

PHILADELPHIA WATER DEPARTMENT  
STATEMENT 4A

BEFORE THE  
PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges	Fiscal Years 2026 - 2027
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**Direct Testimony**

**of**

**Benjamin Jewell, Brendan Reilly,**

**Linda Kramer and Stephen Junod**

**on behalf of**

**The Philadelphia Water Department**

Dated: February 2025

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1                   **I.       INTRODUCTION AND PURPOSE OF TESTIMONY**

2  
3 **Q1.   PLEASE STATE YOUR NAME AND POSITION WITH THE PHILADELPHIA**  
4 **WATER DEPARTMENT.**

5 A1.   My name is Benjamin Jewell. I am the First Deputy Commissioner for the Philadelphia  
6 Water Department (“PWD” or “Department”).

7  
8        Testifying with me are Brendan Reilly, who is the Director of Water Operations for the  
9 Department; Linda Kramer, who is the Manager of Water Treatment for the Department;  
10 and Stephen Junod, who is the Department’s Water Operations Administration Manager.

11  
12 **Q2.   WOULD EACH OF YOU PLEASE DESCRIBE YOUR RESPECTIVE**  
13 **EDUCATIONAL BACKGROUNDS AND RELEVANT WORK EXPERIENCE?**

14 A2.   Our respective backgrounds and experience are summarized below:

15  
16        Mr. Jewell

17        I hold a Bachelor of Science degree in Environmental Engineering from Northwestern  
18 University. As noted in the attached resume of experience, I have held several positions  
19 with increasing responsibility since joining the Department in 2007. My resume of  
20 experience is attached and marked as Schedule BCJ-1.

21  
22        Mr. Reilly

23        I hold a degree in Civil Engineering from Widener University and also hold a Class A/E  
24 Operators certification with the Pennsylvania’s Department of Environmental Protection. I  
25 am the Department’s Director of Water Operations. Prior to that position, I was the

1 Department's Water Conveyance Chief. I have held several positions with increasing  
2 responsibility since joining the Department in June 2002, all within the Operations  
3 Division. My resume of experience is attached and marked as Schedule BR-1.  
4

5 Ms. Kramer

6 I hold a Bachelors' Degree in Environmental Engineering Technology and a Master of  
7 Science in Engineering from Temple University. I am a Professional Engineer and a  
8 licensed Water System Operator. I am a Manager of Water Treatment for the Department.  
9 As noted in the attached resume of experience, I have held several positions with increasing  
10 responsibility since joining the Department in 1990. My resume of experience is attached  
11 and marked as Schedule LK-1.  
12

13 Mr. Junod

14 I hold a degree in Business Administration from Temple University. I am the Department's  
15 Water Operations Administration Manager. I have been in this position since 2012. I have  
16 held several positions with increasing responsibility since joining the Department in May  
17 1999, all within the Operations Administration Group. My resume of experience is attached  
18 and marked as Schedule SJ-1.  
19

20 **Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

21 A3. The purpose of our testimony is to (i) discuss the reasons why rate relief is needed to  
22 support operations and system improvements during FY 2026 and FY 2027 (the "Rate  
23 Period"); and (ii) discuss current and future challenges facing water and wastewater  
24 operations (e.g., related to increased personnel costs, limited staffing levels, escalating  
25

1 regulatory requirements and necessary upgrades, improvements and maintenance  
2 activities) during the Rate Period.

3  
4 **Q4. PLEASE IDENTIFY THE SCHEDULES THAT ACCOMPANY THIS**  
5 **TESTIMONY.**

6 A4. The following schedules accompany our testimony:

7 Schedule BCJ-1: Resume of Benjamin Jewell

8 Schedule BR-1: Resume of Brendan Reilly

9 Schedule LK-1: Resume of Linda Kramer

10 Schedule SJ-1: Resume of Stephen Junod

11  
12 Schedule OP-1 Significant Cost Changes (Materials/Equipment)

13  
14 **II. RATE RELIEF NEEDED TO SUPPORT OPERATIONS**

15  
16 **Q5. IS RATE RELIEF NEEDED TO SUPPORT OPERATIONS AND SYSTEM**  
17 **IMPROVEMENTS DURING THE RATE PERIOD, FY 2026 AND FY 2027?**

18 A5. Yes. Rate relief is needed to meet increasing costs related to the operation of the water  
19 and wastewater systems.

20  
21 **Q6. WITHOUT RATE RELIEF, WILL THE DEPARTMENT BE ABLE TO PROVIDE**  
22 **PLANNED AND NECESSARY SERVICES DURING THE RATE PERIOD?**

23 A6. No. The Department is experiencing increased operating costs in several areas, including  
24 production costs (wages/benefits, contract services), infrastructure upgrades (repairs and  
25 renewals) and improvements (replacements and additions), maintenance costs, and

1 regulatory compliance. This upward trend in the above cost areas is projected to continue  
2 in FY 2026 and FY 2027. PWD must request additional revenues to have sufficient  
3 resources to support its operations so that it can continue to provide safe and reliable  
4 service.

5  
6 This is important, since revenues from water, wastewater and stormwater charges must be  
7 sufficient to pay for (among other things) annual operation and maintenance expenses.  
8 The anticipated rate increases are discussed in greater detail in PWD Statements 2A and  
9 7.

### 10 11 **III. CURRENT AND FUTURE CHALLENGES**

#### 12 13 **Q7. PLEASE DESCRIBE THE CATEGORIES OF OPERATIONAL CHALLENGES** 14 **FACING THE DEPARTMENT.**

15 A7. Broadly speaking the challenges facing the Department fall into three related categories:  
16 reliability, resilience and regulatory compliance. All of these challenges are exacerbated  
17 by the increased need for maintenance and investment in the Department's aging  
18 infrastructure.

#### 19 20 Reliability

21 Reliability, as a widely used term, points to the attribute of consistently meeting water and  
22 wastewater system operational goals. For the water system, we use the term reliability to  
23 describe the ability of the water system to provide water that consistently meets drinking  
24 water standards. For the wastewater system, the term is used to describe the ability to  
25 collect and treat wastewater in compliance with the requirements of our discharge permits.

