

**PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY
PENNVEST APPLICATION FORMS**

**City of Philadelphia
Philadelphia Baxter Clearwell Basin
512033092112-CW
02/16/2022**

DESCRIPTION

PROJECT DESCRIPTION

What is the project type?	Drinking Water
What is the project name?	Philadelphia Baxter Clearwell Basin
What is the project's Primary County?	Philadelphia
What is the project's Primary Municipality?	Philadelphia City
What is the application type?	Traditional Construction
What is the project stage?	Construction
Is this related to a previous advanced funding application through PENNVEST?	No
If yes, enter the project name or number.	

COMMENTS

SYSTEM

SYSTEM DESCRIPTION

What type of system is this?	Existing System
What is your NPDES number?	0026689, 0026662, 0026671,
What is your PWSID number?	PA1510001
Do you own the system?	Yes
If no, explain	
Do you operate the system?	Yes
if no, explain	
Do you maintain the system?	Yes
If no, explain	
Will you construct the system?	No

If no, explain

Does this project include costs associated with the purchase of system capacity from another entity (i.e. capital contribution)? No

If yes, explain

Does this project include costs associated with the construction of capacity in your system for use and/or purchase by other entity (ies) (i.e. capital contribution)? No

If yes, explain

Is, or does the Applicant intend to be, a party to any inter-municipal agreements which affect this project or your system? No

Has the applicant issued debt or borrowed money, or does the applicant intend to issue debt or borrow money, under a trust indenture (i.e. Bonds)? No

Do you charge residential or commercial user fees? Yes

COMMENTS

FUNDING

REQUESTED PENNVEST AMOUNT

This is your requested PENNVEST amount. \$125,000,000.00

COMMITTED OTHER SOURCES OF FUNDS

Source Type	Source Name	Source Amount	Funding Comments
		\$	
Total:		\$0.00	

ESTIMATED TOTAL PROJECT COST

This is your estimated total project cost. \$125,000,000.00

COMMENTS

PROJECT CONTACTS

City of Philadelphia		Legal Entity	
Address: 1401 John F. Kennedy Boulevard Philadelphia, PA 19107		Email: Phone: 2156854948	
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	Phone:
	Phone Ext:

PROJECT SITE(S)

Baxter Water Treatment Plant	Primary Site
Address: 9001 State Road Philadelphia, PA 19136	Latitude: 40.0436373 Longitude: -74.9962119

PROJECT PLAN

PROJECT PLAN

Planning Consultation Date	11/16/2021
Planning Completion Date	11/16/2021
Design Start Date	10/29/2021
Design Completed Date	01/31/2022
Date Obtained All Needed DEP Permits	01/31/2022
Anticipated Construction Start Date	02/02/2023
Anticipated Construction End Date	09/16/2027

Letter of No Prejudice Issued by PENNVEST

PROJECT PHASE

Phase Name	Design Complete	Obtain All Permits	Start Construction	End Construction

COMMENTS

NARRATIVE : DESCRIPTION

NARRATIVE DESCRIPTIONS

Describe the problem that this project will correct or resolve. Please be specific and include such discussion points as the cause and impact of the problem, permit exceedances or compliance related problems, if any and/or any additional operational issues caused or contributed by the identified problem(s).

Philadelphia Water Department will construct two 5 MG clear well basins at the Samuel S. Baxter Water Treatment Plant. The Samuel S. Baxter Water Treatment Plant Clear Well Basin 3 & 4 Project continues the Philadelphia Water Department's efforts to replace an existing 120+ year old storage basin. CWBs 3&4 will be designed to be interoperable with the current CWB facility (CWBs 1&2 and flow control structures) to provide a modular group of 4 basins in a parallel flow configuration.

Baxter WTP averages 180 MGD of water treatment and supply for the City of Philadelphia with a peak capacity of 240 MGD. Baxter's Clear Well Basins serve as 'wet wells' and distribution storage for the Torresdale and Lardner's Point drinking water pumping stations.

The project will improve PWD's operational flexibility and process reliability by providing modular basins that can be isolated for maintenance and during emergencies. The addition of CWBs 3&4 will increase available clear well storage volume from 10 MG to 20 MG and provides increased tank redundancy.

The CWBs provide finished water storage downstream and function as a wet well for both Torresdale Finished Water Pumping Station (TFWPS) and Lardner's Point Pumping Station (LPPS). The CWBs also provide emergency

storage that provide PWD a limited amount of response time to address any interruptions in the supply of water from the finished water settling basins (FWSBs).

Adding CWBs 3&4 will increase the amount of emergency storage available to the distribution system in the event the water supply from Baxter WTP is interrupted. For example, this interruption could arise from maintenance, issues with the treatment processes at Baxter WTP, or a failure at the flow control valves. The increased basin capacity allows PWD Operations more time to address issues associated with the interruption before TFWPS and LPPS are impacted.

CWBs 3&4 provide additional storage units that allow for more active storage to remain in service when a basin is isolated for maintenance. In the case of a single basin out of service, the active volume is 15 MG with the additional tanks, instead of 5 MG with only CWBs 1&2.

The mechanical design accommodates the hydraulic grade line of the current CWB system and works in conjunction with CWBs 1&2. The volume of CWBs 3&4 is 5MG each, to match CWBs 1&2 to create a modular system of four basins. The modular design of the four, 5 MG CWBs allows for various operating configurations that facilitate taking sections of the Baxter CWB facility out of service without interruption of flow to the downstream pumping stations. The addition of CWBs 3&4 increases the emergency storage from 10 MG to 20 MG, with each basin holding 5 MG. Taking a single basin offline for maintenance will leaves 15 MG of active storage available.

