NEW JERSEY AMERICAN WATER

April 19, 2024

Hon. Sherri L. Golden
Secretary
Board of Public Utilities
44 South Clinton Ave, 1st Floor
P.O. Box 350
Trenton, NJ 08625-0350

Re: I/M/O the Petition of New Jersey-American Water Company, Inc. for Authorization to Implement a Resiliency and Environmental System Investment Charge (RESIC) - Foundational Filing
BPU Docket No. WR2404____

Dear Secretary Golden:

On behalf of New Jersey-American Water Company ("NJAWC"), enclosed herewith is NJAWC's filing in the referenced matter. The filing consists of the Foundational Filing required pursuant to N.J.S.A. 48:2-21 and P.L. 2023, c.315 for authorization to implement a Resiliency and Environmental System Investment Charge ("RESIC").

Respectfully submitted,

Christopher M. Arfaa

CMA:dlc
Enc.

c: Attached service list (via email, w/enc.)

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Director, Corporate Counsel
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I/M/O the Petition of New Jersey-American Water Company, Inc. for Authorization to Implement a Resiliency and Environmental System Investment Charge

Board Docket No. WR2404____

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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 RESILIENCY AND ENVIRONMENTAL SYSTEM INVESTMENT CHARGE	:	BPU Docket No. WR2404_____ **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 P.L. 2023, c.315, N.J.S.A. 48:__-__,[1] 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 Resiliency and Environmental System Investment Charge ("RESIC" or "Surcharge") for the recovery of the costs of investments for the period of 2024 through 2027 related to: compliance with requirements addressing both existing and emerging chemical elements or compounds; installation of new plant or equipment or replacement of existing plant or equipment to further, maintain, enhance or improve resiliency, health, safety, or environmental protection for NJAWC's customer or employees, or the public; treatment media and related equipment for both existing and emerging chemical elements and compounds. The

[1] An Act establishing the "Resiliency and Environmental System Investment Charge Program" for cost recovery of certain investments made by certain utilities and supplementing Title 48 of the Revised Statutes, Assembly No. 4791 (as amended) (enacted January 16, 2024).

proposed rates in this Petition, if approved, would increase annual revenues, in increments occurring at approximately six-month intervals, by no more than $28,934,416, which is no more than 2.5% of the Company's annual revenues, which is the current RESIC "cap"[2] or maximum RESIC revenue allowed to be recovered under P.L. 2023, c.315 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.

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. On January 16, 2024, Governor Phil Murphy signed into law P.L. 2023, c.315, an Act establishing the "Resiliency and Environmental System Investment Charge Program" for cost recovery of certain investments made by certain utilities and supplementing Title 48 of the Revised Statutes.

3. This Petition is filed in accordance with P.L. 2023, c.315 and N.J.A.C. 14:1-5.1 et seq.

[2] The precise cap amount will be determined in accordance with the final decision in the Company's current base rate case proceeding, BPU Docket No. WR24010056.

4. In support of this Petition, NJAWC submits the attached Foundational Filing to the Board. (P.L. 2023, c.315, § 3.b.). The Foundational Filing includes the following information:

a) Projected annual capital expenditures on RESIC-eligible projects for a three-year period, identified by major categories of expenditures (Sections 1 through 7 and App. A – Project List).

b) Actual annual capital expenditures on RESIC-eligible projects for the previous three years, identified by major categories of expenditures (Sections 1.2 and 2 and App. A – Project List).

c) An engineering evaluation and report identifying the specific projects to be included in the proposed RESIC, with descriptions of project objectives, detailed cost estimates, and the estimated in-service dates for each project (Sections 2 through 7 and App. A – Project List).

d) Vintage, condition, or other similarly relevant and reasonably available information about the eligible infrastructure that is being rehabilitated or replaced, if applicable (Sections 2 through 7 and App. A – Project List).

e) A forecast of RESIC-eligible capital expenditures for a three-year period setting forth annual planned capital expenditures (App. A – Project List).

The maximum dollar amount, in aggregate, the utility seeks to recover through the RESIC under the foundational filing (App. B – Proposed RESIC Assessment). The Company included in its proposed assessment calculation

a request for deferral of Post In-service Carrying Costs ("PISCC") and depreciation expenses, from the date the investments are placed in-service until such point as the investments are included for recovery in the RESIC rate. These deferrals will be recovered within the RESIC revenue requirement over the average remaining life of the installed assets, and will be subject to the RESIC-cap. The Company requests the deferral of PISCC and depreciation as many of the RESIC-eligible investments are driven by federal, state or local government compliance requirements.

f) The estimated rate impact of the proposed RESIC on customers of the utility (App. B – Proposed RESIC Assessment).

g) A proposed form of public notice that includes the maximum dollar amount that is sought to be recovered through the RESIC as well as an estimated rate impact on customers for the entire period (App. C – Proposed Form of Public Notice).

5. If implemented in the semi-annual increments described above, the maximum allowable monthly surcharge under P.L. 2023, c.315 would be approximately $2.50 per month for a five-eighths inch (5/8") meter or meter equivalent at the end of the 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 but not limited to changes in the number of customers served by the Company. The maximum proposed surcharges on meters of other sizes are set forth in Appendix B of the Foundational Filing. Such surcharges will be implemented incrementally, after semi-annual RESIC filings, as set

forth in P.L. 2023, c.315 § 4, and may not generate revenues that exceed the RESIC cap as defined in P.L. 2023, c.315 § 7.b(2) and described above.

6. 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.

7. 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 a 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.

8. Notice of this Petition and a copy of this filing have been served upon the Director, Division of Rate Counsel, via electronic mail as permitted by the Board's Order of March 19, 2020 in Docket No. EO20030254.

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

10. Proof of Service of the notices 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 the rates requested in the attached 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: April 19, 2024

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

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Vice President and Director of Engineering
New Jersey-American Water Company, Inc.
1 Water Street
Camden, NJ 08102

Jamie D. Hawn
Director, Rates and Regulatory
New Jersey-American Water Company, Inc.
1 Water Street
Camden, NJ 08102

Christopher M. Arfaa
Director, Corporate Counsel
New Jersey-American Water Company, Inc.
1 Water Street
Camden, NJ 08102

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
19th day of April, 2024

DONNA L. CARNEY
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES MAY 24, 2028

Table of Contents

EXECUTIVE SUMMARY

This report presents the first Foundational Filing by New Jersey-American Water Company, Inc. ("NJAWC", "New Jersey American Water" or the "Company") for the Resiliency and Environmental System Investment Charge Program. This filing covers the period of 2024 through 2027. The Company has identified several vertical asset investment projects across the state, prioritizing numerous blanket type instrumentation / communication and treatment plant projects annually.

These resiliency and environmental investment projects are distributed among the four regional Operating Areas of NJAWC: South, North, Central and Coastal. The projects include replacement of and upgrades to production and treatment facilities, distribution facilities, storage facilities, and pumping and communications equipment. This Foundational Filing lists each project and the reason for the project, the importance and benefit of these investments, and the estimated costs. The total investment cost of this Foundational Filing is estimated and expected to be capped at approximately $205 million.

The primary focus of this program is to address the increased threats from climate variability and emerging contaminants as more fully discussed in this report. As most are aware, the New Jersey Department of Environmental Protection ("NJDEP") has promulgated limits for PFAS contaminants that have been updated with new federally mandated Environmental Protection Agency ("EPA") limits which are much more stringent than the prior NJ levels; these limits were announced on April 10, 2024.[1,2] Additionally, the state of New Jersey, within its updated Water Supply Plan (2024), has provided insight, guidance and proposed actions around building resilient water systems in the face of climate variability. The NJDEP has recently (April 2023) issued the Building Resilient Water Infrastructure guidance document to assist the NJ Water Bank and its applicants with ensuring projects are evaluated for mitigation of or resistance/resilience for the effects of climate variability.[3] The burden of compliance with the ever increasing regulatory requirements falls to the Company and this program will help address and mitigate these issues effectively and in accordance with the Company's requirement to provide safe adequate and reliable water and wastewater service for all customers.

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[1] https://www.awwa.org/Resources-Tools/ResourceTopics/PFAS?utm_source=higher_logic&utm_medium=email&utm_term=040424PrepforPFASregs&utm_content=comms&utm_campaign=advisory_24

[2] https://dep.nj.gov/pfas/epa-pfas-rule/

[3] https://dep.nj.gov/wiip/resilience/

Resiliency and Environmental System Investment Charge Program

On January 16, 2024, Governor Phil Murphy signed P.L. 2023, c.315 (the “RESIC Act”) into law establishing the "Resiliency and Environmental System Investment Charge Program" for cost recovery of certain investments made by certain utilities. A RESIC is a regulatory mechanism that enables timely cost recovery of investment in certain non-revenue producing water and wastewater system components that: are in direct or indirect compliance with requirements addressing existing or emerging requirements; and enhance water and wastewater system resiliency, health, safety or environmental protection of customers, employees or the public.

This document comprises the Foundational Filing for NJAWC required by the RESIC Act. This Foundational Filing includes an engineering evaluation of the Company’s water and wastewater utility systems, a description of proposed RESIC projects (including projected costs), and the estimated customer rate impact over the period covered. 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 RESIC Act to be included in the Foundational Filing and indicates the corresponding sections that contain this information. This Executive Summary also: discusses the future and historical basis underlying the value of the RESIC program, supported by examples set forth in the sections of the report; identifies certain factors that are critical to the success of a resiliency and environmental system investment program; and highlights some of the benefits expected to flow from the successful execution of the RESIC program proposed by NJAWC in this Foundational Filing.

Water and Wastewater System Asset Performance Evaluations

This Foundational Filing includes an engineering report on the vertical assets within each NJAWC operating area. The report presents a discussion of 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. This RESIC program covers various facilities and equipment, including production and treatment facilities, distribution and storage facilities, and power and communications equipment. Details for each water operating area are found in Sections 3 through 6; details regarding wastewater systems are found in Section 7.

Section 2. “Blanket” Production Assets

Section 2 generally describes the Company’s inventory of smaller assets or equipment that are components of a larger asset, such as a pump or an electric motor in a pump station, a chemical feed pump or a continuous analyzer system in a water treatment plant, communications equipment that remotely monitors and controls equipment, an electric generator or direct drive (auxiliary power) or electric switch gear at a

production facility, or any other individual unit of plant that is part of a larger asset or facility. These may also include flow meters, valve actuators and controls, filter media or other filter appurtenances that require renewal, upgrading, or replacement.

Section 3. South Operating Area

Section 3 provides an overview of the NJAWC South Operating Area including a large regional surface water treatment plant and well water serving both urban and suburban neighborhoods in Camden, Burlington, and Gloucester counties along with thirteen (13) smaller well water supplied systems in Burlington, Gloucester, Salem, Atlantic and Cape May counties. As described further in Section 3, the South Operating Area challenges include reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, treatment plant deficiencies, and safety concerns.

Section 4. North Operating Area

New Jersey American Water's North Operating Area is responsible for the management of nine (9) Public Community Water Systems in Warren, Morris, Passaic, Essex, Union, and Somerset Counties. As described further in Section 4, the North Operating Area challenges include reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, treatment plant deficiencies, and safety concerns.

Section 5. Central Operating Area

NJAWC's Central Operating Area consists of three (3) Public Community Water Systems in 48 municipalities in Union, Middlesex, Somerset, Morris, Hunterdon, and Mercer Counties. Combined, these water systems deliver approximately 135 MGD, on average, to water customers. The Central Operating Area is primarily and extensively served by the Raritan System, as well as two (2) smaller systems (Frenchtown and Crossroads at Oldwick). The Raritan System also provides bulk water supplies to other public community water systems in the region through bulk water sales agreements, most notably with City of Elizabeth and Middlesex Water Co. Inc.as well as inter-company transfers, primarily with the North Operating Area. As described further in Section 5, challenges in the Central Operating Area include reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, treatment plant deficiencies, and safety concerns.

Section 6. Coastal Operating Area

Section 6 provides an overview of the Coastal Operating Area which is located in the north coastal region of New Jersey, covering portions of Monmouth and Ocean Counties. The Coastal Operating Area consists

of five (5) Public Community Water Systems serving 48 municipalities including the Coastal North regional system, Union Beach, Shorelands, Deep Run and New Egypt systems in Plumsted Twp. As described further in Section 6, the Coastal Operating Area requires the following to remain resilient: treatment improvements at the surface water treatment plants and at several well stations to improve water quality and recover declining capacity, distribution pumping, storage and gradient realignment projects are recommended to more effectively use system storage, improve water distribution, address projected pumping capacity deficits, control leakage rates and enhance energy efficiency, and auxiliary power upgrades are recommended at critical facilities.

Section 7. Wastewater Systems - Statewide

Section 7 provides an overview of the Company's wastewater service territory. The Company provides wastewater service to about 64,200 customers in 31 wastewater systems in 12 counties, ranging from Cape May County in the state's southern part to Bergen, Morris, and Warren counties in the north. Twenty-one (21) systems include both wastewater collection and treatment whereas the remaining ten (10) are collection only.

As described further in Section 7, challenges in the older gravity wastewater systems NJAWC has acquired include a historical lack of investment and habitually high inflow & infiltration (I&I). High I&I can limit the capacity of downstream gravity sewers and wastewater lift stations, increasing the risk of sewer overflows. High I&I can also limit the capacity of the receiving wastewater treatment plant by hydraulically overloading the plant.

Wastewater lift stations have above ground buildings and structures that tend to have high maintenance costs, particularly when the lift station nears the end of its useful life. At many of the wastewater facilities, the structures and equipment were found to be in poor condition and/or were not performing effectively. As described further in Section 7, condition and performance deficiencies are the shared challenges faced by the wastewater treatment facilities and recommended improvements for these wastewater systems include wastewater treatment plant upgrades and rehabilitation, safety and security related site upgrades as well as installation or replacement of process control instrumentation and communication equipment.

Appendix A. Project List

Appendix A includes the detailed project list for RESIC 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 A lists all the project-specific information required by the RESIC Act.

Appendix B. Proposed Assessment

Appendix B sets forth the financial customer impacts of the RESIC period projects proposed in the Foundational Filing. The Company's schedule reflects the aggregate RESIC-eligible project spending estimated for each semi-annual filing and the projected total assessment up to the RESIC cap. The Company included in its assessment calculation a request for deferral of Post In-service Carrying Costs ("PISCC") and depreciation expenses, from the date the investments are placed in-service until such point as the investments are included for recovery in the RESIC rate. These deferrals will be recovered within the RESIC revenue requirement over the average remaining life of the installed assets, and will be subject to the RESIC-cap. The Company requests the deferral of PISCC and depreciation as manyl, of the RESIC-eligible investments are driven by federal, state or local government compliance requirements. The magnitude of these investments necessitates the requested deferred accounting treatment until such time as the assets are included in the RESIC for recovery. The calculations have been projected utilizing specific factors from the Company's current proposed 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 B:

- Scenario 1 assumes that the final BPU decision in the pending base rate case does not include any RESIC-eligible post-test year additions. Thus, Appendix B, page 1 of 7 presents the first surcharge filing to include those projects.
- Scenario 2 assumes that the final BPU decision in the pending base rate case includes all RESIC-eligible post-test year additions. Thus, Appendix B, page 2 of 7 presents the first surcharge filing to exclude those projects.

Appendix C. Public Notice

Appendix C includes the proposed form of public notice for the public hearing required to be held before the Board acts on the Foundational Filing. The proposed public notice includes the maximum amount proposed to be recovered from customers over the period covered by this Foundational Filing based on the Company's most recent general rate case.

RESIC Program Cost Impacts

The cost of the program and impact on its customers is shown in more detail in Appendices B and C. NJAWC proposes the RESIC-eligible spending as shown in Table ES.1, below. This program is within the limits defined in the RESIC Act.

Table ES–1 - NJAWC Estimated RESIC Program

Scenario 1 - Includes Post Test Year RESIC Eligible Additions

	RESIC				
Eligible Investments	**Filing 1**	**Filing 2**	**Filing 3**	**Filing 4**	**Total**
Total Eligible Investments[1]	$73,248,429	$43,949,058	$43,949,058	$43,949,058	$205,095,602
5/8" meter[2]	$0.91	$1.44	$1.97	$2.50	
RESIC Revenue as a % of total Water Revenue	0.91%	1.44%	1.98%	2.50%	
Annualized RESIC Revenue3	$10,503,994	$16,715,205	$22,858,679	$28,934,416	

[1]To reach the 2.50% maximum RESIC revenue allowable per the approved Rules & Regulations, eligble capital spend
[2]Monthly cost for an average residential customer
[3]RESIC revenues associated with capital spend from the filing period commences in the subsequent period.

Scenario 2 - Excludes Post Test Year RESIC Eligible Additions

	RESIC				
Eligible Investments	**Filing 1**	**Filing 2**	**Filing 3**	**Filing 4**	**Total**
Total Eligible Investments[1]	$37,134,377	$55,701,566	$55,701,566	$55,701,566	$204,239,074
5/8" meter[2]	$0.46	$1.15	$1.83	$2.50	
RESIC Revenue as a % of total Water Revenue	0.46%	1.15%	1.83%	2.50%	
Annualized RESIC Revenue3	$5,316,981	$13,275,310	$21,147,788	$28,934,416	

[1]To reach the 2.50% maximum RESIC revenue allowable per the approved Rules & Regulations, eligble capital spend
[2]Monthly cost for an average residential customer
[3]RESIC revenues associated with capital spend from the filing period commences in the subsequent period.

An effective resiliency and environmental system investment program such as the one envisioned and presented in this Foundational Filing facilitate the public safety and resiliency investments necessary to continue providing safe and reliable water and wastewater services to our customers. .An efficient RESIC program reduces much uncertainty inherent in a traditional rate case recovery schedule and allows NJAWC to deploy capital more cost-effectively and strategically.

