue	$ 795,000	Replace	2024	16.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	90	2025Q4
11378	EGG HARBOR CITY	9th Terrace (Rt 30 to Campe Street)	$ 775,000	Replace	2586	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2026Q4
11379	EGG HARBOR CITY	Diesterweg St (Chicago to 10th Terr), Chicago and 10th Terr to Claudius Street	$ 803,400	Replace	2289	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2025Q4
11380	EGG HARBOR CITY	Claudius St (8th Terr to 10th Terr), Chicago	$ 633,000	Replace	2159	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2025Q4
11381	EGG HARBOR CITY	Beethoven St (Baltimore to San Francisco Ave), San Francisco and 12th Terr to Buerger	$ 917,000	Replace	2089	16.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	90	2026Q4
11382	EGG HARBOR CITY	Buerger Street (Philadelphia Ave to San	$ 973,500	Replace	2765	16.00	Ductile Iron	1960	10	CI	Safety and Reliability/Structural	90	2026Q4
11383	EGG HARBOR CITY	10th Terr (Beethoven to Campe), Campe St	$ 630,000	Replace	2100	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	2026Q4
11384	EGG HARBOR CITY	11th Terrace (Beethoven to Campe),	$ 850,500	Replace	2835	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2026Q4
11385	EGG HARBOR CITY	5th Terrace from Claudius Street to	$ 600,000	Replace	1949	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
11392	EGG HARBOR CITY	Atlantic Avenue from 13th Terr to Bremen	$ 492,000	Replace	1640	12.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
11393	EGG HARBOR CITY	White Horse Pike (Baltimore to New Orleans), New Orleans Ave (White Horse Pike to	$ 632,000	Replace	1520	12.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	60	2026Q4
11394	EGG HARBOR CITY	Atlantic Ave (Philadelphia Ave to St Louis	$ 672,000	Replace	2240	8.00	Ductile Iron	1960	4	CI	Safety and Reliability/Structural	90	2026Q4
11341	FLORHAM PARK	Saint Elizabeth easement between Park Ave	$ 800,000	Rehab	600	30.00	Other	1990	30	DI	Crossing Risk Reduction	60	2024Q4
11330	GIBBSBORO	Gibbsboro - Winding Way and Cedarcroft	$ 1,060,400	Replace	4816	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	120	> 2026
11081	GREEN BROOK TWP	N Washington Ave (from VGRE-900 to	$ 385,000	Replace	1118	16.00	Ductile Iron	2010	8	DI	System Flows and Pressure	60	> 2026
11133	GREEN BROOK TWP	"US Highway 22" (from VGRE-261 to N	$ 195,000	Replace	646	12.00	Ductile Iron	1930	8	CI	System Flows and Pressure	60	2024Q4
11217	HADDONFIELD	Haddonfield - Homestead Avenue & Barberry	$ 525,000	Replace	1500	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11218	HADDONFIELD	Haddonfield - Westmont Avenue	$ 245,000	Replace	700	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11219	HADDONFIELD	Haddonfield - Patco	$ 143,500	Replace	410	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	30	> 2026
11228	HADDONFIELD	Elm - Woodland - N. Atlantic	$ 250,000	Replace	1026	8.00	PVC	UNK	UNK	UNK	Safety and Reliability	60	> 2026
11314	HADDONFIELD	Lincoln Avenue PATCO Crossing	$ 1,000,000	Replace	196	8.00	Ductile Iron	1790	6	CI	Safety and Reliability/Structural	30	> 2026
11333	HAINESPORT TWP	Hainesport - Haines Avenue, Princess Avenue,	$ 630,000	Replace	3148	6.00	Ductile Iron	1960	2	PVC	Safety and Reliability/Structural	90	> 2026
11391	HAINESPORT TWP	Delaware Avenue, MAryland Avenue, Spruce	$ 1,250,000	Replace	5686	8.00	Ductile Iron	1970	6	AC	System Flows and Pressure	120	> 2026
11117	HARRISON TWP	Harrison Twp - 58 Woodstown Rd	$ 1,000,000	Replace	2972	8.00	Ductile Iron	1970	6	DI	Safety and Reliability/Structural	90	> 2026
11236	HIGHLANDS	Beach Blvd	$ 20,000	Replace	95	6.00	Ductile Iron	1950	2	GALV	Relocation/Opportunity	30	> 2026
11129	HILLSIDE	"Manor Dr" (from Walker Ave to Village)	$ 530,700	Replace	1769	12.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2024Q4
11130	HILLSIDE	"Walker Ave" (from Elaine Ter N to Manor Dr)	$ 147,000	Replace	490	12.00	Ductile Iron	1960	8	DI	Safety and Reliability/Structural	30	2026Q4
11152	HILLSIDE	"Leslie Street" (from Valve VHSD-1680 to	$ 110,000	Replace	440	8.00	Ductile Iron	1920	8	CI	Safety and Reliability	30	2024Q4
11067	IRVINGTON	Irvington – Chancellor Ave From Mt. Vernon	$ 900,000	Replace	2445	16.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	90	2025Q1
11075	IRVINGTON	IRVINGTON – Stuyvesant Ave from Boyden	$ 320,000	Replace	868	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2025Q4
11076	IRVINGTON	IRVINGTON – Mill Rd and Union Ave between Union Place and Chancellor Avenue	$ 1,400,000	Replace	2292	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	90	2025Q4
11315	IRVINGTON	Westervelt Pl	$ 100,000	Replace	300	6.00	Ductile Iron	1920	2	galvanized	Water Quality	30	> 2026
11195	JAMESBURG	Ridgeview Avenue Main Replacement	$ 500,000	Replace	2503	8.00	Ductile Iron	1960	8	AC	Water Quality	90	2024Q4
11196	JAMESBURG	Hilltop Court Main Replacement	$ 250,000	Replace	685	8.00	Ductile Iron	1960	6	AC	Water Quality	60	2024Q4
11322	JAMESBURG	Perrineville Road Main Replacement	$ 1,500,000	Replace	1500	8.00	Ductile Iron	1960	6	DI	Safety and Reliability	60	2025Q4
11200	KENILWORTH	Newark Ave (S 23rd St to Market St)	$ 500,000	Replace	2212	8.00	Ductile Iron	1940	6	CI	Water Quality	90	> 2026
11142	LAKE COMO	South Lake Dr from Myrtle Pl to Bradshaw Rd	$ 883,520	Replace	2008	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2024Q4
11078	LAKEWOOD	Prospect St: Havenwood to Summer	$ 987,500	Replace	1975	16.00	Ductile Iron	1990	12	CI	Relocation/Opportunity	60	> 2026
11088	LAKEWOOD	Prospect St: Massachusetts Ave to River Rd (RT9)	$ 1,168,000	Replace	2708	12.00	Ductile Iron	1980	12	CI	System Flows and Pressure	90	> 2026
11134	LAKEWOOD	Lexington Ave from Hudson St to 7th St	$ 1,111,000	Replace	2525	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026

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11135	LAKEWOOD	Squankum Road from East County Line Road to Princeton Ave	$ 937,200	Replace	2130	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2024Q4
11136	LAKEWOOD	11th Ave & Clifton Ave from Madison Ave to	$ 308,440	Replace	701	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11137	LAKEWOOD	Caranetta Drive from Harrison Place to Kimball Road	$ 257,840	Replace	586	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11138	LAKEWOOD	Ridge Ave & Negba St from Park Ave to E 4th	$ 875,600	Replace	1990	10.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11139	LAKEWOOD	Prospect St & Havenwood Ct from Xst Wood	$ 708,840	Replace	1611	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11141	LAKEWOOD	River Ave (Rt9) from Buttell Ave to Henry St	$ 165,000	Replace	250	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	30	2024Q4
11143	LAKEWOOD	North Lake Drive from Lakewood Ave to	$ 1,716,000	Replace	3900	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2024Q4
11144	LAKEWOOD	E County Line Rd (CR526) from Madison Ave	$ 1,531,200	Replace	2320	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2024Q4
11145	LAKEWOOD	1st St from Madison Ave to Monmouth Ave	$ 641,080	Replace	1457	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11146	LAKEWOOD	Ocean Ave from Linden Ave to Clover St	$ 532,400	Replace	1210	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11149	LAKEWOOD	Liden Ave from Somerset Ave to Ocean Ave	$ 440,880	Replace	1002	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11150	LAKEWOOD	Somerset Ave from E 7th Street to E Bergen	$ 1,604,240	Replace	3646	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2025Q4
11151	LAKEWOOD	Shafto Ave from E County Line Rd to	$ 371,800	Replace	845	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11155	LAKEWOOD	Harvard St from Apple St to Park Pl	$ 430,760	Replace	979	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11156	LAKEWOOD	Ridge Ave from Somerset Ave to Manetta Ave	$ 399,960	Replace	909	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11157	LAKEWOOD	Ocean Ave/Main St from Clover St to Madison Ave	$ 1,848,000	Replace	4200	16.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	120	2025Q4
11158	LAKEWOOD	E 5th St to School St to Clover St to Bergen St	$ 669,240	Replace	1521	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11159	LAKEWOOD	E 5th St from Ridge 4th St to Manetta Ave	$ 551,320	Replace	1253	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11160	LAKEWOOD	Negba St from Ridge Ave to E 4th Ave	$ 343,640	Replace	781	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11161	LAKEWOOD	Ridge Ave from E 5th St to Dena Ct	$ 686,400	Replace	1560	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11162	LAKEWOOD	E 4th St from Windsor Ct to Negba St	$ 523,160	Replace	1189	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11163	LAKEWOOD	Cottage Pl/Pearl St from E 4th St to Ocean Ave	$ 623,920	Replace	1418	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11164	LAKEWOOD	Congress St from Woehr St to Bruce St	$ 146,960	Replace	334	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	30	2025Q4
11165	LAKEWOOD	Park Ave/Maple Ave from Ridge Ave to Hackett St	$ 662,640	Replace	1506	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11166	LAKEWOOD	2nd St from Madison Ave to Monmouth Ave	$ 704,440	Replace	1601	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11167	LAKEWOOD	3rd St from Madison Ave to Monmouth Ave	$ 700,040	Replace	1591	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11168	LAKEWOOD	4th St from Madison Ave to Princeton Ave	$ 1,056,440	Replace	2401	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
11169	LAKEWOOD	Clifton Ave from 5th St to Main St	$ 819,280	Replace	1862	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11170	LAKEWOOD	5th St from Madison Ave to Marys Lane	$ 1,166,440	Replace	2651	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
11171	LAKEWOOD	6th St from Madison Ave to Marys Lane	$ 1,238,160	Replace	2814	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
11172	LAKEWOOD	7th St from Madison Ave to Marys Lane	$ 1,359,160	Replace	3089	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
11174	LAKEWOOD	8th St from Princeton Ave to terminus	$ 451,440	Replace	1026	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11175	LAKEWOOD	Carey St from Monmouth Ave to Squankum	$ 508,200	Replace	1155	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11176	LAKEWOOD	12th St from Monmouth Ave to Squankum Rd	$ 598,400	Replace	1360	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11177	LAKEWOOD	Carey St from Clifton Ave to Monmouth Ave	$ 451,440	Replace	1026	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11178	LAKEWOOD	Clifton Ave from 12th St to 6th St	$ 1,082,840	Replace	2461	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2026Q4
11179	LAKEWOOD	Lexington Ave from 6th St to Main St	$ 886,600	Replace	2015	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026
11180	LAKEWOOD	Monmouth Ave from 12th St to 2nd St	$ 1,734,920	Replace	3943	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026
11181	LAKEWOOD	Davis Road from Central Ave to S Lake Dr	$ 177,760	Replace	404	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	30	> 2026
11182	LAKEWOOD	Sunset Road from Central Ave to S Lake Dr	$ 328,680	Replace	747	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11183	LAKEWOOD	S Lake Dr from Myrtle Pl to Bradshaw Rd	$ 828,960	Replace	1884	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11194	LAKEWOOD	12th St Sewer from Clifton to Monmouth	$ 386,320	Replace	878	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11202	LAKEWOOD	Pearl St from Bruce Ave to Ocean Ave	$ 81,500	Replace	327	8.00	Ductile Iron	1950	6	DI	Safety and Reliability/Structural	30	> 2026
11203	LAKEWOOD	Ridge Ave from E 4th St to Hackett St	$ 311,500	Replace	1232	6.00	Ductile Iron	1950	6	CI	Safety and Reliability	60	2026Q3

