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TAHESHA L. WAY
Lt. Governor

SHAWN M. LaTOURETTE
Commissioner

August 6, 2025

Council President Yazminelly Gonzalez
and Trenton City Council
319 East State Street
Trenton, New Jersey 08608

RE: Trenton Water Works
PWSID No.: NJ1111001

Dear Council President and Council Members:

I am in receipt of your August 1, 2025 letter and appreciate your invitation to attend the City Council Meeting of August 7, 2025. Although I am not available at that time, I invite each member of Council to meet with me directly following their review of the attached materials and website links provided below. Please expect outreach from my office for scheduling.

Your August 1 letter states that "the Council has gone on record opposing any efforts at regionalization [of Trenton Water Works] based upon [y]our belief that the objectives stated in [DEP's July 29, 2025] letter can be achieved with Trenton's continued operational control of the TWW." Your letter also states that the Council wishes to "consider strategies which would satisfy [DEP's] concerns and still allow Trenton to maintain operation of the TWW." DEP has addressed these positions over the last several years through direct and consistent engagement with the mayoral administration. To the extent DEP has assumed a free and transparent exchange of information between the Mayor and Council concerning the state of TWW, this letter serves to clarify the accurate state of affairs, and the present inflection point on the path forward for TWW.

DEP's July 29 letter requested a determination from the Mayor and Council as to whether the City intends to proceed in partnership with DEP and the TWW service area municipalities to explore restructuring/regionalization pursuant to the attached Request for Proposal dated April 16, 2025 (RFP). Proceeding with the process outlined in the RFP would not force a predetermined outcome upon the City of Trenton or its residents. To the contrary, proceeding as planned would commence a public process facilitated by a neutral third-party that would engage residents and stakeholders while experts assist the City and surrounding communities in exploring the parameters for any restructuring of TWW. This path forward and the text of the RFP itself was developed in consultation with the City's Mayor and mayors of the TWW service area, all of whom agreed to proceed with this solicitation following a series of meetings with DEP.

The RFP bidding process is now complete, and all other parties wish to proceed with this public process. However, following a meeting of all mayors in June and follow-up discussions in

July, the City's mayoral administration has remained noncommittal. The City's Mayor has cited his support for another "study," expressing concern about financial benefit the City would get out of regionalization, despite the financial analyses provided in January. More importantly, and as DEP has explained to the Mayor many times over, the purpose of this process is to provide the City and service area municipalities with the information they need to make ultimate decisions about the governance, organizational structure, finances, and management of a restructured utility. For example, the process would enable its participants to construct a future whereby the City would maintain a significant role in a restructured utility, substantial voting rights on its governing board, receive considerable financial benefits, and the TWW workforce would not lose their jobs. There are many other considerations to be explored in the process, but the critical distinction from the *status quo* is that, under any scenario, the City's elected leadership would not exercise exclusive control of the utility or be responsible for the day-to-day administration of TWW.

The present inflection point: for the intended public process to be productive, it requires both the support and the active and unbiased participation of City leadership, including the Mayor and Council. In other words, if the City refuses to seriously consider restructuring, this most necessary process cannot proceed. Thus, we implore the Council, in the strongest possible terms, not to foreclose this recommended path forward. DEP recognizes that there are misunderstandings about the gravity of TWW's historically and irreconcilably poor condition, misimpressions about what regionalization means, and parochial politics at issue. Nonetheless, we strongly encourage the Council to support this process and allow it to help you "consider strategies" as stated in your August 1 letter. My DEP colleagues and I fully expect that this process will enable the Council to navigate the serious public health and safety concerns for which it is legally responsible, while also supporting the Trentonians we all serve. We would not have suggested this process otherwise. Please do not predetermine an outcome by rejecting regionalization at the outset.

Notwithstanding DEP's considerable financial and technical support of TWW's *short-term* stability, and our hope for positive collaboration on the public process to explore restructuring, DEP must also remain cleareyed about the serious public health, safety, and operational risks that pervade the utility. While Counsel's August 1 letter was the first time that I have ever heard directly from this City Council, its wish that TWW could be successful under the City's continued sole control is a familiar one. The unfortunate reality is that TWW has struggled to maintain compliance and meet its obligations under the Safe Drinking Water Act for well over a decade, requiring increasing enforcement action by DEP. The history of neglect, mismanagement, and disinvestment stretches as far back as the 1970s, and very serious risks continue to this day. I encourage each member of Council to review the TWW Compliance History materials available on DEP's TWW Informational Site. At a minimum, Council members should become familiar with the recent history of TWW's noncompliance as recited in the Unilateral Administrative Order of October 2022. It was then that DEP was compelled to declare that TWW presents *"an imminent and substantial endangerment to human health"* under the Safe Drinking Water Act. The severity of this finding cannot be overstated. For context, DEP has administered the Safe Drinking Water Act for fifty years and oversees the safety of every water system in the State. Never once in our State's history has the circumstances of a drinking water system been so dire as to compel DEP to declare imminent and substantial endangerment. Not once has DEP been compelled to intervene directly in the daily operations of a water system to help avoid catastrophe and ensure its stability.

We recognize that these facts can be hard to hear, and DEP does not offer these reflections to impugn the City of Trenton, its elected leadership, or the TWW workforce. Quite the opposite. The State's only wish is for TWW's success, as demonstrated by the significant levels of technical and financial support that DEP has provided. Despite these unprecedented levels of assistance, the City has been unable to correct TWW's failures on its own. The facts demonstrate that TWW is at extremely high risk of systemic failure, and that the City does not possess the requisite technical, managerial, and financial capacity to properly address these risks and ensure TWW's long-term operational continuity. To be clear, I do not ask the Council to simply take my word or adopt DEP's well-informed conclusions as your own. Rather, we ask that each member of Council read in detail the two independent third-party assessments that were prepared for you. This includes the Technical, Managerial and Financial Report, which is an evaluation of TWW's existing capacity to plan for, achieve, and sustain long-term compliance with drinking water regulations.

Restructuring the utility as an entity distinct from the City government is the only viable path forward. The *status quo* whereby the City maintains sole control over and responsibility for the operation has proven not to be a realistic option. Again, I do not ask the Council to simply take my word, but rather review the 360° Assessment Report, a comprehensive assessment of TWW's financial condition, inventory of asset optimization, and review of alternative governance structures. These assessments are the product of two years of extensive investigations, interviews, and independent expert analyses, and the information here is directly responsive to the Council's stated interest to "consider strategies" for TWW. For your convenience, I am attaching the executive summaries of each assessment to this letter and call your attending to the Summary of the Independent Assessments of TWW available in a shorter, presentation form.

For the many reasons expressed by DEP, detailed in two recent independent assessments, and as is evident from the long history of TWW's noncompliance with the Safe Drinking Water Act that has led to repeated crises, the *status quo* of the City's sole control of TWW is not acceptable. This *status quo* is not acceptable to ensure a stable and reliable water supply for the greater Trenton area, not acceptable to ensure the health and safety of Trentonians or their neighbors throughout the service area, not acceptable for the safety of the TWW workforce, not acceptable for maintaining compliance with the law, and it should not be acceptable to the Mayor, Council, or any elected leader.