One of the expectations NJAWC has for the programs implemented pursuant to the RESIC Actis a more consistent level of asset renewal going forward, buoyed by the support, commitment and recognition of the need to comply with changing regulatory requirements, and strengthen utility resilience to all hazards, including the potential impacts from a changing climate. 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 respond to an emergency like a power outage. Capital investment that increases resiliency in systems that do not meet the minimum resiliency planning threshold, defined as the ability to provide at least 24-hours of water/wastewater service at minimum daily demand levels in an emergency, should be prioritized. The minimum threshold of 24-hours represents the time needed to initiate a response to an emergency event.

More important, the utilities and the Board should be working to find ways to minimize disruptions to the systematic investment in critical infrastructure the RESIC 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. In fact, a recent US Treasury Department release by Eric Van Nostrand, Assistant Secretary for Economic Policy (P.D.O.), stated "Investing in our infrastructure can strengthen our long-term productive capacity while creating opportunity for Americans in disadvantaged communities."[4]

As discussed in the balance of this report, the long-term benefits of the projects contemplated under the RESIC program are in the best interest of customers. Customers will experience improved safety and reliability of their water and wastewater service, enhanced water quality, and the benefits of community resiliency in their water and wastewater services.

Summary of Specific RESIC Program Success Factors

The Company's investment in infrastructure resiliency under the RESIC program is driven by several converging factors that are common to water and wastewater systems throughout the United States. One of the most significant factors for NJAWC is more stringent standards to achieve regulatory compliance related to emerging contaminants. In many cases, as the specific Operating Area sections will show, regulatory compliance and reliability are primary drivers for our capital investment. Resolving existing supply, treatment, service problems, or storage/production deficits, meeting near-term capacity needs, and and compliance with water quality standards are among the highest priority challenges of the water and wastewater industries. As can be seen in the recently released draft of the 2024 New Jersey State Water Supply Plan, significant threats from not only climate change but also emerging and existing contaminants (PFAS, 1-4 Dioxane) and related actions are prominently discussed within the plan. For example, Chapter 2 addresses PFAS threats to source water; the state is currently experiencing challenges as water utilities are required to comply with the existing New Jersey MCL (Maximum Contaminant Levels) standards for three PFAS contaminants, while reacting to the now finalized EPA national drinking water regulation MCLs for six PFAS chemicals in drinking water which are much lower than the current New Jersey MCLs standards. The lower and expanded federal standards recently enacted for this suite of chemicals are anticipated to impact more water systems statewide and exacerbate the challenges New Jersey is already experiencing".[5] The report goes on to state: "many Public Community Water Systems (PCWS) in New Jersey will face additional costs for treatment of recent and upcoming MCLs for toxic and carcinogenic substances such as PFAS chemicals, 1,4 dioxane and others, along with the costs of removing lead service lines as required by state law".[6] The Company, through the RESIC program, is committed to meeting the objectives as outlined in the plan to help ensure safe, reliable, and affordable water and wastewater service for all customers.

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[4] https://home.treasury.gov/news/featured-stories/infrastructure-investment-in-the-united-states

[5] https://dep.nj.gov/pfas/epa-pfas-rule/

[6] https://dep.nj.gov/water-supply-plan/

Notably, the Company now operates many systems that treat for regulated perfluorinated compounds (PFOA, PFOS and PFNA) throughout the State. Additional facilities under construction currently include the following: Oak Street PFAS (Lakewood), and Cooper Ivy Station Upgrades (PFAS, Radium and 1-4 Dioxane). The Company continues to prepare for new and more stringent regulations on emerging compounds and intends to take prompt action on planned upgrades and operational mitigation strategies to address these regulatory challenges.

Additionally, when planning capital investments for long-term system resilience, climate changes may impact source water quality for water systems, infiltration and inflow ("I&I") impacts to wastewater systems, power outages due to ice storms, snow loads impacting building roofs, changes to chemical treatment and related impacts to treatment residuals, changes to nutrient loading, reservoir water quality, stream flows, changes to bacterial population in wastewater plant influent, changes to the percentage of wastewater discharges upstream in watershed, impacts from more intense precipitation and runoff, changes to aquifer recharge patterns, flooding and impacts to gravity sewer mains with higher water tables, and supply chain and/or employee access to critical facilities during extreme events. These very events are also contemplated, discussed, and analyzed in the 2024 New Jersey State Water Supply Plan in their own chapter (#3, entitled "Climate Change Impacts to Water Availability"). The summary of the chapter states: "climate drivers -- sea-level rise, increasing temperatures, and increasing precipitation -- have direct and indirect impacts to the state's natural and built water supplies and can lead to critical water supply stresses. While more rainfall can result in more streamflow into reservoirs, peak streamflow can stress aquatic and drinking water quality and floods can inundate critical infrastructure. More precipitation can lead to increased groundwater recharge, but warmer temperatures can result in longer growing seasons, and more evapotranspiration and large storm events can result in more runoff (potentially carrying contaminants into surface water) and less groundwater recharge. Warmer temperatures can also increase water demand; including potable, agricultural and power generation. Sea-level rise will force saltwater into unconfined aquifers and estuaries and cause wells and intakes to become salty permanently or periodically during droughts. Climate change is and will continue to be the major driver of water availability issues for the state."

The Company faces each of these threats to varying degrees but there is substantial evidence to support the need for continued monitoring and planning capital projects to address these very risks and improve the Company's ability to overcome these threats. Prudent long-term investments such as those contemplated by this program meet this challenge.

NJAWC leverages the planning process to define the level of critical assets that have been assessed and appropriately prioritized for improvement or replacement. This includes comprehensive planning studies ("CPS"), condition-based assessments, other assessments, adherence to Company policies and practices.

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

	Sections of Report
1. Projected annual capital expenditures on RESIC-eligible projects for a three-year period, identified by major categories of expenditures.	Sections 1 through 7 and Appendix A – Project List
2. Actual annual capital expenditures on RESIC-eligible projects for the previous three years, identified by major categories of expenditures.	Sections 1.2 and 2 and Appendix A — Project List
3. An engineering evaluation and report identifying the specific projects to be included in the proposed RESIC, with descriptions of project objectives, detailed cost estimates, and the estimated in-service dates for each project.	Sections 2 through 7 and Appendix A - Project List
4. Vintage, condition, or other similarly relevant and reasonably available information about the eligible infrastructure that is being rehabilitated or replaced, if applicable.	Sections 2 through 7 and Appendix A - Project List
5. A forecast of RESIC-eligible capital expenditures for a three-year period setting forth annual planned capital expenditures	Appendix A - Project List
6. The maximum dollar amount, in aggregate, the utility seeks to recover through the RESIC under the foundational filing.	Appendix–B - Proposed RESIC Assessment
7. The estimated rate impact of the proposed RESIC on customers of the utility.	Appendix B - Proposed RESIC Assessment

	Sections of Report
8. Public notice and a public hearing are required on the RESIC Foundational Filing. The notice for said hearing shall include the maximum dollar amount that is sought to be recovered through the RESIC as well as an estimated rate impact on customers for the entire period.	Appendix C - Proposed Form of Public Notice

SECTION 1. ASSET MANAGEMENT

1.1. NJAWC Overview

New Jersey-American Water Company, Inc. (“NJAWC” or the “Company”) is the state’s largest water and wastewater utility, with its principal office at 1 Water Street, Camden, New Jersey 08102. The Company serves approximately 2.8 million people, delivering approximately 290 million gallons (about 1,097,768,900 L) of water a day to approximately 668,000 water and fire customers. The Company provides wastewater services to about 64,200 customers in 31 wastewater systems in 12 counties ranging from Cape May County in the state's southern part to Bergen, Morris, and Warren counties in the north. Twenty-one (21) systems include both wastewater collection and treatment whereas the remaining ten (10) are collection only. A map of the NJAWC service areas is shown in Exhibit 1.1. NJAWC is a subsidiary of American Water Works Company, Inc. (“American Water”), which is headquartered in Camden, New Jersey.

The NJAWC service territory is organized into five Operating Areas: South; North: Central; Coastal and Wastewater.

These five Operating Areas effectively manage and operate 31 public water systems and 31 Wastewater systems. Table 1.2 provides a list of public water systems and Table 1.3 provides a list of wastewater (“WW”) systems. NJAWC’s local Operating Centers are in Delran, Lawnside, Egg Harbor Township, Shrewsbury, Lakewood, Short Hills, Washington, Bridgewater, Hillsborough, and Plainfield.

1.2. NJAWC Asset Resiliency, Compliance, And Reliability Investments

The Company uses a standardized Capital Program Management (“CPM”) process to manage all its capital investments. Other than emerging projects, most capital improvements projects included in the capital improvement plans are identified through Comprehensive Planning Studies (“CPS”) prepared periodically for each operating system. NJAWC conducts CPSs to assess and make project recommendations for its capital assets and evaluates capital needs on an ongoing basis to assess any changed circumstances and ensure that appropriate projects are being prioritized. Capital investment programs and projects are prioritized within an overall strategic planning process, utilizing drivers associated with various asset investment strategies (such as safety, regulatory compliance, capacity, customer satisfaction, etc.) to formulate a strategic capital investment plan (hereafter, referred to as “capital investment plan”), which largely supports the Company’s capital construction plan. For investment projects contained within the capital investment plan, detailed design engineering is conducted, and implementation plans are developed.

The CPS process includes a thorough evaluation of demand projections, regulatory requirements, asset service reliability and quality, infrastructure condition, asset impacts on safety and efficiency, customer rates, public fire protection, and environmental sustainability. The CPS identifies, assesses, and provides

project recommendations for the Company's capital assets on a multi-year planning horizon and includes a thorough planning level evaluation of each component of utility infrastructure. The Company also undertakes separate studies or evaluations for specific capital projects that emerge between each CPS. Capital investment projects are identified and are prioritized using asset investment strategy considerations of safety, regulatory compliance, capacity and growth, infrastructure renewal, efficiency, resiliency, reliability, and quality of service. Each CPS and any additional prioritization of identified capital investment projects are key inputs to the Company's capital investment plan.

Over the past several years, there has been an increasing concern regarding the presence of compounds of emerging concern ("CECs") such as per- and polyfluoroalkyl substances ("PFAS") and 1,4-dioxane in drinking water supplies. Recent advances in analytical methods have revealed the presence of CECs in some drinking water supplies at previously undetectable parts-per-trillion ("ppt") levels. Research is ongoing, but some scientific studies have identified potential health concerns for a number of these compounds even at the low ppt levels. As a result, EPA had established health advisory levels ("HALs") for some PFAS and other CECs and has begun the process to establish MCLs for PFOA and PFOS.

NJAWC is committed to maintaining compliance with existing drinking water standards and works hard to identify and address potential water quality issues before they become MCL exceedances. Water quality projects are considered a high priority as they are related to public health protection of our customers. The State of New Jersey has established MCLs for some CECs, including PFNA, PFOS and PFOA,[7] in advance of EPA establishing federal limits; limits for PFNA were adopted by NJDEP in 2018 while limits for PFOS and PFOA were adopted by NJDEP in 2020. The Company has completed or is in the process of completing several projects to meet state MCLs.

In March of 2023, EPA issued proposed national primary drinking water regulation for certain PFAS as described in the March 29, 2023, Federal Register (88 FR 18638). In summary, the EPA has proposed MCLs of 4.0 parts per trillion (ppt) for PFOA and PFOS while introducing regulation of PFHxS, HFPO-DA, PFNA, and PFBS coupled with the use of a Hazard Index Approach to Regulate PFHxS, HFPO-DA, PFNA, and PFBS8. On April 10, 2024, EPA announced the final National Primary Drinking Water Regulation for these six PFAS compounds.

The Company utilizes gaseous chemicals such as chlorine and ammonia at certain treatment facilities for disinfection and other critical processes. This approach has been in use effectively throughout the water industry for over 100 years, and NJAWC employs best practice design and operations standards to achieve

[7] See https://dep.nj.gov/pfas/standards/ for details.

[8] See https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas.

safety and reliability. However, gaseous chlorine and ammonia can be harmful to our employees or the public if an unintended release occurs, so the Company seeks to move to inherently safer technologies that pose less risk to employees, the public and the environment. The Company plans to systematically eliminate gaseous chlorine and ammonia at its facilities under a prioritized approach based on risk factors such as proximity, density, and topography of public surroundings, robustness of existing engineering controls, and quantities of gas in storage.

Beyond chemical safety and regulatory compliance concerns, the increasing frequency of extreme weather events and other natural disasters as magnified by climate variability has significantly challenged NJAWC's infrastructure. Water and wastewater systems have been traditionally designed and maintained to provide reliable service under standard design conditions (e.g., 1-in-50-year drought, 1-in-100-year flood, etc.). Such standards, however, are based on historic climate patterns that may no longer be typical. Systems may be expected to cope with more extreme and frequent droughts, floods, power outages, and storms that may impact service. In addition, other human-caused events such as source water contamination, and accidental or purposeful damage to facilities may result in significant impacts on customer service and asset integrity.

For NJAWC's most critical assets, defined as those with the highest consequence of failure, capital investments to further "harden" systems against identified natural threats are prioritized for implementation. Non-capital solutions are also part of the solutions toolkit to provide more system resiliency in mitigating such risks, such as more robust emergency response plans ("ERPs"), drought management plans, condition-based and/or reliability-centered maintenance, and other operations plans and asset management strategies that enable better preparedness and ultimately more assurance that reliable service can be maintained.

Asset management is recognized as an industry best practice, and the EPA has been directed under the America's Water Infrastructure Act ("AWIA")[9] to require states to incorporate asset management into their capacity plans. In October 2018, Congress passed AWIA, which includes revisions to the Safe Drinking Water Act ("SDWA") that require all water systems serving populations greater than 3,300 people to complete Risk & Resiliency Assessments ("RRAs") and update their ERPs over a three-year period. NJAWC has completed RRA's for affected systems in accordance with compliance deadlines. Capital improvements identified through this process aimed at reducing risk and improving system resiliency are considered for incorporation into the Company's capital plan. Some examples of resiliency, compliance, and reliability projects are included in the following operating area sections. Historical actual annual capital

[9] https://www.congress.gov/115/bills/s3021/BILLS-115s3021enr.pdf

expenditures of RESIC eligible projects for the previous three years identified by major categories are included in Table 1-1 below.

Table 1-1 RESIC Expenditures by NARUC Account - Actuals

NARUC	Description	2021	2022	2023
304	STRUCTURES AND IMPROVEMENTS	$ 12,225,033	$ 72,026,477	$ 50,340,191
306	LAKE, RIVER & OTHER INTAKES	$ -	$ 23,854	$ 6,135,292
307	WELLS AND SPRINGS	$ 4,889,916	$ 2,824,740	$ 2,489,413
310	POWER GENERATION EQUIPMENT	$ 358,614	$ 965,521	$ 4,758,059
311	PUMPING EQUIPMENT	$ 3,776,804	$ 5,470,045	$ 6,227,882
320	WATER TREATMENT PLANT EQUIP *	$ 20,179,710	$ 31,691,110	$ 13,296,336
330	DIST RESERVOIRS & STANDPIPES	$ 5,973,779	$ 5,848,716	$ 7,699,191
346	COMMUNICATION EQUIPMENT*	$ 6,306,285	$ 17,387,622	$ 6,060,587
371	WW PUMPING EQUIPMENT	$ 118,025	$ 349,524	$ 425,902
380	WW TREATMENT & DISPOSAL EQUIP	$ 1,099,780	$ 2,209,438	$ 1,669,510
396	WW COMMUNICATION EQUIPMENT	$ 187,517	$ 973,090	$ 315,655
Total		$ 55,115,464	$ 139,770,137	$ 99,418,017

*Represents the investment project level spend, blanket level spend is not included in these totals.

Additionally, a statewide Asset Management Plan (“AMP”) has been prepared in response to the New Jersey Water Quality Accountability Act (“WQAA” or “Act”), Public Law 2017, Chapter 133, which was enacted on July 21, 2017. This Act established new requirements for public water systems to improve the safety, reliability, and administrative oversight of their water infrastructure. The WQAA became effective on October 19, 2017, and it applies to public water systems with more than 500 service connections. The Act requires public water systems to create and implement AMPs designed to inspect, maintain, repair, and renew their infrastructure consistent with standards established by the American Water Works Association (“AWWA”).

With asset management planning predominately focused on maintaining condition and performance, the resilient utility must additionally consider efficiency opportunities. Most energy consumed by water utilities is used to pump water. Our path to reduced energy consumption and emissions is driven by using water and energy more efficiently. In 2022, American Water announced a new Energy and Emissions goal. This goal is to reduce absolute scope 1 and scope 2 greenhouse gas emissions by 50 percent by 2035 from our 2020 baseline and achieve net zero by 2050. Between 2007 and 2020, American Water has reduced greenhouse gas emissions by 36 percent, or 89 percent of its previous 2025 goal. By continuing to improve energy and water efficiency, increasing procurement of clean / renewable energy, and increasing our alternative-fuel fleet, NJAWC will support American Water’s overall target and continue to make progress toward it.