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11204	LAKEWOOD	Ridge 4th St from Ridge Ave to E 4th St	$ 132,250	Replace	528	8.00	Ductile Iron	1950	6	DI	Safety and Reliability	60	> 2026
11205	LAKEWOOD	Leigh Dr from New Central Ave to CR528	$ 255,000	Replace	1020	8.00	Ductile Iron	1980	6	CI	Safety and Reliability	60	> 2026
11206	LAKEWOOD	Royal Ave from Leigh Dr to Glen Ave	$ 182,250	Replace	729	8.00	Ductile Iron	1970	6	CI	Safety and Reliability	60	> 2026
11207	LAKEWOOD	Central Ave from Hollywood to Miller	$ 981,175	Replace	3019	12.00	Ductile Iron	1980	8	CI	Safety and Reliability	90	> 2026
11208	LAKEWOOD	Carlton Ave from Central Ct to Glen Ave	$ 172,475	Replace	771	8.00	Ductile Iron	1970	6	AC	Safety and Reliability	60	> 2026
11209	LAKEWOOD	Columbus Ave from Central ave to cul-de-sac	$ 180,450	Replace	593	8.00	Ductile Iron	1970	6	AC	Safety and Reliability	60	> 2026
11210	LAKEWOOD	Knoll Rd from Glen Ave to Columbus Ave	$ 80,550	Replace	358	8.00	Ductile Iron	1970	6	AC	Safety and Reliability	30	> 2026
11211	LAKEWOOD	Hudson St sewer from MLK845 to Washington PL	$ 96,800	Rehab	220	8.00	Other	UNK	UNK	UNK	Safety and Reliability/Structural	30	> 2026
11212	LAKEWOOD	Myrtle Pl sewer from Valley Dr to S Lake Dr	$ 178,200	Replace	405	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	30	> 2026
11288	LINDEN CITY	Mildred Ave.	$ 350,000	Replace	1756	8.00	Ductile Iron	1920	6	CI	Safety and Reliability/Structural	60	> 2026
11186	LOGAN TWP	Sheets Ave. Bridgeport /Logan Twp	$ 70,000	Replace	394	2.00	HDPE	1980	1	PVC	Safety and Reliability/Structural	30	> 2026
11064	LONG BRANCH	Hennessey St Main Replacement	$ 65,000	Replace	260	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q4
11065	LONG BRANCH	S Cookman St Main Replacement	$ 80,000	Replace	318	6.00	Ductile Iron	1920	2	CI	Safety and Reliability/Structural	30	2025Q4
11066	LONG BRANCH	Columbia Ave Main Replacment	$ 105,000	Replace	402	8.00	Ductile Iron	1920	4	CI	Safety and Reliability/Structural	30	2025Q4
11395	LONG HILL TWP	Douglas Rd & Spencer Rd	$ 800,000	Replace	2076	8.00	Ductile Iron	1940	6	CI	Safety and Reliability	90	2026Q4
11324	MAGNOLIA	Magnolia - North Warwick Road (CR-669)	$ 600,000	Replace	2309	8.00	Ductile Iron	1950	6	CI	Safety and Reliability	90	> 2026
11331	MAGNOLIA	Stephen Place	$ 80,000	Replace	360	6.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	30	> 2026
11332	MAGNOLIA	Magnolia - Washington Avenue and Cumberland Avenue	$ 559,000	Replace	2532	8.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	90	> 2026
11109	MANVILLE BOROUGH	Dukes Parkway Main Replacement	$ 2,500,000	Replace	1346	12.00	Ductile Iron	1960	10	AC	System Flows and Pressure	60	2025Q4
11147	MANVILLE BOROUGH	North 11th Avenue Main Replacement	$ 250,000	Replace	588	8.00	Ductile Iron	1960	6	AC	Water Quality	60	> 2026
11148	MANVILLE BOROUGH	North 10th Avenue Main Replacement	$ 250,000	Replace	525	8.00	Ductile Iron	1960	6	AC	Water Quality	60	> 2026
11398	MANVILLE BOROUGH	Jackson Avenue Main Replacement	$ 750,000	Replace	2643	8.00	Ductile Iron	1960	6	AC	Safety and Reliability	90	> 2026
11399	MANVILLE BOROUGH	Knopf Street Main Replacement	$ 750,000	Replace	3062	8.00	Ductile Iron	2010	8	DI	Safety and Reliability	90	> 2026
11400	MANVILLE BOROUGH	Evans Drive Main Replacement	$ 500,000	Replace	1011	8.00	Ductile Iron	1960	6	AC	Safety and Reliability	60	2026Q4
11115	MAPLEWOOD	West Parker Ave from Valley to Kendall	$ 900,000	Replace	4062	12.00	Ductile Iron	1910	12	CI	Safety and Reliability/Structural	120	2026Q4
11407	MAPLEWOOD	Ridgewood Rd	$ 2,400,000	Rehab	6733	10.00	Other	1960	16	CEM	System Flows and Pressure	120	2025Q4
11243	MILLBURN	Slope Dr from Taylor Rd. to Hartshorn Dr	$ 450,000	Replace	1216	8.00	Ductile Iron	1940	6	CI	Relocation/Opportunity	60	2024Q1
11283	MILLBURN	Ridgewood Rd HRAM	$ 300,000	Replace	168	20.00	Ductile Iron	1950	10	CI	Crossing Risk Reduction	30	2024Q4
11284	MILLBURN	Cypress St HRAM	$ 250,000	Replace	316	12.00	Ductile Iron	1900	12	CI	Crossing Risk Reduction	30	2024Q4
11280	MONTGOMERY TWP	Rolling Hill Road Main Replacement	$ 1,000,000	Replace	4689	8.00	Ductile Iron	1960	8	AC	Safety and Reliability/Structural	120	2024Q4
11337	MONTGOMERY TWP	Colfax Road Main Replacement	$ 1,500,000	Replace	3573	8.00	Ductile Iron	1980	8	DI	Safety and Reliability	90	2025Q4
11419	MOUNTAINSIDE BOROUGH	Mountainside - From Prospect Ave tank (Up Prospect Ave, down Summit Rd) to Summit	$ 2,280,000	Replace	3863	12.00	Ductile Iron	1960	8	CI	System Flows and Pressure	90	> 2026
11421	MOUNTAINSIDE BOROUGH	Mountainside - Grouse Ln and Hawk RDG (Fox Trail and Grouse Ln to Ravens Wood and	$ 880,000	Replace	1640	8.00	Ductile Iron	1940	6	CI	System Flows and Pressure	60	> 2026
11096	MT EPHRAIM	Mt. Ephraim - Cleveland / Roosevelt / Jefferson	$ 3,000,000	Replace	4000	8.00	PVC	2010	4	DI	Safety and Reliability	120	> 2026
11184	MT EPHRAIM	Mount Ephraim - East Kings Highway	$ 5,000,000	Replace	1720	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11185	MT EPHRAIM	Mount Ephraim - West Kings Highway	$ 800,000	Replace	2300	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026
11213	MT EPHRAIM	Mount Ephraim - 2nd & 3rd Avenue	$ 972,000	Replace	2775	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026
11214	MT EPHRAIM	Mount Ephraim - Lowell Avenue & Bell Road	$ 623,000	Replace	1780	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11215	MT EPHRAIM	Mount Ephraim - Linden Avenue	$ 280,000	Replace	800	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11216	MT EPHRAIM	Mount Ephraim - Valley Road - Kings Highway	$ 840,000	Replace	2400	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026
11312	MT EPHRAIM	Mt. Ephraim - Thompson / Rudderow sewer	$ 1,000,000	Replace	1000	8.00	Ductile Iron	1940	4	CI	Crossing Risk Reduction	60	> 2026
11087	NORTH PLAINFIELD BOROUGH	Meadowbrook Dr Main Replacement	$ 450,000	Replace	1578	8.00	Ductile Iron	1930	6	CI	Water Quality	60	> 2026
11103	NORTH PLAINFIELD BOROUGH	Delacy Ave (Mountain Ave to Grandview	$ 190,000	Replace	750	8.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	> 2026
11108	NORTH PLAINFIELD BOROUGH	Delacy Ave (Mountain Ave to Grandview Ave)	$ 217,500	Replace	740	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	> 2026
11270	NORTHFIELD	Grove Rd & Glenwood Drive	$ 550,000	Replace	1566	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	> 2026
11271	NORTHFIELD	Raymond Drive	$ 200,000	Replace	595	8.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	60	> 2026
11272	NORTHFIELD	Steven Drive	$ 79,500	Replace	291	6.00	Ductile Iron	1950	6	CI	Safety and Reliability/Structural	30	> 2026
11274	NORTHFIELD	W. Revere Ave (Erie Avenue to W. Oakcrest	$ 310,000	Replace	682	8.00	Ductile Iron	1960	2	CI	System Flows and Pressure	60	> 2026