By copy, DEP is also advising the Mayor to consider this a response to his letter of August 1, which was separate from the Council's and contested DEP's July 29 letter. Nonetheless, the facts remain as stated in that correspondence and above.

Again, I invite each member of Council to meet with me directly following their review of the materials attached and linked here. It is my sincere hope that the Council resolves to proceed with the public process to explore restructuring.

Sincerely,

Shawn M. LaTourette
Commissioner

c: Commissioner Jacquelyn A. Suárez, Department of Community Affairs
Mayor Reed Gusciora, City of Trenton
Mayor Bert Steinmann, Ewing Township
Mayor Jeffrey Martin, Hamilton Township
Mayor Courtney Peters-Manning, Hopewell Township
Mayor Patricia Hendricks Farmer, Lawrence Township
Maria Richardson, Business Administrator, City of Trenton
Sean Semple, Director, Trenton Department Water & Sewer
Patricia Gardner, Assistant Commissioner, DEP Water Resource Management
Patricia Ingelido, Director, Division of Water Supply & Geoscience, DEP-WRM
Kristin Tedesco, Assistant Director, Water Systems & Operations, DEP-WRM-DWSG
Michael F. Rogers, Director, Division of Local Government Services, DCA

References & Additional Resources (website links)

- June 18 TWW Inspection Photo Gallery

Potential Impacts TWW Customers

- Summary of Major Concerns
- Fact Sheets on Potential Impacts

Independent Third-Party Assessments

- Technical, Managerial and Financial Report (TMF), evaluation of TWW's existing capacity to plan for, achieve, and sustain long-term compliance with drinking water regulations.
- 360 Assessment Report (360), a comprehensive assessment of TWW's financial condition (including rate structure), inventory of asset optimization, and review of alternative governance structures.
- Synopsis: A Summary of the Independent Assessments of TWW

TWW Compliance Records and Information

- Correspondence on Issues of Concern
- TWW Compliance History Records

TECHNICAL, MANAGERIAL, AND FINANCIAL CAPACITY EVALUATION

TRENTON WATER WORKS

H2M Project No.
NJDP2301

January 2025

Prepared for:

New Jersey Department of Environmental Protection
401 East State Street
Trenton, NJ 08625

Prepared by:

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Please be advised that this is a redacted version of the Trenton Water Works Technical, Managerial, and Financial Capacity Evaluation. Certain sections of the document have been redacted because they are considered sensitive information. Sensitive records are considered non-public records and are therefore exempt from the New Jersey Open Public Records Act (N.J.S.A. 47:1A-9a). Sensitive records, are described as those records that if released, "would substantially interfere with the State's ability to protect and defend the State and its citizens against acts of sabotage or terrorism, or which if disclosed would materially increase the risk or consequence of potential acts of sabotage or terrorism." This statutory language is reiterated in the Department's Non-Public Record rules at N.J.A.C. 7:1D-3.2(b).

DISCLAIMER: The findings of this report follow the issuance of a Unilateral Administrative Order (UAO), through which the NJDEP and their assigned consultants have directed many technical and organizational improvements within the TWW system to optimize their operation. As such, the findings and conclusions discussed herein are representative of TWW after receiving independent third-party direction. Based on a comparison of the findings in the UAO, some areas of improvement are evident.

EXECUTIVE SUMMARY

This report provides a comprehensive evaluation of the Technical, Managerial, and Financial (TMF) capacity of the Trenton Water Works (TWW or Utility), a division of the City of Trenton's Water and Sewer Department. The Safe Drinking Water Act provides a regulatory framework for states to develop and implement programs that ensure the maintenance of technical, managerial, and financial capacity for public water systems. In New Jersey, the Department of Environmental Protection (NJDEP) administers the Safe Drinking Water Act, and a Capacity Development Program (CDP) was approved by the US Environmental Protection Agency (USEPA) to define the criteria for review of public water systems under this strategy. The benchmarking criteria for such a review is defined at NJAC 7:10-13.1 et seq and is given full narrative treatment in the NJDEP document entitled "Capacity Development Program (CDP), Criteria and Benchmarks for Technical, Managerial, and Financial Capacity."

Trenton Water Works (PWSID 1111001) operates as a Department within the governmental structure of the City of Trenton. TWW is responsible for the treatment, transmission, and distribution of finished water to roughly 220,000 people in Trenton, Ewing, Lawrence, Hopewell, and Hamilton. TWW operates a central water treatment plant, several pump stations, the Pennington Reservoir, and a collection of storage tanks, all of which serve their regional customer base. As one of the oldest water systems in the State of New Jersey, TWW's water assets and scope of supply have expanded as regulations developed and the service area expanded. Over the years, TWW has consistently struggled to meet drinking water quality standards, sustain system reliability, maintain aging infrastructure, and satisfy many other public health and safety obligations, which have resulted in the NJDEP's issuance of several administrative consent orders (ACO's). These ACOs have included remediation obligations and schedules that TWW has agreed to follow; in many instances, however, these schedules are not met, and the system improvements necessary to protect public health and safety are not made. After several such failings to adhere to the terms of its ACOs, TWW was placed under a unilateral administrative order (UAO) issued by the NJDEP, whereby the NJDEP asserted direct operational oversight of TWW. One of the terms of the UAO included an audit of TWW against the above stated TMF criteria and benchmarks.

On behalf of the NJDEP, H2M architects + engineers (H2M) has undertaken a review of all aspects of technical, managerial, and financial capacity, in accordance with the benchmarks codified at NJAC 7:10-13.1 et seq, and the Capacity Development Program (CDP) document.

The general conclusion of the evaluation is that Trenton Water Works and the City of Trenton demonstrate consistent noncompliance with TMF criteria. Despite a physical system which was largely designed and constructed properly, TWW as an institution has routinely neglected the requisite maintenance and upkeep of said system, resulting in shortened service life, diminished capacity and redundancy, and improper operation of treatment and distribution assets. In short, the predominant failings within TWW are of an organizational and managerial nature, which have a deleterious impact on the technical and financial aspects of the Utility.

This report identifies five primary categories of deficiency which are interwoven between technical, managerial, and financial subject areas.

1. Non-Compliance with Safe Drinking Water Regulatory Requirements

TWW has a storied history of non-compliance, violations, and administrative orders issued by the NJDEP. Many of the recorded violations pertained to administrative non-compliance, such as failing to report certain water quality parameters, failing to take samples on the required schedule, and failure to submit paperwork. Section 1.3 provides greater detail on TWW's compliance history. However, non-administrative violations with considerable implications for the health and safety of TWW customers have been numerous.

Like all water systems in the State, TWW is responsible to meet or exceed all regulations imposed by the US EPA and NJDEP, including those pertaining to water quality. Recent significant water quality issues include a Legionella outbreak in TWW's service area, midge larvae in the distribution system, the continued operation of a non-compliant open-air finished water reservoir, challenges in adequately operating the Superpulsator units

at the treatment plant that are necessary to remove foreign material from source water, and an accidental release of zinc orthophosphate into said reservoir, which has the potential to spur algal blooms and subsequent cyanobacteria / cyanotoxin issues.

