

PHILADELPHIA WATER DEPARTMENT
STATEMENT NO. 4

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 2021 - 2022
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Direct Testimony

of

Donna Schwartz and Benjamin Jewell

on behalf of

The Philadelphia Water Department

Dated: February 2020

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

2
3 **Q1. PLEASE STATE YOUR NAMES AND POSITIONS WITH THE**
4 **PHILADELPHIA WATER DEPARTMENT.**

5 A1. My name is Donna Schwartz. I am the Deputy Commissioner and General Manager of
6 the Operations Division at the Philadelphia Water Department (“PWD” or the
7 “Department”). Also testifying with me is Benjamin Jewell, who is the Manager of the
8 Department’s Collector System Unit.

9
10 **Q2. PLEASE DESCRIBE YOUR RESPECTIVE EDUCATIONAL BACKGROUNDS**
11 **AND RELEVANT WORK EXPERIENCE.**

12 Ms. Schwartz

13 A2. I hold a Bachelor of Science degree in chemical engineering from Drexel University. I
14 am a registered professional engineer licensed in Pennsylvania and a certified plant
15 operator. As noted in the attached resume of experience, I have held several positions
16 with increasing responsibility since joining the Department in 1982. My resume of
17 experience is attached and marked as Schedule DS-1.

18
19 Mr. Jewell

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

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

2 A3. The purpose of our testimony is to: (i) discuss the current and future operational
3 challenges faced by the Department in providing water and wastewater services; (ii)
4 describe the major projects and activities underway or planned to occur during the next
5 two fiscal years; and (iii) explain why these projects and activities are necessary at this
6 time.

7
8 **Q4. PLEASE SUMMARIZE YOUR TESTIMONY.**

9 A4. Our testimony describes operational challenges facing the Department and describes
10 projects and activities which require funding during FY 2021 and 2022 to continue safe,
11 reliable and efficient delivery of water and wastewater services to our customers.

12
13 **II. CURRENT AND FUTURE CHALLENGES**

14
15 **Q5. PLEASE DESCRIBE THE MAJOR OPERATIONAL CHALLENGES FACING**
16 **THE DEPARTMENT IN PROVIDING SAFE, CLEAN AND RELIABLE WATER**
17 **SERVICE.**

18 A5. Major challenges include those related to upgrading our facilities and others that are
19 purely operational in nature. One major challenge facing PWD is the completion of major
20 plant upgrades currently underway or scheduled to occur in Fiscal Years 2021 and 2022
21 (the “Rate Period”). The Department’s three water treatment plants were originally
22 constructed over 100 years ago and need to be constantly upgraded to address structural
23 issues and incorporate advancements in water treatment technologies. Completion of the
24 above upgrades is necessary for the efficient operation of the utility and to ensure
25 compliance with current regulatory requirements.

1
2 A second major challenge, also related to necessary upgrades to an aging water system,
3 has to do with the repair and replacement of portions of the Department's water
4 conveyance and distribution system. PWD water mains have an average age of over 80
5 years and require a long term strategy for repair and replacement. The Department has
6 already implemented an accelerated main replacement program, increasing annual main
7 replacement from 19 to 32 miles. Given the uptick in water main breaks, the Department
8 is now further accelerating water main replacements to a targeted level of 42 miles
9 annually by Fiscal Year 2024 with the goal of significantly reducing the frequency of
10 water main breaks in the near term and in future years. It should be noted that even at this
11 targeted rate, it will take about 75 years to replace the entire system.

12
13 A third major challenge facing the Department is in connection with managing
14 unavoidable and nondiscretionary operating costs. Such costs include those related to
15 personal services (labor) and chemical purchases necessary for water treatment. New or
16 amended safe drinking water regulations contain numerous new requirements for
17 nondiscretionary items such as continuous turbidity monitoring, new inspection
18 programs, and increased reporting requirements to the Pennsylvania Department of
19 Environmental Protection (PaDEP). In this same operational context, the cost of
20 purchasing certain chemicals, such as ferric chloride, is increasing dramatically due to
21 worldwide market conditions resulting from a reduced supply, higher global demand,
22 regulatory constraints in global markets and increased freight costs for delivery. Both
23 areas must be managed carefully to ensure the efficient operation of PWD water
24 treatment plants.

1 Taken together, the foregoing challenges represent unavoidable costs for the utility and
2 must be addressed during the Rate Period. While PWD is confident that it can meet all
3 the challenges presented, the programmatic expenditures necessary to address these
4 challenges will come at an increased cost to our ratepayers and must be managed
5 carefully.