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
11275	NORTHFIELD	Juniper Drive & Clark Place	$ 444,375	Replace	1185	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	60	> 2026
11260	OCEAN CITY	Asbury/Central Alley (18th St to 21st Street)	$ 930,000	Replace	1860	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11261	OCEAN CITY	20th Street (West/Asbury alley to	$ 300,000	Replace	570	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2024Q4
11263	OCEAN CITY	Wesley Avenue (18th St to 22nd St), 19th St	$ 1,015,000	Replace	2230	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	2024Q4
11264	OCEAN CITY	Central/Wesley Alley (22nd Street to 23rd	$ 300,000	Replace	520	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11265	OCEAN CITY	28th Street (West/Asbury Alley to Wesley Ave)	$ 395,500	Replace	740	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11266	OCEAN CITY	West/Asbury alley (16th Street to mid-block	$ 465,000	Replace	930	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11267	OCEAN CITY	Wesley/Ocean Alley (7th St MH-C19 to 9th St)	$ 595,000	Replace	930	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11268	OCEAN CITY	Ocean/Atlantic alley (3rd Street to 5th Street)	$ 876,500	Replace	1230	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11269	OCEAN CITY	Bayfront/Bay alley (11th St to 12th St)	$ 341,000	Replace	620	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11289	OCEAN CITY	Pinnacle Road from Battersea Road to Gull	$ 628,200	Replace	1400	8.00	PVC	UNK	UNK	UNK	Safety and Reliability	60	2026Q4
11290	OCEAN CITY	E. Seabright Road from Wesley Rd to A185	$ 396,000	Replace	800	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11291	OCEAN CITY	E. Inlet Road and E. Seaspray Road from	$ 629,550	Replace	1400	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11292	OCEAN CITY	Crescent Road from W. Inlet Road to Gardens	$ 586,000	Replace	1080	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11293	OCEAN CITY	Asbury Road and Central Road between Battersea Road and North Street	$ 770,000	Replace	1400	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11294	OCEAN CITY	Ocean/Atlantic alley from Pennlyn Place to	$ 354,200	Replace	660	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11295	OCEAN CITY	Ocean/Atlantic alley from 1st St to 2nd St,	$ 491,500	Replace	900	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11296	OCEAN CITY	Ocean/Atlantic alley from North Street to 1st	$ 395,000	Replace	540	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11297	OCEAN CITY	Central/Wesley alley from 16th Street to 19th Street	$ 859,000	Replace	1380	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11298	OCEAN CITY	Central/Wesley alley from 18th St to 20th St	$ 473,000	Replace	860	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11299	OCEAN CITY	Wesley Avenue from 16th St to 18th St, Wesley/Ocean alley, St. Albans Pl and 17th St	$ 1,392,000	Replace	2320	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	90	> 2026
11300	OCEAN CITY	Haven/West alley from 21st Street to 23rd Street, Including 22nd Street	$ 840,000	Replace	1400	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11301	OCEAN CITY	Haven Ave from 22nd St to 23rd St, Including	$ 795,000	Replace	1325	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2025Q4
11304	OCEAN CITY	West/Asbury alley from 35th St to 36th St	$ 800,000	Replace	1200	18.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11305	OCEAN CITY	Wesley Avenue (Alley) from 34th Street to	$ 694,000	Replace	1080	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11306	OCEAN CITY	Asbury/Central alley from 36th St to 38th Street	$ 690,500	Replace	1120	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	> 2026
11316	OCEAN CITY	300 Block Simpson/Haven Alley	$ 276,750	Replace	615	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q2
11317	OCEAN CITY	Haven/West alley from 2nd St to 5th St and 5th St to West Ave	$ 800,000	Replace	1775	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q2
11318	OCEAN CITY	Haven/West Alley from 6th St to 8th St	$ 513,000	Replace	1140	8.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11349	OCEAN CITY	Simpson Ave from 20th to 22nd, Including	$ 842,600	Replace	1018	12.00	Ductile Iron	1950	6	AC	Safety and Reliability/Structural	60	2025Q4
11350	OCEAN CITY	Moorlyn Terr from Atlantic Ave to Boarwalk - City Boardwalk Ramp Project	$ 320,000	Replace	809	8.00	Ductile Iron	1910	6	CI	Safety and Reliability/Structural	60	2025Q4
11386	OCEAN CITY	24th Street Sewer (Wesley to West Ave), 23rd to 24th Wesley/Central Alley	$ 464,000	Replace	1160	12.00	PVC	UNK	UNK	UNK	Safety and Reliability/Structural	60	2026Q4
11097	OLDMANS	Oldmans Twp - Pennsville - Pedricktown Rd.	$ 50,000	Replace	458	2.00	Other Plastic	1950	1	PE	Safety and Reliability	30	> 2026
11098	PENNS GROVE	Penns Grove - Deming Ave.	$ 150,000	Replace	500	6.00	Ductile Iron	1990	6	PE	System Flows and Pressure	60	> 2026
11434	PISCATAWAY TWP	Lake Park Dr Culvert	$ 150,000	Replace	100	8.00	Ductile Iron	1980	8	DI	Safety and Reliability/Structural	30	2024Q4
11254	PLEASANTVILLE	Lafayette Ave, Shaw Ave, Harrison Ave & W. Park Ave	$ 820,000	Replace	2389	8.00	Ductile Iron	1980	6	DI	Safety and Reliability/Structural	90	2024Q4
11257	PLEASANTVILLE	W Lindley Avenue (Main Street to End of Road)	$ 340,000	Replace	969	8.00	Ductile Iron	1940	6	CI	Safety and Reliability/Structural	60	2024Q4
11282	PRINCETON BOROUGH	Spruce Street Main Replacement	$ 500,000	Replace	900	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2025Q4
11287	PRINCETON BOROUGH	Hawthorne Avenue Main Replacement	$ 750,000	Replace	741	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2026Q4
11302	PRINCETON BOROUGH	Witherspoon Lane Main Replacement	$ 500,000	Replace	373	8.00	Ductile Iron	1990	4	DI	Safety and Reliability	30	2024Q4
11106	PRINCETON TWP	Wittmer Court Main Replacement	$ 300,000	Replace	584	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	2025Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
11262	PRINCETON TWP	Ridgeview Circle Main Replacement	$ 500,000	Replace	2780	8.00	Ductile Iron	1960	6	DI	Water Quality	90	2024Q4
11303	PRINCETON TWP	Prospect Avenue Main Replacement	$ 1,500,000	Replace	2700	8.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	2026Q4
11410	PRINCETON TWP	Stuart Road from Great Rd E to Cherry Hill Rd	$ 3,500,000	Replace	5031	12.00	Ductile Iron	1960	8	DI	System Flows and Pressure	120	> 2026
11153	RARITAN BOROUGH	Danbury Avenue & Ashton Street Main Replacement	$ 750,000	Replace	3833	8.00	Ductile Iron	1790	6	CI	Water Quality	90	> 2026
11173	RARITAN BOROUGH	Rhine Boulevard Main Replacement	$ 250,000	Replace	2279	8.00	Ductile Iron	1950	6	CI	Water Quality	90	> 2026
11187	RARITAN BOROUGH	Lynwood Street Main Replacement	$ 750,000	Replace	2323	8.00	Ductile Iron	1950	6	CI	Water Quality	90	> 2026
11188	RARITAN BOROUGH	Prospect Place Main Replacement	$ 250,000	Replace	744	8.00	Ductile Iron	1950	6	CI	Water Quality	60	> 2026
11189	RARITAN BOROUGH	Plainfield Avenue Main Replacement	$ 250,000	Replace	569	8.00	Ductile Iron	1950	6	CI	Water Quality	60	> 2026
11190	RARITAN BOROUGH	New York Avenue Main Replacement	$ 500,000	Replace	540	8.00	Ductile Iron	1950	6	CI	Water Quality	60	> 2026
11191	RARITAN BOROUGH	Elizabeth Avenue Main Replacement	$ 250,000	Replace	510	8.00	Ductile Iron	1950	6	CI	Water Quality	60	> 2026
11192	RARITAN BOROUGH	Brooklyn Avenue Main Replacement	$ 250,000	Replace	518	8.00	Ductile Iron	1950	6	CI	Water Quality	60	> 2026
11193	RARITAN BOROUGH	Bound Brook Avenue Main Replacement	$ 250,000	Replace	351	8.00	Ductile Iron	1950	6	CI	Water Quality	30	> 2026
11323	RARITAN BOROUGH	Thompson Avenue Main Replacement	$ 1,000,000	Replace	1443	12.00	Ductile Iron	1980	8	DI	Safety and Reliability	60	> 2026
11347	RARITAN BOROUGH	Bell Avenue Main Replacement/Upgrade	$ 250,000	Replace	560	12.00	Ductile Iron	1980	8	DI	Safety and Reliability	60	2024Q4
11357	RARITAN BOROUGH	Anderson Street Main Replacement	$ 500,000	Replace	403	12.00	Ductile Iron	1790	6	CI	System Flows and Pressure	30	2025Q4
11397	RARITAN BOROUGH	5th Street Part 2 Main Replacement	$ 500,000	Replace	348	12.00	Ductile Iron	1790	6	CI	System Flows and Pressure	30	2026Q4
11069	ROSELLE PARK BORO	Roselle Park Borough - 12-inch to 16-inch Connection Upgrade	$ 52,500	Replace	146	16.00	Ductile Iron	1940	12	CI	System Flows and Pressure	30	2024Q2
11403	SCOTCH PLAINS TWP	WIlliams St and Rt 22. from Harding Rd to Mountain Ave	$ 660,000	Replace	1053	12.00	Ductile Iron	1970	6	CI	System Flows and Pressure	60	> 2026
11198	SHREWSBURY	Rt. 35 Main Replacement	$ 4,000,000	Replace	9722	12.00	Ductile Iron	1920	6	CI	Safety and Reliability	120	> 2026
11321	SOMERS POINT	W New Jersey Ave	$ 800,000	Replace	2171	8.00	Ductile Iron	1980	6	DI	Safety and Reliability	90	> 2026
11090	SOMERVILLE BOROUGH	Fairview Avenue Main Replacement	$ 700,000	Replace	604	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	> 2026
11092	SOMERVILLE BOROUGH	Central Avenue Main Replacement	$ 250,000	Replace	1227	8.00	Ductile Iron	1930	6	CI	System Flows and Pressure	60	> 2026
11199	TINTON FALLS	Pinebrook Road Main Replacement	$ 1,500,000	Replace	4600	16.00	Ductile Iron	1950	16	CEM	Safety and Reliability	120	> 2026
11201	TINTON FALLS	Hope Road Main Replacement	$ 750,000	Replace	1958	16.00	Ductile Iron	1950	16	CEM	Safety and Reliability	60	> 2026
11231	UNION TWP	N Greenwood Rd Main Replacement	$ 125,000	Replace	275	8.00	Ductile Iron	1790	6	CI	Water Quality	30	2024Q4
11245	UNION TWP	Wildwood Ter Main Replacement	$ 350,000	Replace	1050	8.00	Ductile Iron	1790	6	CI	Water Quality	60	> 2026
11417	UNION TWP	Union - (Field Rd and Newark Way to Hillcrest Terrace N and Stanley Terrace to Stanley Terrace and Burnet Ave)	$ 1,620,000	Replace	2825	12.00	Ductile Iron	1920	6	CI	System Flows and Pressure	90	> 2026
11435	UNION TWP	Leigh Bridge main replace.	$ 200,000	Replace	100	12.00	Ductile Iron	1940	12	CI	System Flows and Pressure	30	2024Q4
11327	VOORHEES	Voorhees - Moonlight Terrace, Bowling Green, Cardinal Lane, Paradise Drive,	$ 1,262,800	Replace	5727	8.00	Ductile Iron	1970	8	CI	Safety and Reliability/Structural	120	> 2026
11388	VOORHEES	Cedar Avenue	$ 50,000	Replace	163	4.00	Ductile Iron	1970	2	CI	System Flows and Pressure	30	> 2026
11389	VOORHEES	Poplar Avenue, Front Street, Second Street, Linden Avenue	$ 700,000	Replace	3120	8.00	Ductile Iron	1960	6	CI	Safety and Reliability/Structural	90	> 2026
11313	WASHINGTON BOROUGH	Carlton Ave from N Prospect to Belvidere	$ 700,000	Replace	2000	12.00	Ductile Iron	1890	10	CI	Safety and Reliability	90	2024Q4