1  
2 To achieve operational reliability, the Department must continuously maintain, renew and  
3 replace its aging infrastructure. The City’s water and wastewater infrastructure was built  
4 and financed by previous generations. Many parts of that infrastructure are approaching or  
5 have exceeded their service lives and need renewal and replacement.

6  
7 The Department must also maintain operational redundancies to achieve operational  
8 reliability. Redundancy is about the use of measures beyond minimum requirements to  
9 ensure that treatment goals are more reliably met or that performance can be more reliably  
10 demonstrated. A common kind of redundancy is having standby equipment (such as a  
11 pump or filter) to provide operational reliability and flexibility to ensure that the system  
12 can properly function during routine maintenance or if a problem is encountered.

13  
14 Resilience

15 When we speak of resilience, or robustness, we are referring to the ability of the system to  
16 avoid disruptions due to emergencies such as severe weather events or accidents.

17  
18 Water systems are increasingly focused on utility risk and resilience. America’s Water  
19 Infrastructure Act of 2018 (“AWIA”) addresses utility risk, resilience, and emergency  
20 response plans.

21  
22 Regulatory Compliance

23 Regulatory standards for water and wastewater systems have undergone major and  
24 dramatic changes during past decades, and trends indicate that such standards will continue  
25 to become more stringent and complicated. Major regulatory requirements applicable to

1 the water or wastewater systems relate to Safe Drinking Water Act regulatory matters, Lead  
2 and Copper Rule revisions, PFAS (per- and polyfluoroalkyl substances) monitoring and  
3 sampling, Consent Order and Agreement (“COA”)<sup>1</sup> milestone requirements and  
4 anticipated National Pollutant Discharge Elimination System (“NPDES”) permit  
5 compliance requirements.

6  
7 The Department is able to provide reliable levels of service and meet regulatory  
8 requirements by taking a proactive approach to operations and maintenance and by  
9 regularly reviewing its capital improvement needs to remain in compliance and keep its  
10 treatment plants, facilities and piping networks in good condition.

11  
12 **Q8. PLEASE IDENTIFY THE MAJOR OPERATIONAL CHALLENGES FACING**  
13 **THE DEPARTMENT IN PROVIDING SAFE AND RELIABLE SERVICE.**

14 A8. The major operational challenges facing PWD, during the Rate Period, relate to  
15 managing (a) unavoidable and non-discretionary operating costs; (b) continuing to meet  
16 operational and regulatory requirements with limited staffing; and (c) upgrades and  
17 improvements to aging plant as well as major projects and maintenance activities.

18  
19  
20 **A. OPERATING COSTS**

21  
22 **Q9. PLEASE EXPLAIN THE CHALLENGES PRESENTED BY INCREASED NON-**  
23 **DISCRETIONARY OPERATING COSTS.**

24  
25 <sup>1</sup> As explained in PWD Statement 4B, the Department and the Pennsylvania Department of Environmental Protection entered into the Consent Order and Agreement on June 1, 2011, which requires PWD to implement its long-term control plan to manage combined sewer overflows.



1 A9. One major challenge facing the Department is in connection with managing unavoidable  
2 and non-discretionary operating costs. Such costs include those related to wages and  
3 benefits, contract services, materials/equipment, power and chemicals. In the aggregate,  
4 the above costs represent roughly 80% of the Department's budgeted operating costs for  
5 the Department's water and wastewater treatment facilities.

6  
7 In anticipation of higher operating costs, Black & Veatch has included an inflation  
8 allowance for many projections in FY 2026 and FY 2027. See Section 1.4.1 of the Cost-  
9 of-Service Report (Schedule BV-2).

10  
11 In addition to inflation allowances applicable to certain expense areas identified in the rate  
12 filing. The following are a few highlighted cost increases anticipated for FY 2026 through  
13 FY 2027:

- 14 • **Personnel Costs** — Costs for wages, pensions and benefits are projected to  
15 increase by \$15.615 million in FY 2026 and by \$16.740 million in FY 2027. Part  
16 of that aggregate increase is for wage increases scheduled to take effect during the  
17 Rate Period. See Schedule BV-1, Table C-6, Line 3 in PWD Statement 7. There is  
18 also an anticipated increase in the use of over-time of the Department's employees  
19 (due to difficulties in hiring new employees).
- 20  
21 • **Material and Equipment Costs** — Costs of equipment are projected to increase  
22 by \$3.268 million in FY 2026 and stabilizing thereafter. See Schedule BV-1, Table  
23 C-6, Line 12 (Equipment) in PWD Statement 7; see also Schedule OP-1.
- 24  
25 • **Power** — Costs for power are projected to increase by \$1.309 million in FY 2026

1 and stabilize thereafter. See Schedule BV-1, Table C-6, Line 4 in PWD Statement  
2 7.

- 3
- 4 • **Contract Services Costs** — Costs for contract services (outside vendors) are also  
5 projected to increase by \$16.837 million in FY 2026 and \$6.798 million in FY 2027.  
6 See Schedule BV-1, Table C-6, Line 7 (Purchase of Services - Other) in PWD  
7 Statement 7. An added pressure creating a greater need for contract services is the  
8 difficulty in hiring new employees.

9

10 Contractual adjustments tied to inflation are also increasing contract services costs.  
11 That is, certain procurement contracts were negotiated with escalation clauses that  
12 are tied to the Consumer Price Index (“CPI”) or similar indices of inflation. Such  
13 clauses are contributing to unavoidable and non-discretionary increases in  
14 operating costs in FY 2026 and FY 2027. An example of this type of contract is the  
15 Biosolids Recycling Center Operation Service Agreement with Philadelphia  
16 Biosolids Services (PBS), a joint venture led by Synagro. The Fixed Capacity  
17 Charge in this contract is adjusted annually based on changes in the CPI for All  
18 Urban Consumers – Northeast United States or other specified indices. The  
19 Ameresco Maintenance Agreement for our cogeneration facility is another example  
20 of a contract with an inflation adjustment clause. The above contracts constitute  
21 14% of Class 200 (Contract Services) expenses.