Further, over the course of many years and across mayoral/council administrations, TWW has repeatedly failed to achieve compliance with the requirements of various Administrative Consent Orders that TWW entered voluntarily in order to cure longstanding deficiencies at the Utility. This pattern demonstrates TWW's lack of consistent and proficient executive leadership and capable management, both of which are required to act as stewards of the Utility. These systemic organizational weaknesses are reflected in many examples of consistent non-compliance with Safe Drinking Water requirements, including TWW's inability to timely meet its lead service line replacement obligations, and a continued lack of progress towards replacing the uncovered finished water reservoir. In some cases, it was not until the NJDEP became directly involved that suitable corrective actions were taken.

2. Chronic Lack of Proper Management and Maintenance

The physical assets of TWW suffer from mismanagement and a chronic lack of maintenance. The systemic organizational weaknesses have a trickle-down effect on the condition of the treatment plant and the system at large. Many examples of poor maintenance and mechanical breakdown were observed and are described in the body of this report, which speaks to a lack of personnel training, poor performance of critical system functions, and a general disregard for recommended operations and maintenance (O&M) practices. Chronically deferred maintenance items, such as roof replacement and HVAC improvements at the treatment plant, reflect an organization that is unable to meet basic upkeep requirements.

Drinking water systems are a critical infrastructure necessary for the public health and to support commercial activity. A component of asset management for every water system is ensuring facility security. [redacted]

There exists within the TWW organizational structure a dedicated Maintenance Division, which is nominally responsible for upkeep of the plant and its equipment, such as chemical metering pumps, sensors and

instruments, piping repair, troubleshooting any process issues, miscellaneous cleaning, and ancillary building system upkeep. However, the Maintenance Division routinely neglects the performance of essentially all tasks except janitorial duties and the most basic equipment maintenance. It has been reported that the Maintenance personnel frequently fail to perform manufacturer recommended O&M on equipment, demonstrating a profound lack of understanding of basic treatment plant operation and maintenance. A variety of causes likely contribute to the ineptitude of the Maintenance Division:

- *Inadequate management and poor supervision*: As noted, there is a general lack of appropriate training across the organization. In addition, the current maintenance supervisor has tangentially relevant experience as a mechanic in the City's vehicle garage but does not appear to have water sector-specific or the managerial ability necessary to direct the Maintenance personnel. There is no evidence that Maintenance personnel understand the nature and scope of their responsibilities, i.e., why their positions exist or what purpose they are intended to serve within the TWW organizational structure
- *Lack of accountability*: Lack of accountability is a recurring issue within TWW and not specific to Maintenance staff; this is further discussed below. In its current form, the Maintenance Division is performing janitorial duties. Personnel have been allowed to abdicate the responsibilities customarily expected of a drinking water system maintenance division; they are assigned one or two cleaning or minor equipment repairs each day. There is no impetus for improving productivity and no motivation to achieve anything more than the bare minimum. A majority of the true maintenance done at the treatment plant has been outsourced under various contracts to outside contractors.

3. Operational Continuity and Reliability Concerns

Operational continuity is multi-faceted, encompassing tangible treatment and distribution assets, retaining staff with deep water sector and/or TWW-specific experience and knowledge, maintaining a uniform direction from executive leadership, and ensuring that all Utility procedures are written, established, implemented, and maintained under the guidance and supervision of proficient management.

The physical assets of TWW, including the treatment plant, booster pump stations, and the transmission and distribution system, have largely been constructed properly for its service area and demands. However, decades of inattention and minimal to no preventive maintenance has resulted in the degradation of these assets. In some instances, this condition has caused a loss of redundancy and reliability of pumps, pipes, and other equipment. In the event of unexpected operating conditions or an operational emergency, there exists a real possibility that a combination of poor equipment conditions and insufficiently experienced staff may result in an inadequate response to a given event. Recent conditions, such as the failure of pre-treatment Superpulsator units and a Legionella outbreak, are examples of such a confluence of events that pose

significant risks to the health and safety of TWW customers. Each of those conditions are discussed in more detail throughout this report.

TWW suffers from a stark lack of institutional knowledge, with some Divisions worse than others. An example of this is the Engineering Division; the longest tenured staff in the group has been with TWW for about four years; the remaining two engineers have three or fewer years of history with TWW. Compounded by poor recordkeeping, this lack of knowledge severely limits the ability of Engineering and the other Divisions within TWW to effectively perform their duties.

There is also a noteworthy lack of stability in the Executive Director position at TWW. One responsibility of this top level position is to communicate the organization's mission, vision, and values. In other words, the Executive Director steers the ship in the direction it needs to go. Lacking a consistent, strong presence at this level leaves an organization rudderless. TWW especially is in desperate need of an experienced, strong leader in this position who can commit to a lengthy tenure.

In accordance with AWWA Standard G200-15, utilities shall have procedures established, documented, implemented and maintained. A review of available documentation indicates that TWW has documented written operating procedures and personnel policies, the latter of which are incorporated into the onboarding process for new hires. However, the comprehensive implementation of standardized procedures remains an open question; based on training records, staff do not receive training on atypical operating conditions (i.e., emergency response plans, emergency communication plan, risk and resilience, etc.), and may only receive cursory training on standard operating procedures.

No records related to succession planning or contingencies for the departure of key personnel were provided for review during the preparation of this TMF.

4. Poor Management Practices

The majority of TWW's failings stem from a lack of physical management of its assets, compounded by the systemic organizational weaknesses discussed throughout this report. The TWW infrastructure was largely constructed with primary treatment processes sized correctly, proper plant hydraulics (i.e., water moves from one process to the next by gravity), and a distribution system that, despite its age, continues to largely meet domestic and fire demands. However, the physical system does not operate in a vacuum, instead requiring perpetual attention, repair, modification, and improvement by its operators and competent staff. Furthermore, despite the adequate quantity of water being produced, there has been a pattern of water quality issues in recent history.

The proficient management of a water system depends upon proficient communication within the organization, as well as with customers and other external stakeholders. TWW and its management struggle with communication as a whole. This statement encompasses internal communication between Divisions, between TWW and the Mayor and City Council, and between TWW, the City of Trenton, and the other municipalities served by TWW. Meeting minutes are not generated following the meetings that do occur, resulting in an inability to properly track action items and ensure tasks are completed. The City's governing body, having ultimate responsibility and financial control over TWW, appears only tangentially aware of the complexities of operating a water utility, and receives a majority of TWW-related information and requests through the City Administrator's office.

Hiring and promoting under-qualified staff is another area which reflects how managerial conditions erode the TMF capacity of TWW. First, Trenton has a residency mandate in place for City personnel, requiring that candidates and employees live within the City limits, with some exceptions. It is only after all avenues of hiring are exhausted that candidates from outside of this area are considered. Civil Service and Union employment policies, while not unique to Trenton and not inherently problematic, do impart additional sets of rules and approvals that add complexity to the hiring process. It is not uncommon that a current employee of the City with a comparable Civil Service title applies for an open position within TWW, and despite being weakly qualified, will get the job.