Id	Municipality	Project Title	NJAW Funded (Dollars)	Project Type	Proposed Length (ft)	Prop. Dia. (inches)	Proposed Pipe Material	Decade Installed	Ex. Dia. (inches)	Existing Pipe Material	Accelerated Asset Investment Category	Est. Project Duration	Estimated In-Service Quarter
11355	WASHINGTON BOROUGH	Flower Ave. culvert from Ph 2 Harding to E.	$ 350,000	Replace	40	8.00	Ductile Iron	1960	8	CI	Crossing Risk Reduction	30	2024Q4
11221	WASHINGTON TWP	Route 57 / East Washington Ave	$ 910,000	Replace	2623	12.00	Ductile Iron	1940	8	CI	Safety and Reliability	90	2025Q4
11285	WASHINGTON TWP	Port Colden Rd at stream crossing	$ 100,000	Replace	100	8.00	Ductile Iron	2000	8	CI	Crossing Risk Reduction	30	2024Q4
11356	WASHINGTON TWP	Little Philadelphia Rd	$ 825,000	Replace	2182	8.00	Ductile Iron	1950	8	CI	Safety and Reliability/Structural	90	2026Q4
11432	WASHINGTON TWP	Belvidere Ave from Carlton St to W Warren St	$ 216,000	Replace	337	12.00	Ductile Iron	1930	6	AC	System Flows and Pressure	30	> 2026
11246	WEST ORANGE	Mitchell St from Valley to Orange City line	$ 225,000	Replace	650	8.00	Ductile Iron	1900	6	CI	Relocation/Opportunity	60	> 2026
11320	WEST ORANGE	Eagle Rock Ave from Prospect	$ 605,000	Replace	650	12.00	Ductile Iron	1910	6	CI	System Flows and Pressure	60	2024Q3
11326	WEST ORANGE	Helen Avenue	$ 228,000	Replace	640	8.00	Ductile Iron	1920	6	CI	Safety and Reliability	60	> 2026
11127	WEST WINDSOR TWP	Galston Drive Main Replacement	$ 750,000	Replace	3452	8.00	Ductile Iron	1960	6	CI	Safety and Reliability	90	2025Q4
11423	WESTFIELD	Prospect Street from Sedgewick Ct to Coleman Pl and W Dudley Ave	$ 3,722,000	Replace	6200	12.00	Ductile Iron	1970	6	CI	System Flows and Pressure	120	> 2026
		Subtotal	**$ 186,470,285**										
		Unscheduled Mains	$ 30,000,000.00										
		Total	$ 216,470,285.00										

New Jersey - American Water Company Inc.
DSIC Foundational Filing - No. 6 (2024)
Scenario 1 - Includes Post Test Year DSIC Eligible Additions

		DSIC Surcharge Filing #1	DSIC Surcharge Filing #2	DSIC Surcharge Filing #3	DSIC Surcharge Filing #4		
		7/1/2024 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026	Total	
Total Proposed DSIC Additions		$176,728,049	$115,306,876	$115,306,876	$115,306,876	$522,648,676	
Less: Base Expenditures		(23,175,116)	(23,175,116)	(23,175,116)	(23,175,116)	(92,700,466)	
Eligible Investment (Qualified DSIC Additions to UPIS During DSIC Period)		153,552,932	92,131,759	92,131,759	92,131,759	429,948,210	(A)
Less: Accum Depr		(999,294)	(1,558,899)	(2,278,391)	(2,997,883)	(7,834,467)	(B)
Less: Deferred Tax		(327,583)	(511,030)	(746,890)	(982,750)	(2,568,254)	(C)
Eligible Net Investment (net DSIC Additions to UPIS During DSIC Period)		152,226,054	90,061,830	89,106,478	88,151,126	419,545,489	
Times Pre-Tax ROR	X	9.5077%	9.5077%	9.5077%	9.5077%	9.5077%	(D)
Pre-Tax Return on Investment		14,473,140	8,562,775	8,471,944	8,381,112	39,888,972	
Add: Depreciation		2,398,306	1,438,984	1,438,984	1,438,984	6,715,258	
Revenue Recovery		16,871,447	10,001,759	9,910,928	9,820,096	46,604,229	
Revenue Factor		$1.166581	$1.166581	$1.166581	$1.166581	$1.166581	(E)
Total DSIC Revenue Requirement Recovery Amount		19,681,909	11,667,862	11,561,900	11,455,937	54,367,608	
DSIC Revenue Requirement Recovery Amount - Annual		19,681,909	11,667,862	11,561,900	11,455,937	54,367,608	
DSIC Revenue Requirement Recovery Amount - Monthly		**$1,640,159**	**$972,322**	**$963,492**	**$954,661**	**$4,530,634**	

UPIS ADDITIONS SUMMARY
(A) - Includes actual DSIC eligible projects closed to UPIS during DSIC Period

Asset Category	7/1/2024 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026
Proposed DSIC Eligible Additions	153,552,932	92,131,759	92,131,759	92,131,759
Base Spend	23,175,116	23,175,116	23,175,116	23,175,116
Subtotal	**$176,728,049**	**$115,306,876**	**$115,306,876**	**$115,306,876**

(B) - Accumulated Depreciation:	7/1/2024 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026
DSIC Eligible projects closed to UPIS	$153,552,932	$92,131,759	$92,131,759	$92,131,759
Composite Depreciation rate	1.562%	1.562%	1.562%	1.562%
Annual Depreciation Expense	2,398,306	1,438,984	1,438,984	1,438,984
Cummulative Depreciation Expenses	999,294	1,558,899	2,278,391	2,997,883

(C) - Deferred Taxes:	7/1/2024 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026
DSIC Eligible projects closed to UPIS	$153,552,932	$92,131,759	$92,131,759	$92,131,759
MACRS rate	4.00%	4.00%	4.00%	4.00%
Annual Tax Depreciation	6,142,117	3,685,270	3,685,270	3,685,270
Cummulative Tax Depreciation	2,559,216	3,992,376	5,835,011	7,677,647
Less: Book Depreciation	999,294	1,558,899	2,278,391	2,997,883
Tax Depr Greater than Book	1,559,921	2,433,477	3,556,620	4,679,764
Deferred Taxes at 21%	$327,583	$511,030	$746,890	$982,750

(D) - Pre-Tax Rate of Return:

	Ratios	Cost Rate	Weighted Average Cost of Capital	Pre-Tax ROR
Long Term Debt	43.70%	4.23%	1.8466%	1.8466%
Common Equity	56.30%	10.75%	6.0523%	7.6611%
Subtotal Return on Rate Base	100.00%		7.8988%	9.5077%

(E) - Revenue Factor:

Dollar of Revenue	$1.000000	
Less: GRT Tax	($0.136034)	Docket No. WR24010056
Less: Bad Debts	($0.004128)	Docket No. WR24010056
Less: BPU Assessment	($0.002130)	(per 2023 recent assessment)
Less: DRC Assessment	($0.000502)	(per 2023 recent assessment)
Revenue remaining after taxes, bad debts, and assessments	$0.857206	
Revenue [Gross-up] Factor	$1.166581	

(F)- Revenue Requirement:

Please note that the revenue requirement is limited by the DSIC-cap. For example if the Company's annual revenues established in their last base rate case were $100,000,000, then the DSIC-cap would be calculated as follows:

Total annual revenues from most recent base rate case of $100,000,000 X 5.00% = $5,000,00

The Company's revenue requirement in the above example can not be greater than $5,000,000 per year

Monthly cost per 5/8th Inch Meter - Typical Residential Customer -	**$5.05**
DSIC Revenue as a % of total Water Revenue $1,087,352,159	**5.00%**

New Jersey - American Water Company Inc.
DSIC Foundational Filing - No. 6 (2024)
Scenario 2 - Excludes Post Test Year DSIC Eligible Additions