**B. CURRENT STAFFING LEVELS**

**Q10. PLEASE EXPLAIN THE CHALLENGES PRESENTED BY THE DIFFICULTY IN HIRING NEW EMPLOYEES.**

A10. The Department continues to face difficulties and delays in adding new staff (human resources). More specifically, the Operations Division faces serious challenges in hiring employees, with particular difficulty hiring qualified, skilled tradespeople. These difficulties started during the pandemic and are expected to continue during the Rate Period.

Put another way, the pool of available candidates for employment in skilled positions has shrunk in recent years along with the decline in manufacturing in Philadelphia. PWD therefore has to compete with the private sector to hire from a limited pool of qualified candidates. Unfortunately, City wages and benefits are not competitive, in this context, and requirements for city residency compound difficulties in hiring.

Taken together, the above factors have contributed to the current staffing shortage and the resulting increased workload on current PWD employees. This situation must be carefully managed during the Rate Period by a combination of (i) redoubling efforts to onboard new staff, (ii) strategically using over-time; and (iii) deploying outside vendors (contract services) to help address shortages until new staff positions are filled.

It bears emphasis that PWD is requesting new staff positions including additional staffing for the Operations Division. However, given hiring constraints, low city wages and a shortage of skilled workers, filling new positions will take time. A more detailed discussion

1 of projected staffing for the Rate Period and the ramp-up of staffing across all divisions of  
2 the utility is set forth in Section 1.4.1 of the Cost-of-Service Report (Schedule BV-2).

3  
4 **C. REGULATORY COMPLIANCE, PLANT UPGRADES, SYSTEM**  
5 **IMPROVEMENTS, ONGOING MAINTENANCE**

6  
7 **Q11. PLEASE IDENTIFY CHALLENGES PRESENTED BY CHANGING**  
8 **REGULATORY REQUIREMENTS.**

9 A11. One important challenge to the Department relates to improvements that are necessitated  
10 by changing regulatory requirements. These changing requirements are increasing PWD  
11 operating costs during the Rate Period. One significant example of regulatory change is  
12 in connection with Lead and Copper Rule (“LCR”) requirements.

13  
14 Among other things, LCR changes require PWD to inventory the number of lead service  
15 lines in the City; notify customers about current records concerning the material of their  
16 service line; develop a school and childcare lead testing program; develop a pilot lead  
17 service line replacement project; and ensure the replacement of all lead and galvanized  
18 service lines within 10 years (by 2037).

19  
20 LCR changes represent a daunting challenge and will come at a sizeable price over the next  
21 decade. To implement LCR changes at the rate and to the extent prescribed, PWD will have  
22 to engage services of outside vendors to support compliance and project management  
23 needs. A more detailed discussion of LCR changes is set forth in in PWD Statement 4B  
24 (Planning & Environmental Services Panel).

1 The costs associated with the above challenges, along with the ongoing operating and  
2 maintenance costs for the *Green City, Clean Waters* program, are among those projected  
3 for the Rate Period and together with other operating and financial costs contribute to the  
4 need for the requested rate relief. Environmental compliance requirements are also  
5 addressed in PWD Statement 4B (Planning & Environmental Services Panel).

6  
7 **Q12. PLEASE IDENTIFY OPERATIONAL CHALLENGES PRESENTED IN**  
8 **UNDERTAKING PLANT UPGRADES, REPAIRS AND IMPROVEMENTS**  
9 **WHILE MAINTAINING RELIABLE SERVICE TO OUR CUSTOMERS.**

10 A12. The narrative below surveys some of the operational problems presented in making  
11 changes/repairs/improvements while providing reliable service to customers.

12  
13 Plant Upgrades

14 Completing planned upgrades/improvements to plant in service requires a significant  
15 balancing act to ensure reliable service is maintained. One significant example of a  
16 challenge presented during the Rate Period relates to our evaluation of a variety of  
17 technologies to treat PFAS to remain compliant with stringent federal regulatory  
18 requirements while maintaining service to customers. This circumstance is one of many to  
19 be carefully managed over future years, as PWD tries to keep an aging system reliable,  
20 resilient and in compliance with state and federal requirements.

21  
22 In this context, please recall that the Department's water treatment plants are over 100  
23 years old and need to be constantly upgraded to address structural, mechanical, and  
24 electrical issues and incorporate the most recent advancements in technology. PWD Water  
25 Pollution Control Plants ("WPCP") are also aging. And although significantly upgraded in

1 the 1980s, the WPCPs are still over 70 years old and plant expansions may be required to  
2 respond to treating additional wet weather flows and more stringent discharge  
3 requirements.

4  
5 Water Conveyance and Distribution System Improvements

6 Another challenge relates to the repair and replacement of the Department's water  
7 conveyance and distribution system. This system is aging with water mains having an  
8 average age of 80 years. Given the historic rate of water main breaks, the Department is  
9 engaged in a program of main replacement. The mileage targets are explained by the  
10 Capital Panel, PWD Statement 3.

11  
12 Transmission mains, supervisory control and data acquisition (SCADA) equipment, pump  
13 stations and storage facilities are also important components of the water system. Such  
14 mains, facilities and equipment work to deliver water to and within the distribution system  
15 at the appropriate pressure. They will need rehabilitation, upgrades, or even expansion.

16  
17 For example, mechanical equipment (such as pumps) should be considered for replacement  
18 before the end of their anticipated service life or when they are repeatedly performing  
19 below expected performance levels. In assessing the equipment, it could be determined that  
20 an upgrade or expansion is more appropriate than continued repair or replacement-in-kind.

21  
22 Also, improvements to the water transmission and storage systems are needed to provide  
23 system redundancy, reduce water age and ensure compliance with Pennsylvania  
24 Department of Environmental Protection ("PADEP") minimum chloramine disinfectant  
25 residual regulatory requirements.

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Repair and Replacement of Collector Systems

An additional challenge relates to the repair and replacement of the wastewater and stormwater collector systems. The system is aging with the average age of its sewers at roughly 86 years.