1.3. Project Prioritization Guidelines for Capital Investments

Types of Priority	Priority Guidelines	Notes
Priority – A - projects that are considered either mandatory (A1) or essential (A2)	Priority A1: meet legal or other compliance obligations, eliminate elevated risk health & safety or security vulnerabilities, address critical facilities	These projects are scheduled in NJAWC's business plans in prioritized order, aligned with critical service and regulatory deadlines and other relevant considerations. In addition, projects with committed capital, or that are otherwise proactively committed to the community or within a specific rate case with an established rate recovery plan are moved forward as Priority A.
	Priority A2: reduce elevated risk regulatory and environmental vulnerabilities address critical facilities and assets, address critical service issues, provide significant O&M cost efficiency that improves customer affordability.	
Priority – B - projects that are considered necessary over the longer-term.	address critical facilities, reduce lower risk health, safety, and security vulnerabilities, prudently expands NJAWC's franchise territory. address less critical service issues, enhance the reliability of critical assets, and/or enable the sustainable renewal of aging, failing infrastructure, provide significant environmental or ESG benefits at a reasonable incremental cost to an existing project,	These projects are also scheduled in the business plan subject to appropriate consideration of economic or regulatory factors. They are after Priority A projects to achieve improved service to customers within a reasonable rate impact.
Priority – C - projects that are desirable to address issues involving non-critical situations and/or smaller customer impacts.	proactively replace/repair less critical assets, provide environmental benefit, meet non-mandatory water quality goals, and/or improve fire flows beyond minimum acceptable levels.	These projects should be scheduled in the business plan as a lower priority subject to appropriate consideration of economic or regulatory factors. Projects should be scheduled after Priority A projects, and generally after Priority B projects, to improve service to customers with a reasonable rate impact. Priority C projects can be completed within larger Priority B projects at the same facility where cost effective and improves site coordination and safety during construction.

Within the guidance provided above, multiple engineering and asset management criteria are used in the development of recommendations for production facility inspection, maintenance, renewal, and mitigation programs. This program focuses on improvements that are necessary for NJAWC to continue to provide safe, adequate and reliable service to its customers. The improvements also help ensure that NJAWC will continue to meet domestic, commercial and industrial customer demands; meet federal, state and local regulatory requirements; and provide fire protection capabilities. The criteria used for evaluating the various system components are summarized in the Asset Inventory section.

1.4. Cost Estimate Classification

The AWWA Manual of Water Supply Practice M47 for Capital Project Delivery includes general procedures used in water utility project administration in the United States. Establishing a budget for a capital project can be challenging at the early stages of planning and design. Planning-stage cost estimates are generally based on historical and recent projects of similar scope and include high percentages for allowances that typically range from 30 to 50 percent. Allowances cover items that are expected but not yet known and measurable, as well as unknowns that were not anticipated in the project (i.e., true contingency).

Projects with complex or unique features and newer technologies can be difficult to budget, because limited data exists. Renovation projects or improvements at existing sites may also be harder to estimate than new construction because of conflicts with buried infrastructure, the possible need for deep foundations or excavation support systems for existing structures, and a myriad of other potential unknowns such as the impact of climate variability. This is the case with the anticipated additional treatment technologies needed to address more stringent removal rates of emerging contaminants, including but not limited to forever chemicals such as perfluorinated compounds. Significant investigation and piloting are needed to discover treatment or removal capabilities achievable for the capital investment and also attempt to estimate future ongoing operational expenses.

It is also important to understand when the cost estimate was generated and consider whether the cost estimate is in today's dollars or whether it needs to be escalated to the year when the project will be built. Given that major construction projects may become delayed or change schedules for a myriad of reasons, including the weather, it is a continual effort to regularly review and update project forecasts throughout the planning, design, and construction phases. NJAWC uses the Handy-Whitman Indices to help escalate cost estimates to take inflation, cost of materials, and other impacts with the passage of time into account with capital project estimation. According to the Handy-Whitman construction cost index, project costs have been rising at a faster rate since 2020 than in the decade between 2010 and 2020. Since 2021, the Handy-Whitman construction cost index for water utilities in the North Atlantic region of the US has shown annual increases of 7 to 15 percent. Increases of this magnitude can have a significant impact on final project costs.

According to the Association for the Advancement of Cost Engineering ("AACE") International Recommended Practice No. 18R-97, the purpose of cost estimate classification is to align the estimating process with project stage-gate scope development and decision-making processes. The cost estimator makes the determination of the estimate class based upon the maturity level of project definition based on the status of specific key planning and design deliverables. Cost estimates presented in this filing will include a range of Class 3 to Class 5 cost estimates based on concept level scope development or feasibility study to establish initial budget estimates. Many of these projects which are planned based on need and risk mitigation have yet to conduct more detailed design evaluations which may uncover unknown projects constraints and additional costs or allowances. See Table 1.2 below for a Cost Estimate Classification Matrix for Process Industries as defined by the AACE.

Table 1.2 - Cost Estimate Classification Matrix for Process Industries

	Primary Characteristic	*Secondary Characteristic*		
ESTIMATE CLASS	**MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES** Expressed as % of complete definition	**END USAGE** Typical purpose of estimate	**METHODOLOGY** Typical estimating method	**EXPECTED ACCURACY RANGE** Typical variation in low and high ranges
Class 5	0% to 2%	Concept screening	Capacity factored, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Equipment factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

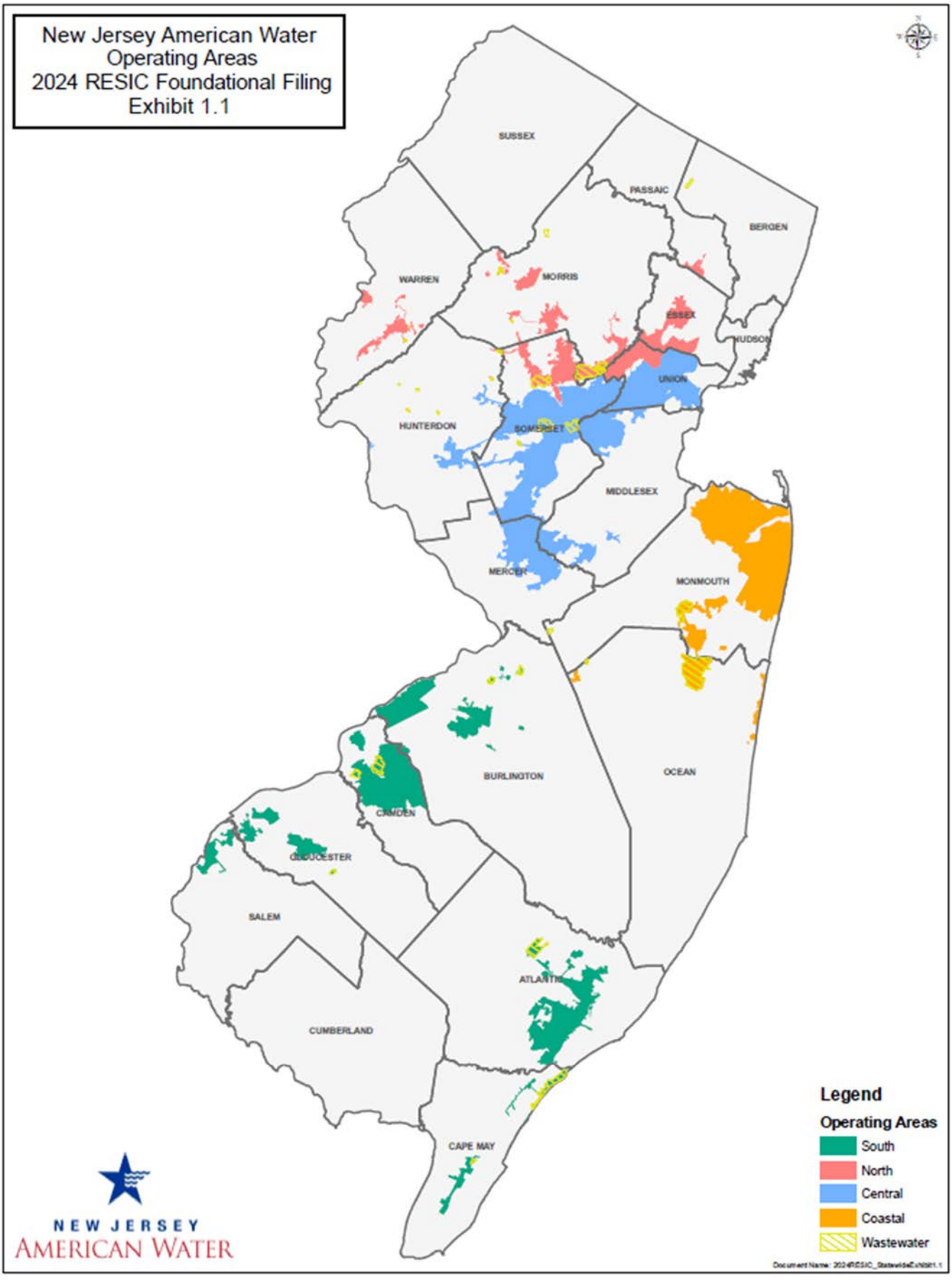
New Jersey American Water
Operating Areas
2024 RESIC Foundational Filing
Exhibit 1.1
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
HUDSON
UNION
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
BURLINGTON
OCEAN
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
Legend
Operating Areas
South
North
Central
Coastal
Wastewater
NEW JERSEY
AMERICAN WATER

Table 1.3 – New Jersey American Water - 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 (Plumsted)	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

Operating Area	System	PWSID #
	Egg Harbor City	NJ0107001
	Ocean City	NJ0508001
	Strathmere	NJ0511001
Total		31

Table 1.4 – New Jersey American Water - Wastewater Systems

System	County	Municipality
Egg Harbor City Sewer System	Atlantic County	Egg Harbor City
Ramapo River Reserve WW System	Bergen County	Oakland
Homestead Sewer System	Burlington County	Mansfield Township
Mapleton Sewer System	Burlington County	Mansfield Township
Haddonfield Sewer System	Camden County	Haddonfield
Mount Ephraim Sewer System	Camden County	Mount Ephraim
Avalon Country Club Sewer System	Cape May County	Middle Township
Ocean City Sewer System	Cape May County	Ocean City
Elk Sewer System	Gloucester County	Elk Township
Brass Castle Sewer System	Hunterdon County	Union Township
Crossroads at Oldwick Sewer System	Hunterdon County	Oldwick Township
Fawn Run Sewer System	Hunterdon County	Bloomsbury
Glen Meadows/Twin Oaks WW System	Hunterdon County	Clinton Township
Lookout Pointe Sewer System	Hunterdon County	Union Township
Pottersville Sewer System	Hunterdon County	Tewksbury Township
Village Square Sewer System	Hunterdon County	Hampton Township
Adelphia Sewer System	Monmouth County	Howell Township
Beacon Hill Sewer System	Monmouth County	Upper Freehold Twp.
Country Oaks Sewer System	Morris County	Mount Olive Twp.
Four Seasons at Chester System	Morris County	Chester Township
Jefferson Peaks Sewer System	Morris County	Jefferson Township
Long Hill Sewer System	Morris County	Long Hill Township
Morris Chase Sewer System	Morris County	Mount Olive Twp.

System	County	Municipality
Deep Run Sewer System	Ocean County	Plumsted Township
Lakewood Sewer System	Ocean County	Lakewood Township
Bound Brook Sewer System	Somerset County	Bound Brook
EDC Sewer System	Somerset County	Bedminster Twp Bernards Twp
Hillsborough Chase Sewer System	Somerset County	Hillsborough Township
Somerville Sewer System	Somerset County	Somerville
Hawk Pointe Sewer System	Warren County	Washington Township
Port Colden Mall	Warren County	Washington Township
Total		31

1.5. Asset Inventory

NJAWC owns and maintains many different assets that can be categorized as production and distribution assets, often also referred to vertical and horizontal assets, respectively. These assets comprise five (5) raw water reservoirs, seven (7) dams, seven (7) surface water treatment plants ("WTP"), approximately 250 wells, 200 pump stations, 20 WW purification plants, 180 finished water storage facilities, 260 generators and integrated automation and control communications equipment. These assets and associated appurtenances extract, treat, and convey drinking water to customers, while the WW assets collect, purify, and dispose of wastewater for WW customers across the state.

The Asset overview and issues summary detail, in the following sections, is compiled from the Company's Asset Planning Program, comprised of numerous system level studies. The Asset Planning Program identifies and prioritizes planning study needs, and delivering planning studies that assess AW's water and wastewater systems and identify and prioritize capital projects to address key risks and opportunities in alignment with the Asset Investment Strategy. A sound engineering planning program is the first phase of a successful capital investment program; the objective of which is to assure that capital investment decisions are made to efficiently deploy financial resources and minimize cost of service to the customer, while assuring that the Company continues to maintain regulatory compliance, keeps pace with growth and infrastructure renewal, and provides safe, reliable, efficient, and quality service to customers.

a. Production and Treatment Facilities

NJAWC owns and maintains many different production assets which are outside of any transmission, distribution, and collection systems. Sometime referred to as vertical assets, the production assets are

best characterized as those used in the extraction (or diversion) of water, whether groundwater with wells or intakes for surface water. Production further expands into pumping, treatment, and storage facilities including points of transfers (or interconnection) and regulating pressure devises between pressure zones.

Raw Water Reservoirs – The Company owns and maintains five (5) reservoirs; four (4) are off-stream, meaning the water is pumped into these reservoirs. The Swimming River Reservoir is an impoundment of the Swimming River that holds approximately 3 billion gallons (BG), which was first built in the late 1920s and later expanded to its current capacity in early 1960s and serves as source water to the Swimming River WTP. The Glendola Reservoir is an off-stream reservoir holding approximately 1 BG, built in 1960s, is filled by diversions from the Shark River and through raw water purchases from New the Jersey Water Supply Authority's Manasquan River supply. The Glendola Reservoir serves as a primary source of supply for the Jumping Brook WTP. The Canoe Brook Reservoir System comprises of three (3) off-stream reservoirs with a combined capacity of 3 BG, built over the course of several decades with Reservoir 1 built in the 1920s, Reservoir 2 built in the 1950s, and Reservoir 3 built in the 1960s. The Canoe Brook Reservoir System is sourced through diversion from the Passaic River and Canoe Brook; together they supply the Canoe Brook WTP.

Intakes – The Company owns and maintains multiple intakes (12 in all) at six (6) of its seven (7) surface WTPs. Oak Glen WTP is the exception as it derives its water supply directly from the New Jersey Water Supply Authority's 66-inch raw water transmission main. The majority of the intakes (10 of 12) are concrete structures with vertical bar-screens that extend the entire water column. These intakes range in age from about 40 to 100 years old. Only the Canal Road and Delran WTPs are served by more modern intakes comprising of wire-wedge type screens completely submerged and not typically affected by ice build-up. Both intakes were built and placed in service in 1996.

Surface WTPs – The Company owns and maintains seven (7) surface water treatment plants ranging in capacity from 15 MGD to 155 MGD. The oldest of these water treatment plants is Raritan-Millstone WTP initially constructed in the late1920s and through the decades expanded to its current capacity of 155 MGD. The second oldest WTP is Jumping Brook originally built in 1960s and expanded to its current capacity in the 1980s. The third oldest WTP is Swimming River WTP originally built in the 1950s and expanded to its current capacity in the 1980s. Canal Road and Delran WTPs were built during the same period in the mid-1990s. While Canal Road WTP was expanded to its current capacity of 80 MGD in 2008, the Delran WTP has remained essentially the same as originally constructed with few and relatively minor modifications. The Oak Glen WTP was constructed in 2001 with 7.5 MGD capacity, it was expanded to its current capacity of 15 MGD in 2018. The Canoe Brook WTP is the newest surface water treatment plant, rebuilt in 2011 replacing two antiquated and underperforming WTPs originally constructed in the 1920s and 1950s. The

Canoe Brook WTP surface supply section has a capacity of 15 MGD, supplemented by an additional 7 MGD of local groundwater treated at the same location.

Wells Stations – The Company owns and maintains many wells throughout its service area, more than 250 total. Some of these wells are part of wellfields, with as many as 10 or more wells in a wellfield treated at common location; the majority, however, are individual well stations with their own treatment facilities. The depth and capacity of NJAWC wells varies considerably, from 50-foot to 1,000-foot, and from 25 gpm to 2,500 gpm, respectively. Their treatment process may be a simple hypochlorite feed system for disinfection to an elaborate treatment scheme that includes pre-treatment, filtration, air stripping, carbon adsorption, or advanced oxidation process ("AOP"), followed by post disinfection. The age of these well stations vary widely, from less than 5-years to nearly 100-years old. Regularly monitoring well specific capacity is a critical component of maintaining well yield by determining when to intervene with cleaning or rehabilitation before production losses become permanent.

Treatment facilities are designed to meet projected maximum day demands / peak flow volumes and to comply with water quality and discharge regulations at all times. Individual components are sized with appropriate standby capacity that allows the facilities to meet maximum day demands/ flows under varying operating conditions.

Recommendations for capital improvements are developed after evaluating NJAWC's ability to provide a reliable and high-quality water service, including adequate supply. This helps ensure continued compliance with existing and anticipated federal and state water quality and environmental regulations, and the ability to meet projected customer demands.

Wastewater Treatment Facilities – The Company owns and operates two medium sized wastewater treatment facilities and over a dozen small neighborhood scale wastewater treatment facilities. There are eight (8) membrane bioreactor treatment plants, four (4) sequencing batch reactor plants, one (1) lagoon plant, and six (6) extended aeration plants. The systems are primarily located in central New Jersey, with three (3) systems in southern New Jersey and one (1) system on the coast.

b. Distribution and Storage Facilities

Pump and Lift Stations – The Company owns and maintains many pump and lift stations throughout its service area, over 200 in total. There are approximately 160 water pump stations, commonly referred to as booster stations. Their purpose is to boost water pressure from a lower to a higher-pressure gradient. These booster stations do not include those that are integral part of a water treatment plant, whether raw water from an intake or high-lift station discharging in the system's distribution. There are approximately 80 WW pump stations, commonly referred to as "Lift Stations." Their purpose is to pump collected WW flow into a force main which ultimately discharges into a WW interceptor (analogous to transmission mains

in a water system) leading to larger interceptors and ultimately wastewater treatment plants ("WWTPs"). The age of these pump stations varies widely, from less than 5-years to more than 80-years old. Most energy consumed by water utilities is used to pump/move water. Our path to reduced energy consumption and emissions is driven by using water and energy more efficiently. Evaluating pump condition, performance, and conducting wire to water efficiency testing can identify opportunities for increasing energy efficiency and improved system reliability.