6
7 **Q6. WHAT ARE THE OPERATIONAL CHALLENGES FACING THE**
8 **DEPARTMENT IN PROVIDING RELIABLE WASTEWATER SERVICE AND**
9 **MEETING ASSOCIATED REGULATORY REQUIREMENTS?**

10 A6. Similar to the preceding discussion, the challenges for the wastewater system include
11 those related to aging infrastructure, facility repairs and improvements and others that are
12 purely related to facility operations. One major challenge is in connection with the major
13 plant upgrades needed to treat increased flow. The plants must remain in service, treating
14 increased flows while the upgrades are under construction. This will be a significant
15 balancing act to ensure reliable wastewater service in compliance with applicable
16 regulatory requirements.

17
18 A second challenge relates to the repair and replacement of the Department's wastewater
19 and stormwater collection systems. The average age of sewers in the system is in excess
20 of 80 years. The Department is increasing the miles of sewer inspections to provide
21 actionable information to increase the miles of sewer reconstructed/rehabilitated. As the
22 age of this system continues to increase, the frequency of repairs and service
23 interruptions, particularly associated with the oldest sewers in the system, is expected to
24 increase demands on staff. Also, the regulatory requirement of managing more
25 stormwater has increased costs. The maintenance costs are expected to continue to rise as

1 the number of Green Stormwater Infrastructure (“GSI”) in operation expands to keep
2 pace with regulatory requirements under the Consent Order and Agreement, entered into
3 in 2011 with PaDEP (“COA”). Even as efficiencies and most cost-effective procurement
4 mechanisms are developed, the increase in the number of GSI and the repairs to existing
5 GSI is expected to continue pushing program costs higher.

7 III. MAJOR PROJECT AND ACTIVITIES

8 The Water System

9
10 **Q7. PLEASE DESCRIBE MAJOR CAPITAL IMPROVEMENTS THAT ARE**
11 **ONGOING OR PLANNED FOR THE NEXT TWO FISCAL YEARS TO**
12 **UPGRADE THE WATER TREATMENT PLANTS AND FACILITIES.**

13 **A7.** The largest capital improvement projects that are ongoing or planned for the next two
14 fiscal years at the water treatment plants and storage facilities include: (i) the construction
15 of four 5-million-gallon storage tanks at the Baxter Water Treatment Plant to replace the
16 clear water basin at an estimated cost of \$116 million; (ii) the construction of three 30-
17 million-gallon storage tanks in East Fairmount Park to replace the East Park Reservoir at
18 an estimated cost of \$111 million; (iii) the reconstruction of the Torresdale Raw Water
19 Pumping Station at an estimated cost of \$53 million; and (iv) other projects related to
20 enhanced security and regulatory requirements at an estimate cost of \$24.1 million. A
21 summary description of each of the above capital projects is provided in the discussion
22 below.

23 Baxter Water Treatment Plant

24
25 The construction of the four new storage tanks to replace the clear water basin at the

1 Baxter Water Treatment Plant began in Fiscal Year 2017. The basin is over 100 years old
2 and needs to be replaced due to structural failures. Construction of the first two tanks is
3 ongoing and site preparation and construction of the remaining tanks is expected to occur
4 in Fiscal Years 2021 and 2022. The clear water basin at the Baxter Water Treatment Plant
5 supplies treated water to the Lardner's Point Pumping Station.

6
7 East Park Reservoir

8 The construction of the East Park storage tanks also began in Fiscal Year 2017 and will
9 continue during the Rate Period. This project is needed to improve the overall security
10 and reliability of the water system. It also will assist the Department in meeting future
11 regulatory requirements by reducing detention time for water storage.

12
13 Torresdale Filtered Water Pump Station

14 Another major capital improvement project planned for Fiscal Year 2021 is the
15 reconstruction of the Torresdale Filtered Water Pump Station. This pumping station
16 distributes treated water from the Baxter Water Treatment Plant to the northern and
17 central parts of Philadelphia. It is noteworthy that a similar project is planned for the
18 Lardner's Point Pumping Station which also needs reconstruction that is planned for
19 Fiscal Year 2023. Both projects are necessary to update aging critical infrastructure and
20 enhance redundancy for service reliability.

21
22 Projects Related to Enhanced Security and Regulatory Requirements

23 PWD also continues to implement capital improvement projects necessary to enhance the
24 security of the water system and comply with new regulations. A significant example of
25 these improvements is in connection with the installation of auxiliary power sources

1 (standby generators and backup generators) at water treatment and pumping facilities.

