

**PHILADELPHIA WATER DEPARTMENT  
FISCAL YEAR 2016 BUDGET TESTIMONY  
APRIL 28, 2015**

**EXECUTIVE SUMMARY**

**DEPARTMENT MISSION AND FUNCTION**

**Mission:** To plan for, operate, and maintain both the infrastructure and the organization necessary to purvey high quality drinking water for the Greater Philadelphia region, provide an adequate and reliable water supply for all household, commercial, and community needs, and sustain and enhance the region's watersheds and quality of life by managing wastewater and stormwater effectively.

**Description of Major Services:** The Philadelphia Water Department (PWD) serves the Greater Philadelphia region by providing integrated water, wastewater, and stormwater services. PWD also operates three drinking water plants which treat and deliver about 236 million gallons per day of top quality drinking water that meets or exceeds all federal, state and local regulations. Additionally, it operates three water pollution control plants that treat approximately 490 million gallons of wastewater per day at a level that meets or exceeds federal and state standards, protecting and preserving our vital waterways.

**PROPOSED BUDGET HIGHLIGHTS/FUNDING REQUEST**

**Budget Highlights:** As a utility, PWD is not funded through the General Fund but is funded primarily by the revenue the Water Revenue Bureau collects for clean water and wastewater treatment. The proposed Water Fund operating budget for FY16 is \$767 million which includes not only the operating budget of PWD (\$367.1 million) but other significant costs, such as the operating budgets of the Water Revenue Bureau and the Office of Innovation and Technology (OIT)-Water, debt service, employee fringe benefits, and other central agency support services. The proposed PWD operating budget for FY16 is \$367.2 million which reflects a \$18.1 million increase over FY15 Current Projection. The increase is attributable to projected higher costs for labor, professional services, energy, chemicals, and equipment.

		FY14 Actual	FY15 Current Projection	FY16 Proposed Budget	FY16-FY15 Change	FY16-FY15 Percent Change
Water Department	100	89,649,635	99,000,000	102,961,600	3,961,600	4.0%
	200	114,344,574	139,146,900	151,645,200	12,498,300	9.0%
	300/400	43,538,615	44,286,100	47,460,200	3,174,100	7.2%
	500	6,036,097	0	100,000	100,000	0.0%
	800	76,515,198	66,641,000	65,000,000	(1,641,000)	-2.5%
	Total	330,084,119	349,074,000	367,167,000	18,093,000	5.2%
	Positions	1,744	1,947	1,947	0	0.0%

- The Water Department Class 100 budget request of \$102.9 million is \$4.0 million over FY15 Current Projection. The increase is primarily attributed to the recent settlement of labor contracts.
- The Class 200 budget request of \$151.6 million is \$12.4 million over FY15 Current Projection. This increase is primarily due to the costs of electricity, gas, maintenance and repairs at PWD plants and supporting the Consent Order and Agreement programs.
- The Class 300 and 400 budget request of \$47.4 million is \$3.1 million above FY15 Current Projection due primarily to an increase in chemical costs, building materials, machinery and equipment at PWD water treatment and water pollution control plants.
- The Class 800 budget request of \$65.0 million is \$1.6 million lower than FY15 Current Projection, primarily due to a small reduction in transfers the General Fund for services rendered.
- The total Water department operating budget increase of \$18 million represents a 5.2% increase from the FY15 Current Projection.

**Staff Demographics Summary (as of December 2014)**

	Total	Minority	White	Female
Full-Time Staff	1,714	1,095	619	337
Executive Staff	15	4	11	7
Average Salary - Executive Staff	\$119,701	\$106,853	\$124,373	\$108,788
Median Salary - Executive Staff	\$119,025	\$104,513	\$124,200	\$104,919

\*Employment level does not include 9 full time apprentices (6 African American males; 3 Hispanic males); 7 graduate engineers (3 Caucasian males; 4 Caucasian females); and employees on leave.

**Employment Levels (as of December 2014)**

	Budgeted	Filled
Full-Time Positions	1,947	1,714
Part-Time Positions	0	0
Executive Positions	16	15

**Contracts Summary (\*as of December 2014)**

	FY10	FY11	FY12	FY13	FY14	FY15*
Total amount of contracts	\$58,790,962	\$130,695,391	\$105,653,665	\$145,599,508	\$171,861,087	\$125,472,044
Total amount to M/W/DBE	\$10,013,494	\$32,535,549	\$22,336,432	\$33,113,328	\$39,335,707	\$37,590,607
Participation Rate	17%	25%	21%	23%	23%	30%

## PERFORMANCE, CHALLENGES AND INITIATIVES

### DEPARTMENT PERFORMANCE (OPERATIONS)

Millions of gallons of water treated increased by 0.7% between FY13 and FY14 and decreased by 4.5% in the first half of FY15 compared to same time period in FY14 based on the demand of PWD customers. PWD's Water Pollution Control Plants (WPCP) continue to achieve 100% compliance with their National Pollutant Discharge Standards. In FY15, the Southeast WPCP will receive a Platinum 15 Award for 15 years of 100% compliance. The Northeast WPCP will receive a Platinum 9 Award, and the Southwest WPCP will receive a Gold 4 Award.

PWD surveyed 775 miles of pipeline for leakage in FY14, 19.4% or 187 miles fewer than in FY13. The variation in miles of pipeline surveyed is partly explained by the trends in water main breaks, as the same crew and equipment are used to conduct the survey and locate active leaks. With more main breaks to locate in FY14 than in FY13, the crews were not able to survey as many miles of pipeline for leakage as in the prior year. Total water main breaks in Philadelphia still remain below the national average and PWD continues to implement a detailed water main replacement planning initiative, which uses risk-based planning to identify and prioritize main replacement projects, ultimately reducing the total of annual water main breaks throughout the city. In FY14, the average time to repair water main breaks was roughly 6.2 hours, below the eight-hour target. Additionally, PWD is currently meeting the target of ensuring 99.7% of hydrants are available. PWD cleaned 94,653 storm drains in FY14, a 5.6% decline from FY13 numbers, but FY15 is on track to exceed FY14 totals based on Q1-Q2 trends.