TWW struggles to retain competent, motivated staff for various reasons: poor compensation, insufficient stipends for obtaining licensure, and burnout caused by the high vacancy rate within the organization. The employees that remain are either intrinsically dedicated to protecting the welfare of Trenton's customers, or view their job at TWW as one that can be lackadaisically performed simply to collect a paycheck.

According to anecdotal reports made during the course of this TMF review, because many laborer-level employees see their positions at TWW as just a paycheck, management lacks the empowerment, ability, and / or stomach to instill discipline. Multiple anecdotes were received that describe TWW management as "looking the other way" or being overly lenient upon reported employee malfeasance. One such example from 2019 involved a laboratory technician who was found to be falsifying sample data. An internal investigation concluded that this employee was under-trained, and rather than being terminated, was transferred to a different position within the City government. This pattern of behavior was solidified by a similar case that has recently been made public regarding a TWW sample collector who, despite being responsible for collecting compliance samples from specified locations throughout the system, was going home instead and collecting the full day's water samples from his own residence. This occurred between October 2022 and December 2023. TWW initially placed this sample collector on administrative leave, and ultimately terminated his employment.

TWW lacks the culture of professionalism and accountability that is customary within broader sector and would be expected from public servants at a municipally-owned and operated utility. For instance, TWW does not perform employee performance reviews, despite this requirement being stated in union policies. Without annual check-ins with superiors, TWW staff are never informed on areas of improvement, goals to aspire to reach, or any other type of career advice or development. This contributes to an attitude of stagnation and complacency throughout the organization. Further compounding these deficiencies is a lack of adequate job-specific training, which limits the ability of staff to perform ordinary duties to their fullest.

In addition, the utility lacks the competent financial personnel necessary to adequately assess and communicate its needs internally and externally, including with Mayor and Council. This leads to the inability to secure approvals for expenditures which impacts that financial capacity of TWW. For example, the lack of TWW and City staff who are sufficiently knowledgeable in financial processes and procedures inhibits TWW's ability to have waivers and purchase orders approved in a timely manner, including critical purchases such as chemicals. TWW is currently experiencing a significant amount of delinquent customer accounts, which has accumulated to $23 million as of the end of 2023. Despite some external forces limiting the Utility's ability to shut off delinquent customers, once these limiting factors were lifted, TWW was delayed in undertaking any comprehensive collections program.

5. Complacent Staff and Leadership

For the purposes of this report, complacency is used in the context of its definition within AWWA Manual G100 as follows:

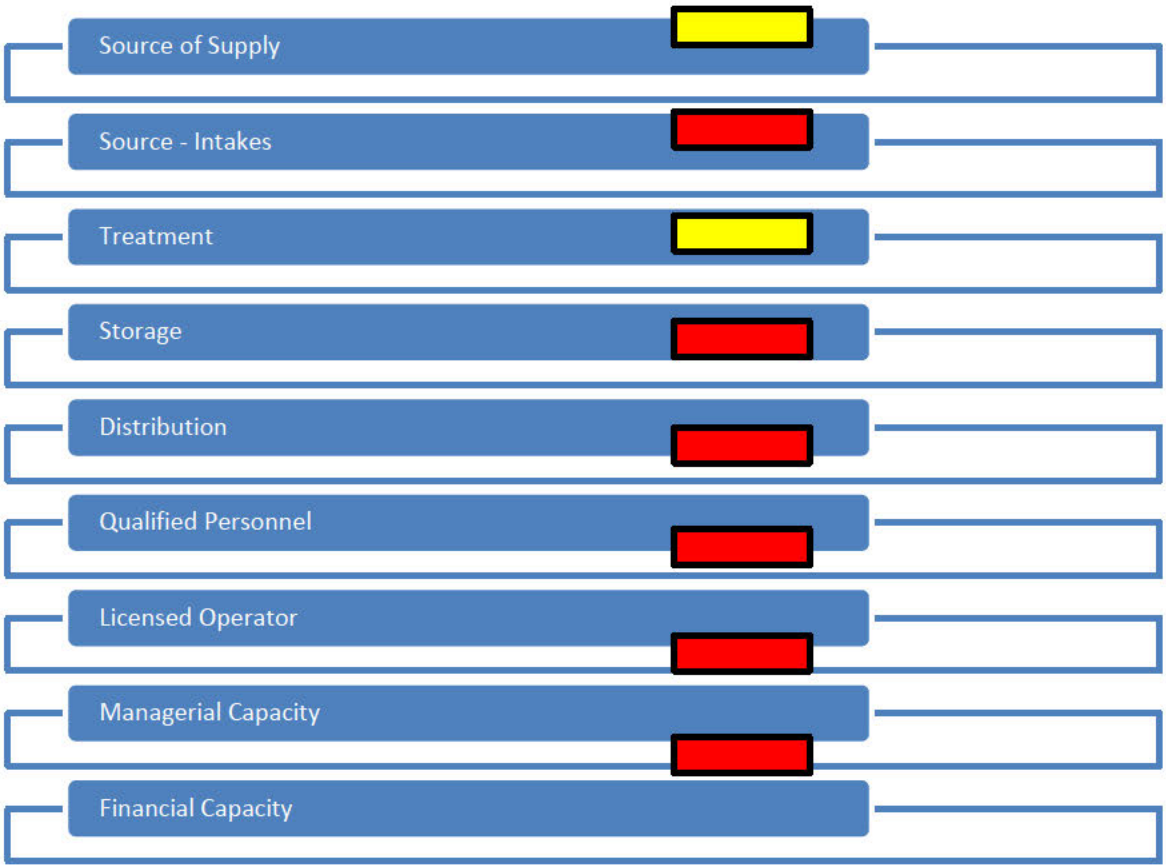
> *"Failure to maintain a culture focused on both routine attainment of water quality goals and an awareness of operational risks that threaten attainment of those goals. For example, inadequate effort, planning, or provision of capital and human resources to maintain acceptable water quality is evidence of complacency".*

The culture within the overall TWW organization was found to closely align with this definition. This attitude of complacency was observed more in certain Divisions than others, most notably within the Maintenance Division. Reports from various parties stated that some City staff view positions within the water department as being an easy, not demanding, and secure job, which appears to have attracted those individuals who do not want to put much effort into their work while collecting a paycheck. It is a failing in management and executive leadership which allows a culture such as this to continue.

This complacency has led to poor upkeep and maintenance of system assets, outsourcing work to contractors that would typically be handled by in-house staff, and an overall absence of purpose. This lack of job performance and motivation is worsened by the lack of a rigorous training program.

Criteria and Benchmarks for Technical, Managerial, and Financial (TMF) Capacity

The guidance published by the NJDEP entitled "Criteria and Benchmarks for Technical, Managerial, and Financial (TMF) Capacity" provides direction to those who are performing such an evaluation. Namely, there are eight areas of TMF capacity with four levels ranging from black (worst) to green (best). The specific criteria of the four categories (black, red, yellow, green) are unique to the component of the utility being assessed. The findings of each respective section in this report are summarized below.