		DSIC Surcharge Filing #1 1/1/2025 to 4/30/25	DSIC Surcharge Filing #2 5/1/2025 to 10/31/2025	DSIC Surcharge Filing #3 11/1/2025 to 4/30/2026	DSIC Surcharge Filing #4 5/1/2026 to 10/31/2026	Total	
Total Proposed DSIC Additions		$ 100,993,626	$ 139,902,880	$ 139,902,880	$ 139,902,880	$ 520,702,266	
Less: Base Expenditures		(23,175,116)	(23,175,116)	(23,175,116)	(23,175,116)	(92,700,466)	
Eligible Investment (Qualified DSIC Additions to UPIS During DSIC Period)		77,818,509	116,727,764	116,727,764	116,727,764	428,001,800	(A)
Less: Accum Depr		(202,571)	(1,063,500)	(1,975,071)	(2,886,643)	(6,127,786)	(B)
Less: Deferred Tax		(66,406)	(348,631)	(647,458)	(946,284)	(2,008,779)	(C)
Eligible Net Investment (net DSIC Additions to UPIS During DSIC Period)		77,549,532	115,315,633	114,105,235	112,894,837	419,865,236	
Times Pre-Tax ROR	X	9.5077%	9.5077%	9.5077%	9.5077%	9.5077%	(D)
Pre-Tax Return on Investment		7,373,148	10,963,822	10,848,741	10,733,661	39,919,372	
Add: Depreciation		1,215,429	1,823,143	1,823,143	1,823,143	6,684,857	
Revenue Recovery		8,588,577	12,786,965	12,671,884	12,556,804	46,604,229	
Revenue Factor		$1.166581	$1.166581	$1.166581	$1.166581	$1.166581	(E)
Total DSIC Revenue Requirement Recovery Amount		10,019,270	14,917,030	14,782,779	14,648,528	54,367,608	
DSIC Revenue Requirement Recovery Amount - Annual		10,019,270	14,917,030	14,782,779	14,648,528	54,367,608	
DSIC Revenue Requirement Recovery Amount - Monthly		**$834,939**	**$1,243,086**	**$1,231,898**	**$1,220,711**	**$4,530,634**	

UPIS ADDITIONS SUMMARY

(A) - Includes actual DSIC eligible projects closed to UPIS during DSIC Period

Asset Category	1/1/2025 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026
Proposed DSIC Eligible Additions	77,818,509	116,727,764	116,727,764	116,727,764
Base Spend	23,175,116	23,175,116	23,175,116	23,175,116
Subtotal	**$100,993,626**	**$139,902,880**	**$139,902,880**	**$139,902,880**

(B) - Accumulated Depreciation:	1/1/2025 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026
DSIC Eligible projects closed to UPIS	$77,818,509	$116,727,764	$116,727,764	$116,727,764
Composite Depreciation rate	1.562%	1.562%	1.562%	1.562%
Annual Depreciation Expense	1,215,429	1,823,143	1,823,143	1,823,143
Cummulative Depreciation Expenses	202,571	1,063,500	1,975,071	2,886,643

(C) - Deferred Taxes:	1/1/2025 to 4/30/25	5/1/2025 to 10/31/2025	11/1/2025 to 4/30/2026	5/1/2026 to 10/31/2026
DSIC Eligible projects closed to UPIS	$77,818,509	$116,727,764	$116,727,764	$116,727,764
MACRS rate	4.00%	4.00%	4.00%	4.00%
Annual Tax Depreciation	3,112,740	4,669,111	4,669,111	4,669,111
Cummulative Tax Depreciation	518,790	2,723,648	5,058,203	7,392,758
Less: Book Depreciation	202,571	1,063,500	1,975,071	2,886,643
Tax Depr Greater than Book	316,219	1,660,148	3,083,132	4,506,116
Deferred Taxes at 21%	$66,406	$348,631	$647,458	$946,284

(D) - Pre-Tax Rate of Return:

	Ratios	Cost Rate	Weighted Average Cost of Capital	Pre-Tax ROR
Long Term Debt	43.70%	4.23%	1.8466%	1.8466%
Common Equity	56.30%	10.75%	6.0523%	7.6611%
Subtotal Return on Rate Base	100.00%		7.8988%	9.5077%

(E) - Revenue Factor:

Dollar of Revenue	$1.000000	
Less: GRT Tax	($0.136034)	Docket No. WR24010056
Less: Bad Debts & Reg Assessments	($0.004128)	Docket No. WR24010056
Less: BPU Assessment	($0.002130)	(per 2023 recent assessment)
Less: DRC Assessment	($0.000502)	(per 2023 recent assessment)
Revenue remaining after taxes, bad debts, and assessments	$0.857206	
Revenue [Gross-up] Factor	$1.166581	

(F)- Revenue Requirement:

Please note that the revenue requirement is limited by the DSIC-cap. For example if the Company's annual revenues established in their last base rate case were $100,000,000, then the DSIC-cap would be calculated as follows:

Total annual revenues from most recent base rate case of $100,000,000 X 5.00% = $5,000,00(

The Company's revenue requirement in the above example can not be greater than $5,000,000 per year.

Monthly cost per 5/8th Inch Meter - Typical Residential Customer -	**$5.05**
DSIC Revenue as a % of total Water Revenue $1,087,352,159	**5.00%**

New Jersey - American Water Company Inc.
DSIC Foundational Filing - No. 6 (2024)
Calculation of Composite Depreciation Rate for DSIC

UPIS Account	NARUC Account	Balance	Weight	Depreciation Rate	Weighted Rate
TD Mains Not Classified		$591,453,073	15.86%	0.80%	0.127%
TD Mains 4in & Less		82,967,012	2.22%	2.76%	0.061%
TD Mains 6in to 8in		1,132,664,347	30.37%	1.64%	0.498%
TD Mains 10in to 16in		667,733,676	17.90%	1.11%	0.199%
TD Mains 18in & Greater		315,044,804	8.45%	1.26%	0.106%
Subtotal - T&D Mains	343	2,789,862,912	74.80%		0.991%
Services	345	743,591,298	19.94%	2.09%	0.417%
Hydrants	348	196,483,855	5.27%	2.92%	0.154%
Total		3,729,938,065	100.00%		1.562%

New Jersey - American Water Company Inc.
DSIC Foundational Filing - No. 6 (2024)
Calculation of Annual Base Spend Requirement

Depreciation Group	Depreciation Account	(a) Depreciation 2022 BPU Report	(b) 2022 CIAC Amortization	(c= a+b) Net Depreciation	(d) Percentage* DSIC Eligible Depreciation	(e= c*d) Total Base Spend
TD Mains Not Classified		$4,661,728				
TD Mains 4in & Less		1,748,341				
TD Mains 6in to 8in		17,537,004				
TD Mains 10in to 16in		7,083,390				
TD Mains 18in & Grtr		3,698,309				
Subtotal - T&D Mains	343	$34,728,771	($4,917,815)	$29,810,957	100.00%	$29,810,957
Services	345	15,016,574	(299,779)	14,716,795	76.94%	11,323,376
Hydrants	348	5,571,923	(138,952)	5,432,971	96.00%	5,215,900
Total		$55,317,269	($5,356,546)	$49,960,723		$46,350,233

* - Percentage DSIC Eligible depreciation based on 5 year average of DSIC additions

5 YEAR AVERAGE DSIC PERCENTAGE

SERVICES	**76.94%**	**HYDRANTS**	**96.00%**

2022

SERVICES		HYDRANTS	
DSIC Eligible B Line	9.78%	DSIC Eligible B Line	20.22%
DSIC Eligible C Line	0.33%	DSIC Eligible C Line	-0.04%
DSIC Eligible F Line	2.10%	DSIC Eligible F Line	72.96%
DSIC Eligible H Line	64.54%	DSIC Eligible H Line	0.00%
Sub-Total DSIC Eligible	76.76%	**Sub-Total DSIC Eligible**	93.14%
Non-DSIC Eligible	23.24%	Non-DSIC Eligible	6.86%
	100.00%		100.00%

2021

SERVICES		HYDRANTS	
DSIC Eligible B Line	12.79%	DSIC Eligible B Line	37.64%
DSIC Eligible C Line	0.14%	DSIC Eligible C Line	0.77%
DSIC Eligible F Line	1.44%	DSIC Eligible F Line	65.85%
DSIC Eligible H Line	45.71%	DSIC Eligible H Line	0.00%
Sub-Total DSIC Eligible	60.08%	**Sub-Total DSIC Eligible**	104.26%
Non-DSIC Eligible	39.92%	Non-DSIC Eligible	-4.26%
	100.00%		100.00%

2020

SERVICES		HYDRANTS	
DSIC Eligible B Line	20.62%	DSIC Eligible B Line	25.84%
DSIC Eligible C Line	-0.04%	DSIC Eligible C Line	0.09%
DSIC Eligible F Line	1.32%	DSIC Eligible F Line	62.25%
DSIC Eligible H Line	63.06%	DSIC Eligible H Line	-0.01%
Sub-Total DSIC Eligible	84.95%	**Sub-Total DSIC Eligible**	88.16%
Non-DSIC Eligible	15.05%	Non-DSIC Eligible	11.84%
	100.00%		100.00%

2019

SERVICES		HYDRANTS	
DSIC Eligible B Line	29.56%	DSIC Eligible B Line	43.15%
DSIC Eligible C Line	0.28%	DSIC Eligible C Line	0.00%
DSIC Eligible F Line	1.19%	DSIC Eligible F Line	55.76%
DSIC Eligible H Line	55.53%	DSIC Eligible H Line	-0.10%
Sub-Total DSIC Eligible	86.55%	**Sub-Total DSIC Eligible**	98.82%
Non-DSIC Eligible	13.45%	Non-DSIC Eligible	1.18%
	100.00%		100.00%

2018

SERVICES		HYDRANTS	
DSIC Eligible B Line	19.63%	DSIC Eligible B Line	24.58%
DSIC Eligible C Line	0.14%	DSIC Eligible C Line	0.07%
DSIC Eligible F Line	0.18%	DSIC Eligible F Line	70.91%
DSIC Eligible H Line	56.43%	DSIC Eligible H Line	0.09%
Sub-Total DSIC Eligible	76.37%	**Sub-Total DSIC Eligible**	95.64%
Non-DSIC Eligible	23.63%	Non-DSIC Eligible	4.36%
	100.00%		100.00%

Meter Size	5/8" Equivalent (A)	Monthly DSIC Charge Based on Meter Size and % Increase (B) 0.50%	1.00%	1.50%	2.00%	3.00%	4.00%	5.00%
5/8	**1.0**	$0.51	$1.01	$1.52	$2.02	$3.03	$4.04	$5.05
3/4	**1.5**	$0.76	$1.52	$2.27	$3.03	$4.55	$6.06	$7.58
1	**2.5**	$1.26	$2.53	$3.79	$5.05	$7.58	$10.10	$12.63
1-1/2	**5.0**	$2.53	$5.05	$7.58	$10.10	$15.15	$20.20	$25.25
2	**8.0**	$4.04	$8.08	$12.12	$16.16	$24.24	$32.32	$40.40
3	**15.0**	$7.58	$15.15	$22.73	$30.30	$45.45	$60.61	$75.76
4	**25.0**	$12.63	$25.25	$37.88	$50.50	$75.76	$101.01	$126.26
6	**50.0**	$25.25	$50.50	$75.76	$101.01	$151.51	$202.02	$252.52
8	**80.0**	$40.40	$80.81	$121.21	$161.61	$242.42	$323.23	$404.04
10	**100.0**	$50.50	$101.01	$151.51	$202.02	$303.03	$404.04	$505.05
12	**125.0**	$63.13	$126.26	$189.39	$252.52	$378.79	$505.05	$631.31
16	**200.0**	$101.01	$202.02	$303.03	$404.04	$606.06	$808.07	$1,010.09

(A) Based on American Water Works Association ("AWWA") flow rates. A 5/8-inch meter is equivalent to one (1)unit, whereas a 1-inch meter is equivalent to 2.5 units based on the amount of water that will flow through the meter size.