PWD is pursuing an aggressive plan to reduce stormwater impacts and pollution through greening its infrastructure, and has approved 385 acres of private development plans across the entire city in FY14 (53.4% increase from FY13). As a result of this work, stormwater discharges were reduced by over 250 million gallons in FY15. As the stormwater reduction plans move forward, PWD will need to replace some of the related metrics in the table below with more suitable measures that more appropriately capture the activities in this area.

Performance Measure	FY08	FY13	FY14	FY14- FY13 Change	FY14 Q1-Q2	FY15 Q1-Q2	FY15- FY14 Q1-Q2 Change	FY15 Goal	FY16 Goal
Millions of Gallons of Treated Water	93,679	89,616	90,213	0.7%	44,783	42,790	-4.5%	97,920	97,920
Percent of Time Philadelphia's Drinking Water Met or Surpassed State & Federal Standards	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%	100.0%
Miles of Pipeline Surveyed for Leakage	1,113	962	775	-19.4%	458	397	-13.3%	1,130	1,130
Water Main Breaks Repaired	687	823	969	17.7%	368	333	-9.5%	100%	100%
Average Time to Repair a Water Main Break upon Crew Arrival at Site (Hours)	7.6	5.8	6.2	6.5%	6.4	6.5	2.4%	< 8.0	< 8.0
Percent of Hydrants Available	99.7%	99.7%	99.7%	0.0%	99.7%	99.6%	0.0%	99.7%	99.7%
Number of Storm Drains Cleaned	75,804	100,251	94,653	-5.6%	49,746	53,739	8.0%	111,444	111,444
Acres of Watershed Plans Approved	485	251	385	53.4%	201	263	30.9%	240	240
Resultant Watershed Stormwater Flow Reduction (Million Gallons)	461	236	367	55.5%	192	250	30.1%	228	228

### DEPARTMENT CHALLENGES

- Aging infrastructure and limited capital:** The financing of repairs to aging infrastructure is perceived as the most critical risk in the procurement and management of water in the next five years, according to the 2014 U.S. Water Industry Outlook. In order to keep up with the degradation associated with an aging system, PWD is ramping up reinvestment in its infrastructure. PWD continues to schedule infrastructure replacement and rehabilitation projects as infrastructure reaches the end of its useful life. PWD utilizes various asset management tools and a strong maintenance program to optimize the capital program in order to maximize an asset's useful life while maintaining a high level of reliability. With a replacement value in excess of \$30 billion, the goal of the program is to maintain its assets in a reliable state without prematurely replacing them, and consequently increasing debt service costs. This is also a key reason why PWD has embarked on a master capital planning process for the water and wastewater systems for beyond 2040.

- **Succession planning:** PWD continues to confront the challenges posed by staff attrition due to retirement. Among the many programs and initiatives currently in place to ensure that PWD attracts and retains a highly-qualified and diverse workforce are: increased recruitment from universities, including Historically Black Colleges and Universities, expanded internship opportunities; comprehensive staff training curricula; coordinated programming through the Community College of Philadelphia and other trade schools; establishment of a Philadelphia Water Trades and Green Infrastructure Apprenticeship program, and sponsorship of PowerCorpsPHL. Finally, PWD has added a number of new staff to the Human Resources group to ensure that PWD has the ability to handle the increased workload associated with staff loss.
- **Changes to process for setting water rates:** In February of 2015, City Council confirmed the five candidates nominated by Mayor Nutter to serve on the City's first Water, Sewer and Stormwater Rate Setting Board. The Board has independent authority to approve rate changes requested by PWD and will institute a transparent processes for fixing and regulating rates and charges. Under the previous process, water rates were proposed, a hearing officer was appointed to collect input from a variety of stakeholders, including a PWD-funded public advocate, and then rates were ultimately determined by the Water Commissioner. Moving away from that process, PWD will work with the Board members to provide key information and an overview of the utility operations and finances to transition rate-setting responsibility to the Board.

ACCOMPLISHMENTS & INITIATIVES: The below accomplishments and initiatives are organized according to PWD's eight strategic plan objectives.

### **Improved Customer Service, Outreach and Assistance**

**Call Center:** The addition of cloud technology to the PWD call center has allowed the customer call center to handle an increased number of calls. Prior to the use of this technology, the phone system was not consistently able to handle the center's daily call volume, especially during busy periods. Now the center has the capacity to handle and track all calls, resulting in fewer dropped calls and shorter wait times. Before the addition of cloud technology, the PWD call center handled an average call volume of 1,800 calls per week, with an abandonment rate of 9% and an average speed of answer at 2 minutes and 30 seconds. Now, the call center is consistently handling between 2,000 to 3,000 calls, is meeting the industry standard best practice of 3% abandoned calls, and answering calls on average a little over 30 seconds. Additionally, PWD worked with the Water Revenue Bureau and Community Legal Services to mediate solutions for customer service issues, such as simplified entry into payment agreements and a more streamlined appeals process for bill disputes.

Other customer service improvements include:

- **Community-friendly construction specifications:** PWD has created new construction specifications for contractors conducting field activities, such as water or sewer repair and replacement jobs, to improve conditions during construction processes. These specifications include enhanced safety protections and cleanliness requirement in addition to business friendly procedures along commercial corridors. The "quality of life" specifications have been implemented on a pilot basis with standardization for all PWD contracts targeted for early FY16.
- **Emergency and Bill Call Center Performance:** PWD and Water Revenue Bureau customer service are working with the Office of Innovation and Technology to offer self-service options including automated account balance information, water meter appointments and enhancements to online payment options through an updated website.
- **Business Incentive Programs:** The Stormwater Management Incentives Program provides non-residential PWD customers with financial incentives to manage stormwater runoff and reduce their stormwater bill. Since its inception in 2012 the program has provided over \$16 million to 41 properties that will result in 212 greened acres, at a cost of approximately \$80,000 per acre. Based on that program's success, the Greened Acre Retrofit Program grant was launched in 2014 to provide grants to project aggregators, such as contractors, business improvement districts or companies who can build large-scale stormwater retrofits across multiple properties. The first GARP grant of \$8 million was awarded to ISS Builds, who will be implementing green infrastructure projects with Cardone Industries, Quaker City Flea Market, Pacifico Ford, Lasdon Real Estate and others to create approximately 90 greened acres. Both programs are administered

through PIDC and applications are received on a rolling basis. Grant decisions are made quarterly and based on a variety of criteria, including cost-effectiveness.