2 This new auxiliary power will ensure that the water systems are capable of continuously
3 providing adequate and safe water quantity and quality during emergencies resulting
4 from natural or manmade disasters. Installation of the standby generators began in Fiscal
5 Year 2019 at the Belmont Raw Water Pumping Station and in Fiscal Year 2020 at the
6 West Oak Lane Pumping Station. Installations of standby and back-up generators are
7 expected to continue during the Rate Period. These two projects are estimated to cost
8 \$18.9 million and \$5.7 million respectively. The installation of back-up generators at all
9 critical drinking water treatment and pumping facilities, once completed, will reduce the
10 risk of service interruptions to customers and allow PWD to remain in full compliance
11 with Pennsylvania's safe drinking water regulations and the risk reduction and resiliency
12 standards in the federal America's Water Infrastructure Act of 2018.

13
14 Additional major projects that are recently completed, ongoing or in the design phase at
15 the water treatment plants and water storage and pumping facilities are listed in the
16 Engineering Report attached to the Official Statement in PWD Exhibit 5.

17
18 **Q8. PLEASE SUMMARIZE MAJOR CAPITAL IMPROVEMENTS FOR THE**
19 **WATER CONVEYANCE SYSTEM THAT ARE ONGOING OR PLANNED FOR**
20 **THE NEXT TWO FISCAL YEARS.**

21 A8. I previously mentioned the challenges presented by the Department's aging water mains
22 and our efforts to address these challenges and improve service by increasing the number
23 of miles of water mains replaced each year. Increasing the number of miles of water
24 mains replaced each year is necessary to improve service and reverse the upward trend in
25

1 water main breaks. The increased capital costs for this accelerated water main
2 replacement program is discussed by Mr. Furtek in PWD Statement No. 3.

3
4 **Q9. PLEASE IDENTIFY MAJOR MAINTENANCE FOR THE WATER SYSTEM**
5 **THAT ARE ONGOING OR PLANNED FOR THE NEXT TWO FISCAL YEARS.**

6 A9. Critical maintenance and repair projects funded through PWD's operating budget at the
7 water treatment plants and storage and pumping facilities include those related to
8 dredging of raw water basins and tank upgrades.

9
10 The dredging of the raw water basins is necessary to remove the silt, debris and natural
11 organic material that settles out while the water diverted from the river is in the basin and
12 before the water is pumped to the water treatment plant. The build-up of sediment
13 reduces the storage capacity and effectiveness of the basins, which can limit the
14 Department's ability to meet regulatory requirements.

15
16 Tank upgrades include those related to ferric chloride tank and feed systems to adhere to
17 storage tank regulations. Sodium hydroxide tanks were modified to include mixing and
18 heating to improve product consistency and feed reliability.

19
20 Notably, additional maintenance/repair items funded through the operating budget are
21 those related to electrical system repairs, corrosion protection for piping and roadway
22 resurfacing.

The Wastewater System

1
2 **Q10. PLEASE SUMMARIZE MAJOR CAPITAL IMPROVEMENTS THAT HAVE**
3 **BEEN RECENTLY COMPLETED, ARE ONGOING OR ARE PLANNED FOR**
4 **THE NEXT TWO FISCAL YEARS AT THE DEPARTMENT’S WASTEWATER**
5 **FACILITIES.**

6 A10. Recently completed, ongoing or planned projects include: (i) the installation of four new
7 sludge gravity thickeners and related odor control facilities at the Northeast Water
8 Pollution Control Plant (“NEWPCP”) at a cost of approximately \$38.5 million; (ii) The
9 construction of a high flow management system (a conduit from the primary
10 sedimentation tanks to the chlorine contact tank which by-passes the secondary treatment
11 but provides preliminary treatment and disinfection during high flow events) at the
12 NEWPCP at a cost of \$15.9 million; (iii) the construction of dissolved air floatation
13 system improvements at the Southwest Water Pollution Control Plant (“SEWPCP”) at an
14 estimated cost of \$21.8 million; and (iv) the construction of final sedimentation tank
15 improvements at the Southeast Water Pollution Control Plant at an estimated cost of
16 \$16.4 million.

17
18 The installation of the sludge gravity thickeners at the NEWPCP was completed in FY
19 2019. This project was required under a consent order and agreement (entered into in
20 2013) to address odor issues and alleged violations of air management regulations at the
21 plant.