Booster pumping facilities are considered adequate if the capacity of the pump stations with the largest pumping unit out of service is sufficient to meet the maximum daily demand projected to occur within the service zone. When storage facilities are not present in a gradient, the booster pumps must be able to meet the instantaneous peak demands at adequate pressure.

Storage Facilities – The Company owns and maintains many storage facilities throughout its service area, in excess of 180 in total. Facilities referred to in this paragraph only include those storage tanks located in the distribution systems which hold treated (or finished potable) water. It does not include clearwells or other tanks used in a water treatment plant. The size and age of these tanks varies widely from 0.05 MG to 12.5 MG, and from less than 5-years old to more than 100-years-old. There are various types of storage facilities, most are steel elevated tanks, others are steel standpipe or ground tanks, including several very old concrete reservoirs.

Distribution storage facilities are designed to provide the recommended volume of water to equalize the pumping rate at treatment plants or booster stations during the projected maximum day demand event. The volume of water necessary for fire protection needs is also evaluated. Additionally, on a site-specific basis, state regulations on storage volume are evaluated, and storage facilities may need to provide a reserve volume for reliability purposes in the event of a power failure, main break, or other emergency.

Storage facilities are considered adequate if the effective volume of the facility, or groups of facilities acting together, provide sufficient volume to meet equalization needs during maximum day conditions and provide the necessary fire protection reserve. NJAWC's Engineering Department has developed a tank maintenance program, also known as engineered coating of steel structure, to schedule routine inspections, evaluate the entire condition, and identify needed improvements. Any deficiencies are then budgeted for improvements.

Transfer and Interconnection Facilities – The Company owns and maintains many transfer and interconnection facilities throughout its service area, in excess of 180 total. While interconnections are between public water systems ("PWS"), transfers are intra-system connections where water is transferred between one pressure gradient to another. Transfer and Interconnection facilities either involve booster

pumps, pressure reducing valves (“PRVs”), or simply flow control valves (“FCVs”), but always equipped with a flow meter and typically complemented with a SCADA connection.

c. Power Generation and Communications Equipment

Generators – The Company owns and maintains about 260 generators which are typically powered by natural gas or diesel fuel as an important resiliency asset in the event of a power outage. The ability to provide continuous service during a power outage is critical to a system’s reliability and depends on several factors including: the nature of the electrical service (for example, in the case of critical facilities, service from one vs. two substations), the presence of any floating storage within a pressure zone, standby electrical generating capacity, and the availability of pumps which can be driven by diesel fuel or natural gas.

Renewables (Solar) - The Company owns approximately 2.9 MW of its own solar facilities at six (6) of our water treatment facilities. The solar was installed between 2005 and 2012 with the facilities and in service dates being the Canal Road Water Treatment Plant (2005-2006), Raritan Millstone Water Treatment Plant (2006), Yellowbrook Complex (2011), Delaware River Regional Water Treatment Plant (2012), Canoe Brook Water Treatment Plant (2011), and the Mansfield Complex (2012). As these sites are aging, replacement of key components of the system is expected in the next several years. These upgrades can include replacement of panels, inverters, transformers, and other equipment needed to maintain the systems.

Communication Equipment / SCADA – The Company owns and maintains approximately 700 PLCs, 300 Communications devices, 500 Human Machine Interfaces (HMIs), and 300 data archiving systems statewide. Properly designed Control Systems can help improve performance, efficiency, and effectiveness of a utility’s operation whether at the process level or across the enterprise. Optimization/Automation Strategies could be employed to reduce power usage, enhance water quality, decrease water loss, optimize resource utilization, measure performance, enhance security, and improve asset management by enabling early detection of potential problems.

There are five key areas which project upgrades typically focus on: PLC standardization, communications, Human Machine Interface (HMI), data, and security. Better integration between business systems and control systems results in improved overall performance. Focus areas for investment include 1. Statewide Cyber Security Program improvements which are aligned with AWWA/BPU requirements and 2. a Equipment Life Cycle Program to develop and manage equipment in ways that are aligned with industry/vendor standards.

Communication Equipment / Advanced metering Infrastructure ("AMI")

The transition to an AMI program will enable strategic and permanent improvements in safety, customer experience, operational efficiencies, and environmental benefits. The Company looks forward to leveraging AMI to empower customers with near real-time consumption data to enable smart water use choices, enhance customer communication regarding customer water consumption patterns and unusually high-water use, optimize NJAWC's ability to measure and address non-revenue water, and improve water system resiliency and management, among other things.

An incremental and ongoing cost of an AMI program is for the capability to transmit data from the meter to the Meter Data Management System ("MDMS") for billing and analysis purposes. New Jersey-American Water is using a "hybrid" approach to AMI deployment to leverage the fixed network technology already deployed in the short term and to transition to a modern, smart endpoint system following the 10-year length of service meter change requirements. The AMI system will not be a single technology but an integration of two (2) technologies that provide an intelligent connection between the customer and the water utility. Existing technology acquired through acquisition of new service areas must be configured to conform to the same cellular technology solution upon acquisition within length of service constraints. Fixed Network and Smart Endpoints (cellular network technology) will be utilized.

With AMI Fixed Network systems, meter reading is accomplished by meter transmission units ("MTU's") installed on each meter. The MTUs collect real-time water use readings from the meter and transmit them via radio signals to data collection units ("DCUs") that are owned by the utility. These data collection units are typically installed on water storage tanks in the vicinity of the meters from which the data is collected.

AMI Smart Endpoint (cellular network) systems utilize "smart" cellular endpoints installed on each meter to transmit the meter data via an existing 3rd party cellular infrastructure to a central database system for analysis and reporting. The smart endpoint utilizes a cell-based network provided by major companies such as AT&T and Verizon to capture daily interim customer reads and eliminates the requirement of a fixed data collection network.

SECTION 2. BLANKET ASSETS

2.1. Blanket Asset Projects

There are two types of blanket assets: production and distribution blanket assets. The production blankets include smaller assets that are components of a larger asset, such as a pump or an electric motor in a pump station, a chemical feed pump or a continuous analyzer system in a water treatment plant, an electric generator or direct drive (auxiliary power) or an electric switch gear to a production station, or any other individual unit that is part of a larger asset or facility. These may also include flow meters, valve actuators and controls, filter media or other filter appurtenances that require renewal, upgrading, or replacement when repairing is not feasible. Maintaining each asset in a functioning status for its intended purpose is critical. A single component failure in a critical facility could have catastrophic consequences if not recognized early and timely addressed. It is for these reasons that the Company has identified these production asset categories important for the safe and dependable operation of the facility and system as a whole.

Routine inspection and maintenance activities are completed continuously by NJAWC Operations personnel. Operating staff also have capital improvement programs, although these typically consist of smaller budgets and projects than the large projects managed by NJAWC's Engineering Department. Operations management staff apply significant institutional knowledge and hard-earned experience when compiling their lists of smaller-scale capital improvements. These projects include production well redevelopment efforts, replacement of pumps and motors, chemical feed equipment upgrades and various other types of improvements. The facilities deemed more critical to maintaining high levels of service receive more attention and capital funding.

In accordance with the requirements of the RESIC Act, the following tables summarize NJAWC's actual annual capital expenditures on RESIC-eligible projects for the past three years (displayed in Table 2.1 for recurring projects or blankets) and projected annual capital expenditures on RESIC-eligible projects for a three-year period by major categories of expenditures (reflected in Table 2.2). This aggregate information details the capital spend for blanket-type RESIC-eligible assets to be rehabilitated or replaced and the estimated annual cost.

Table 2.1 Blanket / Recurring Project Expenditures by NARUC Account - Actuals

Recurring Project RESIC Actuals by NARUC Account				
NARUC	**Description**	**2021**	**2022**	**2023**
320	WATER TREATMENT PLANT EQUIP - RP	$4,649,578	$3,560,108	$7,775,174
346	COMMUNICATION EQUIPMENT - RP	$1,335,957	$1,686,940	$3,314,470
Total		$5,985,534	$5,247,048	$11,089,644

Table 2.2 Blanket / Recurring Project Expenditures by NARUC Account – Forecast

Recurring Project RESIC Forecast by NARUC Account				
NARUC	**Description**	**2025**	**2026**	**2027**
320	WATER TREATMENT PLANT EQUIP - RP	$28,000,000	$28,000,000	$30,000,000
346	COMMUNICATION EQUIPMENT – RP	$1,700,000	$1,500,000	$1,500,000
Total		$29,700,000	$29,500,000	$31,500,000

As seen in Table 2.1, historically, NJAWC had an annual expenditure plan for production unit asset replacements and renewal ranging from $3.5 to $8 million, while the historic annual expenditure for Communication Equipment has ranged from $1.3 to $3.3 million.

NJAWC proposes an annual expenditure plan for production unit asset replacements and renewal of approximately $ 30 million. Similarly, the Company proposes an annual expenditure for Communication Equipment of approximately $ 2 million.

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. The sources of supply for this region include the Delaware River Regional Water Treatment Plant and numerous well stations in Atlantic, Burlington, Camden, Cape May, Gloucester, and Salem Counties. These public water systems, combined, deliver approximately 60 mgd, on average. Table 3.1 details the number of residential customers and water usage by system.

Table 3.1 - 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

New Jersey American Water provides water service to approximately 42,000 customers in the Atlantic County service area. The service area consists of the entire cities of Absecon, Pleasantville, Northfield, Linwood and Somers Point as well as portions of Egg Harbor Township and Galloway Township. The source of supply for the Atlantic County service area is currently derived from 24 individual wells at 16 well stations located throughout the service area. Some of the well stations also include facilities for iron removal through pressure filters and volatile organic chemical (VOC) removal through air strippers and granular

activated carbon (GAC) filters. The English Creek well station is currently out of service and the Groveland well was sealed due to water quality issues. NJAWC's bulk purchase agreement with ACMUA terminated in November 2016 and only emergency interconnections remain. The recently acquired Egg Harbor City system includes three wells that draw water from the AC 800-Foot Sands.

The Cape May Court House system serves approximately 2,200 customers in Cape May County within the communities of Cape May Court House, Mayville, Burleigh, Swainton, and surrounding areas in Middle Township along Route 9 and the Garden State Parkway. The NJAWC franchise area for the Cape May Court House system consists of the entire area of Middle Township. There are 3 year-round wells located in the Cape May Court House service area within Middle Township at its southern end, and there is one metered interconnection with Wildwood. Two wells draw from the AC 800-Foot Sands and one well from Kirkwood-Cohansey aquifer.

The Ocean City system serves almost 17,000 customers within Ocean City, Marmora, and the surrounding areas of Upper Township in Cape May County. The franchise area for this system consists of all of Ocean City and the entire area of Upper Township. About 97% of the total customer base in the service area is located in Ocean City and 3% is located in Upper Township. The Ocean City system is supplied by eight wells drawing from the AC 800-Foot Sands aquifer. The Ocean City system is supplied by 4 year-round wells and 4 seasonal wells for use during the peak summer demand period. The eight individual wells are treated at eight well stations located throughout the service area.

The Strathmere system serves a small shore community of approximately 350 customers in Upper Township, Cape May County, New Jersey. According to the 2000 U.S. Census, approximately 70% of Strathmere's total housing units are designated for "seasonal, recreational, or occasional use." The source of supply for the Strathmere service area is derived from two wells, both drilled into the 800-Foot Sands aquifer. NJAWC also maintains an emergency connection with the City of Sea Isle.

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 24 other 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 provide 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. 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.

The Mt. Holly System is a public water system in Burlington County, serving parts of Mansfield, Westampton, Eastampton, Hainesport, Lumberton, and Mount Holly Townships. 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 mentioned previously 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 water from seven wells drilled into the Middle PRM aquifer. The regional supply interconnection is located near Marne Highway.

The Homestead System is in Burlington County and provides water service to part of Mansfield Township. Other sections of Mansfield Township are served by the Mt. Holly System. 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 supporting system resiliency.

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

The Vincentown System is a public water system in Southampton Township, Burlington County, New Jersey. The Vincentown System provides water service to a portion of Southampton Township. The Vincentown System has two wells drilled into the Mount Laurel Wenonah Formation.

The Bridgeport System is a public water system 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. The Bridgeport System has historically relied on ground water from two wells 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.

The Harrison System is a public water system in Gloucester County, southeast of New Jersey Turnpike Exit 2. The Harrison System provides water service to 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.

The Harrison System supply is comprised of three groundwater stations and 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 near the intersection of Heilig Road and Aura Road in the system's northeastern part. A second interconnection located in the northwest corner of the system on Tomlin-Station Road became operational in November 2009.

The Logan System is a public water system 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.

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

The Penns Grove System is a public water system 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) section 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. 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 comprised of 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.

3.2. Operating Area Specific Issues

The South Operating Area includes a large regional surface water and well water supplied system serving both urban and suburban neighborhoods in Camden, Burlington, and Gloucester counties along with 13 smaller primarily well water supplied systems in Burlington, Gloucester, Atlantic and Cape May counties. The surface water supplied by the DRRWTP requires upgrades in order to meet current and anticipated future regulations and upgrades in order to help ensure continued reliable operation. Most of the groundwater supplies in the South have experienced various types of contamination over the last several years which impact the ability to meet primary and secondary drinking water standards. Wells have been taken offline to assess and conduct feasibility analysis and in some cases pilot studies to develop treatment plans, seek funding from litigation from known responsible parties, and other mitigation methods with a goal of retaining well capacity in the distribution system.

System wells, with the decentralized source of supply they present, provide valuable resiliency in the event of a disruption of surface water supplies. Distribution system water quality and reliability is maximized with a balanced water source approach. If a certain supply needs to be taken out of service for maintenance, there is another option to take its place. Additionally, having fresh water sources throughout the water distribution system enables higher chlorine residual and reduced water age throughout the distribution system.

The RESIC program for this area will address the primary needs of the operating area including reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, plant deficiencies, and safety concerns.

3.3. Proposed RESIC Projects

The list of RESIC-eligible projects proposed by NJAWC is shown in Appendix A. These projects, once completed, will result in enhanced water quality and improved safety and reliability.

An example of one of the largest RESIC projects in the South Operating Area is the Cooper Ivy Well Treatment project. Cooper Street Well 32 and Ivy Road Well 22 have both been out of service for over 10 years due to gross alpha concentration levels that exceed the MCL and combined radium concentrations approaching the MCL. A phased project approach is proposed to get both wells back online by the end of 2025 (Ivy Well in-service by 12/31/2024 and Cooper Well in- service by 12/31/2025). Phase 1 includes the required flushing and sampling of the wells to obtain current Water Quality (“WQ”) data, design and permitting for both phases of the project, re-installation of the GAC tanks for PFAS and VOC removal, new WRT Radium Removal System to remove radionuclides (set-up in temporary manner), new chemical feed and storage systems (hypo & caustic) to be housed in the existing building, new Ivy Well pump and associated electrical controls, new clearwell and associated onsite distribution piping, and temporary high

service pumps. Phase 2 of the project includes a new masonry building to be constructed around the existing Cooper well to house the Water Resource Technologies (WRT) radionuclide treatment system and hydrogen peroxide system, construction of a masonry building over the new clearwell to house the new electrical room, UV room and high service pump room, add a new generator, and install/construct any site modifications needed for stormwater/driveway/landscaping. These treatment processes will enable Southwest Production to utilize both wells which are located north of Rancocas Creek in Edgewater Park Township, Burlington County. This northernmost area of the Burlington County service territory within the Delaware River System has been identified as a vulnerability because it is only supplied by two creek crossings. Rehabilitation of these two groundwater supply sources helps to mitigate this vulnerability. This area of the system also has high water age and maintaining a chlorine residual has been a challenge. Returning this station to service will minimize the water age in this area and improve water quality.

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 below.

Table 4.1 - 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 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. 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 Canoe Brook Water Treatment Plant ("CBWTP") in Short Hills, Essex County obtains raw water supplies from three reservoirs, supplied by water pumped from the Passaic River and the Canoe Brook. There are three 7.5 MGD vertical turbine pumps set on a pier on Reservoir 1. The three interconnected storage reservoirs have a combined capacity of 2.9 billion gallons. In addition to the surface water supply, there are nine active ground water supply wells on site or immediately adjacent to CBWTP that have a safe yield of 8 MGD. The surface water supply is treated independently of the groundwater

supply through a treatment process that employs pre-treatment including in-line ozonation, followed by rapid mixing, flocculation, dissolved air floatation, granular activated carbon filtration, and disinfection with hypo-chlorination in a composite clearwell.

Water 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.

The Four Seasons at Chester Water System is in southern Morris County in northern New Jersey. The Four Seasons at Chester water system is supplied by two wells that use ground water supplies from a blend of sources that may include igneous and metamorphic rocks. These wells are at a contamination risk of PFOA, currently under the state MCL, but above the new EPA MCL. Treatment of these wells is not feasible and future supply would need to come from consolidation and interconnection with the Passaic system.