Notably, the Department is increasing the miles of sewer inspection to provide actionable information to prioritize the miles of sewers reconstructed/rehabilitated. However, as the system grows older, the frequency of repairs and service interruptions is expected to increase. This phenomenon will create more demands on limited PWD staff.

As with the water system, the wastewater system contains a number of ongoing projects that are critical to continued service. Currently, the Department is engaged in construction projects at Ford Road, Linden Pumping Station and Mingo Creek with similar projects planned for the future. Such rehabilitation projects are designed to ease maintenance burdens for the longer term and the need for same underscores the fact that many PWD facilities are of advanced age and nearing the end of their service life. Please also note that there are new pumping stations being planned for addition to the system. At such time as these facilities come online, they will increase our asset inventory and operation and maintenance (“O&M”) responsibilities. Other capital projects that increase operational burdens within the collection system are related to real time control of flows (new mechanical, electrical and instrumentation systems) for the purpose of better management of wet weather flows.

We would note that the Capital Panel, PWD Statement 3, highlighted Water Treatment

1 Plant and Water Facility Projects and Water Pollution Control Plant and Wastewater  
2 Facility Projects for FY 2026 through FY 2027.

3  
4 **Q13. PLEASE PROVIDE AN UPDATE ON THE IMPLEMENTATION OF ADVANCED**  
5 **METERING INFRASTRUCTURE DURING THE RATE PERIOD?**

6 A13. The advanced metering infrastructure (“AMI”) system is needed to upgrade/replace/  
7 repair aging equipment in service on the water system. The installation of the AMI  
8 communications network was completed on February 12, 2020. The Department is  
9 currently in the deployment phase of this project, during which Automatic Meter Reading  
10 (“AMR”) equipment is being replaced with AMI units.

11  
12 The Department began rolling out AMI devices to customers in 2020. Due to the large  
13 number of customers, the rollout is a multi-year program. Approximately 95% of all  
14 customers now have AMI devices. There are some customer installations that are difficult  
15 due to infrastructure issues and other challenges and will take extra time to complete.

16  
17 The rollout phase of the AMI project is expected to continue during the Rate Period. The  
18 costs for installation and deployment are included in the PWD Capital Improvement  
19 Program. The operations and maintenance phase of the AMI project is expected to begin  
20 in calendar year 2025.

21  
22 The AMI system will provide enhanced customer benefits such as the ability to view  
23 detailed water usage and receive possible leak alerts. The system will improve operations  
24 by allowing the Department to monitor the meters in (near) real time with advanced  
25



1 diagnostics. These improvements are designed to reduce billing disputes and improve  
2 customer service.

3  
4 **Q14. PLEASE IDENTIFY A FEW MAJOR MAINTENANCE ACTIVITIES THAT ARE**  
5 **CURRENTLY PLANNED FOR THE RATE PERIOD.**

6 A14. Major maintenance activities include:

7 Digesters and Sludge

8 Cleaning the digesters and the related sludge storage tanks and transfer tanks are major,  
9 recurring maintenance activities. Digestion of the sludge solids present in the wastewater  
10 is an integral part of the overall wastewater treatment process. PWD has been proceeding  
11 with cleaning the sludge digesters and the related sludge transfer tanks and storage tanks.  
12 At present, the rotating cycle for cleaning all digesters, sludge transfer and sludge storage  
13 tanks is such that each tank is cleaned at 3-4 year intervals. It should be noted that PWD  
14 has also been exploring opportunities for more frequent cleaning utilizing a combination  
15 of in-house resources and contracts with service providers. If this is found to be a successful  
16 effort, the new cleaning process may yield long term savings over current practices.

17  
18 Consent Order; Greened Acres

19 There are maintenance costs associated with each Greened Acre. The COA requires  
20 maintenance of constructed stormwater management practices in accordance with the  
21 City's Green Stormwater Infrastructure ("GSI") Maintenance Plan. These maintenance  
22 costs contribute to the need for the requested rate relief.

23  
24 Please note that maintenance costs associated with GSI projects are projected to increase  
25 to keep pace with COA requirements. COA requirements drive a steadily increasing

1 number of constructed Greened Acres associated with GSI stormwater management  
2 systems each year. PWD continues to design and construct a large portion of the GSI  
3 projects required to comply with the COA. This obligation will increase each year as the  
4 Department continues to work towards complying with the number of Greened Acres  
5 required by the COA. The fifteen-year milestone under the COA is due in Rate Period  
6 (calendar year 2026). With GSI almost every capital dollar is spent to build a new asset.  
7 The requirement to maintain each Greened Acre along with the construction of new assets  
8 means that operating costs will necessarily increase as capital investments in GSI continue.  
9 This is another area to be carefully managed in view of limited resources. A more detailed  
10 discussion of COA requirements is set forth in PWD Statement 4B (Planning &  
11 Environmental Services Panel).

12  
13 **Q15. PLEASE BRIEFLY DESCRIBE HOW THE DEPARTMENT PLANS FOR THE**  
14 **REPAIR, REPLACEMENT, IMPROVEMENT AND MAINTENANCE OF ITS**  
15 **FACILITIES AND WHY THIS IS IMPORTANT TO THE DEPARTMENT'S**  
16 **OPERATIONS.**

17 A15. The Department evaluates facility needs and develops capital improvement plans for  
18 funding the design and construction of improvements. The plans are flexible, realizing  
19 that priorities change over time, and the Department reprioritizes to meet the needs of  
20 facilities and to maintain compliance.