### **Increase Workforce Strength and Diversity**

**Recruitment and Workforce Diversity Initiative:** PWD revamped and formalized its summer intern program to begin anew in the summer of 2015. During the 2014 fall career fair season, PWD Human Resources representatives attended local and regional college fairs to promote and recruit undergraduate students for internship opportunities in the engineering and environmental scientist career fields. As a result of these efforts, and assigning a specific staff member to coordinate with PWD managers and supervisors, PWD was able to successfully place students in paid learning opportunities in various units including: capital planning, design, construction, water treatment, energy, water efficiency and green infrastructure maintenance. This year's group of 25 students hail from various colleges that includes the University of Delaware, Howard University, Spelman College, Princeton, SUNY as well as Temple University and University of Pennsylvania. While the goal of this recruitment effort is to create pipelines to fill vacancies that will occur as a result of the employees enrolled in DROP, our efforts this year and last have also provided an opportunity to recruit and hire a more diverse professional workforce. 20% of this summer's interns identify as ethnic minority and 36% are women.

**Return of Apprenticeship Program:** After a five year hiatus, PWD re-launched its Apprenticeship Program in 2013 with a goal to build and maintain a diverse high performing workforce by effectively recruiting, hiring, and retaining top talent from Philadelphia high school programs and vocational/technical training institutions. The initial enrollment of apprentices will complete Phase II of the program this summer. Phase II began last July after the students graduated from Edison High School. In addition to the initial enrollees from Edison, six students who worked at the Department through the PowerCorpsPHL program transitioned into Phase II of the Apprentice program. During the past year each of the Phase II apprentices worked full-time serving as a vocational school interns at one of the Department's facilities. Additionally, each Phase II apprentice was enrolled in supplementary English and math courses provided by the Community College of Philadelphia. In July this group of apprentices will transition to Phase III of the program as Maintenance Mechanics, a permanent civil service title. During the final year of the apprenticeship program each student will be enrolled in technical training to enhance their backgrounds in HVAC, electrical and building maintenance skills. In February PWD accepted the second class of Phase I Apprentices who are now working one day a week at one of our facilities. These students were selected from Mastbaum H.S. and Randolph Career Academy.

**Green Apprenticeship Program:** This year PWD also inaugurated a Green Apprenticeship Program. The program is designed to provide Philadelphia high school students with academic training and work experience in green infrastructure. This first group of ten students was selected from Randolph Skill Center and Overbrook High School. The program will take place from January through June (classroom training) and July through August (in-field work). During the six weeks of in-field training the apprentices will perform green stormwater infrastructure maintenance and be compensated for their work hours. As a result, Philadelphia Water is being recognized as a WorkReady Seal of Approval employer.

**PowerCorpsPHL:** PWD is hosting its third cohort of PowerCorpsPHL members. PowerCorpsPHL is a nine month AmeriCorps program for individuals ages 18 to 26 who provide six months of full-time service as AmeriCorps members in city departments. The program is designed to address environmental stewardship initiatives as well as youth workforce development and violence prevention. Current PowerCorpsPHL members are working in the Department's facilities in electrical and HVAC trades' helper positions and in building maintenance, as well as with inlet cleaning crews and Green Stormwater Infrastructure maintenance crews. Through three cohorts, PWD has hosted 44 PowerCorpsPHL members. Of those, five have joined PWD's Apprenticeship program and six have been offered the chance to serve a second term with PowerCorpsPHL and Philadelphia Water. Several members have received employment with companies due to their experience with PWD.

**Safety Enhancements:** During the past year PWD undertook an evaluation of our Safety program which resulted in the preparation of a gap analysis that compared our current policies and practices with industry best practices. While it was found that PWD currently operates with a robust overall program there were a number of recommendations issued for making improvements. These include: documentation of "good catches" & "near misses"; enhanced

communication between various work sites through monthly newsletters; increasing the number of announced and unannounced safety inspections, and more detailed data analysis.

### **Improve Financial Health**

**Strategic and Financial Planning:** The first annual update to the Strategic Plan was published in the spring of 2015. In addition to refining previous goals, the update indicates priorities for FY16 and includes key performance indicators (KPIs) to track progress towards plan implementation. These KPIs will be used to create a strategic plan dashboard that will make it easier to track performance across PWD and identify areas for improvement. PWD continues to plan for the future and investment in infrastructure. PWD has developed strategic business and financial plans, and has developed a long-range capital investment program to proactively tackle both the immediate and the long-term projects that will ensure the stability and efficiency of the city's wastewater, storm-water and drinking water systems.

- New wastewater treatment agreements with Cheltenham Township and Abington Township. The amended wastewater treatment agreements provide for payment of a proportional share of the Consent Order and Agreement costs along with a management fee from 10% to 12%.
- In March of 2015, Fitch Ratings, Moody's and S&P have assigned to municipal bond ratings of "A+", with a stable outlook, "A1", with a stable outlook and "A", with a positive outlook, respectively to the City of Philadelphia, Philadelphia Water Department Series 2015A and Series 2015B Bonds.
- During Fiscal Year 2014, PWD continued its record of exceeding its financial projections and demonstrating fiscal responsibility.