Conclusion

As stated, TWW's primary deficiencies are either directly or indirectly attributable to organizational failures. Water treatment infrastructure doesn't run itself and is highly influenced by the people who are responsible for its maintenance, rehabilitation, and operation. Improper maintenance, failure to follow recommended equipment O&M practices, and a general complacency throughout the organization has resulted in the diminished technical and

managerial capacity of TWW. This inadequate organizational leadership has also detracted from the financial health of TWW by allowing delinquent accounts to grow considerably. Further, the lack of TWW and City staff who are sufficiently knowledgeable in financial processes and procedures inhibits TWW's ability to have waivers and purchase orders approved in a timely manner, including critical purchases such as chemicals.

Substantial organizational change, likely over a long duration, is necessary to address the TMF capacity deficiencies identified in this report. If TWW leadership cannot empower and motivate personnel to improve both their individual job performance and the assets of the Utility, a change in personnel at all levels is warranted. Concurrently, a sizeable financial commitment is required to adequately respond to the deteriorating condition of TWW's physical assets and ensure the health and safety of TWW's customers.

360 DEGREE REVIEW OF TRENTON WATER WORKS

A Comparative Analysis of Governance and Asset/Liability Optimization

Project: Pool #1: Consulting Engineering Services for the New Jersey Water Bank:
360 Degree Review of Trenton Water Works

PREPARED FOR

THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

AND

THE NEW JERSEY INFRASTRUCTURE BANK

PREPARED BY

BLACK & VEATCH CORPORATION

AND

AMERICAN PUBLIC INFRASTRUCTURE

22 JANUARY 2025

1.0 Executive Summary

The New Jersey Infrastructure Bank (I-BANK), with and on behalf of the New Jersey Department of Environmental Protection (NJDEP), selected Black & Veatch (BV) and American Public Infrastructure (API), from an existing pool of qualified engineering firms procured through a competitive process, to perform technical, governance, and financial performance reviews of Trenton Water Works (TWW), which is a division of the City of Trenton's Water and Sewer Department.

The data, research and analysis are used for evaluating the governance of the water system, including its ability to meet regulatory requirements and protect the public health while delivering high quality water to its approximately 225,000 customers. TWW customers include all those residing in the City of Trenton (City) and parts of Ewing, Lawrence, Hopewell, and Hamilton, as 55% of TWW's revenue is generated from outside the city boundaries. The analysis and reviews also assess the City's water department and its capacity to administer and manage the staffing and resources necessary to properly operate, maintain, and improve the infrastructure to ensure all standard procedures are followed to deliver safe, reliable, and cost-effective water services to all of its customers while mitigating against all future risks.

New Jersey's Department of Environmental Protection issued the "Unilateral Administrative Order" (UAO) on October 12, 2022, highlighting the chronic neglect of TWW. Two initial studies were commissioned:

- **Technical, Managerial & Financial Capacity Evaluation (TMF)** – to study TWW's technical, managerial, and financial conditions and assess its capacity to achieve and maintain compliance with state and federal safe drinking water regulations, and the long-term sustainability of the water system.

- **360 Review** – Review and analyze the TMF, making independent observations of TWW's capacities, and conducting an in-depth review of TWW's performance as compared to Alternative Governance Models on a Qualitative and Quantitative basis, including implications for TWW's assets and liabilities, creditworthiness, and credit rating prospects.

BV, in partnership with API, performed a 360 Review of TWW for the purpose of evaluating the condition of the utility system. This evaluation relied, in part, on the accuracy of the DEP's third-party firm's comprehensive TMF. The 360 Review presents alternative solutions on how TWW might be more optimally structured to address the water system's more emergent and costly issues that address public health concerns and meet safe drinking water requirements, as well as community sustainability and affordability concerns. To evaluate options for addressing the many water quality, public health, infrastructure re-investment, and governance failures at TWW, this 360 Review considers pathways and customer cost implications under alternative governance models over a 20-year period.

1.1 Report Organization

The 360 Review is divided into two main parts 1) Analysis of the TWW's TMF findings from all sources, and 2) Review of Alternative Governance Models.

1.2 Technical, Managerial and Financial Capacity (TMF) – Summary Findings

Based on the information reviewed and work conducted, BV offers the following findings:

- TWW is an Extreme High Risk, with serious and systemic infrastructure, management, and financial challenges.
- The City of Trenton is incapable of mitigating the operational and infrastructure risks of the water system, which poses a threat to the public health and ratepayer affordability.
- TWW has severe technical, managerial, and financial challenges which in total represents systemic deficiencies that are beyond TWW's capacity to correct independently.
- TWW does not have the financial capacity to meet a ten-year, $570 million, inflation-adjusted capital improvement plan (CIP), which requires immediate attention.
- There is no evidence the City could transform TWW into a utility that consistently meets regulatory requirements to provide customers with safe, reliable drinking water without the NJDEP's direct oversight and considerable assistance.

1.3 Governance Models

Across the spectrum of water infrastructure ownership and governance modalities, five models were selected for this review. These include:

1. a baseline analysis of TWW as the Municipal Model,
2. a Municipal Utilities Authority (MUA) as a regional model,
3. a Special Purpose Entity (SPE) also a regional model as a hybrid approach that combines the strengths of both public and private water utility ownership,
4. a Public Private Partnership (P3) under municipal ownership and leadership, and
5. an Investor-Owned Utility (IOU) as a privatization or private owner model.

GOVERNANCE MODELS
TWW STATUS QUO – *Municipal or Muni Model*
MUA – *Municipal Utilities Authority*
SPE – *Special Purpose Entity, a Hybrid Model*
TWW P3 – *Public Private Partnership*
IOU – *Investor Owned Utility or Privatization*

Where necessary technical, managerial, and financial capacities are present, each governance model could satisfy public health standards and maintain applicable legal and regulatory compliance. However, key questions remain on how expeditiously, efficiently, and reliably each model would perform over time. These questions are examined from three vantage points:

a) Qualitative Assessment that focuses on Governance, Management and Optimization strengths and scores each using 5 underlying factors, which explore *"How"* alternative models can most expeditiously transform TWW into a high performance-driven utility, thereby, demonstrating to the public on a continuous basis that their water is safe, clean, reliable, and provided at the lowest cost.

b) Quantitative Analysis that takes advantage of the inherent strengths of each alternative model and optimizing Assets and Liabilities to bolster its ability to sustain high public health standards, generate greater public benefits as well as build stakeholder support for change, and

c) TWW Creditworthiness and Credit Rating Prospects under the various alternative models to provide the perspective of rating agencies, lenders, and investors.