(B) Please note that the DSIC surcharge will be implemented on a monthly basis, after the approval of the Foundational Filing; the completion of approved projects that are
providing utility service to the customer; and the submission of the semi-annual filing documenting the completion, location, timing, and cost of the individual project. The maximum surcharge is 5.0%; however the surcharge will be implemented in semi-annual increments as the approved projects are placed in service.

New Jersey - American Water Company Inc.

DSIC Foundational Filing - No. 6 (2024)

DSIC SURCHARGE BILL IMPACT

NEW JERSEY-AMERICAN WATER COMPANY

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

		GMS		Resale		Exempt		Total	
Meter Size	5/8" Equivalent	Number of Meters*	Weighting	Number of Meters*	Weighting	Number of Meters*	Weighting**	Number of Meters*	Weighting
5/8	1.0	568,982	568,982	2	2	11	10	568,995	568,994
3/4	1.5	17,754	26,631	0	0	2	3	17,756	26,634
1	2.5	45,253	113,133	0	0	4	9	45,257	113,142
1-1/2	5.0	4,467	22,335	0	0	0	0	4,467	22,335
2	8.0	12,566	100,528	2	16	5	35	12,573	100,579
3	15.0	967	14,505	4	60	2	26	973	14,591
4	25.0	944	23,600	16	400	9	194	969	24,194
6	50.0	221	11,050	25	1,250	1	43	247	12,343
8	80.0	98	7,840	14	1,120	2	138	114	9,098
10	100.0	38	3,800	3	300	4	346	45	4,446
12	125.0	3	375	1	125	2	216	6	716
16	200.0	0	0	0	0	0	0	0	0
Total		651,293	892,779	67	3,273	42	1,020	651,402	897,072
									(c)

*Meter Count as of 1/31/24
**Weighting deducts impact of GRAFT

PROOF OF REVENUE (Monthly Charge)

Annual Revenue @ 5% cap	$54,367,608	*(a)*
Monthly Revenue	$4,530,634	*(b)= (a)/12*
Weighted No of Meters	897,072	*(c)*
5/8"Meter Monthly Charge	$5.05	*(d)=(b)/(c)*

		GMS		Resale		Exempt		
Meter Size	5/8" Equivalent	Charge	Charge x Meters	Charge	Charge x Meters	Charge	Charge x Meters	Total Revenue
5/8	1.0	$5.05	$2,873,625.74	$5.05	$10.10	$4.36	$47.96	$2,873,683.80
3/4	1.5	7.58	134,499.03	7.58	0.00	6.55	13.10	134,512.13
1	2.5	12.63	571,372.14	12.63	0.00	10.91	43.64	571,415.78
1-1/2	5.0	25.25	112,802.22	25.25	0.00	21.82	0.00	112,802.22
2	8.0	40.40	507,713.51	40.40	80.81	34.91	174.55	507,968.87
3	15.0	75.76	73,257.05	75.76	303.03	65.45	130.90	73,690.98
4	25.0	126.26	119,191.06	126.26	2,020.19	109.09	981.81	122,193.06
6	50.0	252.52	55,807.68	252.52	6,313.09	218.17	218.17	62,338.93
8	80.0	404.04	39,595.67	404.04	5,656.52	349.07	698.14	45,950.34
10	100.0	505.05	19,191.78	505.05	1,515.14	436.34	1,745.36	22,452.28
12	125.0	631.31	1,893.93	631.31	631.31	545.43	1,090.86	3,616.09
16	200.0	1,010.09	0.00	1,010.09	0.00	872.69	0.00	0.00
Total			$4,508,949.81		$16,530.18		$5,144.49	$4,530,624.48

Note (a)

Base Water Revenue (proposed per WR24010056)		$1,042,499,748
Total PWAC Revenue per WR23110791 (per Stipulation)		44,852,411
Subtotal		$1,087,352,159
	5% Cap	$54,367,608

**NOTICE OF PUBLIC HEARINGS
NEW JERSEY-AMERICAN WATER COMPANY, INC.**

**NEW JERSEY-AMERICAN WATER COMPANY, INC.
NOTICE OF FILING OF A PETITION FOR APPROVAL OF A
DISTRIBUTION SYSTEM IMPROVEMENT CHARGE
BPU Docket No. WR2403____**

TO OUR CUSTOMERS:

PLEASE TAKE NOTICE that on March 18, 2024, New Jersey-American Water Company, Inc. ("Company") filed with the New Jersey Board of Public Utilities ("Board"), seeking approval of a Foundational Filing to implement a Distribution System Improvement Charge ("DSIC"), pursuant to N.J.A.C. 14:9-10.1 et seq. A DSIC is a rate recovery mechanism to encourage and support accelerated rehabilitation and replacement of certain non-revenue producing, critical water distribution components. Such projects include main replacement and renewal, structural and non-structural main cleaning and lining projects, and the renewal of valves, hydrants and service connections. Its purpose is to enhance safety, reliability, water quality, systems flows and pressure, and/or conservation. A DSIC rate is interim, subject to refund, until the subsequent base rate case.

Any rate adjustments with resulting changes in bill impacts found by the Board to be just and reasonable as the result of the Company's petition may be modified and/or allocated by the Board in accordance with the provisions of N.J.S.A. 48:2-21 and for other good and legally sufficient reasons to any class or classes of customers of the Company. Therefore, the described charges may increase or decrease based upon the Board's decision. The Petition and applicable attachments as well as the Public Hearing Notice for this proceeding can be viewed on the Company's website at www.newjerseyamwater.com by first selecting Customer Service and then Your Water and Wastewater Rates.

The maximum proposed monthly DSIC rates are contained in the petition filed with the Board, as set forth below. The maximum revenues will be set in the Company's currently pending base rate case, BPU Docket No. WR24010056.

PROPOSED DSIC SURCHARGE RATES BASED ON METER SIZE

General Metered Service
Maximum Monthly DSIC Surcharge:

Size of Meter	5/8" Equivalent*	Proposed Rate
5/8	1.0	$5.05
3/4	1.5	7.58
1	2.5	12.63
1-1/2	5.0	25.25
2	8.0	40.40
3	15.0	75.76
4	25.0	126.26
6	50.0	252.52
8	80.0	404.04
10	100.0	505.05
12	125.0	631.31
16	200.0	1,010.09

*Based on American Water Works Association flow rates. A 5/8" meter is equivalent to one unit, whereas a 1-inch meter is equivalent to 2.5 units based on the amount of water that will flow through the meter size.

PLEASE TAKE FURTHER NOTICE the virtual public hearings will be conducted on the following date and times so that members of the public may present their views on the Petition:

Date: _______________, 2024
Times: 4:30 and 5:30 pm
Link: ________________
Dial-In Number: 1-862-294-2638
Phone Conference ID: __________
Meeting ID: ______________
Passcode: _________

Representatives from the Company, Board Staff, and the New Jersey Division of Rate Counsel will participate in the virtual public hearings. Members of the public are invited to participate by utilizing the link or dial-in information set forth above to express their views on the Petition. All comments will be made part of the final record of the proceeding to be considered by the Board. In order to encourage full participation in this opportunity for public comment, please submit any requests for needed accommodations, such as interpreters and/or listening assistance, at least 48 hours prior to the above hearing to the Board Secretary at board.secretary@bpu.nj.gov.

Comments may be submitted directly to the specific docket listed above using the "Post Comments" button on the Board's Document Search tool, https://publicaccess.bpu.state.nj.us. Comments are considered public documents for purposes of the State's Open Public Records Act. Only submit public documents using the "Post Comments" button on the Board's Public Document Search tool. Any confidential information should be submitted in accordance with the procedures set forth in N.J.A.C. 14:1-12.3. In addition to hard copy submissions, confidential information may be filed electronically via the Board's e-filing system or by email to the Secretary of the Board, Sherri L. Golden. Please include "Confidential Information" in the subject line of any email. Instructions for confidential e-filing are found on the Board's webpage, https://www.nj.gov/bpu/agenda/efiling/.

Emailed and/or written comments may also be submitted to:

Sherri L. Golden, Secretary of the Board
44 South Clinton Ave., 1st Floor
PO Box 350
Trenton, NJ 08625-0350
Email: board.secretary@bpu.nj.gov

BY: MARK K. McDONOUGH
President
NEW JERSEY-AMERICAN WATER COMPANY, INC.
1 Water Street
Camden, NJ 08102

Pre-stressed Concrete Cylinder Pipe Issue
Update of February 2024

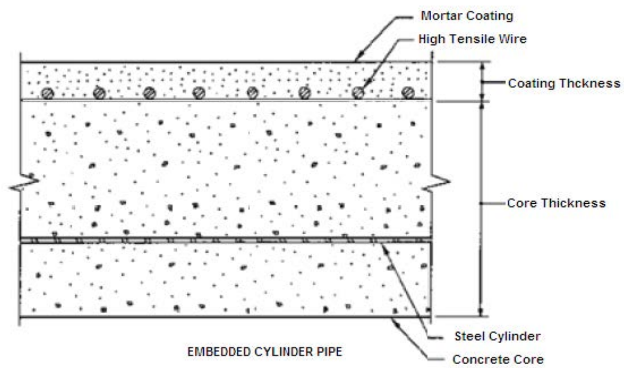
Background

NJAWC has approximately 218 miles of Pre-stressed Concrete Cylindrical Pipe (PCCP) mains representing approximately 2% of the company's total 9,200 miles of mains. About 140 miles or 64% of NJAWC's PCCP mains are in the Raritan System, mostly located within Somerset and Union County as well as portions of Mercer and Middlesex Counties. PCCP has been a standard pipe material used in the water industry since 1942 and offered a cost-effective option for large diameter mains, mostly 16 inch or larger. The pipe is manufactured using a steel cylinder, pre-stressed wires and layers of concrete. The pipe strength comes from the pre-stressed wires. See figure 1.