### **Invest in Capital Planning**

**Water and Wastewater Systems Master Planning:** PWD is creating a 50-year Wastewater Facility Master Plan for each of the three wastewater treatment plants: Northeast, Southeast, and Southwest WPCPs. The Facility Master Plan will incorporate elements of long term population projections, sewer flow projections including suburban contracts, the effects of climate change on precipitation intensity and sea level rise, and city-wide land redevelopment plans. The Plan also will analyze the replacement of aging infrastructure beyond year 2060, evolving needs of the City and the rehabilitation or replacement of wastewater treatment and resource recovery plants to meet the changing technologies.

PWD is also creating a 50-year Water Master Plan for the entire water system including the water treatment plants, storage reservoirs, pumping, and distribution system. The Facility Master Plan will incorporate elements of long term population projections, resiliency and redundancy needs, and future drinking water quality technology. The Plan also will analyze the replacement of aging infrastructure beyond year 2060, evolving needs of the City and the rehabilitation or replacement of water system to meet the challenges of providing safe and affordable drinking water to its citizens.

**Storm Flood Relief:** Like many cities across the nation, Philadelphia is confronted with an increase in flood risk to both properties and natural areas. Flooding to properties and natural areas is destructive, costly and can render homes and businesses dangerous and unhealthy. As part of our Capital Improvement Program, PWD is budgeting \$40 million annually to reduce stormwater runoff through green stormwater infrastructure. In addition, PWD is spending \$30 million annually to enhance and improve our sewer system. These investments will continue to reduce and mitigate flood risk throughout Philadelphia. PWD continues to study the feasibility of structural system improvements in areas susceptible to flooding. Through our Basement Protection Program, PWD has spent \$1.7 million since 2005 to protect more than 450 homes. In coordination with our fellow City agencies, PWD is in the process of chartering the Citywide Flood Risk Management Task Force. As part of this Task Force, PWD is:

- Coordinating response and recovery with city, state, and federal agencies
- Providing advanced warning forecasts in advance of large storms
- Tidal and neighborhood flooding projections and vulnerability analyses
- Assessing FEMA flood map revisions
- Projecting climate change impacts
- Installing signage in areas susceptible to flooding
- Reviewing zoning and building codes

- Meeting with communities

**Metering:** During FY14, PWD began to assess and plan for the Second Generation Advanced Metering Infrastructure (AMI) System as the state-of-the-art technology to succeed the AMR System, which is under contract to Itron (including two optional one-year renewals) until September 2019. Work is continuing during FY15 to identify a slate of options of system capabilities, costs, and project timing. This will provide executive decision-makers with the most informed data and information to develop a strategic plan for the AMI System and plan its funding.

**Capital Budget Efficiency:** 64% of PWD's Capital Budget will be used to improve the performance of our assets and the water system. These projects help reduce energy and maintenance costs, and help to reduce water loss. Improvements include water main reconstruction and replacement of outdated meters; sewer reconstruction and system optimization, and green infrastructure; replacing aging assets with more energy efficient equipment and projects that reduce water loss.

### **Protect Infrastructure:**

**Expanded Investment in Infrastructure Stability:** PWD continues to increase its focus and resource commitment to the protection and renewal of the City's water and sewer infrastructure. PWD launched a Capital Plan for FY16 that kicks off a six-year, \$1.78 billion Capital Improvement Program. PWD continues to refine the water main protective model system which is based on risk analysis to directly inform the program plan.

In FY14, PWD bid \$197 million in capital projects, renewed or replaced 30 miles of water and sewer pipes, and reinvested in our water and wastewater facilities. In addition, PWD implemented a major part of the projects funded through the \$200 million awarded from the PennVest fund as those projects are coming to completion.

Water main breaks remained below the national average, at fewer than 2.25 breaks daily. PWD's long-term break rate trend has been in decline over the past 30 years, and PWD is striving to work toward the optimized level of 15 breaks per 100 miles of pipe per year established by the Distribution System Optimization initiative of the American Water Works Association's Partnership for Safe Water Program.

Additionally, Notice to Proceeds were issued on the \$36 million New Gravity Thickeners at the North East Water Pollution Control Plant (NEWPCP). The \$20 million Northern Liberties Flood Relief Project is half way complete, as is the \$17 million Laurel Street Outfall project being performed on PWD's behalf by Sugarhouse which are the early phases of flooding abatement program in the Northern Liberties area of the City. Prioritization of projects that enhance the integrity of the City's water/sewer infrastructure and support sustainable utility operations will allow PWD to continue its mission to protect the public and the environment. Additional infrastructure highlights include:

- **The Venice Island Sewer Overflow Basin Project and Performing Arts Center:** Working in partnership with Philadelphia Parks and Recreation and the Manayunk Community, PWD unveiled the new center in October of 2014. This \$45 million dollar project included work to construct an underground storage tank and head house facilities to protect and improve the health of the Schuylkill River; the construction of a new performing arts center to replace recreation facilities demolished to accommodate the project; and the development of a new parking lot that includes green stormwater management practices. The underground storage tank will hold nearly four million gallons of stormwater, thus avoiding overflows directly into the Schuylkill River. The complementary canal improvements will also greatly benefit the area by creating more flow through the canal, improving water quality. In addition, the project achieved 31% disadvantaged business participation. The workforce diversity of this project shows workforce participation in the following categories:
  - Minority Journeypersons: 30%
  - Minority Apprentices: 28%
  - Female Journeypersons: 5%
  - Female Apprentices: 9%
  - Local Journeypersons: 43%
  - Local Apprentices: 44%