The Twin Lakes System is in Bernardsville Borough, Somerset County on the north side of Route 202. It is a small system and primarily residential. The Twin Lakes System currently delivers less than 100,000 gallons per day; therefore, NJDEP has issued a Water Use Registration (“WUR”) for the system rather than a Water Allocation Permit (“WAP”). The Twin Lakes System is/was supplied by two wells. Well No. 1 on Mt. Harmony Road and Well No. 2 on Mountain Avenue can supply a combined maximum of 100,000 gallons per day under the WUR. The water is treated with sodium hydroxide, a corrosion inhibitor and sodium hypochlorite. Sodium hydroxide adjusts the pH and sodium hypochlorite is used for disinfection. However, recently the wells were shut off due to elevated PFOA levels and the system has been solely supplied by a transfer from the Passaic System.

New Jersey American Water’s Belvidere System serves customers in the Town of Belvidere and White Township in Warren County. Supply for the Belvidere System is groundwater derived from two wells drilled into the Kittatinny aquifer with a combined capacity of 1.8 MGD located at one well station.

New Jersey American Water’s Washington System serves customers in the towns of Washington, Washington Borough, Oxford, Franklin, and Mansfield in Warren County. Supply for the Washington System is groundwater obtained from eight wells located in six well stations.

New Jersey American Water’s Roxbury System serves customers in the Township of Roxbury in Morris County. Supply for the Roxbury System is groundwater obtained from five wells, each having its own well station. Four treatment stations provide disinfection (sodium hypochlorite).

New Jersey American Water's ITC System serves customers in the Township of Mount Olive in Morris County. In July of 2019, the Country Oaks System was merged with the ITC System. The Country Oaks gradient is a residential development, and the two ITC gradients serve commercial customers. Supply for the ITC System is groundwater obtained from five wells, of which three are in the ITC North gradient, and two are in the Country Oaks gradient. Two treatment stations provide disinfection (sodium hypochlorite), and the Country Oaks Station currently provides chlorination, pH adjustment and corrosion control treatment.

The West Jersey System located in the Township of Mount Olive in Morris County serves a residential community along the southwest shore of Budd Lake. The West Jersey System obtains its supply from three groundwater wells with a combined capacity of 0.3 mgd. Two treatment stations provide disinfection (sodium hypochlorite), pH adjustment and corrosion control treatment.

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. 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.

4.2. Operating Area-Specific Issues

The North Operating Area is comprised of mostly groundwater wells, purchased water, and has one medium sized surface water treatment plant. System wells, with the decentralized source of supply they present, provide valuable resiliency in the event of a disruption of either surface water or purchased water sources.

The Canoe Book Water Treatment Plant source surface water has trace amounts of Per- and Polyfluoroalkyl Substances, PFAS, with concentration ranging between 10-20 ng/L, predominantly Perfluorooctanoic acid, PFOA. The Canoe Brook surface supply exhibits even higher concentration, 20-40 ng/L. The supply to the CBWTP is primarily the Passaic River (85%) and Canoe Brook (15%). Due to the high level of PFOA in the Canoe Brook supply, no diversions have been taken from it since summer of 2018.

The Washington, Belvidere and ITC Systems are located within the Highlands Region boundaries[10] – as set forth by the 2004 Highlands Water Protection and Planning Act – which impose restrictions on water withdrawals and severely limits the potential to obtain new groundwater sources of supply. Potentially high

[10] The Highlands Water Protection and Planning Act, N.J.S.A. 13:20-1, https://www.nj.gov/dep/highlands/

growth may act as a stressor on system capacity in these systems. In this context, customer demand, non-revenue water, potential growth, groundwater water quality, and supply capacity may all impact the ability of the system to sufficiently meet future demands.

Belvidere System wells have experienced a reduction in performance and are subject to turbidity. The wells have had high turbidity in the past and are presently operated successfully under their permitted capacities with acceptable turbidity, though turbidity ranges at the permitted pumping rates have not been confirmed. The two wells need to be able to operate at their permitted capacities to maintain adequate supply. Alternatively, a third well could be drilled to achieve adequate reliable capacity.

Washington System wells need to improve their operating capacities to their permitted capacities to maintain adequate supply and fully utilize permitted supply capacity. The Washington Main gradient has a storage deficit under current and projected demand conditions. The gradient is served by one tank, the Montana Tank which has a capacity of 0.50 MG. The storage deficit under domestic demands is estimated to be 0.11 MG, and 0.42 MG under fire flow event demands. A new tank is recommended.

The Roxbury System has 5 wells providing 3.49 MGD of permitted capacity. Of these, all have operational issues limiting their full utilization. The Roxbury Well 1A Station (0.29 MGD) is in the Main Gradient of the Roxbury System in Roxbury Township, Morris County, NJ. The well is presently out of service due to high turbidity. Roxbury Well 3A is currently only operated at approximately half of its permitted rate due to pH swings experienced at higher pumping rates. Roxbury 5, Roxbury 7A, and Roxbury 8 are currently underperforming and unable to pump at their permitted limits. Not all of the system wells are able to operate at their permitted capacities. In order to maintain an adequate supply relative to existing and projected system demands, system wells must be able to pump at their permitted allocations. Well capacity improvements are recommended.

The Country Oaks well station source water has PFOA contamination. Well CO1 is reported to have PFOA (maximum of 8 ng/L) at concentrations below the state MCL (14 ng/L) but above the EPA Health Advisory (0.004 ng/L). Treatment is recommended.

The West Jersey system aquifer capacity is limited and groundwater withdrawals in this area are also restricted by the Highlands Commission. While wells can be redrilled if needed, developing new groundwater supplies is not a feasible alternative. Numerous issues, listed below, combine to limit service quality in this system. A multi-pronged approach is recommended to maintain supply capacity, improve water treatment, and enhance service. The Pine Grove well is out of service and not operable due to the deteriorated condition of the facility and security concerns. By reactivating this well and providing treatment elsewhere the supply resiliency of the system would be enhanced. The Academy wells are subject to PFAS contamination. PFOA (maximum of 10 ng/L) and PFOS (10 ng/L) have been reported at concentrations

below the state MCLs (14 ng/L and 13 ng/L, respectively) but above the EPA Health Advisory levels (0.004 ng/L and 0.02 ng/L, respectively). They serve as the only source of supply for the system. Treatment is recommended.

The Little Falls System is completely supplied by purchased water which comes with an inherent lack of control over the water quality and quantity supplied. Water quality sample results show detectable levels of PFAS at the MCL of 4 ppt. Treatment to remove PFAS is incumbent upon the bulk suppliers. However, EPA requires all community water systems to deliver a Consumer Confidence Report ("CCR") or Annual Water Quality Reports to customers to disclose drinking water results including PFAS. Flow measurement at the interconnections is monitored by the bulk supplier and reported as a daily volume. NJAW does not have access to SCADA records necessary to effectively monitor system delivery and assess transmission capacity, service pressure, non-revenue water. Additionally, the Great Notch Booster station is not equipped with emergency power capability. In a power outage, the station is bypassed through hydrant-to-hydrant pumping. The station is in a high-traffic area. Due to its location, workers tending to the portable emergency pump could be subject to potential safety hazard.

The RESIC program for this area will address the primary needs of the operating area including reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, booster station improvements, plant deficiencies, and safety concerns associated with the storage and handling of chlorine gas. Volatile organic compound and perfluorinated compounds treatment for Canoe Brook well field wells and Surface Water treatment Plant, upgrades to existing wells and wellfield stations and the construction of new wells with the associated rated capacity increases.

4.3. Proposed RESIC Projects

A list of RESIC-eligible projects proposed to be completed is shown in Appendix A. Once completed, these projects will result in enhanced water quality and improved safety and reliability.

An example of one the largest RESIC projects in the North Operating Area is the Canoe Brook PFOA Surface Water Treatment Plant Project. PFOA samples have indicated that levels of the newly regulated compounds are creeping up and treatment will be required for the surface water supplies to comply with the current and future MCLs. While still below the current NJ MCL, the Passaic River has had slight increases in the levels of PFAs while the Canoe Brook has levels above the current MCL. Additionally, there is some indication that the ground water sources within the property are demonstrating some presence of PFAs, but this is not confirmed. Treatment improvements need to be implemented to remove these compounds. The major obstacle for these improvements is the lack of buildable area for these facilities on the treatment plant site. Significant flood plain and flood way constraints limit the available

options and environmental permits will be difficult to obtain. A constructability analysis was conducted along with a 12-month pilot study for PFAS removal. The goal of the study was to determine the most cost-effective treatment solution for the incoming water quality. Typically, treatment for perfluorinated compound removal is provided on groundwater systems. In this case, surface water treatment is also necessary. The organic loading of a surface water supply is significantly different than a groundwater supply, so observing how various removal media react is crucial to selection of a treatment process. It was clear from this initial pilot run that in addition to learning how each media would perform with respect to PFAS removal, a significant component of the pilot testing process would be learning the best ways to maintain operations when feed water quality changes caused fouling of the different media even with 5-micron pre-filtration of the pilot feed water.

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 135 MGD, on average, to water customers. The Central Operating Area is primarily and extensively served by the Raritan System, as well as two much smaller systems (Frenchtown and Crossroads at Oldwick). 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 details the number of customers and water usage by the three water systems.

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

Table 5.1 - 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 source of supply for this Operating Area is the Raritan River treated at the Canal Road Water Treatment Plant ("CRWTP") and the Raritan-Millstone Water Treatment Plant ("RMWTP"). 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 ("D&R 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. The two WTPs produce most of the water demanded by the system and their continued operation is critical to ensuring adequate levels of service are provided.

In addition to the surface water supplies, NJAWC also diverts ground water from various Piedmont and Inner Coastal Plain aquifers. Less than 10% of the Central Operating Area finished water delivered to customers is produced from ground water sources. Groundwater provides a resilient source of supply to the system but is supplementary in its capacity and production to surface water. Currently, there are 69 active wells treated at 19 stations throughout the system's franchise area within Union, Middlesex, Somerset, Hunterdon, and Mercer Counties.

The RMWTP, constructed in 1929, is adjacent to the Raritan River at its confluence with the Millstone River. The RMWTP has been periodically renovated and upgraded over the years. The layout and treatment processes have been affected by consistent expansion and upgrades over the years that present unique operation and maintenance challenges not typically found at other WTPs. The plant produced an average of 85.4 MGD from 2021-20123, and a maximum of 108.5 MGD during the same period. The total capacity of the RMWTP is 156.6 MGD, and the reliable capacity, which is limited by the high service pumps, is 143.0 MGD. Many processes at the RMWTP require upgrades and improvements to help ensure continued reliable operability.

The CRWTP, which was put into service in 1996, is located across the river from the RMWTP on the south side of the D&R Canal. The CRWTP is much newer than the RMWTP, however, upgrades are still required to help ensure continued reliable plant operability. The plant produced an average of 50 MGD from 2021-2023, and a maximum of 76 MGD during the same period. The total capacity of the CRWTP is 80.0 MGD, and the reliable capacity, which is limited by filters, is 77.3 MGD.

Environmental regulations will have a significant impact on the operations of the surface water treatment plants and will require significant capital improvements to achieve compliance. The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) is a regulation established by the EPA which presently affects the treatment operations of both plants. Recently completed projects to help the company achieve compliance with the LT2ESWTR include filter upgrades at the RMWTP and the Ozone system upgrades at the CRWTP.

5.2. Operating Area-Specific Issues

The Central Operating Area includes a large regional water system serving urban and suburban neighborhoods and two small water systems. RMWTP requires upgrades in order to meet current and anticipated future regulations as well as additional upgrades in order to help ensure continued reliable operation. The plant has several critical identified needed improvements, including fluoride chemical feed system improvements, backwash control upgrades, cationic polymer system upgrade, lagoon dewatering improvements. The CRWTP also requires upgrades to help ensure continued reliable operation and the highest priority process improvement is ozone generation system upgrades.

The Company strategy for achieving compliance with PFOA regulation and maintaining system source of supply adequacy must consider several factors, among them being retainment of source of supply capacity, supply resiliency, supply diversification, and regionalization. The strategy for addressing the regulation of PFOA includes targeted distribution system improvements and treatment for affected system wells to help ensure adequate levels of service are maintained and to preserve system supply capacity. The most critical issues for system wells include: PFOA regulation compliance strategy, including required distribution system improvements and groundwater treatment modifications and additions, risk of loss of allocation due to inactivity of wells, underutilization of groundwater due to water quality issues.

The RESIC program for this area will address the primary needs of the operating area including reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, booster station improvements, plant deficiencies, and safety concerns associated with the storage and handling of chlorine gas.

5.3. Proposed RESIC Projects

A list of RESIC-eligible projects proposed to be completed is shown in Appendix A. Once completed, these projects will result in enhanced water quality and improved safety and reliability.

An example of a large RESIC project in the Central Operating Area is the Netherwood Well Station Treatment project. Perfluorinated compounds, PFAS, have been detected at or above recently adopted maximum contaminant levels (MCLs) in the source water. In June 2020, the NJDEP adopted amendments to the NJ Safe Drinking Water Act creating new MCLs of 14 ng/l perfluorooctanoic acid (PFOA) and 13 ng/l for Perfluorooctanesulfonic acid (PFOS) that came into effect on January 1, 2021. Preliminary sampling for the Netherwood facility has shown a PFOA level of 21.6 ng/l and a PFOS level of 12.9 ng/L. An emerging contaminants study was conducted in 2019 and recommended the installation of a PFAS removal system using either anion exchange or granular activated carbon. Because of the presence of other contaminants in the raw water, such as volatile organic carbons, radon, and hardness, a detailed treatment technology evaluation was conducted to determine the most effective technology and location in the treatment train for PFAS removal.

Based on the evaluation, the anion exchange treatment positioned upstream of the air stripper was the recommended alternative. This option will provide NJAWC a cost-effective treatment alternative with a lower overall operation and maintenance cost. In addition, the constructability of this alternative is simpler than the other presented options, and the position before the air strippers allows for the potential to eliminate the need for booster pumps by replacing well pumps as needed to overcome the PFAS treatment system head loss. NJAWC has other systems in the Raritan Basin that are utilizing anion exchange, and it has been an effective treatment system for PFAS removal. This option also eliminates

some of the concerns identified with fouling of the GAC system from VOCs or potential precipitants and reduces requirements for PFAS backwash water and backwash wastewater storage compared to GAC.

Additionally, the fluoride feed system at the RMWTP has reached the end of its useful life and requires replacement. Hydrofluosilic Acid is an extremely dangerous and corrosive chemical. The current fluoride feed system is problematic and prone to routine failure, particularly regarding chemical feed pumps injected directly into the discharge main at high pressure. The RMWTP Fluoride Feed System Investigation Project would evaluate the current fluoride feed system and improve safety, operational efficiency, and reliability.

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 Plumsted Township, shown in Table 6.1, below. New Jersey American Water currently provides service to customers in the Coastal Operating Area, serving a population of approximately 400,000.

Table 6.1 - Coastal Operating Area Water Systems' Characteristics (2023)

PWSID	System Name	Service Connections	Estimated 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 (Plumsted)	363	950	0.113	0.153
NJ1339001	Shorelands	11,385	28,700	2.716	4.857

The supply for this region includes three surface water treatment plants and many ground water well stations. The Oak Glen, Swimming River and Jumping Brook surface water treatment plants in Monmouth County provide water across the northern portion of the Coastal Operating area. Jumping Brook River, Shark River, Swimming River, and Manasquan River are the surface water sources that both NJAW and New Jersey Water Supply Authority (NJWSA) withdraw from. The Oak Glen Water Treatment Plant (Oak Glen WTP), located in Howell Township treats raw water from the Manasquan Reservoir System.

Most of the groundwater supply is in the southern portion of the system, in Lakewood and Howell. There are some wells further north that are treated at the Swimming River Water Treatment Plant and Jumping Brook Water Treatment Plant ("JBWTP"). Much of the groundwater for this water system is in the NJDEP defined critical area 1, which significantly impacts our ability to develop new sources of supply. The lower aquifers are designated as critical supply areas because decreasing water levels from over drafting has adverse effects on the water supply, including storage depletion, saltwater intrusion, and well abandonment.

Surface water is treated at three filtration water treatment plants. Groundwater is filtered for iron removal at two additional treatment plants. The remaining groundwater stations provide chemical treatment and pumping. The Yellowbrook Ground Water Treatment Plant treats 4 wells, one from the Old Bridge

Formation (Upper PRM Aquifer) and three from the Vincentown Formation. The Oak Street Water Treatment Plant ("OSWTP") source of supply is provided by five Kirkwood-Cohansey Formation Wells.
The Union Beach System is a public water system located within the Coastal North operating area of New Jersey American Water. Union Beach Borough is in northern Monmouth County. It is bounded by Raritan Bay to the north, Hazlet Township to the east and south, and Keyport Borough to the west. Union Beach is supplied solely from interconnections with the neighboring Shorelands System. There are no other sources of supply for the system, except an emergency interconnection with the Keyport Borough water system.

NJAWC acquired the Shorelands Water system in 2017 serving residents in the Bayshore communities of Hazlet, Holmdel, Union Beach, Keyport and Aberdeen, delivering approximately two billion gallons of water to customers annually. The Shorelands System supply consists of seven wells at two water treatment plants and 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 New Egypt System is in the far western part of Ocean County in central New Jersey. It is approximately 6.5 miles from NJAWC's Mt. Holly System. The New Egypt System provides water service to the Town of New Egypt and parts of Plumsted Township. The wells are drilled in the Englishtown aquifer and have acceptable water quality. Treatment consists of sodium hypochlorite for disinfection and Klenphos for iron sequestering.

The Deep Run water system is in northwestern Ocean County on the border with Monmouth County providing water service to approximately 250 residential customers. The system uses treated groundwater pumped from five on-site wells that access the Mount Laurel Wenonah Aquifer.