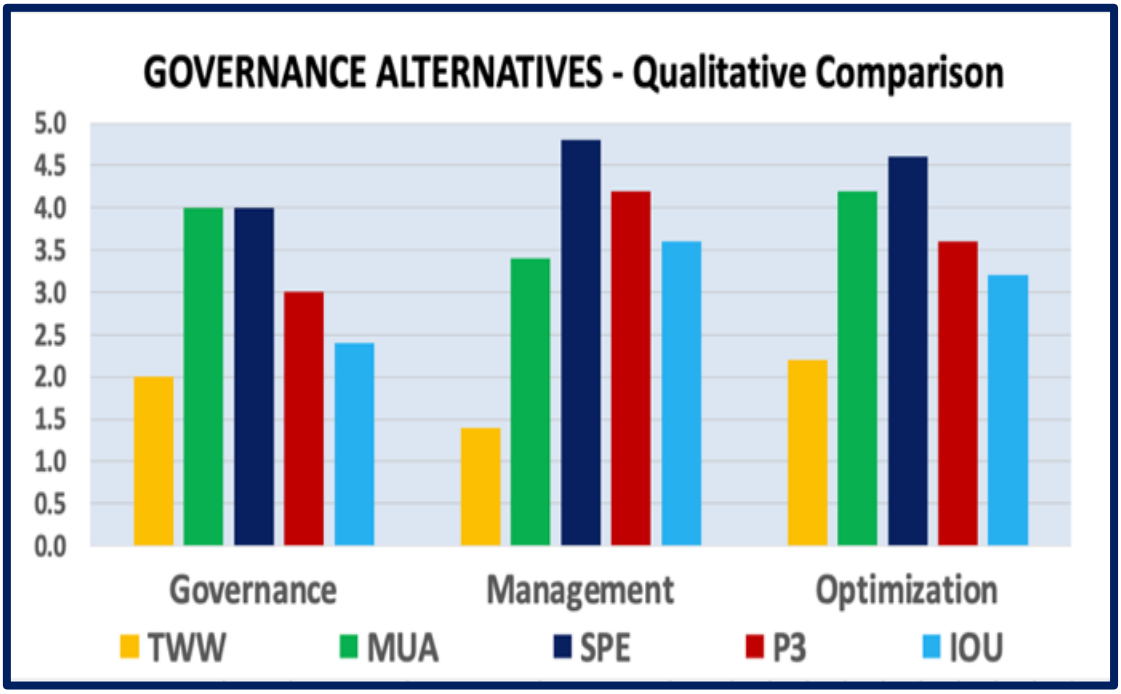
The 360 Review confirmed that TWW suffers from many system and management deficiencies threatening serious water incidents that present unacceptable and avoidable risks to public health and safety. The critical risks and systemic failures highlighted herein are evidence that, in its existing governance and management structure, TWW lacks the sustained technical, managerial, and financial capacities necessary to meet public health compliance requirements and infrastructure sustainability in a cost-effective manner.

1.3.1 Governance and Ownership Control

The US Water industry is fragmented with over 52,000 public water systems (PWS), of which 85% are owned or controlled by local governments many of which face extreme challenges. The 360 Review provides a process to evaluate compliance as well as sustainability and financial concepts beyond the typical management level. To address systemic failures and future risks, a qualitative assessment under various forms of utility governance and ownership is critical. The form of ownership and control for utilities matters, and alternative governance models can improve the quality of governance, operations, levels of service, while meeting required safe drinking water standards.

1.4 Qualitative Assessment of Alternative Governance

The 360 Review takes a holistic approach to analyzing alternative governance options building on the TMF and its own critical study of TWW assets and operations. The qualitative assessment focuses on three key drivers of performance and improvements in water quality and operations: Governance, Management, and Optimization capacity. Each of these drivers are analyzed across five factors impacting their effectiveness in rehabilitating the TWW water system in the most expeditious fashion to best protect public health.



Notably, the models' qualitative scores are not directly tied to quantitative assumptions and the results should be viewed jointly to best appreciate the sometimes subtle, but consequential differences.

As all governance models could be employed in a manner that ensures a utility satisfies public health standards and maintain regulatory compliance, each alternative model here is assumed to meet NJDEP requirements and deliver TWW's CIP. Therefore, the qualitative assessment provides insights on how well and efficiently a model may be able to execute the CIP as well as transform TWW into a high performance-driven utility that best meets the public health mandates. Below is a summary of key considerations and value drivers for each of the models.:

- ***TWW Status Quo Model*** – the *Municipal or Muni Model* scores low in this review due to TWW's documented history of weak governance, ineffective management, and inability to perform basic utility operations. These weaknesses overshadow the significant advantages of super tax-exemption and nonprofit structure that a Muni Model typically enjoys and the risks that the assumptions in the Financial Model are not met.
- ***MUA Model*** – *the Municipal Utilities Authority Model*, a regionalization that includes all TWW customers, could out-perform the P3 and IOU Models due to its tax-free, nonprofit framework, improved governance, regional synergies, and its ability to optimize liabilities.
- ***SPE Model*** – *the Special Purpose Entity, enabled by the State,* is a regionalization that includes all TWW customers. A hybrid model, the SPE achieves high scores by capitalizing on the private sector's strict, pension fiduciary standards and strong management that is bound by strict key performance indicators (KPIs) and coupling it with the advantages of the public model that include super-tax-exempt and nonprofit structure, independent rate setting authority, and the ability to provide Local Tax & Budget Relief.
- ***TWW P3 Model*** – a *Public-Private Partnership (P3), led by the City of Trenton* offers TWW better governance, stronger management, and potentially, a more rapid transformation into a better performing utility. However, a P3 is a daunting endeavor and TWW, absent the state's direct involvement in P3 contract negotiations and ongoing monitoring, is ill equipped for such a complicated and difficult undertaking.
- ***IOU Model*** – the *Privatization or Private Model* promises to transform TWW expeditiously through better governance, strong management, and significant independence, albeit at an expected greater cost. The IOU Model scores lower when considering a framework that includes Federal, state, and local taxes and owner profits as well as the drawbacks of stakeholder and community resistance to privatization.

The MUA and SPE Models, and the TWW P3 with direct state involvement, stand out when considering alternative governance options. Both models offer a regional approach that embraces economies of scale, synergizes, and takes advantage of cost-effective technologies. Thus, these models can better afford safeguarding public health and giving the public the assurance that the water is safe, clean, reliable, and provided at the lowest cost.

However, it is important to note that an MUA with the ability of combining the City's water with other regional services and/or shared services is effectively a start-up, as the new entity may have limited experience and expertise in water management but for TWW. Thus, it would likely need to engage a private contract manager(s) or enter a P3 for an initial period.

1.5 Quantitative Analysis of Alternative Governance

The 360 Review provides an overview of TWW's operational capacity as well as information pertinent to financial optimization strategies. Quantitative Analysis identifies *"What"* is the capacity of a model to improve TWW, operationally and financially, and what assurances can be made to the public about their water being safe, clean, reliable, and provided at lowest possible cost.

The quantitative analysis compares the **TWW Status Quo Model** to the four alternative governance models to gauge their relative cost effectiveness in managing TWW's operations, CIP, and risk while complying with NJDEP regulations and providing safe, clean, and reliable water services. And although this analysis assumes that the alternative models can equally generate savings in operations and capital asset management, their approach and cost structures vary, which necessarily impacts compliance and financial goals.