- The **Northeast Water Pollution Control Plant By-Pass Conduit Project** (\$16 million) began in 2013. When complete, this project will allow the Northeast Water Pollution Control Plant to increase its wet weather flow capacity by 215 million gallons per day up to a plant total flow of 650 million gallons per day. This project is part of PWD's Long Term Control Plan for reducing Combined Sewer Overflows in the city.
  - **Baxter Water Plant Clear Well:** In May 2010, PWD discovered a failed 4-foot by 6-foot section in the vegetated roof cover of the clear water basin (CWB). The CWB contains 50 million gallons of Baxter Plant finished water and supplies the Lardner's Point Pump Station. PWD temporarily repaired and covered the breach and continuously monitors water quality at the influent and effluent of the CWB. No adverse effects have been observed and access to the failed roof area has been closed-off to prevent further damage to the basin in operation. PWD has completed a thorough underwater inspection and condition assessment of the basin, the outlet chamber and the influent valves. Structural improvements were made to the CWB outlet structure and stoplog chamber and new aluminum stoplog panels fabricated, installed and tested in January and March 2012. The successful test of the stoplog panels and operation of the influent valves, confirmed PWD's capability to isolate the CWB in case of an emergency. PWD has sufficient storage upstream of the CWB and a permanent by-pass conduit as a viable emergency alternative to the CWB. PWD also repaired, re-commissioned and demonstrated the "A-stage" pumps at Lardner's Point Pump Station that would be required to be put into service in the event of a CWB outage. PWD will replace the CWB with a smaller set of basins to be constructed on an adjacent five acre site and tied into the gravity line to Lardner's Point Pump Station and the south side of the Torresdale High Service Station. The project consists of two 5MG basins and associated piping. The design is complete and the project is anticipated to be bid in 2015.
  - **East Park:** The East Park Reservoir, which is located in East Fairmount Park adjacent to the Strawberry Mansion neighborhood, will be undergoing upgrades and changes over the next several years. The upgrades will include construction of new storage tanks and an exciting partnership with Philadelphia Parks and Recreation, the National Audubon Society, and Outward Bound Philadelphia. The new water storage tanks will provide approximately 60 million gallons of drinking water storage for the City, replacing the existing covered earthen basin reservoir that was constructed over 130 years ago. These new tanks will enable PWD to continue supplying high quality drinking water to the City during normal and emergency water supply conditions.
- Indian Creek Restoration Project:** In partnership with the U.S. Army Corps of Engineers and Philadelphia Parks and Recreation, PWD completed the restoration project along the West Branch of Indian Creek, located behind the Charles Pap Playground and Recreation Center. The PWD project included the construction of a new stream channel and diversion of the West Branch from a culvert to a natural area within the park before making its confluence with the East Branch. Diverting the stream out of the culvert is referred to as "daylighting" the stream. Daylighting the stream has created approximately 1000 feet of new stream habitat. A vault structure designed to regulate the amount of combined sewage in the new storage tank was constructed **on the east end of the culvert**. This vault structure allows can hold about 180,000 gallons of overflow.

#### **Excellence in Core Services:**

**Product Quality at 100%:** While other cities struggle with water quality issues that make it necessary to issue "boil water" alerts, PWD met the goals of the U.S. Environmental Protection Agency (EPA) Partnership for Safe Water, providing the highest quality drinking water, 100% of the time, to all our customers. PWD is also protecting rivers 100% of the time, an accomplishment that will be recognized with a Gold Peak Performance Award from the National Association of Clean Water Agencies (NACWA) and continues a streak of meeting these goals. PWD was able to achieve this performance even under peak stress conditions. Other highlights include:

- **Partnership for Safe Water Award:** PWD received the Partnership for Safe Water 15 year Director's Award in 2014 for excellence in meeting the standards set by the Partnership. PWD consistently produces high quality drinking water, achieving Partnership for Safe Water quality standards that are stricter than State and Federal water quality regulatory requirements. Philadelphia voluntarily adopted these goals in 1996.
- **National Association of Clean Water Agencies Awards:** Each year, the National Association of Clean Water Agencies presents awards to wastewater treatment facilities that achieve 100% compliance with their National Pollutant Discharge Elimination Standards permits. In 2015, the Northeast Water Pollution Control Plant will receive a Platinum 9 Award for nine consecutive years of 100% compliance. Also in 2015, the



Southeast WPCP will receive a Platinum 15 Award and the Southwest WPCP will receive a Gold 4 Award. These facilities consistently provide excellent service to our customers and protect the Schuylkill and Delaware Watersheds from pollution, enhancing our environment and the quality of life in Philadelphia.

- **Delaware Valley Early Warning System-** Tidal Spill Trajectory Project won the 2015 Governor's Award for Environmental Excellence.
- **Contaminant Warning System:** In 2009, PWD received over \$9 million in federal grants to launch and expand a Contaminant Warning System (work completed in 2013). The objectives of the Contaminant Warning System were to develop strategies, enhance technologies, integrate information and empower people to provide timely detection and response to water contamination and protect the city's social, economic, and environmental investment. PWD has also used the program to create more effective day-to-day management of the water system. Outcomes of the program include increased cooperation and formal relationships with stakeholders, improved PWD employee safety, improved communication with the public, created better understanding of PWD's needs during a contamination event and of the capabilities of supporting agencies, and better protection of critical water infrastructure.

**Green City, Clean Waters:** PWD continues its work in the *Green City, Clean Waters* Partnership Agreement, a national model for U.S. cities to implement green infrastructure to address sewer overflow. This initiative saves the City billions of dollars by avoiding the need to construct and maintain additional traditional water and sewer infrastructure. These projects appear in the form of tree lined streets, planted areas in sidewalks or streets, or as rain gardens or porous pavement at schools and recreation centers. Not only do these projects substantially increase the rate of greening, but they also improve the quality of our air and water and help reduce heat-related and air-related illnesses. Since the start of FY14, PWD controlled the stormwater runoff from as much as 498 acres or more of the total area in the City through the use of green stormwater infrastructure, while also creating newly vegetated areas, better water and air quality, and improved human health conditions for residents. PWD has also restored two miles of local streams, created three and a half acres of wetlands and cleared area waterways for the safe passage of at least 3,500 migratory fish. PWD received the American Planning Association's 2015 National Planning Excellence Award for the implementation of *Green City, Clean Waters*.