6.2 Operating Area-Specific Issues

New Jersey American Water owns and operates three (3) surface water treatment plants (Swimming River, Oak Glen and Jumping Brook), which account for most of the supply to its Coastal North Water System in Monmouth County, NJ. Treatment improvements at the surface water treatment plants and at several well stations are needed to improve water quality and recover declining capacity, distribution pumping, storage and gradient realignment projects are recommended to more effectively use system storage, improve water distribution, address projected pumping capacity deficits, control leakage rates and enhance energy efficiency, and auxiliary power upgrades are recommended at critical facilities.

Facility Master Plans for the water treatment plants have exposed plant deficiencies which require major treatment plant upgrades. For example, the Jumping Brook Water Treatment Plant existing clearwells are undersized. Under the Surface Water Treatment Rule, 3-log inactivation of *Giardia* is required for plants treating surface water. The plant is granted a 2.5-log credit for conventional filtration but the clearwells are of insufficient size to achieve the additional 0.5-log credit through chemical disinfection. To achieve the

required disinfection, chlorine is applied within the pretreatment system. Chlorine is also used to oxidize manganese in the pre-treatment process. Due to continuous exposure to free chlorine, especially during pre-treatment, plant effluent and distribution samples exhibit elevated concentrations of disinfection byproducts, specifically total trihalomethanes ("TTHMs"). Although JBWTP has historically complied with the requirements of EPA's Stage 2 Disinfection Byproduct Rule, in 2018, effluent from the JBWTP and several distribution system sample sites experienced elevated TTHMs. The 3rd and 4th quarter TTHM samples were near or above 100 parts per billion (ppb) at three distribution sites, resulting in several operational evaluation level exceedances.

The JBWTP's Purification Units (constructed in 1963) are approaching the end of their useful life. Catastrophic failure of the nearly 60-year-old purification units would impact NJAWC and its customers by potentially shutting down the plant while repairs are made. Additionally, the JBWTP utilizes chlorine gas. Although the plant is equipped with an emergency chlorine gas scrubber, there is still a risk that a chlorine gas leak could occur and cause harm to workers, the public and the environment. It is recommended that the chlorine gas system be replaced with a bulk sodium hypochlorite system.

The RESIC program for this area will address the primary needs of the operating area including reliable capacity deficit, water treatment enhancements to comply with primary and secondary regulations as well as proposed regulations for emerging contaminants such as perfluorinated compounds and 1,4 dioxane, SCADA deficiencies, system reliability, booster station improvements, plant deficiencies, and safety concerns associated with the storage and handling of chlorine gas.

6.3 Proposed RESIC Projects

A list of RESIC-eligible projects proposed to be completed is shown in Appendix A. Once completed, these projects will result in enhanced water quality and improved safety and reliability.

An example of one the largest RESIC projects in the Coastal North Operating area is the Jumping Brook Facility Improvements project. The JBWTP needs the following work to help ensure it continues to meet both current and proposed regulatory requirements into the future, to replace obsolete equipment and improve chemical safety. Most of these upgrades focus on regulatory compliance (clearwell, chemical feed) as well as resiliency (pumps, electrical systems, and communications). Major scope of the project are as follows:

1. Construct a new cast-in-place (CIP) concrete below grade clearwell (0.75-MG usable volume) with two independent cells, and serpentine interior baffles for final disinfection and finished water storage.
2. Construct a new building adjacent to the proposed clearwell to house a High Service Pump Station ("HSPS"), UV disinfection system, and chemical storage and feed facility for sodium

hypochlorite, liquid ammonium sulfate and sodium permanganate. The proposed building shall include structural, process, mechanical, instrumentation and control (“I&C”), and electrical systems necessary for a complete installation.

3. Provide low lift transfer pumps, high service pumps and UV disinfection equipment.
4. Provide electrical power to power high service pumps, UV reactors and other equipment in the building. from existing switchgear located at the WTP. Transformers and switchgear shall be adjacent to the building. (Note: Standby power for the high service pumps, UV reactors and other equipment in the building will also be provided from the generator located at the WTP via the existing switchgear).
5. Provide revisions to the existing power distribution system associated with the WTP’s equipment including demolition, replacement, reconnections, and other modifications.
6. Install permanent sodium hypochlorite, liquid ammonium sulfate and sodium permanganate storage and feed equipment.
7. Modify existing liquid ammonium sulfate room to store and feed sodium hypochlorite.
8. Demolish the existing dividing wall between the chlorinator room and the chlorine container room to form the new electrical room.
9. Convert existing HSPS to a transfer station to convey combined filter effluent to the new clearwell.
10. Install a new 36-inch diameter transfer line and two new 30-inch finished water transmission lines across the Jumping Brook.
11. Install new feed piping and accessories from all feed pumps to the application points.
12. Replace aged belt filter press.
13. Provide new control systems and make electrical upgrades to support all equipment, lighting, and ventilation for the entire JBWTP.

SECTION 7. WASTEWATER SYSTEMS - STATEWIDE

7.1. Overview

The Company provides wastewater services to about 64,200 customers in 31 wastewater systems across the state, ranging from Cape May County in the state's southern part to Bergen, Morris, and Warren counties in the north. Twenty-one (21) systems include both wastewater collection and treatment whereas the remaining 10 are collection only provided in Table 7.1. These WW systems are categorized in three groups:

Group 1 – Mostly mid-size municipal based collection-only systems without any wastewater treatment ranging from 55 to 16,400 customer connections. They all have one or more connection points that convey collected wastewater from the Company-owned collection system to a regional sewerage authority. The overall length of the sewer mains (gravity and force) in this group ranges from 2 miles to 140 miles for a total of 408 miles.

Group 2 – Two mid-sized municipal based wastewater systems that provide both wastewater collection and treatment. These range in size from 2,900 to 5,400 customer connections comprising the EDC and Long Hill wastewater systems. These systems have NJAWC's largest rated wastewater treatment plants; 2.1 MGD at EDC and 2.8 MGD at Long Hill. The overall length of the sewer mains (gravity and force) in this group ranges from 39 miles to 60 miles for a total of 99 miles.

The existing Long Hill Wastewater Treatment Plant provides advanced treatment and consists of an influent pumping system, two (2) rotating drum screens, two (2) oxidation ditches, two (2) final clarifiers, four (4) sand filters, a post aeration system, and an ultraviolet disinfection system. The final effluent flows into the Passaic River. In addition to the main treatment train components, solids are handled in a separate treatment train consisting of a sludge storage tank, a rotary drum thickener, and a thickened sludge holding tank. Sludge is trucked off site for disposal.

The collected waters from Schley Mountain Road Pump Station and Route 206 Pump Station converge into an equalization tank at the EDC Wastewater Treatment Plant before being fed into a division box and four process trains to treat the wastewater. Wastewater flows from the Bedminster Sanitary Sewerage Transmission System (SSTS) Pump Station and is discharged into the headworks screening building after the equalization tank.

The EDC Wastewater Treatment Plant has four identical biological process trains (each train includes a fermentation tank, a first anoxic tank, an oxidation ditch, a second anoxic tank, and a re-aeration tank) used to treat wastewater. These biological process trains separate after the headworks screening phase and operate independently of each other after that point. After the equalization tank, wastewater proceeds through the clarifier which is used to remove solid particulates and suspended solids from liquid for

clarification and/or thickening. Water from the clarifier then flows through a sand filter which further removes total suspended solids ("TSS") that did not settle out in the clarifiers. After the sand filter, the wastewater then proceeds through the UV disinfection area that uses vertically mounted UV bulbs to kill bacteria such as E. coli in the water stream before discharge. The last step of the wastewater process is the post-aeration tank that injects dissolved oxygen back into the water to increase the health of the water. Following the post-aeration tank, the final effluent is discharged into a stream.

Group 3 – Is comprised of mostly legacy subdivision/development-based systems acquired from Applied Wastewater Management (AWM) in 2010, including the Pottersville wastewater system which was acquired in 2008. All but one of these wastewater systems include both collection and treatment serving between 40 and 1,300 customer connections. This group also includes a very small force main system at the Port Colden Mall in Washington Township. While this group includes some 20 wastewater systems, the aggregate total customer connections is approximately 5,300. These systems, with a few minor exceptions, serve fewer than 500 customers each with an average of 275 customers per system. The systems are mainly in central New Jersey, with three systems in South New Jersey and one on the coast. The overall length of the sewer mains (gravity and force) in this group ranges from less than one mile to 13 miles for a total of approximately 69 miles.

The statewide operating wastewater systems provide wastewater service to customers by collecting wastewater from customer premises via collection systems, where collected wastewater is either conveyed to a regional sewerage authority or treated at a Company WWTP. The Company owns and operates many WWTPs, lift stations, and about 576 miles of wastewater mains. While the various wastewater collection systems were constructed over many decades, the AWM legacy wastewater systems were mostly constructed in the 1980s, 90s, and 2000s. There are eight (8) membrane bioreactor treatment plants, six (6) extended aeration plants, four (4) sequencing batch reactor plants, and one (1) lagoon plant. Disposal beds are used to discharge groundwater by most of the systems, though four (4) systems use outfalls for surface water discharge, and two (2) use infiltration and percolation ponds for groundwater discharge. The systems are mainly in Central New Jersey, with one plant on the coast. In total, the Company's assets include 21 WWTPs listed in Table 7.2, 77 wastewater lift stations.

Table 7.1 – Statewide Operating Wastewater Systems' Characteristics (2023)

System	County	Connections	Capacity[1]
Egg Harbor City Sewer System	Atlantic County	1581	n/a
Ramapo River Reserve WW System	Bergen County	400	0.114
Homestead Sewer System	Burlington County	1306	0.250
Mapleton Sewer System	Burlington County	971	0.376
Haddonfield Sewer System	Camden County	4590	n/a

System	County	Connections	Capacity[1]
Mount Ephraim Sewer System	Camden County	1780	n/a
Avalon Country Club Sewer System	Cape May County	211	0.067
Ocean City Sewer System	Cape May County	15,521	n/a (~4MGD)
Elk Sewer System	Gloucester County	55	n/a
Brass Castle Sewer System	Hunterdon County	70	0.022
Crossroads at Oldwick System	Hunterdon County	75	0.023
Fawn Run Sewer System	Hunterdon County	52	0.019
Glen Meadows/Twin Oaks System	Hunterdon County	58	0.025
Lookout Pointe Sewer System	Hunterdon County	55	0.016
Pottersville Sewer System	Hunterdon County	107	0.048
Village Square Sewer System	Hunterdon County	39	0.016
Adelphia Sewer System	Monmouth County	3,877	n/a
Beacon Hill Sewer System	Monmouth County	471	0.104
Country Oaks Sewer System	Morris County	166	0.050
Four Seasons at Chester System	Morris County	120	0.029
Jefferson Peaks Sewer System	Morris County	408	0.125
Long Hill Sewer System	Morris County	2,894	2.8
Morris Chase Sewer System	Morris County	282	0.081
Deep Run Sewer System	Ocean County	245	0.026
Lakewood Sewer System	Ocean County	16,424	n/a (~5 MGD)
Bound Brook Sewer System	Somerset County	2,900	n/a
EDC Sewer System	Somerset County	5,400	2.1
Hillsborough Chase Sewer System	Somerset County	104	0.038
Somerville Sewer System	Somerset County	3,843	n/a
Hawk Pointe Sewer System	Warren County	122	0.082
Port Colden Mall	Warren County	1	n/a

[1] Capacity = Treatment capacity in MGD, n/a indicated for wastewater collection system only.

Table 7.2 – NJAWC Wastewater Treatment Plants

Facility Name	Capacity (MGD)
Ramapo River Wastewater Treatment Plant	0.114
Homestead Wastewater Treatment Plant	0.25
Mapleton Wastewater Treatment Plant	0.376
Avalon Wastewater Treatment Plant	0.067
Brass Castle Wastewater Treatment Plant	0.022
Crossroads at Oldwick Wastewater Treatment Plant	0.023
Fawn Run Wastewater Treatment Plant	0.019
Glen Meadows Wastewater Treatment Plant	0.025
Lookout Pointe Wastewater Treatment Plant	0.016
Pottersville Wastewater Treatment Plant	0.048
Village Square Wastewater Treatment Plant	0.016
Beacon Hill Wastewater Treatment Plant	0.104
Country Oaks Wastewater Treatment Plant	0.05
Four Seasons Wastewater Treatment Plant	0.029
Jefferson Peaks Wastewater Treatment Plant	0.125
Long Hill Wastewater Treatment Plant	2.8
Morris Chase Wastewater Treatment Plant	0.081
Deep Run Wastewater Treatment Plant	0.026
EDC Wastewater Treatment Plant	2.1
Hillsborough Chase Wastewater Treatment Plant	0.038
Hawke Pointe Wastewater Treatment Plant	0.082

7.2. Wastewater System Asset Performance

The following section presents typical challenges associated with wastewater collection systems and asset management with data and conclusions regarding the value for accelerated investment.

Wastewater Gravity Sewer Challenges

Older wastewater systems that have seen a lack of investment have high inflow and infiltration (“I&I”). High I&I can limit the capacity of downstream gravity sewers and wastewater lift stations, increasing the risk of sewer overflows. High I&I can also limit the capacity of the receiving wastewater treatment plant by hydraulically overloading the plant.

Inflow is water that enters a sewer system from sources such as roof leaders, cellar/foundation drains, yard drains, area drains, defective utility hole covers, cross connections between storm sewers and sanitary sewers, and catch basins.

Infiltration is water that enters a sewer system from the ground through defective pipes, pipe joints, connections, or manholes. Infiltration is dependent on the height of the ground water table above the sewer line. As the groundwater table rises with rainfall, hydraulic pressure increases on the buried pipe with associated leaks developing in the sewer system.

Wastewater Lift Station Challenges

Drywell / wet well type lift stations have been used for many years. Small to medium size stations of this configuration can be found in many older wastewater systems. These lift stations have above ground buildings and structures that tend to have high maintenance costs, particularly when the lift station nears the end of its useful life. The dry wells and wet wells on these stations are generally considered confined space and access for maintaining pumps or cleaning out wet wells can be difficult and expensive.

The current trend is to construct submersible lift stations in small to medium size applications mainly because of lower costs, a smaller footprint, no need for buildings, and simplified operation and maintenance. Modern submersible lift station reliability is achieved by using non-clog submersible pumps and by installing emergency alarm and automatic control (SCADA) systems for remote monitoring and operation. Modern submersible pumps are often supplied with a flush valve that agitates and resuspends built up sludge in the wet-well thus reducing the amount of jetting and cleaning needed. There is less need to enter the wet well confined space due to ease of access from the ground surface and pumps can be lifted out of the wet well for maintenance.

Older lift station pumps typically discharge to cast iron force mains. Like cast iron water mains, which operate under pressure, the sewer mains are susceptible to corrosion and the cyclical nature of pump operation. When force mains reach the end of their useful life, they are typically replaced with PVC or ductile iron pipe with special coatings for sewer service (in lieu of the typical cement lining for water service). Force mains can also be rehabilitated using similar trenchless technologies used for water main rehabilitation.

7.3. System-Specific Issues

The Company's wastewater service area has grown over many decades, using the materials, design standards and construction practices available at the time. Unlike the water systems, the Company's wastewater systems are interspersed throughout the state with several municipality-wide (or at least partial) service, mainly for Ocean City, Egg Harbor City, Lakewood, Haddonfield, Mount Ephraim, Somerville, Bound Brook, and Long Hill. The balance are smaller systems with limited franchise and number of customers. Depending upon the age and location of the wastewater systems, performance issues are quite

variable. As an example, in older sections of Lakewood, particularly the Route 9 corridor, the infrastructure is subject to frequent breaks and surcharges. The Ocean City sewer suffers primarily from aging infrastructure with extremely high I&I due to the very nature of Ocean City topography--low and very flat with sizable portion of the sewer system pipe inverts at or below the natural groundwater table. This condition is the primary cause of the high infiltration and inflow. Haddonfield's issues are significantly different from those of both Ocean City and Lakewood. It is a very old community established in the 19th century with no growth to speak of, other than an occasional redevelopment. Most sewers in Haddonfield are cast iron and vitrified clay pipe (VCP) that are well beyond their useful life.

The condition of each acquired Applied Wastewater Management (AWM) remote neighborhood wastewater treatment facility (also known as the NJAWC statewide sewer systems) was evaluated based on operations records in combination with the site inspections held in late 2020. Some of the facilities and equipment at these facilities were found to be in poor condition and/or were not performing effectively. Generally, safety netting is recommended for all below grade tanks and carbon monoxide detectors should be installed in all rooms with generators. Most of the recommended improvements for these wastewater systems includes wastewater treatment plant upgrades and rehabilitation to address condition and performance deficiencies.

7.4. Proposed RESIC Projects

A list of RESIC-eligible projects proposed to be completed is shown in Appendix A. These projects once completed will result in improved safety and reliability.

An example of one the largest wastewater RESIC projects is the Country Oaks Wastewater Treatment Plant which was built in 1998 and is showing signs of deterioration of equipment and corrosion of the steel tankage and associated components. The project scope includes evaluation for replacement of Country Oaks WWTP versus conversion to a lift station to pump the wastewater to the nearby Morris Chase WWTP through approximately 1,100 feet of proposed force main.

Another important RESIC project is the addition of a third clarifier to increase treatment capacity, resiliency, and operations reliability at the Long Hill WWTP. The influent pump station, headworks screening system, final clarifiers, existing sand filters, and the UV disinfection system are inadequate for treating peak hourly flows. Due to the age and deteriorating condition of the existing equipment and the critical nature of final clarifiers to the overall performance of the plant, it is recommended to replace the existing clarifier mechanisms. Current operations make removal of one clarifier for maintenance and repairs difficult.