Issue

The predominant failure mechanism for these mains is via the corrosion of the pre-stressed wires which, when of significant occurrence, results in the bursting of the pipe causing a sudden pressure loss. Leaks are generally not observed on these mains (other than fittings or appurtenances) and thus the failure can occur without visible warning. PCCP pipe installed in the late 60s through the late 70s is now of concern as it is approaching 50 years of service life, particularly those of the Embedded PCCP type. The industry standard for PCCP changed during the 1960-70s. The higher strength pre-stressed wire is subject to embrittlement, more susceptible to premature external corrosion, and less tolerant of internal transient pressure surges. See figure 2.

Approximately one third of NJAWC's 218 miles of PCCP mains were installed during this period (26% in 60s and 6.5% in 70s). In particular, PCCP mains manufactured from 1968 through 1979 with class IV wire have been cited in industry studies to have higher failure rates. See figure 3. NJAWC has identified more than 80,000 lineal feet of these mains. Approximately 80% of the PCCP is 30-inches in diameter or larger, ranging from 30-inch to 72-inch mains and approximately 21% (or 36 miles) of the larger diameter pipes were installed between the 60s and 70s.



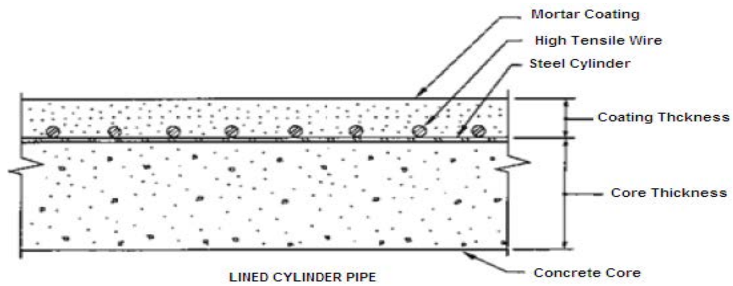


Figure 1. Cross Section of Embedded and Lined PCCP

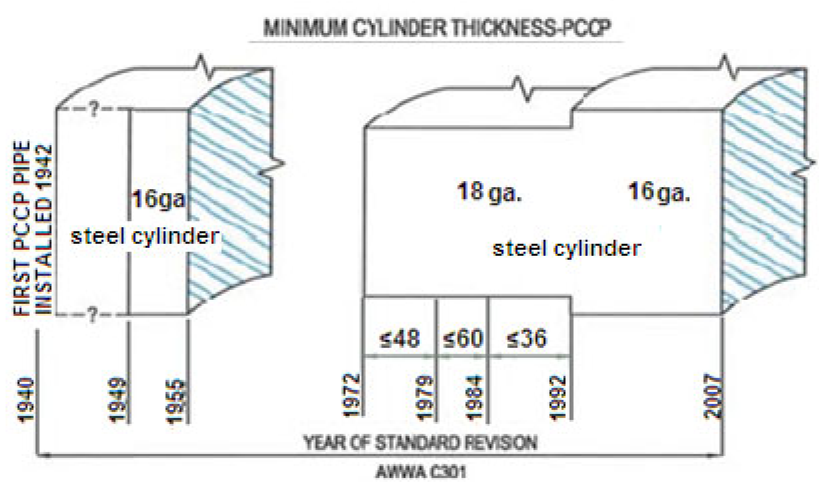


Figure 2. AWWA Standards for Steel Cylinders used in PCCP Manufacturing

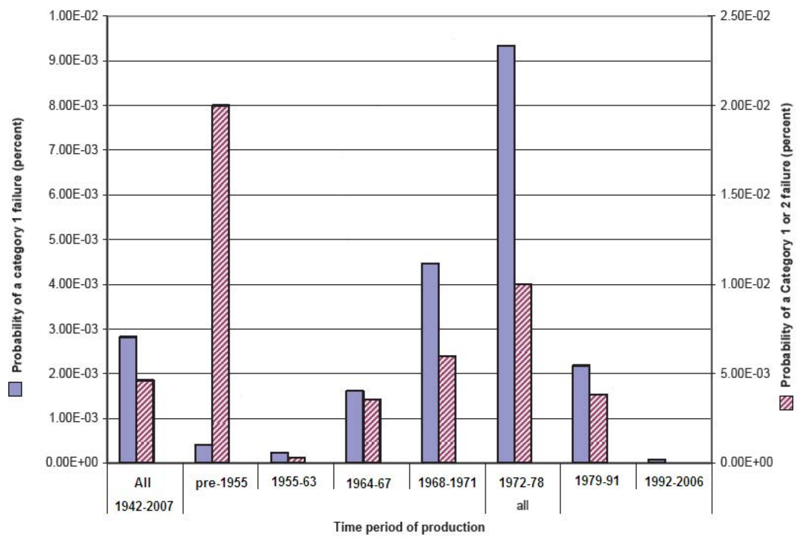
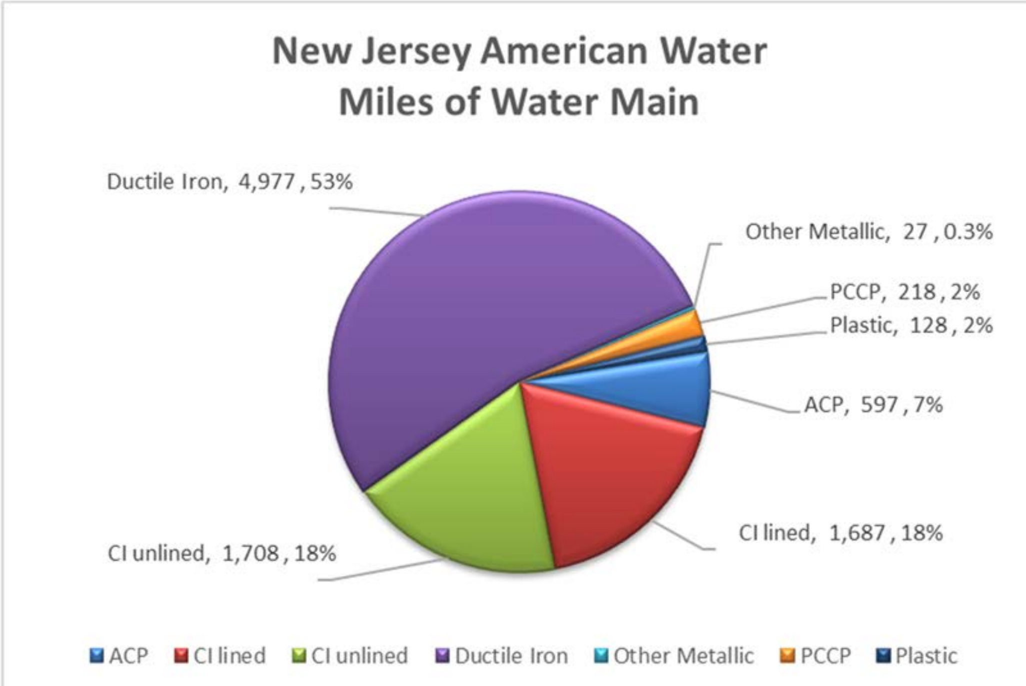


Figure 3. Probability of Failures in Industry for PCCP by Production Decade (AWWA study)

PCCP Distribution by NJAW Operating Area

Operating Area	Length of PCCP (in miles)
North	25
Central	140
Coastal	28
Southwest	25
Total	**218**



Approach

NJAWC's condition assessment (CA) plan for its PCCP mains includes utilizing electromagnetic technology to measure the occurrence of breaks of the pre-stressed wires and a less invasive method measuring the PCCP relative pipe stiffness (RPS) to qualitatively indicate condition of the pipe with certain distance (100 – 300-foot lengths). The electromagnetic technology is more discrete and reveals pipe condition to within a pipe length (15 -20 feet).

While the marketplace continues to bring new monitoring and inspection technologies to the industry related to the evaluating the remaining useful life of these mains, NJAWC is committed to an ongoing evaluation of condition assessment of its PCCP assets through the utilization of available and practical inspection technologies that yield meaningful results.

NJAWC has identified a list of candidate PCCP mains to be inspected and has implemented an ongoing inspection program that is based on the year of PCCP main criticality, year of installation, and history of failure and/or leaks. As each main is inspected and its current condition assessed, if any sign of failure is discovered NJAWC will implement an appropriate remedial action, which may include replacement, structural lining, or specific repairs based on the condition assessment of the main. See Table 1 for candidate list. Due to the criticality of most of these mains, NJAW schedules the necessary inspections and repairs or renewals (if necessary) when system demands provide a window of opportunity to remove the asset of interest from service.

NJAWC's philosophy is to take proactive measures in the condition assessment of these valuable critical assets and remedy any discovered deficiencies as to minimize future and potentially catastrophic emergencies. The DSIC program affords this approach, and its continuation is invaluable.

Schedule

NJAWC proposes to conduct prioritized PCCP transmission mains condition assessment on a five year schedule and repeat the evaluation on frequency not to exceed five years for the most critical mains. NJAW considers any main larger than 20 inch critical as critical. Based on the inventory of prioritized PCCP mains (70 miles), NJAWC estimates the need to perform pipe surveys and condition assessments of approximately 14 miles annually.

Cost

The cost for the survey and condition assessment based on a five-year schedule is estimated to be from $1 million to $2 million annually. NJAWC conservatively estimates that approximately 5% of prioritized mains will require replacement or structural lining. It is difficult to estimate the replacement cost of any large diameter pipe with certainty as much is dependent on its size, access, and local constraints of the transmission main. Assuming a uniform replacement of 5% for each prioritized main, the annual replacement or rehabilitation capital requirement is estimated to be approximately $5 million.

NJAWC anticipates a capital requirement of approximately $7 million annually to effectively implement and carry the PCCP and other large diameter Strategy as presented herein.

While the focus of this strategy is to deal with PCCP transmission mains and deservingly as such, there are other large and critical transmission mains that deserve attention. These transmission mains are Cast Iron or Steel pipes constructed several decades ago and deserve some attention in determining their current condition and performance. In Table 1, NJAWC has compiled a list of prioritized PCCP and other critical transmission mains to be surveyed and condition assessed. The list was prepared based on the pipe class (for PCCP) and/or its criticality to the system it serves. In total, the prioritized mains account for approximately 125 miles.