In the process, PWD has established strong partnerships with the community and the School District of Philadelphia for green infrastructure implementation on parks and schools. Through the Rain Check program, PWD installed over 7,000 rain barrels and over 150 other stormwater tools in residential homes. PWD is actively monitoring almost 50 green infrastructure sites and has installed low cost sensors at schools for Science, Technology, Engineering, and Mathematics (STEM) education. Through the Infill Soak It Up design competition, engaged 23,000 people in 20 events focused on accelerating the adoption, adaptation and implementation of green stormwater infrastructure. PWD also launched incentive grant programs to help commercial properties manage stormwater and reduce their stormwater bills.

In FY16, PWD will face the first five-year evaluation period set under the Consent Order with the Environmental Protection Agency regarding the *Green City, Clean Waters* program. By the end of FY16, 1,000 acres or more of the overall area of the city may be brought under control of green stormwater infrastructure, while creating newly vegetated areas, better water and air quality, and improved human health conditions for the residents. PWD will also seek to create a formalized network of municipalities and utilities with which to share best practices and data to help drive down costs, increase efficiency and find new financing mechanisms.

**Implementation of cost effectiveness study recommendations:** In 2014, a management consulting firm was hired to review PWD field and call center operations and recommend improvements in customer service and cost effectiveness. The consultants identified several items for consideration, in areas such as IT, training, and deployment. PWD and WRB are working with the consultants to implement many of the recommendations.

### **Ensure Sustainable Utility Operations**

**Implementation of Utility-Wide Energy Strategic Plan:** Since 2008, PWD has led several initiatives that have furthered its development of its Utility-Wide Energy Strategic Plan including:

- **Aircraft Deicer Co-Digestion:** In the winter of 2008, PWD began accepting aircraft deicer fluid (ADF) from the Philadelphia International Airport to feed directly into the anaerobic digesters at its Southwest Water Pollution Control Plant. This process increases the production of energy-rich methane gas that PWD can use to power plant operations, which reduces PWD's dependence on non-renewable energy sources. Collecting the deicer and preventing introduction to the water effectively curtails the environmental and public health problems associated with deicer use. Through the addition of deicer to the anaerobic digesters at Southwest, PWD increased its digester methane production by an average of 8,700 MMBTU per year. The amount of ADF delivered to PWD depends on the severity of the winter and the winter of FY 2014 was severe, setting a record high of 6.4 million gallons of ADF delivered which produced 17,000 MMBTU of energy and earned over \$345,000 in tipping fees. PWD has accepted 19.7 MG of ADF, produced 52,413 MMBTUs of energy, and earned \$1,064,951 in tipping fees since 2008.
- **Solar Panel System:** In August of 2011, PWD finalized the installation of a photovoltaic system consisting of 1,014 solar panels at the Southeast Water Pollution Control Plant. Since installation, the system has generated approximately 1,010,000 kWh, averaging 337,000 kWh per year, equal to the electrical energy needed to power approximately 36 homes annually. The total project cost was \$1.6 million, with over half coming from the Energy Efficiency and Conservation Block Grant Program. The project payback was estimated to be 12 years. The facility supplies roughly 5% of the facility's electrical load and saves PWD about \$25,000 annually, varying with the cost of electricity. PWD also produces and sells Solar Renewable Energy Certificates (SRECs). In 2013, PWD sold 370 SRECs from 2011 and 2012 worth approximately \$6,200 to PPL.
- **Sewer Geothermal:** In February of 2012, PWD put its Sewage Geothermal Installation into operation at the Southeast Water Pollution Control Plant. The installation extracts energy from the sewage arriving at the plant and uses it to heat the plant's compressor building and gallery space, saving PWD \$18,000 annually. PWD collaborated with NovaThermal Energy to test their unique, patented geothermal process for the first time in the United States. The project was partially funded through a \$150,000 *Greenworks* Pilot Energy Technology Program Grant. The balance of the \$240,000 project cost was covered by NovaThermal. As a result, the system was installed at no cost to PWD and its ratepayers. The system was put into operation in February 2012. During FY14, the energy cost savings totaled over \$15,000. The expected savings over the life of the project is \$216,600.
- **Biogas Cogeneration Facility:** The Biogas Cogeneration Facility at the Northeast Water Pollution Control Plant (WPCP) began operation in December 2013. This facility captures methane generated from the existing sewage treatment process, which can then be used to meet all of the process heat needs and 85% of the electrical requirements for plant operations. The facility produces 43 million kWh per year, enough energy to power 4,000 homes annually. During its first seven months of generation in FY 2014, the facility generated 24,730,000 kWh of electricity while delivering 65,000 MMBTU of heat to the WPCP. The \$47.5 million project was made possible through an innovative public-private partnership between the City, Ameresco Inc. and Bank of America, with Investment Tax Credit funding provided through the American Recovery and Reinvestment Act. PWD set and has met aggressive Economic Opportunity Plan goals for the project, achieving a 42% total minority contractor participation rate and workforce inclusion percentages at 33.8% minority, 5.3% female and 53.6% minority apprenticeship. Of particular interest, the biogas co-gen unit was fully operational during the polar vortices of January 2014 and avoided over \$600,000 in related energy cost spikes.
- **The Philadelphia Renewable BioFuels/Synagro** facility project was the result of a challenging public-private partnership to upgrade PWD's biosolids management program. Synagro Technologies was selected for the project and developed a comprehensive approach to maximize sustainability while streamlining costs. Its best-in-class heat drying and pelletization system produces quality biosolids pellets for sale in organic fertilizer and renewable fuel markets. These sustainable outlets will ensure consistent recycling of Philadelphia Water biosolids for many years to come. The City will reap many benefits from the project, including more than \$200 million in savings over the 20-year contract, production of a Class A biosolids product, elimination of off-site odors, improvement of site aesthetics, minimized noise and traffic impacts and reduced greenhouse gas emissions, while bringing the facility into compliance with air emission regulations. In addition, PWD solicited significant community input as area residents were previously directly impacted by odors and quality of life issues. Additionally, Synagro routinely coordinates the hiring of new employees through the Southwest Philadelphia community.