21  
22 Most capital investment is made for replacement or rehabilitation of an existing asset.  
23 Replacement and rehabilitation do not increase O&M costs and burdens. When an asset is  
24 repaired or rehabilitated, it should require either the same or less maintenance. However,  
25 with GSI investment almost every dollar is spent to build a new asset. This means that, as

1 already noted, each new greened acre creates new maintenance costs, since the greened  
2 acre must be maintained in the future. Without proper maintenance of greened acres, the  
3 Department runs the risk of non-compliance under the COA.  
4

5 **IV. CONCLUSION**  
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7 **Q16. DOES THIS CONCLUDE THE DIRECT TESTIMONY OF THIS PANEL?**

8 A16. Yes.  
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# BENJAMIN CRAIG JEWELL

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## PROFESSIONAL EXPERIENCE

### PHILADELPHIA WATER DEPARTMENT, PHILADELPHIA, PA, 2007 - PRESENT

#### Deputy Commissioner of Operations (2022-Present)

- Oversee operation and maintenance of the City's water, wastewater and stormwater treatment and conveyance systems with approximately 1600 employees and annual operating budget over \$285M.
- Provide content and assist in message development for utility rate filings supporting rate change requests necessary to fund operating budgets.
- Represent operations division as a member of steering committees guiding departmental priorities on regulatory issues including capital improvement plans, consent orders and agreements, and permit negotiations.
- Interagency coordination between city departments, regional utilities, elected officials, and state and federal environmental regulators.
- Support development of operations-wide policies and procedures implementing City standards and labor agreement terms.

#### Director of Wastewater Operations (2021-2022)

- Oversaw operation and maintenance of the City's wastewater and stormwater collection and treatment systems with over 800 employees and annual operating budget over \$120M.
- Participated in development of unit budgets through coordination with unit and maintenance managers.
- Advised contract development, vendor interaction and dispute resolution for contract services totaling over \$30M.
- Advised operating, planning and design groups on capital program priorities for distributed and facility infrastructure.
- Guided organizational planning, growth, and budget development to support operational needs of rapidly expanding green stormwater infrastructure asset inventory.

#### Manager of Collection System Operations (2016-2021)

- Oversaw operation and maintenance of the City's 3000+ miles of wastewater and stormwater collection systems with organization of 400 employees and an annual operating budget over \$32M.
- Engaged with executive-level departmental staff on issues impacting public health and safety.
- Managed and supported multiple superintendents with operating and maintenance decisions, budget development, contract management, labor relations, and workplace policy.
- Reviewed and supported labor relations between management and union represented personnel, including evaluation of union grievances and disciplinary issues.
- Managed a team of engineers providing technical support and analysis of information systems to support field personnel actions and decisions.
- Provided feedback on capital design proposals to support maintenance by operations personnel.
- Identified and recommended actions to execute repairs within the collection system in coordination with subordinate staff.

**Engineering Supervisor and Unit Manager, Collector Systems Engineering (2013-2016)**

- Managed multidisciplinary team of engineers supporting citywide operation and maintenance of wastewater and stormwater collection systems, including management of subordinate supervisors.
- Worked across Collector Systems units with direct coordination on work requests from assistant superintendent and supervisor level employees.
- Assisted group supervisors with work management, including development of tools and skills for effective and efficient completion of work assignments.
- Led expansion of group duties through creation of various initiatives to increase communication and information transfer between Collector Systems units.
- Supported efforts to enhance work order management systems and data collection systems to maximize accuracy and value of information.

**Environmental Engineer, Industrial Waste Unit (2007-2013)**

- Inspected industrial facilities and drafted permits regulating wastewater discharged to City sewers.
- Prepared annual reports to state and federal regulatory agencies requiring verification of compliance and sampling information collected during the previous year.
- Developed written policies for unit operations, and instructional public documents.
- Oversaw surcharge program, including facility inspections, allocation of inspector resources, customer contact and dispute resolution, and billing accuracy verification.
- Developed public webpage content and directed website's organization and launch.

**EDUCATION**

**Northwestern University, Evanston, IL (1999-2004)**

B.S., Environmental Engineering with a Certificate in Cooperative Education

# Brendan F. Reilly

## Experience

### February 2022 – Present

Director of Water Operations • Philadelphia Water Department

- Oversight for water operations now include everything from the “river to the tap”
- Responsible for the management and operation of all three water treatment plants (Water Treatment)
- Responsible for the management and operation of the field operations units (Water Conveyance)
- Provide guidance and technical oversight to lower level managers
- Much of the items indicated for the Water Conveyance Chief position continue as the Director at a higher level

### December 2015 – February 2022

Water Conveyance Chief • Operations • Philadelphia Water Department

- Responsible for the operation and maintenance of the City’s water system
- Supervise approx. 350 employees with an annual operating budget of \$28M
- Management and support of several Unit managers with operational and maintenance decisions, development of budgets, contract management, disciplinary decision, and workplace policy
- Provide insight and input to the Planning Unit on the future of the water system
- Provide feedback to the Design Unit on water main replacements
- Annual reporting to the DEP confirming PWD’s adherence to approved water withdrawal permit
- Provide guidance and feedback on the Department’s Annual Water Audit

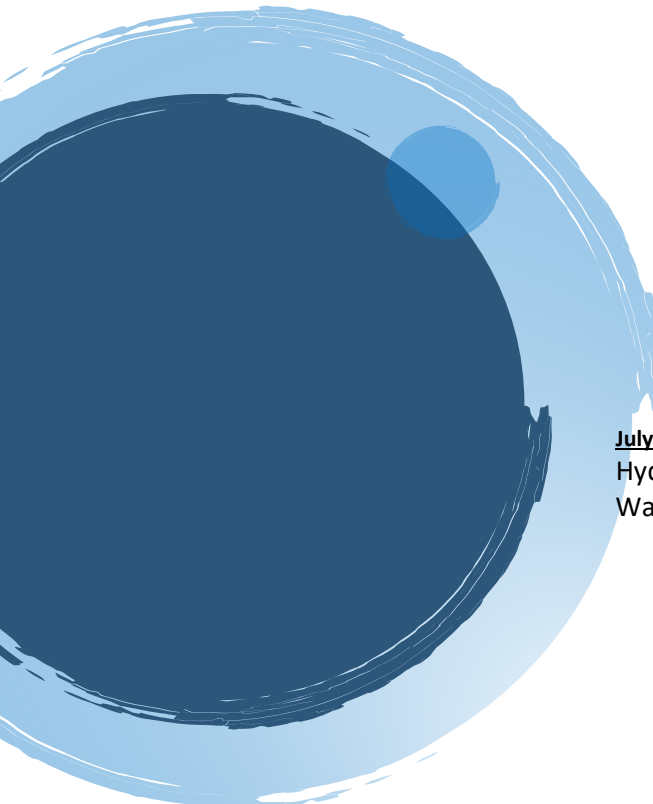
### November 2010 – December 2015

Load Control Chief • Load Control Unit • Philadelphia Water Department

- Responsible for the operation of the City’s water system
- Managed multidisciplinary team of engineers and technicians responsible for the effective operation of the water system, including management of subordinate supervisors.
- This position required the development and proposal of annual operating budget for electrical use at pump stations