22
23 The high flow management system at the NEWPCP is one of two new facilities that the
24 PWD is required to construct under the COA to increase the wet weather treatment
25 capacity at the plant and reduce combined sewer overflows. The high flow system allows

1 for up to 215 MGD of wet weather flow to bypass the secondary treatment system while
2 still providing preliminary primary treatment and disinfection prior to discharge.

3 Construction for the high flow system was completed in early FY 2019. The other new
4 facility required by the COA at the NEWPCP is a preliminary treatment facility that will
5 treat wet weather flows before they enter the high flow management system.

6 Construction of the preliminary treatment facility is scheduled for FY 2021.

7
8 The dissolved air floatation thickening (DAFT) system at the Southwest Water Pollution
9 Control Plant started construction in FY 2019 and is still in progress. This system
10 includes mechanical and electrical tank upgrades as well as a new dilution water system
11 and wet well and new Variable Frequency Drives and control system. The upgraded
12 DAFT system will provide more efficient thickening and delivery of both the Southwest
13 and Southeast Waste Activated Sludge prior to digestion as well as improving the
14 facilities infrastructure and reliability.

15
16 The final sedimentation tanks rehabilitation project at the SEWPCP began in FY 2018
17 and is still in progress. This project includes replacing the mechanical components and
18 resurfacing the 12 concrete tanks with an epoxy coating to enhance the integrity of the
19 tanks and the plant infrastructure. Eight tanks have been completed and the final four
20 tanks will be completed by FY 2021.

21
22 Other major projects that are recently completed, underway or in the design phase at the
23 wastewater treatment plants are described in the Official Statement in PWD Exhibit 5.

1 **Q11. PLEASE SUMMARIZE MAJOR MAINTENANCE FOR THE WASTEWATER**
2 **FACILITIES THAT ARE ONGOING OR PLANNED FOR THE NEXT TWO**
3 **FISCAL YEARS.**

4 A11. The Department has experienced significant cost increases related to cleaning of the 20
5 anaerobic digester tanks located at the Water Pollution Control Plants. The anaerobic
6 digestion process is a multi-stage biochemical process that uses bacteria to break down
7 the organic matter in the solids (sewage sludge) under certain temperature and pH
8 conditions. The Department must implement a reasonable and practical time frame to
9 clean the digester tanks as the accumulation grit, trash and solids reduces the effective
10 treatment capacity of the digesters and negatively affects operation of the plant.

11
12 **Q12. PLEASE SUMMARIZE THE MAJOR CAPITAL IMPROVEMENTS PROJECTS**
13 **THAT ARE ONGOING OR PLANNED FOR THE NEXT TWO FISCAL YEARS**
14 **FOR THE DEPARTMENT'S COLLECTOR SYSTEM.**

15 A12. The Department's collector system includes sanitary sewers, stormwater sewers and
16 combined sewers used to transport both sewage and stormwater. These sewers present
17 many of the same problems as the Department's water mains due to their age. Capital
18 improvement projects for the collection system consist primarily of: (i) replacement of
19 sewers that cannot be repaired; (ii) rehabilitation of older sewers through installation of
20 structural liners; (iii) construction of storm relief sewers to mitigate flooding in sections
21 of the City that flood during major storms; (iv) construction of new sewers in areas of the
22 City where no sewers currently exist; (v) modification of existing sewer systems to
23 improve use of in-system storage for reduction of CSOs, and (vi) pump station
24 rehabilitation projects.

1 **Q13. PLEASE SUMMARIZE THE MAJOR CAPITAL IMPROVEMENTS THAT ARE**
2 **ONGOING OR PLANNED FOR THE NEXT TWO FISCAL YEARS FOR THE**
3 **DEPARTMENT’S GREEN STORMWATER INFRASTRUCTURE ASSETS.**

4 A13. As noted by Commissioner Hayman in PWD Statement No. 1, the COA includes
5 requirements to steadily increase the total number of Greened Acres associated with GSI
6 projects each year. PWD continues to design and construct a large portion of the GSI
7 required to comply with the COA. This obligation will increase each year as the number
8 of Greened Acres required by the COA increases.

9
10 The American Street corridor project is an example of an ongoing GSI project funded, in
11 part, through the capital budget. This project is the largest GSI installation in the City to
12 date. It spans a two mile stretch of American Street from Girard Avenue to Indiana Street
13 and manages stormwater from over 25 acres of impervious right-of-way area, resulting in
14 a total of 50.82 Greened Acres for purpose of compliance with the COA. Approximately
15 \$7 million in capital funding was provided by PWD for this project. The Streets
16 Department funded other portions of this project involving street improvements such as
17 new paving of sidewalks and construction of center bicycle lanes.