## **Support a Strong and Diverse Philadelphia Business Community**

**Increased Contract Participation with Disadvantaged Businesses:** PWD has made great strides in creating and expanding contracting opportunities for minority and women-owned businesses over the past several years, doubling the total participation rate from 12% in FY09 to 24% in FY14. In addition, a Director of Participation was hired to craft and implement a department-wide Participation Plan to address structural barriers to participation, seek partnerships with a variety of business and resource organizations, and provide training to staff.

PWD is committed to assisting companies in addressing issues around performance, business development capability, capital bonding, business planning, and technical support. During the fall of 2014, PWD partnered with the Mid-Atlantic Small Business Transportation Resource Center to provide a six-week hands-on, multi-component program designed to address what businesses need to become bond-ready. This program was tailored to businesses competing for transportation-related contracts with SEPTA, the Streets Department, PWD, and PennDOT. The curriculum included topics around construction related business planning and management, construction accounting and financial management, financing and credit, project management, workforce, field operations, claims and dispute resolution, estimating, bidding, joint venturing/teaming, and one-on-one meetings with bonding agents. The program graduated 13 businesses, resulting in three companies getting bonded and two pending bond applications. PWD is currently planning to host another session in the fall of 2015, pending approval from the U.S. Department of Transportation.

**Project Labor Agreements** - The City of Philadelphia has determined that certain projects, because of their size, complexity, need for a variety of craft labor and critical deadlines are generally appropriate for Project Labor Agreements (PLAs). PWD reviews all proposed projects with an estimated construction cost of \$5 million or more to determine if a particular project would be appropriate for a PLA. Projects with lower estimated costs may also be appropriate for PLAs. Currently, PWD has 13 PLAs in place for seven projects estimated from \$4.5 million to \$45.8 million. PWD anticipates increasing its PLA portfolio with an additional 14 projects during the remaining part of FY15 into FY16; two projects of which will be a four-part bid. The PLAs for these projects include requirements for diversity in the trades and the inclusion of local, minority and women hiring goals.

## STAFFING

PWD operating budget has an allocation for approximately 1,950 positions comprising of 277 job titles. There are approximately 200-230 vacancies or about a 12% rate. These vacancies, in part, are the result of the movement (promotional and lateral) of staff both internally and to other Departments that is the natural result of the Civil Service system. Positions not accounted in the 1,714 reported staff demographics are nine apprentices (all males; 6 African Americans; 3 Hispanics); in addition to, 7 graduate engineers (3 Caucasian males, 4 Caucasian females). The remaining balance of vacancies is the result of employee attrition and retirement. During the past year numerous initiatives have been undertaken to further reduce the overall vacancy level. These include the addition of new PWD Personnel staff, better I.T. data management capabilities and improved civil service test scheduling to ensure the availability of qualified candidates for all open positions. It is expected that during the next year the overall vacancy rate will be further reduced to around 7% which is sustainable fiscally and operationally. Our staff continues to grow and fill vacant positions to respond to needs related to planning implementation and maintenance of our Consent Order, Storm Flood Relief project planning, expediting of development plan reviews, succession and legal obligations. The augmentation of business support, Office of Economic Opportunity (OEO) coordination and participation data tracking, workforce diversity and training coordination, and improved internal control function have also contributed to these increases.

Over the past three years, Commissioner Neukrug has hired eight exempt positions. Of those eight, six are women, three are African American, two are Asian, and one is Hispanic.

### Staff Demographics (as of December 2014)

<i>Full-Time Staff</i>			<i>Executive Staff</i>		
	Male	Female		Male	Female
	African-American	African-American		African-American	African-American
<i>Total</i>	695	186	<i>Total</i>	0	1
<i>% of Total</i>	40.5%	10.9%	<i>% of Total</i>	0.0%	6.7%
	White	White		White	White
<i>Total</i>	523	96	<i>Total</i>	7	4
<i>% of Total</i>	30.5%	5.6%	<i>% of Total</i>	46.7%	26.7%
	Hispanic	Hispanic		Hispanic	Hispanic
<i>Total</i>	36	5	<i>Total</i>	0	1
<i>% of Total</i>	2.1%	0.3%	<i>% of Total</i>	0.0%	6.7%
	Asian	Asian		Asian	Asian
<i>Total</i>	48	26	<i>Total</i>	1	1
<i>% of Total</i>	2.8%	1.5%	<i>% of Total</i>	6.7%	6.7%
	Other	Other		Other	Other
<i>Total</i>	75	24	<i>Total</i>	0	0
<i>% of Total</i>	4.4%	1.4%	<i>% of Total</i>	0.0%	0.0%
	Bi-lingual*	Bi-lingual*		Bi-lingual*	Bi-lingual*
<i>Total</i>	TBD	TBD	<i>Total</i>	TBD	TBD
<i>% of Total</i>	TBD	TBD	<i>% of Total</i>	TBD	TBD
	Male	Female		Male	Female
<i>Total</i>	1,377	337	<i>Total</i>	8	7
<i>% of Total</i>	80.3%	19.7%	<i>% of Total</i>	53.3%	46.7%

\*PWD will provide Bilingual information at the budget hearing.

## CONTRACTING

### M/W/DBE Participation on Large Contracts FY15 Contracts

Vendor	Service Provided	Amount of Contract	RFP Issue Date	Contract Start Date	Ranges in RFP	% of M/W/DBE Participation Achieved	\$ Value of M/W/DBE Participation	Total % and \$ Value Participation - All	Living Wage Compliant?
PMA - Synagro/BRC	Biosolid Services	\$21,650,000	5/24/04	10/24/08	MBE:	23%	\$4,979,500		Yes
					WBE:	5%	\$1,082,500	28%	
					DSBE:	0%	\$0	\$6,062,000	
PIDC	Stormwater Management Program	\$10,462,859	N/A - contract managed through a quasi agency	5/23/12	MBE:	15%	\$1,569,429		Yes
					WBE:	10%	\$1,046,286	25%	
					DSBE:	0%	\$0	\$2,615,715	
CDM Smith	General Consultant Services	\$8,872,700	4/8/13	7/1/13	MBE:	32%	\$2,839,264		Yes
					WBE:	3%	\$266,181	35%	
					DSBE:	0%	\$0	\$3,105,445	
AKRF	Green Infrastructure Stormwater Mgmt/Maintenance/Inspection	\$4,892,000	4/4/12	7/1/12	MBE:	23%	\$1,125,160		Yes
					WBE:	7%	\$342,440	30%	
					DSBE:	0%	\$0	\$1,467,600	
PMA - NE Biogas	Cogeneration	\$4,725,000	9/7/10	12/23/11	MBE:	30%	\$1,417,500		Yes
					WBE:	5%	\$236,250	35%	
					DSBE:	0%	\$0	\$1,653,750	