Philadelphia Water Dept.  
1101 Market Street, 6<sup>th</sup> Fl  
Philadelphia, PA 19107

- 
- Development of goals and objectives for subordinate supervisors
  - Chair of the Reservoir Operations Management Group tasked with the maintenance, security and cleaning of the Department's potable water storage reservoirs
  - Review of design, construction and operation of large-scale capital contract work such as the new East Park Tanks
  - Responsible for the procurement of professional services contracts and materials needed by the Unit

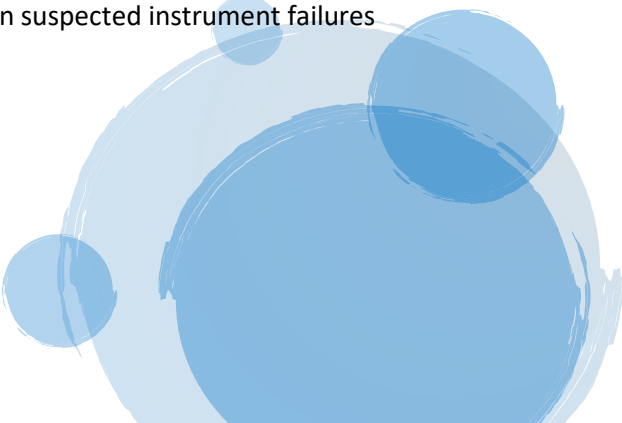
**July 2008 – November 2010**

Hydraulic Investigations Supervisor • Load Control Unit • Philadelphia Water Department

- First level supervisory position overseeing the work of full performance engineers and technicians
- Review of and approval of fire hydrant flow tests completed by subordinate engineers and technicians which required thorough understanding of system hydraulics
- Planning and execution of transmission pipeline disinfections requiring a multidisciplinary group with participants from several other units within the Department
- Provide guidance and direction on water quality and low-pressure investigations
- Oversight and management of a professional service contract used to annually test all the Department's master meters, including wholesale export meters
- Investigate the feasibility and cost of implementing updated engineering methods, techniques, and processes regarding pump operation

**December 2005 – July 2008**

Operations Engineering Specialist • Load Control Unit • Philadelphia Water Department

- Full performance engineering position in the Operations Squad of the Load Control Unit.
  - Review of electrical data from PECO bills to compare to system input to identify any operating or billing anomalies based on spreadsheets developed to mimic PECO's billing structure
  - Review and edit of daily hydraulic data to correctly report the total system input
  - Review of Supervisory Control and Data Acquisition (SCADA) system data for errors or malfunctioning data points
  - Communication and coordination with the Electronic and Instrumentation Squad on suspected instrument failures
- 

**June 2002 – December 2005**

Graduate Civil Engineer / CE1 / CE2 • Load Control Unit • Philadelphia Water Department

- Engineering work which was mostly focused on field investigations
- Completion of hydrant flow tests, low pressure and water quality investigations

**Education**

**Widener University, Chester, PA**

- Graduated in June 2002 with a Bachelor of Science in Civil Engineering
- Class A and E Operators Certification from the PADEP
- EIT Certification





## CONTACT

PHONE:  
215-919-7030

EMAIL:  
Linda.Kramer@phila.gov

LinkedIn:  
<https://www.linkedin.com/in/linda-kramer-b6933912>

References Available Upon Request

### Skills:

**Mentoring**  
**Drinking Water**  
**Effective Communication**  
**Regulatory Compliance**  
**Research**  
**Capital Planning**  
**Crisis Management**

# LINDA KRAMER, PE

Water Utility Director

## EDUCATION

### Temple University

September 1994 – May 1996  
MSE, Computer Integrated Civil Engineering Systems  
GPA: 3.83: Concentration Water/Wastewater/Air Monitoring

### Temple University

September 1991 – May 1994  
Bachelor's Environmental Engineering Technology  
GPA 3.91, Summa Cum Laude  
Golden Key National Honor Society, President's Scholar

### Philadelphia High School for Girls

September 1974- June 1978  
Summa Cum Laude

## WORK EXPERIENCE

### Philadelphia Water Department Water Utility Director

February 2021 - Current

Responsible for the Operation of three water treatment plants that provide drinking water to 1.6 million customers. Provide administrative and technical support to the treatment plants, Director of Water Operations and Deputy Commissioner of Operations. Oversee compliance for new and existing regulations, serving as the official Pa DEP Certified Operator In-Responsible-Charge.

### Philadelphia Water Department Planning & Research Manager

October 2016–February 2021

Manager of the Integrated Capital Planning, Energy and Applied Research Groups. Oversaw capital projects in excess of 2 million dollars to ensure that due diligence is done in selecting the right methodology, equipment and design utilizing a core review committee comprised of PWD experts. The Energy group developed PWD's strategic energy plan aimed at decreasing the department's carbon footprint. The applied research group operates a pilot plant in support of water treatment's Water Revitalization Plan, was instrumental in studying ammonia reduction strategies in our wastewater plants and supports PWD's Dissolved Oxygen Partnership.

**Philadelphia Water Department Baxter Plant Manager**

May 2010–October 2016

Plant Manager at Philadelphia's largest drinking water treatment plant which provides water for 58% of Philadelphia. The Baxter Plant operates 24 hours per day and is a recipient of the Director's award from the Partnership for Safe Water. Ensure customer satisfaction by providing a superior quality, safe, and sufficient drinking water supply to the water distribution system-serving citizens of Philadelphia. Provide a cost-effective management of the available resources to operate a drinking water plant with best management practices. Plan, direct, and manage the activities of a Water Treatment Plant. Develop and implement long and short-range plans, goals, and coordinate capital improvements, construction projects, and contracted services. Serve as the licensed Water Treatment Plant Operator of Record for PaDEP.