1 **Q14. PLEASE SUMMARIZE THE MAJOR MAINTENANCE ACTIVITIES THAT**
2 **ARE ONGOING AND REQUIRED DURING THE NEXT TWO FISCAL YEARS**
3 **FOR THE DEPARTMENT’S GREEN STORMWATER INFRASTRUCTURE**
4 **ASSETS.**

5 A14. The COA requires that all GSI that is accounted for with “Green Acres” value be
6 properly maintained. PWD continues to implement the required maintenance work on all
7 GSI designed and constructed by the Department. As previously noted, the COA steadily
8 increases the number of Greened Acres required by each of the five-year milestones,
9 which increases the number and/or size of GSI projects necessary to meet each of the
10 five-year milestones. This will increase the level of the Department’s required
11 maintenance activities during the Rate Period and beyond.

12
13 The budget for maintenance required to keep GSI functioning properly is increasing
14 despite increased efficiency because the number of GSI is set to more than double. Once
15 a system is built, it requires intense maintenance and system protection so that it
16 functions correctly for its 20 to 30-year service life (forever maintenance). Additionally,
17 there are higher costs associated with repairing infrastructure unintentionally impacted by
18 concentrated infiltration of stormwater. The COA requires interim milestones at the end
19 of the fifth, tenth, fifteenth and twentieth years. The Greened Acre milestone increases
20 from 744 Greened Acres in year five which occurred in June 2016, to 2,148 in year ten
21 which occurs June 2021 and further increases to 3,812 Greened Acres by June 2026. The
22 Department continues to bring on new employees to transfer a portion of contracted
23 services to its own employees. This transition is driving an increase in costs associated
24 with employees, materials and equipment. The significant increase in construction of new
25

1 GSI continues to expand the scope and scale of overall maintenance tasks resulting in an
2 increase in costs for all facets of the maintenance program.

3
4 **Q15. PLEASE DESCRIBE ANY OTHER OPERATIONAL CHANGES THE**
5 **DEPARTMENT HAS MADE OVER THE PAST TWO YEARS TO ENHANCE**
6 **THE EFFICIENCY OF ITS OPERATIONS AND CONTROL ITS OPERATION**
7 **AND MAINTENANCE EXPENSES.**

8 A15. The Department has taken the following actions to improve operational efficiency and to
9 help to mitigate costs:

- 10 • Continuing the transition of GSI operation and maintenance work from service contracts
11 to City employees.
- 12 • Adopted more efficient ways to manage the growing number of GSIs. For example, PWD
13 shifted its maintenance program from calendar-based maintenance to need-based
14 maintenance. With this continued transition in staffing and improved work practices, the
15 Department has been able to accomplish more GSI maintenance activities without
16 significantly increasing its operating budget for these activities.
- 17 • Transitioning to best value contracting mechanism that have unit pricing from
18 professional services contracts which were based on time and materials for GSI
19 maintenance contracts.
- 20 • Implementation of Advanced Metering Infrastructure (“AMI”). AMI enables the
21 Department to increase operational efficiency with features such as real time alerts for
22 meter malfunctions, decreasing the number of site visits.
- 23 • Construction of a new energy efficient facility for sewer maintenance staff which
24 consolidates operations and equipment and increases operating efficiency and reduces
25 travel time.

- 1 • Design and construction of a facility to dewater material removed from inlets has
2 reduced the quantity of material that is sent to disposal facilities which, in turn, has
3 reduced transportation and disposal costs.
- 4 • Upgraded and expanded computerized maintenance management system to provide
5 better tracking of costs and maintenance requirements.
- 6 • Upgraded chemical feed pumps to increase control and reduce overfeeding.
- 7 • Replaced pumps, motors and drives to increase efficiency and reduce energy costs.
- 8 • Constructed a dedicated drain line to the sanitary sewer at Somerton Tanks to
9 eliminate the environmental impact of draining the tank; this also eliminates the need
10 to apply dechlorinating chemical, saving labor and chemical costs.
- 11 • Cross training Industrial Waste inspectors to reduce the number of duplicate
12 inspections.
- 13 • Continuing high efficiency lighting upgrades at the plants which will reduce energy
14 costs.