As discussed in the TMF Report and this review, TWW suffers from a degree of systemic failure that will greatly increase water rates to fund proficient operations, necessary maintenance, experienced staffing, and neglected capital investments. The CIP is substantial with an estimated cost of $501.2 million over 10 years, ($569.6 million escalated for inflation) and a limited CIP through 2044 of $621.3 million ($730.2 million escalated for inflation). The analysis assumes that the CIP is wholly financed by low-cost SRF loans. Using the I-BANK's pricing model, an optimized NJ Water Bank CIP funding scenario is developed for each model to minimize borrowing costs and maximize principal forgiveness, thereby driving affordability.

Each model is studied for its Asset Optimization potential in terms of increased economies of scale, operating and capital synergies, use of cost saving technologies and the other benefits. Additionally, these models look to generate these benefits through the scaled operations embedded in their private utility platforms. The SPE model being a hybrid takes advantage of both the benefits of regionalization and private utility platforms. These enhancements in the management of operations, capital assets, and risk act to protect public health and the quality, reliability, and affordability of water as well as regulatory compliance.

1.5.1 Asset Optimization

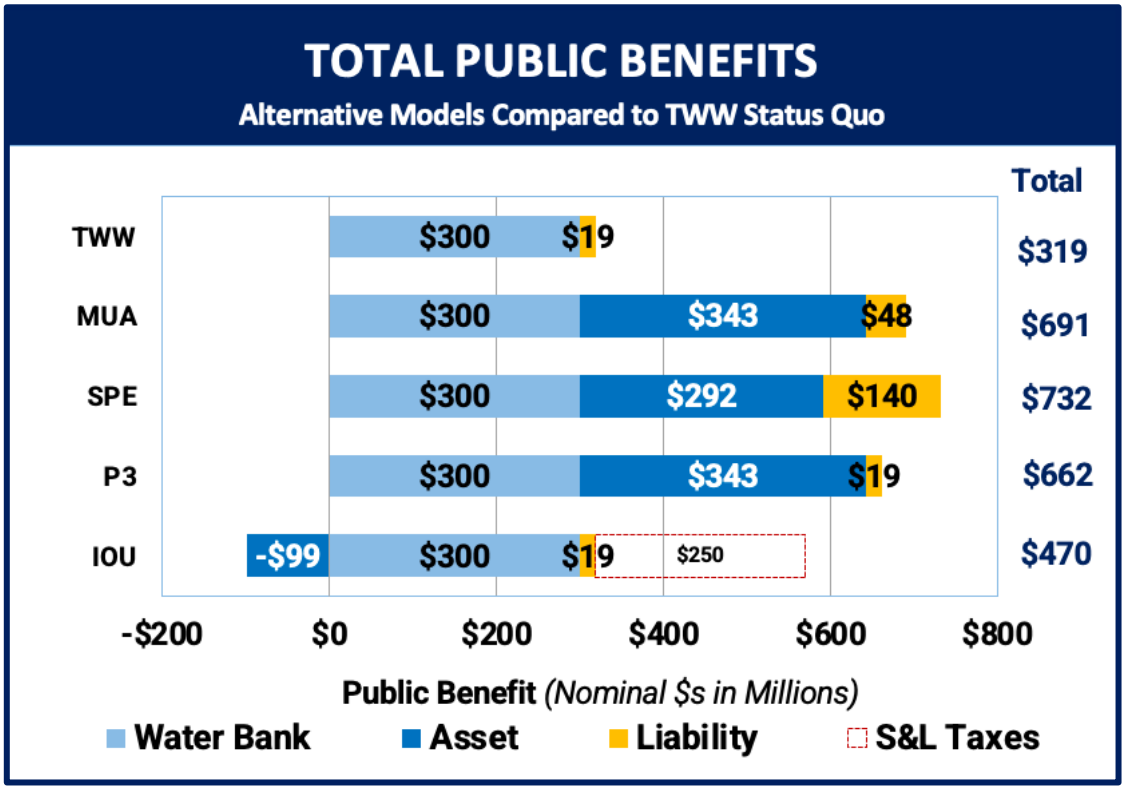
The MUA and the TWW P3 Models raise water charges the least – 50% (10 years 2024 through 2033). This equates to a 3.3% compounded annual growth rate (CAGR) and saves ratepayers $102 million when compared to the Optimized TWW Status Quo Model's rate increase of 80% for a CAGR of 5.2%. The SPE Model increased water rates 59%, which was slightly more because it uses a portion of its asset optimization savings to enhance liability optimization benefits. Lastly, the IOU Model, together with taxes and owner profits, raises rates 104% over the 10-year period for a CAGR of 6.4% which was $40 million more than TWW Status Quo Model.

WATER RATE PROJECTIONS					
Year	**TWW SQ**	**MUA**	**SPE**	**TWW P3**	**IOU**
2029	$678	$561	$552	$561	$719
2034	$844	$702	$743	$701	$951
2044	$941	$790	$804	$782	$1,024
Average Costumer of 4,000 Gallons for Month					

The MUA and TWW P3 Models offer water customers the greatest rate relief over the 2024 through 2044 period increasing annual cost from $453 per year to $790 and $782, respectfully. The SPE trails slightly with a 2044 cost of $804 while the TWW and IOU have forecasted costs of $941and $1,024, respectively.

1.5.2 Liability Optimization

The 360 Review widens the lens of public finance by not only managing the cost of debt, but it also incorporates the net pension liability (NPL) into the optimization analysis. Thus, added value can be created to enhance the fiscal health of the TWW service area through liability optimization, i.e., restructuring debt and pension obligations to minimize costs.



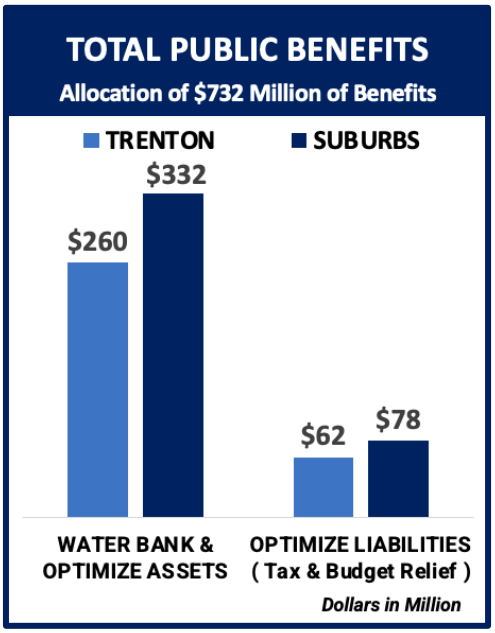
The MUA and SPE Models offer material liability optimization benefits providing Local Tax & Budget Relief that could be shared by the participating service area communities which may include Trenton, Hamilton, Ewing, Lawrence, and Hopewell, as well as Mercer County. Liability Optimization generates between $19 million and $140 million of additional public benefits, while reducing NPLs from an estimated $450 million to $310 million.