**Philadelphia Water Department Environmental Engineer 3**

October 2004 – May 2010

Managed Departments Chemical Contracts

Produced Service Level Goals

Managed research projects for water treatment plants

Produced reports to ensure compliance with regulatory goals for water quality

Assisted Water Plants Manager

**Philadelphia Water Department Water Technology Asst / Sanitary (Environmental) Engineer Positions**

July 1991 – October

Performed annual filter inspections on Baxter WTP's 94 filters, conducted jar tests to manage process control, studied alternative chemicals for water treatment improvements. Managed study for conversion to KMnO<sub>4</sub> for taste and odor control. Managed process control lab overseeing the conversion to Sodium Hypochlorite from Chlorine. Worked on safety issues and safety documents such as the Risk Management Plan (RMP) and laboratory standard operating procedures (SOP). Member of PWD's first disinfection team which established guidelines for water main disinfections and participated in disinfection on team to select and install online turbidimeters for filter effluent turbidity monitoring.

**Licenses****Professional Engineer PE055750E****Water System Operator Water Class A,E Subclass 1-14 Client ID 19576**

**Stephen Junod**  
**Philadelphia Water Department**  
**1101 Market Street, 6th Floor Jefferson Center**  
**Philadelphia, Pennsylvania 19107**  
**stephen.junod@phila.gov**  
**(215) 685-4993**

## **Education**

### **Community College of Philadelphia, Philadelphia, PA**

Completed course requirements for Construction Technology Program for City of Philadelphia Employees jointly presented by the Philadelphia Department of Streets and Community College of Philadelphia. May 1997

### **Temple University, Philadelphia, PA**

Bachelor of Business Administration, Finance, May 1991.

## **Experience**

### **10/12 – present** City of Philadelphia, Water Department, Philadelphia, PA

#### **Water Operations Administration Manager**

The manager of the Operations Administration unit that provides general administrative support to all units or responsibility centers in the Operations Division and performs administrative analyses as required to improve operating efficiencies in the division. The Operations Administration Section of the Philadelphia Water Department consists of five units: Customer Service, Metering, Materials Management, Delinquency & Restoration Services, Plumbing Repairs and Operations Administration.

### **8/08 – 10/12** City of Philadelphia, Water Department, Philadelphia, PA

#### **Executive Assistant**

Responsible for the administration of the department's Automatic Meter Reading Program. During 2011 to 2013 was responsible for overseeing the department's battery change program. The batteries for the AMR meters required a change to extend the battery life to the end of the 20-year contract. This battery change program utilized an outsourcing strategy designed to build on core PWD strengths.

### **1/99 – 8/08** City of Philadelphia, Water Department, Philadelphia, PA

#### **Administrative Support Specialist**

Responsible for the daily administrative activities related to department's Automatic Meter Reading Program, a program to install automatic meter reading devices for all of our more than 472,000 customer accounts. This program is a public-private partnership utilizing an outsourcing strategy designed to build on core PWD strengths.

**9/97 - 1/99** City of Philadelphia, Department of Streets, Philadelphia, PA

**Construction Project Technician II**

Technical work, at the full performance level, performing inspections of public works projects and testing of construction material to ensure that work performed by contractors complies with contract specifications and plans. Attended partnering meetings with contractors and engineers at specified times during the projects to arrive at solutions to problems which have occurred. Prepared daily, weekly, and monthly reports regarding inspection activities.

**5/95 - 9/97** City of Philadelphia, Department of Streets, Philadelphia, PA

**Highway Construction Inspector**

Performed testing and inspection of construction materials to assure that all work performed complies with contract specifications and work quality standards.

**5/94 - 5/95** City of Philadelphia, Department of Streets, Philadelphia, PA

**Engineering Aide I**

Assisted Core Leader in the performance of construction, property, and topographical surveys. Operated a transit to determine grade and slope of construction sites, location of points and size of area relative to maps and ownership rights.

**6/93 - 5/94** Roadway Package System, Trenton, NJ

**Supervisor, Outbound coordinator**

Responsible for the hiring, training, and supervision of 25 employees to process all outbound packages with a daily volume of 15,000 packages.

**10/85 - 6/93** United Parcel Service, Horsham, PA

**Sort Supervisor**

Responsible for the hiring, training, and supervision of IO employees to process all outbound packages with a daily volume of 7,000 packages.

**3/85 - 6/93** United States Army Reserve, Philadelphia, PA

**Staff Sergeant, A Battery 3/ 42<sup>nd</sup> Field Artillery**

Supervised and trained 8 Fire Direction Specialists in team building, gunnery, and basic military skills. Received the "Saint Barbara" award for best overall section during Army Training and Evaluation Program 1988.

**1/83 - 1/85** United States Army, Fort Polk, LA

**Specialist 4<sup>th</sup> Class, B Battery 3/21 Field Artillery**

Worked as a Fire Direction Specialist responsible for the manual computation of firing data for 155-millimeter howitzers. Awarded the Army Achievement Medal for outstanding performance during Army Training and Evaluation Program, 1984. Awarded the Army Good Conduct Medal upon Honorable discharge, January 1985.