Condition Assessment Results

Recently completed condition assessment results are enumerated and immediately follow:

Project ID 44 - Hummocks Sta Raw Water
Inspection was completed in May 2022. One leak was discovered and repaired.

Project ID 45 – Union Transmission Main from Galloping Hill Road to Morris Avenue
The acoustic inspection was conducted on the 36-inch and 30-inch Union Transmission Main using the SmartBall® technology and covered a cumulative distance of 1.83 miles. Analysis of data collected during the inspection identified one (1) acoustic anomaly resembling a leak, which was located on the 30-inch inline gate valve. The leak was located approximately 609 feet downstream of the tracking location at SmartBall Receiver (SBR). Additionally, the inspection detected zero (0) air pockets, air slugs and entrained air.

Project IDs 46 and 47 – Jumping Brook Raw Water Mains

Over the course of 2021 and 2022, Pure Technologies conducted a non-destructive evaluation of two PCCP Jumping Brook Raw Water Mains using acoustic leak and air pocket detection and an electromagnetic inspection. The Jumping Brook Raw Water Mains inspected include a 1961 pipeline and a 1993 pipeline. The acoustic inspection was conducted using the Smart Ball technology and covered a cumulative distance of 2.20 miles. The 1993 main was inspected from Gully Road to the Jumping Brook WTP in July 2021. The 1961 main's inspection from the Glendola Reservoir to the Jumping Brook WTP was fully completed in April 2022. It was concluded from acoustic data that there were no leaks on the raw water mains. For the 1993 main, however, an air pocket was discovered. The electromagnetic inspection was conducted using Pure Technologies' Pipe Diver tool, also covering a cumulative distance of 2.20 miles, spanning a total of 704 pipe sections. Analysis of the Pipe Diver data determined that one (1) pipe in the 1993 main and 12 pipes in the 1961 main displayed electromagnetic anomalies consistent with prestressing wire damage.

Project ID xx – Linden 48 inch Transmission Main from E Milton Road to Lower Road

The acoustic inspection was conducted on the 48-inch Linden Transmission Main using SmartBall® technology and covered a cumulative distance of 1.15 miles. Analysis of data collected during the inspection identified no acoustic anomalies resembling leaks, air pockets, air slugs or entrained air. Based on the absence of leaks, air pockets, and broken wire wraps detected during the inspection, the Linden Transmission Main is in serviceable condition and does not require immediate rehabilitation.

Table 1 – PCCP and other critical transmission mains candidate list for condition assessment

ID	System	Transmission Name	Diameter inches	Estimated Year Installed	Total Lineal Footage	Municipal (Origin)	Municipal (Terminus)
1	**Coastal North**	SRWTP Discharge - South	30	1964	24,200	Tinton Falls	Tinton Falls
2	**Raritan**	RM Plant East to Oak Tree Station	60	1965	57,900	Bridgewater	Edison
3	**Raritan**	River Road (Frenchies) to Tyler St. Booster	48	1956	25,000	Middlesex	South Plainfield
4	**Raritan**	Tyler St. Booster to Wood Ave @ Rt 27	48	1956	30,000	South Plainfield	Edison
5	**Raritan**	From Wood Ave following Rt 27 to Randolph Rd IC	48	1956	24,000	Edison	Woodbridge
6	**Raritan**	Rahway DPW Yard to Lower Rd near CONOCOPHILLIPS	48	TBD	6,200	Woodbridge	Linden
7	**Raritan**	N. Stiles St to Alpha Wire IC (City of Newark)	48	TBD	12,600	Linden	Linden

ID	System	Transmission Name	Diameter inches	Estimated Year Installed	Total Lineal Footage	Municipal (Origin)	Municipal (Terminus)
8	Raritan	Easement between Lower Road and S. Wood Ave	36	TBD	5,200	Linden	Linden
9	Raritan	From S. Wood Ave following E 21st ST & Morses Mill Rd to Brunswick Ave	24	TBD	2,200	Linden	Linden
10	Raritan	Morses Mill Rd @ Brunswick Ave X-ing NJ Turnpike to PSE&G	20	TBD	6,100	Linden	Linden
11	Raritan	Roselle Booster Suction	36	1955	15,700	Clark	Roselle
12	Coastal north	Newman Springs Station Discharge	24	1954	16,000	Tinton Falls	Middletown
	Passaic	Canoe Brook WTP Discharge					
13		White Oak Ridge Rd	24		2,900	Millburn	Millburn
14		Parsonage Hill Rd	30		7,400	Millburn	Millburn
15		Glen Ave - Millburn	24		6,400	Millburn	Millburn
16	Raritan	Jerusalem Rd Reservoir to Kenilworth Tank	36	1969	30,500	Scotch Plains	Kenilworth
17	Raritan	Cecilia Rd to Route 22	36	1970	3,800	Scotch Plains	Watchung
18		Route 22 to Diamond Hill Booster	30	1965	8,200	Watchung	Berkeley Heights
19	Raritan	Oak Tree Station to Raritan Rd (west main)	36	1978	11,400	Edison	Scotch Plains
20	Raritan	Oak Tree Station to Raritan Rd (east main)	36	1965	15,700	Edison	Scotch Plains
21	Passaic	From Glen Ave along Lackawanna Ave, Milburn Ave to Whittingham Tr	20	TBD	1,000	Millburn	Millburn

ID	System	Transmission Name	Diameter inches	Estimated Year Installed	Total Lineal Footage	Municipal (Origin)	Municipal (Terminus)
22	Passaic	Parsonage Hill Road along White Oak Ridge Rd to Athens & Sparta	27	TBD	7,000	Millburn	Millburn
23	Passaic	From Sparta along Athens, Lawrence, So Orange Ave, Old Short Hills Rd, & Northfield Ave to Pleasant Valley Way	24	TBD	13,000	Millburn	West Orange
24	Passaic	Northfield along Pleasant Valley Way to Second Mountain Tank	16 20	TBD	13,000	West Orange	West Orange
25	Passaic	From Lorelie along Roosevelt, Elmwood, Pleasant Valley Rd to Eagle Rock	16	TBD	7,400	West Orange	West Orange
26	Passaic	South Mountain Tanks along Fairview Rd and Sagamore to Glen	36	TBD	2,100	Millburn	Millburn
27	Passaic	From Sagamore along Glenn, Wyoming, Mountain to Sagamore	20	TBD	4,500	Millburn	Millburn
28	Passaic	From Mountain along Wyoming, Claremont, Ridgewood Rd to E Cedar	16	TBD	6,900	Millburn	Maplewood
29	Passaic	Coit St to Banta, Chancellor, Mt Vernon to Mellville	20	TBD	1,700	Irvington	Irvington
30	Passaic	CBWTP to Canoe Brook Rd, Wallace, Canoe Brook Pkwy, Beverly, Morris,	24 20	TBD	14,900	Millburn	Summit

ID	System	Transmission Name	Diameter inches	Estimated Year Installed	Total Lineal Footage	Municipal (Origin)	Municipal (Terminus)
		Gates, Evergreen, Colonial, West End to Passaic Ave					
31	**Passaic**	From Service Rd along River Rd, Passaic Ave, Kent Pl, New Providence Ave to Passaic Ave	20	TBD	16,300	Summit	Summit
32	**Passaic**	From New Providence along West End, Passaic Ave, Old Springfield Ave, Division, to Mountain	20	TBD	8,400	Summit	Summit
33	**Passaic**	From Elkwood along Passaic, Springfield, Central, Fairview, Union, to Mountain	16	TBD	14,200	Summit	New Providence
34	**Passaic**	From Diamond Hill Rd along Mountain Ave, Grassman, Valley Rd to Diamond Hill Booster	24	TBD	6,700	New Providence	Berkeley Heights
35	**Passaic**	From Wyoming along Elm, Bailey to Ridgewood @ Glen in Millburn	16	TBD	1,900	Maplewood	Maplewood
36	**Raritan**	Talmage Rd Booster Suction Main	30	1973	5,200	So. Plainfield	Edison
37	**Raritan**	Finderne Ave to Route 206	36	1978	14,800	Bridgewater	Raritan Boro
	Delaware	Delaware River Regional WTP Discharge Mains		1994-95			
38		54” PCCP	54	1994	23,300	Mount Laurel	Mount Laurel
39		48” PCCP	48	1994	14,000	Cherry Hill	Cherry Hill

ID	System	Transmission Name	Diameter inches	Estimated Year Installed	Total Lineal Footage	Municipal (Origin)	Municipal (Terminus)
40		42” PCCP	42	1994	8,500	Cherry Hill	Cherry Hill
41	**Raritan**	Truman IC to Metlars Lane	20	1969	6,900	Edison	Piscataway
42	**Raritan**	Haines, Drakes, & Metlars Lane	20	1970	9,300	Piscataway	Piscataway
43	**Raritan**	CRWTP Twin PCCP Intake Pipes	60	1997	1,400	Franklin	Franklin
44	**Raritan**	Hummocks Well Facility, PCCP and Cast Iron Site Piping	30,24, 20	1951	2,600	Union	Union
45	**Raritan**	From Galloping Hill Road to Morris Avenue	30	1963	7,920	Union	Union
46	**Coastal north**	JBWTP Raw Water Main	36	1961	5,537	Wall	Neptune
47	**Coastal north**	JBWTP Raw Water Main	36	1993	2,577	Wall	Neptune
48	**Coastal North**	**Jumping Brook WTP Discharge,**	**24, 30**		**49,500**		
49	**Delaware**	Mansfield to Mount Holly (PCCP, DI)	30		50,000		
50	**Raritan**	Coit Street Booster Suction	20		2,500	Hillside	
51	**Raritan**	Westfield Rd along Evergreen Av, Cedar St, Carol Pl, Monica Pl, and Kate St to Plainfield Ave	48		3,600	Scotch Plains	
52	**Raritan**	New Amwell Rd (Hillsborough) along Route 206, Hamilton Rd, Millstone	30		23,500	Franklin	Hillsborough
53	**Raritan**	N Post Rd to Brunswick Pike and +/- 2,766 LF of 16” CEM/PCCP	16		19084	West Windsor	

ID	System	Transmission Name	Diameter inches	Estimated Year Installed	Total Lineal Footage	Municipal (Origin)	Municipal (Terminus)
54	**Raritan**	from Alexander Rd. to west of Canal Rd. Factory Lane 48 pipe failure	48		TBD	Middlesex	