New Jersey American Water
2024 RESIC Foundational Filing
Appendix A

Project #	Operating Area	Project Description	Estimated In Service Date	Estimated Investment*	NARUC Account	Purpose Code / Project Driver
I18250127	CENTRAL	CRWTP Solar Inverter&Panel Repl- A-16	12/27/2024	$ 3,800,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18260094	CENTRAL	Oak Tree Booster Sta Upgrades A-18	12/30/2024	$ 8,349,985	311 - PUMPING EQUIPMENT	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18260094	CENTRAL	Oak Tree Booster Sta Upgrades (CPS A-18)	12/30/2024	$ 8,349,985	311 - PUMPING EQUIPMENT	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18260135	CENTRAL	Green Brook Well Sta 5 MGD Transfer Mod	12/31/2024	$ 1,208,759	307 - WELLS AND SPRINGS	ADMIN AND OPERATIONAL SUPPORT
I18250083	CENTRAL	Raritan Millstone Plant Facility Master Plan & Site Buildout Study	12/31/2024	$ 800,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18250117	CENTRAL	Raritan Millston Lagoon 2 Improvements (2010 RMWTP FMP)	12/31/2025	$ 4,600,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18250159	CENTRAL	Raritan Millston WTP Fluoride Feed System Investigation	12/31/2025	$ 9,800,000	320 - WATER TREATMENT PLANT EQUIP	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18260075	CENTRAL	Netherwood Wellfield PFAS GAC Treatment (CPS A-10)	12/31/2025	$ 11,300,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18260127	CENTRAL	Central Automation & Control (A&C) Upgrades Phase 7 (CPS-A09)	12/31/2025	$ 3,400,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18260092	CENTRAL	PFAS Strategy - Pump Station Improvements (CPS:A6)	12/30/2026	$ 3,200,000	311 - PUMPING EQUIPMENT	REG COMP <3 YRS
I18250168	CENTRAL	Stony Brook Wellfield Optimization	12/31/2026	$ 2,500,000	307 - WELLS AND SPRINGS	ASSET RENEWAL PROACTIVE MEASURE
I18260138	CENTRAL	Potters Booster VFD Installation	12/31/2026	$ 800,000	311 - PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18250035	CENTRAL	RM Filters 1-30 Improvements CPS A-5	12/31/2026	$ 570,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18250165	CENTRAL	Raritan Millstone WTP Intake Rake	12/31/2026	$ 1,600,000	320 - WATER TREATMENT PLANT EQUIP	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18260126	CENTRAL	Central Ignition Deployment/Development (SCADA)	12/31/2026	$ 2,000,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18250115	CENTRAL	Raritan Millstone WTP Screen Wash Imp-LowLift Ph2 CPS B-15	12/30/2027	$ 2,000,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18250169	CENTRAL	Canal Road WTP Filter Underdrain Replacement	12/30/2027	$ 6,000,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18260096	CENTRAL	Arc Flash Upgrades (CPS B-3)	12/30/2027	$ 1,300,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18250092	CENTRAL	Wells Rd and Papen Rd Radon Treat	12/28/2028	$ 1,100,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18250099	CENTRAL	A&C Upgrades Raritan 5Yr # CPS:B-10	12/29/2028	$ 800,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18250133	CENTRAL	RM Residuals Processing	12/31/2028	$ 800,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18180082	COASTAL	Coastal North Ignition Deployment/Develo	10/31/2024	$ 2,000,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18190062	COASTAL	Oak Street PFAS	12/31/2024	$ 5,862,899	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18180083	COASTAL	Coastal North JB/SR A&C Upgrades Phase 5	12/31/2024	$ 1,500,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18180087	COASTAL	AMI Installations Shrewsbury	12/31/2024	$ 880,210	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18180101	COASTAL	Jumping Brook WTP Chlorine Conversion Project	6/30/2025	$ 10,700,000	320 - WATER TREATMENT PLANT EQUIP	SAFE/SECURE SAFETY
I18190059	COASTAL	Lakewood/Howell A&C Phase X	12/31/2025	$ 300,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18180075	COASTAL	Swimming River WTP Sodium Hypochlorite Conversion	6/30/2026	$ 10,200,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18330006	COASTAL	Shorelands Plant 2 Rehabilitation	12/31/2026	$ 10,000,000	304 - STRUCTURES AND IMPROVEMENTS	ASSET RENEWAL POOR CONDITION
I18180058	COASTAL	JBWTP Flow Improvements (S/P A-7a)	12/31/2027	$ 4,600,000	304 - STRUCTURES AND IMPROVEMENTS	ASSET RENEWAL POOR CONDITION
I18180073	COASTAL	NS Clearwell Repl Midd. Gradient	12/31/2027	$ 9,400,000	311 - PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18180036	COASTAL	Swimming River ASR, PH 2	12/29/2028	$ 1,400,000	307 - WELLS AND SPRINGS	REL/QUAL BACKUP OR STANDBY
I18180094	COASTAL	SRWTP Inclined Plate Settler&Filter Ph1	12/29/2028	$ 35,000,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18180074	COASTAL	SRWTP Residual Process	12/31/2028	$ 9,800,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18150133	NORTH	Chester Booster Pump Upgrade	10/30/2024	$ 29,167	311 - PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18150063	NORTH	North A&C Upgrades Phase 6	12/31/2024	$ 2,477,289	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18150130	NORTH	North A&C Upgrades Phase 7	12/31/2024	$ 1,562,500	346 - COMMUNICATION EQUIPMENT	ADMIN AND OPERATIONAL SUPPORT
I18170017	NORTH	Roxbury Wells 1A/3A Improvements (CPS A-1)	12/31/2026	$ 400,000	307 - WELLS AND SPRINGS	ASSET RENEWAL POOR CONDITION
I18170018	NORTH	Pine Grove Well Improvements (CPS A-4)	12/31/2026	$ 800,000	307 - WELLS AND SPRINGS	ASSET RENEWAL POOR CONDITION
I18150076	NORTH	Passaic River Wellfield-Manganese Treatment (CPS- A3)	12/31/2026	$ 5,100,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18150125	NORTH	Short Hills Station PFOA	12/31/2026	$ 6,000,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18150140	NORTH	Canoe Brook WTP Surface Water PFAS Treatment	12/31/2026	$ 59,500,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18170019	NORTH	Dale Ave Sta PFAS Treatment (CPS A-3)	12/31/2026	$ 5,500,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18170020	NORTH	Academy Station PFAS Treatment (CPS A-3)	12/31/2026	$ 2,300,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18170023	NORTH	Frome St-Winters Av Wells PFAS (CPS B-7)	12/31/2026	$ 1,600,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18170025	NORTH	Roxbury Groundwater Stations Chemical Feed Improvements (CPS A-2)	12/31/2026	$ 1,100,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18170027	NORTH	Country Oaks Station PFAS Treatment (CPS B-4)	12/31/2026	$ 900,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18150087	NORTH	Fenwick Tank Replacement (CPS A-5)	12/31/2026	$ 5,200,000	330 - DIST RESERVOIRS & STANDPIPES	ASSET RENEWAL POOR CONDITION
I18150131	NORTH	North Ignition Development / Deployment (SCADA)	12/31/2026	$ 2,000,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18150029	NORTH	Canoe Brook Intake Facility A2:CPS	12/31/2027	$ 7,700,000	306 - LAKE, RIVER & OTHER INTAKES	ASSET RENEWAL POOR CONDITION
I18150145	NORTH	425 HGL Great Notch Booster LFalls	12/31/2027	$ 1,500,000	311 - PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18150079	NORTH	Pottersvlle Well-Gas Membrane (CPS B21)	12/31/2027	$ 700,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18170013	NORTH	Vannatta St Well 1.4 Dioxane Treat (A-1)	12/29/2028	$ 5,300,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18150146	NORTH	688 Montclair Booster - LFalls	12/31/2028	$ 1,600,000	311 - PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18130024	SOUTH	Cooper Ivy Station PFAS Treatment	12/31/2024	$ 12,982,817	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18130115	SOUTH	Southwest A&C Upgrades Phase 6	12/31/2024	$ 2,162,614	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18130150	SOUTH	AMI Installations – Delran	12/31/2024	$ 1,573,824	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18130132	SOUTH	Ranney Station New Shallow Wells (CPS-A2)	12/31/2025	$ 1,400,000	307 - WELLS AND SPRINGS	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18130162	SOUTH	Green St Zinc Orthophosphate Bulk Storage Conversion	12/31/2025	$ 200,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18130163	SOUTH	Mansfield Zinc Orthophosphate Bulk Storage Conversion	12/31/2025	$ 300,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18130165	SOUTH	Woodland Station On-Site Hypochlorite Generation	12/31/2025	$ 500,000	320 - WATER TREATMENT PLANT EQUIP	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18120051	SOUTH	Coastal South Ignition Deployment/Development (SCADA)	12/31/2025	$ 1,500,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18130141	SOUTH	Southwest Ignition Deployment/Development (SCADA)	12/31/2025	$ 3,100,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18130006	SOUTH	Timber Creek Relay Station (A14)	5/31/2026	$ 4,000,000	311 - PUMPING EQUIPMENT	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18130025	SOUTH	Gloucester County ASR Well - Phase 2	12/31/2026	$ 3,700,000	307 - WELLS AND SPRINGS	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18130091	SOUTH	Sunbury System Reliable Capacity Well	12/31/2026	$ 1,000,000	307 - WELLS AND SPRINGS	REL/QUAL IMPROVED TECHNOLOGY
I18120006	SOUTH	Iron Removal Plant (AC-A2) High Service	12/31/2026	$ 3,900,000	311 - PUMPING EQUIPMENT	REL/QUAL CUSTOMER (PRES TASTE ETC)
I18130114	SOUTH	Woodlane Plant Improvements (CPS A-3)	12/31/2026	$ 9,000,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18130109	SOUTH	New Pureland Tank (CPS-A7)	12/31/2026	$ 5,000,000	330 - DIST RESERVOIRS & STANDPIPES	ASSET RENEWAL POOR CONDITION
I18130047	SOUTH	Laurel Springs Station Upgrades (CPS-B9)	12/31/2027	$ 10,000,000	304 - STRUCTURES AND IMPROVEMENTS	ASSET RENEWAL PROACTIVE MEASURE
I18130128	SOUTH	Delran Resid Handling Repl/Centrifuges	12/31/2027	$ 13,900,000	320 - WATER TREATMENT PLANT EQUIP	ASSET RENEWAL POOR CONDITION
I18120053	SOUTH	New Coastal South Ops Center	12/31/2028	$ 1,300,000	304 - STRUCTURES AND IMPROVEMENTS	ADMIN AND OPERATIONAL SUPPORT
I18010045	STATEWIDE	PFAS 2026 - Surface Water Plant Upgrades	6/30/2026	$ 110,100,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18010046	STATEWIDE	PFAS 2027 Surface Water Plant Upgrades	12/31/2027	$ 110,100,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18010047	STATEWIDE	PFAS 2028 Surface Water Plant Upgrades	12/31/2028	$ 110,100,000	320 - WATER TREATMENT PLANT EQUIP	REG COMP <3 YRS
I18280004	WW	Fawn Run-Plant Upgrades IF-1 2022	10/30/2024	$ 1,257,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18270004	WW	Homestead Chem Feed & Storage	12/27/2024	$ 1,289,390	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18280007	WW	Statewide Sewer A&C Upgrades Ph 3 2024	12/31/2024	$ 1,400,004	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18070002	WW	EDC Bed 1 PS Improvements	12/31/2024	$ 84,831	371 - WW PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18270005	WW	Hawk Pointe WW Plant Upgrade (IF-4)22	12/31/2024	$ 3,076,480	380 - WW TREATMENT & DISPOSAL EQUIP	DEVELOPER (EXTERNALLY) FUNDED
I18270007	WW	Crossroads WWTP Imprv(A-7)2022	12/31/2024	$ 1,500,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350004	WW	WWTP Filter and Pump Improvements - IF-1	12/31/2024	$ 6,979,759	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350020	WW	LH WW Sys SCADA Upgrades IF-6	12/31/2024	$ 450,000	396 - WW COMMUNICATION EQUIPMENT	ASSET RENEWAL PROACTIVE MEASURE
I18210006	WW	Grove Sewer Lift Station B2	12/31/2025	$ 2,700,000	371 - WW PUMPING EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18280008	WW	Statewide Sewer A&C Upgrades Phase 4/2025	12/31/2025	$ 1,400,000	396 - WW COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18280009	WW	Statewide Sewer A&C Upgrades Ph 5 2026	12/31/2026	$ 1,100,000	346 - COMMUNICATION EQUIPMENT	ASSET RENEWAL POOR CONDITION
I18230037	WW	Prospect Vines Lift Station Improvements	12/31/2026	$ 100,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18280013	WW	Jefferson Peaks WWTP Improvements (CPS A-14)	12/31/2026	$ 900,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350012	WW	Long Hill Twp. WWTP New Sludge Thickener (CPS A2)	12/31/2026	$ 2,000,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350013	WW	Long Hill Twp. WWTP Ex Final Clarifiers Mech Repl (CPS-A3)	12/31/2026	$ 3,300,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350015	WW	Long Hill Twp. WWTP Alkalinity Feed System (CPS A-6)	12/31/2026	$ 2,700,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350019	WW	Long Hill Twp. Remaining Pump Stations Improvements (CPS IF-3)	12/31/2026	$ 1,400,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18370001	WW	Bound Brook Pump Station Rehabilitation	12/31/2026	$ 1,300,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18270001	WW	Deep Run BTU Rehab CPS(IF-8)2022	12/29/2028	$ 9,900,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350016	WW	Long Hill Twp. WWTP Generator Replacement (CPS A-7)	12/29/2028	$ 1,500,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350021	WW	WWTP Odr Cntrl Sys-Sludge Stor Tnk Cvr I	12/29/2028	$ 1,300,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350023	WW	WWTP Add'l PACL Storage Tank CPS A-5	12/29/2028	$ 600,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18230004	WW	Irene & Regan LS Consolidation (A-14)	12/31/2028	$ 1,200,000	380 - WW TREATMENT & DISPOSAL EQUIP	REL/QUAL IMPROVED TECHNOLOGY
I18230024	WW	General Lift Station Improvements (A-16)	12/31/2028	$ 200,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18230030	WW	Squankum Lift Station Upgrades (B-4)	12/31/2028	$ 1,100,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
I18350011	WW	Long Hill Twp. WWTP Oxidatn Ditch Aeration System Upgrade (CPS A-1)	12/31/2028	$ 2,400,000	380 - WW TREATMENT & DISPOSAL EQUIP	ASSET RENEWAL POOR CONDITION
*Planning Cost estimates 2025-2028 (Level 3 to 5) rounded up to the nearest $100,000			**TOTAL:**	**$ 744,200,000**		

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

		RESIC Surcharge Filing #1	RESIC Surcharge Filing #2	RESIC Surcharge Filing #3	RESIC 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	
Eligible Investment (Qualified RESIC Additions to UPIS During RESIC Period)		$73,248,429	$43,949,058	$43,949,058	$43,949,058	$205,095,602	
Less: Accum Depr		(707,823)	(1,104,203)	(1,613,835)	(2,123,468)	(5,549,329)	(B)
Less: Deferred Tax		(107,727)	(168,054)	(245,617)	(323,180)	(844,578)	(C)
Eligible Net Investment (net RESIC Additions to UPIS During RESIC Period)		72,432,880	42,676,801	42,089,605	41,502,410	198,701,695	
Add: Cumulative PISCC		3,375,035	1,985,776	1,962,230	1,938,683	9,261,724	(D)
Subtotal RESIC, net		75,807,915	44,662,577	44,051,835	43,441,092	207,963,419	
Times Pre-Tax ROR	X	9.5077%	9.5077%	9.5077%	9.5077%	9.5077%	(E)
Pre-Tax Return on Investment		7,207,561	4,246,367	4,188,300	4,130,233	19,772,461	
Add: Depreciation		1,698,774	1,019,265	1,019,265	1,019,265	4,756,568	
Add: Deferred Depreciation		19,753	11,852	11,852	11,852	55,309	(B)
Add: Amortization PISCC		78,489	47,094	47,094	47,094	219,770	(D)
Revenue Recovery		9,004,578	5,324,577	5,266,510	5,208,443	24,804,108	
Revenue Factor	X	$1.166517	$1.166517	$1.166517	$1.166517	$1.166517	(F)
Total RESIC Revenue Requirement Recovery Amount		10,503,994	6,211,211	6,143,474	6,075,737	28,934,416	
RESIC Revenue Requirement Recovery Amount - Annual		10,503,994	6,211,211	6,143,474	6,075,737	28,934,416	
RESIC Revenue Requirement Recovery Amount - Monthly		**$875,333**	**$517,601**	**$511,956**	**$506,311**	**$2,411,201**	

UPIS ADDITIONS SUMMARY

(A) - Includes actual RESIC eligible projects closed to UPIS during RESIC 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 RESIC Eligible Additions	73,248,429	43,949,058	43,949,058	43,949,058
Subtotal	**$73,248,429**	**$43,949,058**	**$43,949,058**	**$43,949,058**

(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
RESIC Eligible projects closed to UPIS	$73,248,429	$43,949,058	$43,949,058	$43,949,058
Composite Depreciation rate	2.319%	2.319%	2.319%	2.319%
Annual Depreciation Expense	1,698,774	1,019,265	1,019,265	1,019,265
Cummulative Depreciation Expenses	707,823	1,104,203	1,613,835	2,123,468
Deferred Depreciation Expenses	849,387	509,632	509,632	509,632
Average IIfe of Asset @ Composite Rate	43	43	43	43

(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
RESIC Eligible projects closed to UPIS	$73,248,429	$43,949,058	$43,949,058	$43,949,058
MACRS rate	4.00%	4.00%	4.00%	4.00%
Annual Tax Depreciation	2,929,937	1,757,962	1,757,962	1,757,962
Cummulative Tax Depreciation	1,220,807	1,904,459	2,783,440	3,662,421
Less: Book Depreciation	707,823	1,104,203	1,613,835	2,123,468
Tax Depr Greater than Book	512,985	800,256	1,169,605	1,538,954
Deferred Taxes at 21%	$107,727	$168,054	$245,617	$323,180

(D) - Post In-Serivce Carrying Costs (PISCC)	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
RESIC Eligible projects closed to UPIS	$73,248,429	$43,949,058	$43,949,058	$43,949,058
PISCC Rate - Debt	1.85%	1.85%	1.85%	1.85%
PISCC Rate - Equity	6.05%	6.05%	6.05%	6.05%
Annual PISCC	$5,785,774	$3,471,465	$3,471,465	$3,471,465
Deferred PISCC	3,375,035	2,025,021	2,025,021	2,025,021
Cumulative Balance of Deferred PISCC	3,375,035	1,985,776	1,962,230	1,938,683

(E) - 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%

(F) - 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	($0.000455)	(per 2024 recent assessment)
Revenue remaining after taxes, bad debts, and assessments	$0.857253	
Revenue [Gross-up] Factor	$1.166517	

(F)- Revenue Requirement:

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

Total annual revenues from most recent base rate case of $100,000,000 X 2.50% = $2,500,000

The Company's revenue requirement in the above example can not be greater than $2,500,000 per year.