**MATERIAL COSTS**

The table below lists the costs provided in FY 2022 with updated costs for FY 2024 &amp; future cost escalation, if known

No.	MATERIAL DESCRIPTION	UNIT	COST (2022)	UPDATE COST (2024)	PWD REMARKS
1	Meter costs by meter size				
	5/8"	Each	\$152.91	\$152.91	expect a 15 to 30 percent increase for meters.
	3/4" RFSS	Each	\$326.00	\$385.40	
	1"	Each	\$245.24	\$266.68	
	1" RFSS	Each	\$334.00	\$360.70	
	1 1/2"	Each	\$681.74	\$931.00	
	1 1/2" RFSS	Each	\$635.01	\$774.10	
	2"	Each	\$846.34	\$931.00	
	2" RFSS	Each	\$858.27	\$964.35	
	3" Compound	Each	\$2,873.55	\$3,307.48	
	3" Turbine	Each	\$1,442.93	\$1,482.28	
	3" Fire Series	Each	\$3,175.49	\$3,270.28	
	4" Compound	Each	\$4,089.34	\$4,480.37	
	4" Turbine	Each	\$2,214.60	\$2,545.84	
	4" Fire Series	Each	\$3,996.02	\$4,411.70	
	4" Fire Assembly	Each	\$5,500.00	\$6,325.00	
	6" Compound	Each	\$5,841.26	\$6,847.77	
	6" Turbine	Each	\$4,424.96	\$5,076.80	
	6" Fire Series	Each	\$5,385.73	\$5,968.18	
	6" Fire Assembly	Each	\$7,984.02	\$10,115.05	
	8" Turbine	Each	\$5,311.21	\$6,105.30	
	8" Fire Series	Each	\$6,896.63	\$7,905.52	
	8" Fire Assembly	Each	\$11,404.30	\$13,115.66	
	10" Turbine	Each	\$7,839.30	\$8,909.95	
	10" Fire Series	Each	\$8,561.92	\$9,830.33	
	10" Fire Assembly	Each	\$16,607.36	\$19,129.57	
	12" Turbine	Each	\$8,319.00	\$9,549.63	
	12" Fire Series	Each	\$9,664.16	\$12,563.00	
	12" Fire Assembly	Each	\$17,709.60	\$20,403.58	
2	Ferrule Costs				
	3/4"	Each	\$23.88	\$30.77	
	1"	Each	\$35.40	\$45.68	
	1 1/2"	Each	\$101.64	\$139.66	
	2"	Each	\$164.45	\$233.70	
3	Adapter for Ferrule				
	3/4"	Each	\$15.43	\$19.90	
	1"	Each	\$28.93	\$37.32	
4	Valve costs by size				
	3"	Each	\$618.66	\$847.44	
	4"	Each	\$679.05	\$952.30	
	6"	Each	\$948.79	\$1,204.82	
	8"	Each	\$1,387.63	\$1,947.40	
	10"	Each	\$2,069.36	\$2,899.70	
	12"	Each	\$3,199.33	\$3,723.60	
5	Sleeve costs by size				
	3"	Each	\$503.25	\$738.30	
	4"	Each	\$560.96	\$829.25	
	6"	Each	\$683.08	\$1,016.50	
	8"	Each	\$1,073.60	\$1,588.95	
	10"	Each	\$1,650.66	\$2,525.20	
	12"	Each	\$2,113.65	\$3,049.50	
6	3" or 4" Sleeve costs by Main size				
	12" X 3" or 4"	Each	\$2,475.99	\$3,723.60	
	16" X 3" or 4"	Each	\$6,978.40	\$9,630.00	
	20" X 3" or 4"	Each	\$8,991.40	\$12,519.00	

	24" X 3" or 4"	Each	\$11,138.60	\$15,333.10
	30" X 3" or 4"	Each	\$22,526.43	\$30,635.94
	36" X 3" or 4"	Each	\$28,994.42	\$39,432.41
7	6" or 8 " Sleeve costs by Main size			
	12" X 6" or 8"	Each	\$2,553.16	\$3,723.60
	16" X 6" or 8"	Each	\$7,179.70	\$9,897.50
	20" X 6" or 8"	Each	\$8,723.00	\$12,091.00
	24" X 6" or 8"	Each	\$11,138.60	\$15,333.10
	30" X 6" or 8"	Each	\$24,385.89	\$33,164.81
	36" X 6" or 8"	Each	\$33,279.68	\$45,260.36
8	10" or 12 " Sleeve costs by Main size			
	12" X 10" or 12"	Each	\$3,120.15	\$4,547.50
	16" X 10" or 12"	Each	\$7,246.80	\$9,951.00
	20" X 10" or 12"	Each	\$9,058.50	\$13,268.00
	24" X 10" or 12"	Each	\$11,138.60	\$15,333.10
	30" X 10" or 12"	Each	\$24,981.06	\$34,099.15
	36" X 10" or 12"	Each	\$35,813.25	\$48,885.09
9	Ductile Iron Pipe by size			
	3"	Per foot	\$66.98	\$76.10
	4"	Per foot	\$49.92	\$60.00
	6"	Per foot	\$52.62	\$61.30
	8"	Per foot	\$74.90	\$85.75
	10"	Per foot	\$98.22	\$110.00
	12"	Per foot	\$121.99	\$138.00
10	Dressing or Couplings by size			
	6"	Each	\$120.34	\$120.34
	8"	Each	\$178.75	\$178.75
	10"	Each	\$209.94	\$209.94
	12"	Each	\$275.02	\$275.02
	20"	Each	\$557.64	\$557.64
	24"	Each	\$683.35	\$683.35
11	Cap costs by size			
	3"	Each	\$68.40	\$68.40
	4"	Each	\$105.60	\$105.60
	6"	Each	\$160.80	\$160.80
	8"	Each	\$223.20	\$223.20
	10"	Each	\$278.40	\$278.40
	12"	Each	\$381.60	\$381.60
12	Band costs by size			
	3"	Each	\$183.96	\$186.00
	4"	Each	\$150.00	\$180.00
	6"	Each	\$198.56	\$510.00
	8 "	Each	\$210.24	\$228.00
	10 "	Each	\$280.32	\$450.00
	12"	Each	\$324.12	\$504.00
	Other Materials			
13	Curb Stop	Each	\$79.79	\$124.00
14	Curb Box	Each	\$47.82	\$89.00
15	Concrete Slab (4 feet)	Each	\$375.00	\$750.00
16	Blacktop	Per Bag	\$9.43	\$11.20
17	Hydrant Permit Materials			
	CCL Kit	1.0	\$462.48	\$490.23
	CCL Bonnet	1.0	\$20.75	\$22.00
	Operating Nut	1.0	\$51.39	\$62.85

	CONTRACTOR TASK DESCRIPTION	UNIT	COST (2022)	COST (2025)
16	CCTV Inspection		\$275.00	