1.6 Asset/Liability Optimization and Total Public Benefits

The 360 Review is a holistic approach to addressing the public health and operational needs of TWW as well as enhancing the financial condition of TWW and all the communities it serves. In addition to growing water infrastructure needs, municipalities also face financial challenges due to underfunded pension systems. To that end, the 360 Review analyzes models for their ability to optimize both assets and liabilities and their impact on credit rating prospects of TWW and Trenton specifically, and ideally for all the service area communities. Accordingly, each model includes liability optimization as permitted under the Federal Tax Code.

1.6.1 Total Public Benefits

Reforming TWW governance to a MUA, SPE, or TWW P3 can generate $662 million to $732 million in Total Public Benefits. This combines $300 million of savings from the New Jersey Water Bank in the form of SRF loans and principal forgiveness (PF) with the benefits of Asset and Liability Optimization.



MUA, SPE & TWW P3 Models offer $362 million to $432 million more in Public Benefits, as compared to the TWW Status Quo Model. The benefits of the TWW P3 Model may be less, if TWW does not directly involve the state in P3 negotiations and contract monitoring. Lastly, the optimization analysis assumes that the public benefits are allocated based on the source of TWW water revenues *(Trenton 44%/Suburbs 56%*of sales). This analysis excludes the value of suburban utility assets that may be contributed which can increase suburban Public Benefits.

1.7 Alternatives Offer Trenton Significant Financial & Credit Rating Relief

The $500 million estimated CIP over the next 10 years *(not escalated for inflation)* will place serious stress on the city's general obligation bond rating as an "oversized debt issuance" is required and increased operating and capital expenditures may put downward pressure on the city's available fund balances which may have been kept high by deferring required maintenance. Furthermore, transferring TWW to an alternative governance model, other than the TWW P3, would reduce the city's outstanding general obligation debt by $128 million and would avoid pledging an additional $15-20 million in Qualified Bond Authorization (QBA) on water State Revolving Fund (SRF) loans. Under the MUA, SPE and IOU Models, TWW's newly restructured debt, plus the new loans to fund the CIP, would be secured solely by water enterprise revenues with no recourse to the City. This would greatly improve Trenton's debt capacity and increase its financial flexibility by removing the encumbrance on revenues pledged under Qualified Bond Authorization (QBA) program.

All told, the improvements in governance, management, and cost reductions from Water Bank loans, including principal forgiveness (PF), and the savings from asset and liability optimization support stronger credit rating prospects under the alternative governance models. Although, as detailed herein, great caution is advised with the TWW P3 absent direct state involvement.

1.8 360 Review Findings

Finding 1: TWW is an Extreme High Risk as TWW's system, management, and financial challenges are serious and systemic.

- The City of Trenton is incapable of mitigating the operational and infrastructure risks of the water system which poses a threat to the public health and ratepayer affordability.
- TWW has severe technical, managerial, and financial challenges which in total represents systemic deficiencies which are beyond their capacity to independently correct.

- TWW does not have the financial capacity to meet a ten-year, $570 million, inflation-adjusted capital improvement plan (CIP), which requires immediate attention.
- There is no evidence that, absent NJDEP's direct oversight and considerable assistance, the City could transform TWW into a utility that consistently meets regulatory requirements to provide customers with safe, reliable drinking water.

Finding 2: MUA & SPE Models score high in Qualitative Assessment followed by TWW P3 – Models preserved Nonprofit & Super Tax-Exempt Structures.

- **MUA & SPE Models** regionalize to improve governance, water safety, and benefits.
- **SPE & TWW P3** take advantage of private expertise and depth of utility platform to enhance governance, management, and optimization strengths.

Finding 3: Quantitative Analysis

- Asset Optimization - MUA, SPE & TWW P3 Models perform best in minimizing water rate increases through 2044.
- Liability Optimization generates up to $140 million in Local Tax & Budget Relief for $732 million in Total Public Benefits.
- MUA & TWW P3 Public Benefits may be significantly less if:
  - MUA as a start-up initially needs a private operator and its associated costs.
  - TWW does not directly involve the state in P3 negotiations & contract monitoring.
  - **$140 million Local Tax & Budget Relief** for Trenton and potential participants like Hamilton, Ewing, Lawrence, and Hopewell as well as Mercer County. (Benefits can rise with the addition of suburban assets).

Finding 4: *MUA, SPE & IOU Models* alleviate the City of Trenton's downgrade risk.

This could be accomplished by:

- Assuming the city's $128 million of existing General Obligation Bonds water debt,
- Providing $300 million of TWW financing with no recourse to the city, and
- Reducing the city's net pension liabilities by $62 million Local Tax & Budget Relief.

360 REVIEW OF GOVERNANCE ALTERNATIVES

Critical Qualitative Assessment

	TWW	MUA	SPE	TWW P3	IOU
GOVERNANCE	WEAK	EXCELLENT	GOOD	FAIR	FAIR
Governance – *High Standards & Strong Oversight*	✗	★	★★★	★★	★★
Framework – *Super Tax-Exempt, Nonprofit, Ecomomies of Scaled via Regionalization and/or Contract / P3 Manager*	★	★★★	★★★	★★	☆☆☆
Execution Risk – *Complexity, Ease of Completion & Timeline*	✗	★★	★	★	☆☆☆
Stakeholders – *Represented, Engaged & Transparent*	☆☆☆	★★★	★★	☆☆☆	☆☆☆
Social Impact – *Hard Work of Changing TWW's Governance*	★	★★	★	☆☆☆	☆☆☆
MANAGEMENT	CHALLENGED	GOOD	EXCELLENT	GOOD	GOOD
Independence – *Strong Shield Against Outside Interferences Fosters More Decisive & Timely Decisions*	✗	★	★★★	★	★★
Leadership – *Talented, Strong Team Builders, Aligned with Mission, and Welcome Accountabiliy & Benchmarks*	✗	★★	★★	★★	★★
Operations – *High Industry Standards & KPIs for Water Qualtiy, Operations, etc. - Best Transformation within 3 yrs.*	✗	★	★★★	★★	★
Capital – *Complete 5 Yr. CIP (On Time/Under Budget)*	✗	★	★★★	★★	★★
Risk – *Most Capable at Managing Risk Efficiently*	✗	★	★★★	★★★	★★★
OPTIMIZATION	FAIR	EXCELLENT	EXCELLENT	GOOD	GOOD
Optimize Asset – *Best Framework to Improve OpEx & CapEx*	☆☆☆	★	★★	★	★
Optimize Liabilities – *Debt & Pension Restructuring Options*	☆☆☆	★★	★★★	★	★
Rate Setting – Able & Willing to Raise Rates to Meet KPIs	☆☆☆	★★	★★	★★	★
Ratings – *Able to Improve Utility's L-T Credit Prospects*	✗	★★★	★★★	★	★★
Financial Aid – *Able & Motivated to Maximize Assistance*	★★	★★★	★★★	★★★	★