## OTHER BUDGETARY IMPACTS

### FEDERAL AND STATE (WHERE APPLICABLE)

- 99% of all PWD funds come from the ratepayers, so a decreased in state or federal funding at this time would have a limited impact on our current operations. However, state and federal funds received in the past have helped PWD start new programs that have proven successful. For example, the federal tax credit was used to help finance the Cogen facility.
- An increase in state and federal funds would help PWD make smart investments and increase the repair and replacement schedule for aging water infrastructure. It could also help enable PWD to strengthen existing programs, like the contaminant warning system, or to pilot more efficient stormwater management tools. PWD has appreciated our ability to access state revolving funds, and if we were able to access additional funds through PennVest we could allocate them towards programs to help meeting our Consent Agreement regarding Combined Sewer Overflows.
- PWD supports any efforts to create more funding tools. Specifically, PWD supports the federal Water Infrastructure Finance and Innovation Act, which would establish a five-year \$50 million pilot program to offer low-interest loans for water and wastewater infrastructure projects costing at least \$20 million.
- PWD is also interested in pursuing additional public private partnerships that can help leverage additional funds for infrastructure investment. Of interest is Chicago's emerging Infrastructure Bank, and efforts in the Pennsylvania legislature to expand authorization for public private partnership projects to local governments and school district projects such as utility infrastructure and facilities use for public water supply or treatment or stormwater disposal.

### OTHER

**Explanation of difference between OEO Annual Reporting and PWD Participation Reporting:** While the OEO report states that PWD achieved 22.9% participation, PWD contends that we actually achieved more because of projects let through a third party source and/or the active spend was not captured in the OEO report. Further, the OEO report does not include the participation on public/private and quasi projects that we fund. These projects alone achieved 28% participation.

The charts below demonstrate how PWD achieved 24% participation:

Table I illustrates combined participation on contracts that are reported in FY14 as awards and contracts under public and private partnerships; in addition to, projects that have expended dollars in FY14 under an Economic Opportunity Plan (EOP).

Table I: FY14 Contracts By Budget Type	Contracts Awarded	Commitment Participation	%
Operating and Capital	171,861,087	39,335,707	23%
Public/Private/Quasi	30,148,254	8,554,889	28%
<b>Overall Participation</b>	<b>202,009,342</b>	<b>47,890,596</b>	<b>24%</b>

Table II summarizes the various contract types under the operating and capital budget by which participation commitments were made.

Table II: FY14 Contracts By Contract Type Under Operating And Capital Budget	Contract Awarded	Commitment Participation	%
Contract Type			
Professional Services	48,104,547	15,599,177	32%
Miscellaneous Purchase Orders	1,089,000	306,000	28%
Public Works	120,371,717	23,303,275	19%
Small Order Purchases	965,122	83,575	9%
Supply Services and Equipment	1,330,702	43,680	3%
	<b>171,861,087</b>	<b>39,335,707</b>	<b>23%</b>

Table III summarizes contracts awarded through an authority in FY14.

<b>Table III: FY14 Contracts Project Type</b>	<b>Contract Spend</b>	<b>Commitment Participation</b>	<b>%</b>
Philadelphia BioSolids /PMA	21,100,000	5,337,500	28%
PIDC – SMIP/GARP	5,200,000	1,300,000	25%
NEWPCP Biogas/AMERESCO	3,848,254	1,346,889	35%
	<b>30,148,254</b>	<b>8,554,889</b>	<b>28%</b>

Table IV illustrates combined participation on contracts that are reported through the 2<sup>nd</sup> quarter of FY15 as awards and contracts under operating and capital budget; in addition to, projects that have expended dollars in FY15 under an authority.

<b>Table IV: 2<sup>nd</sup> Qtr. FY15 Contracts By Budget Type</b>	<b>Contracts Awarded</b>	<b>Commitment Participation</b>	<b>%</b>
Operating and Capital	125,472,044	37,590,607	30%
Public/Private/Quasi	36,837,859	10,331,465	28%
<b>Overall Participation</b>	<b>162,309,903</b>	<b>47,922,072</b>	<b>30%</b>

Table V summarizes the various contract types under the operating and capital budget by which participation commitments were made.

<b>Table V: 2<sup>nd</sup> Qtr. FY15 Contracts By Contract Type Under Operating And Capital Budget</b>	<b>Contract Awarded</b>	<b>Commitment Participation</b>	<b>%</b>
Professional Services	30,454,737	11,384,327	37%
Miscellaneous Purchase Orders	938,000	320,000	34%
Public Works	93,455,593	25,849,715	28%
Small Order Purchases	346,543	36,565	11%
Supply Services and Equipment	277,170	0	0%
	<b>125,472,044</b>	<b>37,590,607</b>	<b>30%</b>

Table VI summarizes contracts funded through an authority in FY 15

<b>Table VI: 2<sup>nd</sup> Qtr. FY15 Contracts By Project Type</b>	<b>Contract Awarded</b>	<b>Commitment Participation</b>	<b>%</b>
Philadelphia BioSolids /PMA	21,650,000	6,062,000	28%
PIDC – SMIP/GARP	10,462,859	2,615,715	25%
NEWPCP Biogas/AMERESCO	4,725,000	1,653,750	35%
	<b>36,837,859</b>	<b>10,331,465</b>	<b>28%</b>