Monthly cost per 5/8th Inch Meter - Typical Residential Customer -	**$2.50**
RESIC Revenue as a % of total Water Revenue $1,157,376,653	**2.50%**

New Jersey-American Water Company, Inc.
RESIC Foundational Filing - No. 1 (2024)
Scenario 2 - Excludes Post Test Year RESIC Eligible Additions

		RESIC Surcharge Filing #1	RESIC Surcharge Filing #2	RESIC Surcharge Filing #3	RESIC Surcharge Filing #4		
		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	Total	
Eligible Investment (Qualified RESIC Additions to UPIS During RESIC Period)		$37,134,377	$55,701,566	$55,701,566	$55,701,566	$204,239,074	
Less: Accum Depr		(143,536)	(753,566)	(1,399,480)	(2,045,395)	(4,341,978)	(B)
Less: Deferred Tax		(21,845)	(114,689)	(212,993)	(311,298)	(660,826)	(C)
Eligible Net Investment (net RESIC Additions to UPIS During RESIC Period)		36,968,995	54,833,311	54,089,092	53,344,873	199,236,271	
Add: Cumulative PISCC		1,466,592	2,549,483	2,519,639	2,489,796	9,025,509	(D)
Subtotal RESIC, net		38,435,587	57,382,793	56,608,731	55,834,669	208,261,780	
Times Pre-Tax ROR	X	9.5077%	9.5077%	9.5077%	9.5077%	9.5077%	(E)
Pre-Tax Return on Investment		3,654,326	5,455,763	5,382,167	5,308,572	19,800,829	
Add: Depreciation		861,219	1,291,828	1,291,828	1,291,828	4,736,703	
Add: Deferred Depreciation		8,345	15,021	15,021	15,021	53,409	(B)
Add: Amortization PISCC		34,107	59,687	59,687	59,687	213,167	(D)
Revenue Recovery		4,557,997	6,822,299	6,748,704	6,675,109	24,804,108	
Revenue Factor	X	$1.166517	$1.166517	$1.166517	$1.166517	$1.166517	(F)
Total RESIC Revenue Requirement Recovery Amount		5,316,981	7,958,328	7,872,478	7,786,628	28,934,416	
RESIC Revenue Requirement Recovery Amount - Annual		5,316,981	7,958,328	7,872,478	7,786,628	28,934,416	
RESIC Revenue Requirement Recovery Amount - Monthly		**$443,082**	**$663,194**	**$656,040**	**$648,886**	**$2,411,201**	

UPIS ADDITIONS SUMMARY

(A) - Includes actual RESIC eligible projects closed to UPIS during RESIC 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 RESIC Eligible Additions	37,134,377	55,701,566	55,701,566	55,701,566
Subtotal	**$37,134,377**	**$55,701,566**	**$55,701,566**	**$55,701,566**

(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
RESIC Eligible projects closed to UPIS	$37,134,377	$55,701,566	$55,701,566	$55,701,566
Composite Depreciation rate	2.319%	2.319%	2.319%	2.319%
Annual Depreciation Expense	861,219	1,291,828	1,291,828	1,291,828
Cummulative Depreciation Expenses	143,536	753,566	1,399,480	2,045,395
Deferred Depreciation Expenses	358,841	645,914	645,914	645,914
Average IIfe of Asset @ Composite Rate	43	43	43	43

(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
RESIC Eligible projects closed to UPIS	$37,134,377	$55,701,566	$55,701,566	$55,701,566
MACRS rate	4.00%	4.00%	4.00%	4.00%
Annual Tax Depreciation	1,485,375	2,228,063	2,228,063	2,228,063
Cummulative Tax Depreciation	247,563	1,299,703	2,413,735	3,527,766
Less: Book Depreciation	143,536	753,566	1,399,480	2,045,395
Tax Depr Greater than Book	104,026	546,137	1,014,254	1,482,371
Deferred Taxes at 21%	$21,845	$114,689	$212,993	$311,298

(D) - Post In-Serivce Carrying Costs (PISCC)	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
RESIC Eligible projects closed to UPIS	$37,134,377	$55,701,566	$55,701,566	$55,701,566
PISCC Rate - Debt	1.85%	1.85%	1.85%	1.85%
PISCC Rate - Equity	6.05%	6.05%	6.05%	6.05%
Annual PISCC	$2,933,184	$4,399,776	$4,399,776	$4,399,776
Deferred PISCC	1,466,592	2,566,536	2,566,536	2,566,536
Cumulative Balance of Deferred PISCC	1,466,592	2,549,483	2,519,639	2,489,796

(E) - 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%

(F) - 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	($0.000455)	(per 2024 recent assessment)
Revenue remaining after taxes, bad debts, and assessments	$0.857253	
Revenue [Gross-up] Factor	$1.166517	

(F)- Revenue Requirement:

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

Total annual revenues from most recent base rate case of $100,000,000 X 2.50% = $2,500,000

The Company's revenue requirement in the above example can not be greater than $2,500,000 per year.

Monthly cost per 5/8th Inch Meter - Typical Residential Customer -	**$2.50**
RESIC Revenue as a % of total Water Revenue $1,157,376,653	**2.50%**

New Jersey-American Water Company, Inc.
RESIC Foundational Filing - No. 1 (2024)
Calculation of Composite Depreciation Rate for RESIC

Based on Docket No. WR24010056 - Exhibit P-2, Schedule 9

UPIS Account	UPIS Account Description	NARUC Account	*As Filed* Balance 12/31/24	Weight	*As Proposed* Depreciation Rate	Weighted Rate	Life of Assets
304100	Struct & Imp-Supply	304	83,988,386	4.06%	2.73%	0.111%	
304200	Struct & Imp-Pumping	304	97,100,250	4.70%	1.13%	0.053%	
304300	Struct & Imp-Treatment	304	365,229,212	17.66%	1.28%	0.226%	
304310	Struct & Imp-Treatment-Handl	304	7,835,773	0.38%	0.91%	0.003%	
304400	Struct & Imp-T&D	304	23,182,665	1.12%	2.09%	0.023%	
304500	Struct & Imp-General	304	113,739,809	5.50%	3.99%	0.219%	
304510	Struct & Imp-Cap Lease	304	11,022	0.00%	3.99%	0.000%	
304600	Struct & Imp-Offices	304	66,022,040	3.19%	2.36%	0.075%	
304610	Struct & Imp-HVAC	304	2,736,524	0.13%	2.65%	0.004%	
304700	Struct & Imp-Store,Shop,Gar	304	9,953,246	0.48%	2.14%	0.010%	
304800	Struct & Imp-Misc	304	5,942,436	0.29%	0.14%	0.000%	
306000	Lake, River & Other Intakes	306	20,163,575	0.98%	2.51%	0.024%	
307000	Wells & Springs	307	68,588,497	3.32%	1.91%	0.063%	
310000	Power Generation Equip	310	53,323,395	2.58%	2.07%	0.053%	
310200	Boiler Plant Equip P	311	299,607	0.01%	3.28%	0.000%	
311200	Pump Eqp Electric	311	157,761,569	7.63%	2.29%	0.175%	
311300	Pump Eqp Diesel	311	7,363,549	0.36%	2.38%	0.008%	
311400	Pump Eqp Hydraulic	311	14,614,374	0.71%	2.41%	0.017%	
311500	Pump Eqp Other	311	23,143,424	1.12%	2.05%	0.023%	
311530	Pumping Equipment WT	311	264,622	0.01%	2.93%	0.000%	
311540	Pumping Equipment TD	311	30,072	0.00%	2.04%	0.000%	
320100	WT Equip Non-Media	320	591,370,588	28.60%	1.49%	0.426%	
320200	WT Equip Filter Media	320	29,141,824	1.41%	8.81%	0.124%	
330000	Dist Reservoirs & Standpipes	330	41,051,083	1.99%	1.78%	0.035%	
330002	Tank Original Painting	330	99,272	0.00%	1.62%	0.000%	
330100	Elevated Tanks & Standpipes	330	73,297,894	3.54%	1.32%	0.047%	
330200	Ground Level Tanks	330	14,326,051	0.69%	1.69%	0.012%	
330300	Below Ground Tanks	330	5,440,221	0.26%	1.58%	0.004%	
330400	Clearwell	330	85,696	0.00%	0.32%	0.000%	
346000	Comm Equip Not Classified	346	50,401,550	2.44%	8.75%	0.213%	
346100	Comm Equip Non-Telephone	346	13,029,628	0.63%	5.65%	0.036%	
346190	Remote Control & Instrument	346	42,500,951	2.06%	6.84%	0.141%	
346200	Comm Equip Telephone	346	1,282,829	0.06%	0.11%	0.000%	

New Jersey-American Water Company, Inc.
RESIC Foundational Filing - No. 1 (2024)
Calculation of Composite Depreciation Rate for RESIC

Based on Docket No. WR24010056 - Exhibit P-2, Schedule 9

UPIS Account	UPIS Account Description	NARUC Account	*As Filed* Balance 12/31/24	Weight	*As Proposed* Depreciation Rate	Weighted Rate	Life of Assets
371100	WW Pump Equip Elect	371	24,082,474	1.16%	3.70%	0.043%	
371200	WW Pump Equip Oth Pwr	371	1,184,312	0.06%	2.37%	0.001%	
371300	WW Pump Equip Misc	371	231,984	0.01%	4.90%	0.001%	
380000	WW TD Equipment	380	44,340,072	2.14%	5.16%	0.111%	
380050	WW TD Equip Grit Removal	380	36,894	0.00%	3.17%	0.000%	
380100	WW TD Equip Sed Tanks/Acc	380	3,303,596	0.16%	3.44%	0.006%	
380200	WW TD Equip Sldge/Effl Rmv	380	249,052	0.01%	4.17%	0.001%	
380250	WW TD Equip Sldge Dig Tnk	380	4,791	0.00%	4.59%	0.000%	
380300	WW TD Equip Sldge Dry/Filt	380	759,010	0.04%	3.27%	0.001%	
380350	WW TD Equip Sec Trmt Filt	380	3,456,316	0.17%	4.14%	0.007%	
380400	WW TD Equip Aux Effl Trmt	380	493,914	0.02%	4.80%	0.001%	
380450	WW TD Equip Oth Sew Rem	380	97,086	0.00%	3.94%	0.000%	
380500	WW TD Equip Chem Trmt Plt	380	312,724	0.02%	4.46%	0.001%	
380600	WW TD Equip Oth Disp	380	888,547	0.04%	3.55%	0.002%	
396000	WW Communication Equip	396	4,907,496	0.24%	7.07%	0.017%	
	Total		2,067,669,902	100.00%		2.319%	43

Monthly RESIC Charge Based on Meter Size and % Increase (B)

Meter Size	5/8" Equivalent (A)	0.50%	1.00%	1.50%	2.00%	2.50%
5/8	**1.0**	$0.50	$1.00	$1.50	$2.00	$2.50
3/4	**1.5**	$0.75	$1.50	$2.25	$3.00	$3.75
1	**2.5**	$1.25	$2.50	$3.75	$5.00	$6.25
1-1/2	**5.0**	$2.50	$5.00	$7.50	$10.00	$12.50
2	**8.0**	$4.00	$8.00	$12.00	$15.99	$19.99
3	**15.0**	$7.50	$14.99	$22.49	$29.99	$37.49
4	**25.0**	$12.50	$24.99	$37.49	$49.98	$62.48
6	**50.0**	$24.99	$49.98	$74.97	$99.97	$124.96
8	**80.0**	$39.99	$79.97	$119.96	$159.95	$199.93
10	**100.0**	$49.98	$99.97	$149.95	$199.93	$249.91
12	**125.0**	$62.48	$124.96	$187.44	$249.91	$312.39
16	**200.0**	$99.97	$199.93	$299.90	$399.86	$499.83

(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 RESIC 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.

RESIC Foundational Filing - No. 1 (2024)

RESIC SURCHARGE BILL IMPACT

NEW JERSEY-AMERICAN WATER COMPANY

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size	5/8" Equivalent	GMS Number of Meters*	GMS Weighting	Resale Number of Meters*	Resale Weighting	Exempt Number of Meters*	Exempt Weighting**	Total Number of Meters*	Total Weighting
5/8	1.0	613,270	613,270	2	2	11	10	613,283	613,282
3/4	1.5	18,011	27,017	0	0	2	3	18,013	27,020
1	2.5	47,771	119,428	0	0	4	9	47,775	119,437
1-1/2	5.0	4,647	23,235	0	0	0	0	4,647	23,235
2	8.0	13,048	104,384	2	16	5	35	13,055	104,435
3	15.0	976	14,640	4	60	2	26	982	14,726
4	25.0	970	24,250	16	400	9	194	995	24,844
6	50.0	223	11,150	30	1,500	1	43	254	12,693
8	80.0	210	16,800	18	1,440	2	138	230	18,378
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	8	1,600	0	0	8	1,600
Total		699,167	958,349	84	5,443	42	1,020	699,293	964,812
									(c)

*Meter Count as of 1/31/24

**Weighting deducts impact of GRAFT

PROOF OF REVENUE (Monthly Charge)

Annual Revenue @ 2.5% cap	$28,934,416	*(a)*
Monthly Revenue	$2,411,201	*(b)= (a)/12*
Weighted No of Meters	964,812	*(c)*
5/8"Meter Monthly Charge	$2.50	*(d)=(b)/(c)*

Meter Size	5/8" Equivalent	GMS Charge	GMS Charge x Meters	Resale Charge	Resale Charge x Meters	Exempt Charge	Exempt Charge x Meters	Total Revenue
5/8	1.0	$2.50	$1,532,648.29	$2.50	$5.00	$2.16	$23.76	$1,532,677.05
3/4	1.5	3.75	67,518.05	3.75	0.00	3.24	6.48	67,524.53
1	2.5	6.25	298,466.18	6.25	0.00	5.40	21.60	298,487.78
1-1/2	5.0	12.50	58,067.54	12.50	0.00	10.80	0.00	58,067.54
2	8.0	19.99	260,870.35	19.99	39.99	17.27	86.35	260,996.69
3	15.0	37.49	36,587.43	37.49	149.95	32.39	64.78	36,802.15
4	25.0	62.48	60,604.17	62.48	999.66	53.98	485.82	62,089.65
6	50.0	124.96	27,865.42	124.96	3,748.71	107.96	107.96	31,722.10
8	80.0	199.93	41,985.57	199.93	3,598.76	172.73	345.46	45,929.79
10	100.0	249.91	9,496.74	249.91	749.74	215.92	863.68	11,110.16
12	125.0	312.39	937.18	312.39	312.39	269.90	539.80	1,789.37
16	200.0	499.83	0.00	499.83	3,998.63	431.83	0.00	3,998.63
Total			$2,395,046.92		$13,602.83		$2,545.69	$2,411,195.43

Note (a)

Base Revenue		$1,094,795,156
PWAC / PSTAC Revenue		$62,581,497
Subtotal		$1,157,376,653
	2.5% Cap	$28,934,416

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 RESILIENCY AND ENVIRONMENTAL SYSTEM INVESTMENT CHARGE PROGRAM
BPU Docket No. WR2404____

TO OUR CUSTOMERS:

PLEASE TAKE NOTICE that on April __, 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 Resiliency and Environmental System Investment Charge ("RESIC"), pursuant to P.L. 2023, c.315. A RESIC is a regulatory mechanism that enables timely cost recovery of investment in certain non-revenue producing water and wastewater system components that: are in direct or indirect compliance with requirements addressing existing or emerging requirements; enhance water and wastewater system resiliency, and the health, safety or environmental protection of customers, employees, or the public. A RESIC 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 & Billing and then Your Water and Wastewater Rates.

The maximum proposed monthly RESIC 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 RESIC SURCHARGE RATES BASED ON
METER SIZE OR EQUIVALENT

Maximum Monthly RESIC Surcharge – Water and Wastewater:

Size of Meter	5/8" Equivalent*	Proposed Rate
5/8	1.0	$2.50
3/4	1.5	3.75
1	2.5	6.25
1-1/2	5.0	12.50
2	8.0	19.99
3	15.0	37.49
4	25.0	62.48
6	50.0	124.96
8	80.0	199.93
10	100.0	249.91
12	125.0	312.39
16	200.0	499.83

*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