15
16 **IV. CONCLUSION**

17
18 **Q16. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19 A16. Yes, it does.
20
21
22
23
24
25

Schedule DS-1

Donna Lee Schwartz
ARAMARK TOWER
1101 Market Street, 5th Floor
Philadelphia, PA 19107

EDUCATION:

Drexel University
B.S. in Chemical Engineering, June 1982

The Pennsylvania State University
Pre-med major, September 1977 to June 1979

EXPERIENCE:

03/16 to present:

City of Philadelphia Water Department
Title: Deputy Commissioner/Director of Operations
Duties: Direct the activities of all operating units of the Philadelphia Water Department. Responsibilities include oversight of the operation and maintenance of the water and wastewater utilities including three water plants, three wastewater plants and a biosolids recycling facility. Responsibilities also include the operation and maintenance of 3,100 miles of water mains, 3,500 miles of sewers, 79,000 storm water inlets, 25,000 fire hydrants and water and wastewater pumping stations, throughout the City. Oversee the supply of water and wastewater services to suburban contract customers.
Liaison with other divisions within the Department to coordinate efforts and ensure effective operations.
Advance Philadelphia Water Department interests in activities involving other city departments, local, state and federal agencies as well as other outside entities.

01/09 to 03/16 :

City of Philadelphia Water Department – Belmont WTP
Title: Engineer IV – Plant Manager
Duties: Oversee the effective and efficient operation and maintenance of the plant and employees ensuring compliance with all standards
Develop staff by mentoring subordinate managers, supporting group leaders, coaching individuals and building a team
Direct capital and operational planning
Develop and adhere to the operational budget that is based on best management practices and cost effectiveness
Set goals and protocols for the facility and personnel, oversee their implementation and assess performance
Promote sustainability, energy management and green initiatives
Liaison with other units, departments, utilities and agencies
Provide off hours technical support as Incident Commander and Certified Operator in Charge

11/89 to 01/09: City of Philadelphia Water Department – Belmont WTP
Title: Engineer III – Assistant Plant Manager
Duties: Maintain water quality and plant operation
Ensure compliance with all local, state and federal regulations for water and wastewater including all reporting requirements and involvement in the PfSDW
Set process goals and performance criteria and assess performance of plant
Suggest, research, design and evaluate the effectiveness of plant upgrades and process enhancements
Provide off hours technical support and spill response

6/82 to 11/89: City of Philadelphia Water Department – Industrial Waste Unit
Title: Engineer
Duties: Manage the wastewater pretreatment program.
Interpret and enforce all discharge requirements
Assess compliance, suggest improvements, levy fines/charges
Develop/ manage the PCB transformer delisting program
Provide off hours spill response

**PROFESSIONAL
MEMBERSHIPS
AND LICENSES:**

Commonwealth of Pennsylvania Professional Engineer
Commonwealth of Pennsylvania Water System Operator Certification

References: Supplied on request

SCHEDULE BJ-1

BENJAMIN C. JEWELL

PROFESSIONAL EXPERIENCE

PHILADELPHIA WATER DEPARTMENT, PHILADELPHIA, PA, 2007 - PRESENT

Chief Water Transport Operations Engineer, Collector Systems (2016-Present)

- Responsible for the operation and maintenance of the City's wastewater and stormwater collection systems.
- Supervise 400 employees and oversee an annual operating budget over \$32M.
- Manage and support multiple superintendents with operating and maintenance decisions, development of budgets, contract management, disciplinary decisions, and workplace policy.
- Review and support labor relations between management and union represented personnel, including evaluation of union grievances and assistance resolving disciplinary issues.
- Manage a team of engineers responsible for providing technical support and analysis of various information systems to support field personnel actions and decisions.
- Provide feedback to modify capital design proposals to meet maintenance needs required by field personnel.
- Identify and recommend necessary actions to execute repairs to structural issues within the collection system in coordination with subordinate staff.

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

- Managed multidisciplinary team of engineers responsible for supporting Collector Systems field operations, 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.
- Assisted Chief Engineer with development of group budget, organization and hiring.
- Supported efforts to enhance work order management systems and data collection systems to maximize accuracy and value of information.
- Participated on multiple department-wide teams to enhance initiatives involving different units.

Environmental Engineer, Industrial Waste Unit (2007-2013)

- Inspected industrial facilities and drafted documents (permits) regulating wastewater discharged to City sewers.
- Assisted with management of co-engineers, industrial facility inspection and wastewater sampling technicians.
- Prepared annual reports to regulating agencies requiring verification of compliance and sampling information collected during the previous year.
- Developed written policies for unit operations, and instructional public documents circulated to regulated facilities.
- 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