The existing 40 MG clear well basin is over 120 years old and has experienced several issues with its roof over the past few years. As part of the PWD's continuing efforts to provide increased water supply reliability, it was determined that replacement of the existing Clear Well basin was necessary. Once the new CWBs are online, the existing, aged CWB will be demolished and this site used for soil disposal for material excavated during the construction of CWB's 3&4.

The four CWBs are buried concrete parallel storage tanks. Each basin can be isolated while maintaining service through the remaining basins. CWBs 3&4 will be designed with a similar layout as CWBs 1&2 allowing for uniformity in operation and maintenance of all 4 basins. The basins are buried to accommodate the hydraulic grade line of the gravity system between Baxter WTP and the downstream pumping stations, TFWPS and LPPS. Above ground tanks would require a large lift station to be constructed. PADEP agreed that CWBs 1&2 are allowable as buried tanks to avoid the significant construction effort of a major lift station. CWBs 3&4 are also designed as buried tanks for the same reasons.

The major definable features of work for construction of CWBs 3&4 include:

- Demolition of the existing CWB – to provide an area for soil relocation.
- Earth moving and excavation.
- Deep foundation – Auger Cast Piles.
- Concrete – Cast-in-Place Foundations and Walls and Precast Framing and Roof Components
- Influent and Effluent Houses with gates to control and shut off flow to an individual basin
- Green Roof – Stormwater best management practice
- Extension of 120" pipe to include connections to existing influent and effluent pipes
- Disinfection, testing and startup

Improved Resiliency and Maintainability at Baxter WTP

To improve the ability for the Baxter CWB Facility to remain available during and after unforeseen emergencies, the following elements are included in the design of CWBs 3&4:

- Four CWBs that can be individually taken out of service.
- Main power and backup power will be supplied from different sources.
- Separate level sensors provide information to both Baxter WTP and Load Control. The set of level sensors delivering information to Load Control is powered from TRWPS, while the level sensors for Baxter WTP is powered from the Gate House.
- Control logic for the operation of the CWB Facility is located at the redundant PLC at the Gate House Control Panel (GCP) and supervisory control provided at the DCS at Baxter WTP. All PLCs and the DCS are connected on a redundant fiber optic network.
- Seismic requirements for non-structural items. The manufacturer's design of the slide gates will be required to comply with Chapter 13 – Seismic Design Requirements for Nonstructural Components of the ASCE Standard SEI 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures. In lieu of shake table

testing, the manufacturer of the slide gates will be required to submit calculations that demonstrate that the slide gates remain in place and operational after a design seismic event.

- Access manholes will be provided that allow entry into the new conduits to accommodate construction, disinfection, and maintenance.
- Each basin can be isolated and taken out of service for maintenance without interruption to the other basins. AWWA recommends an interval of 3 years between tank cleaning and inspections. PWD currently has a recurring inspection and maintenance program for the existing CWB using the same interval. It is assumed that this inspection regime will be extended to the new CWBs.
- Five access hatches along the serpentine path between the baffle walls limit the distance to an available access point for personnel working inside the tank.
- The lining of the pipe will be cement mortar lining. During the design of CWBs 1&2, this lining was selected over a polyurethane partly because the repair of the lining did not require high-skilled labor / specialty contractors to repair.
- No drains are provided for any of the CWBs. According to the PADEP Public Water Supply Manual (383-2125-108 / May 6, 2006, Page 185), drains for finished water storage structures "shall discharge to the ground surface with no direct connection to a sewer or storm drain." This is not an option because the CWBs are buried tanks. A sump is provided in each basin to allow for portable drainage pumps to more completely empty the basins. The proposed location of the new Clear Well Basins No. 3&4 is on a portion of a City owned parcel operated by PWD at State Road and Pennypack Street in Northeast Philadelphia. Access to the facility is primarily from Pennypack Street via an unsecured private road known as Inner Drive which also provides access to CWBs 1&2 and the Police Academy grounds. The CWB 3&4 site is presently occupied by a large soil stockpile which will be relocated on-site before tank construction can begin.

Describe the scope of the project. List in quantitative terms what is planned to be constructed, rehabilitated and decommissioned. For Example: 'The 12,000 feet of 8-inch waterline will be replaced, one 200,000 gallon standpipe will be constructed, the current Market Street Pump Station will be decommissioned, a new 250 gallon per minute duplex pump station will be constructed on Leisure Street, 44 hydrants will be replaced...'

CWBs 3&4 is the second phase to complete the transition from 2 basins to a modular group of 4 basins. The volume of CWBs 3&4 is 5MG each, to match CWBs 1&2 to create a modular system of four basins. The addition of CWBs 3&4 increases the emergency storage from 10 MG to 20 MG, with each basin holding 5 MG. Once the new CWBs are online, the existing, aged CWB will be demolished and this site used for soil disposal for material excavated during the construction of CWB's 3&4. The major definable features of work for construction of CWBs 3&4 include:

- Demolition of the existing CWB – to provide an area for soil relocation.
- Earth moving and excavation.
- Deep foundation – Auger Cast Piles.
- Concrete – Cast-in-Place Foundations and Walls and Precast Framing and Roof Components
- Influent and Effluent Houses with gates to control and shut off flow to an individual basin
- Green Roof – Stormwater best management practice
- Extension of 120" pipe to include connections to existing influent and effluent pipes
- Disinfection, testing and startup

Describe the cost effectiveness of this project. List physical and administrative alternatives and selected alternatives and justify proposed alternative. Include all issues discussed in Planning Consultation related to cost effectiveness.

Alternatives to tank configuration and siting were considered in 2012, 2016, and 2019 and summarized in the CWBs 3&4 Concept Design Report. See report in Appendix A.

The current anticipated project costs of \$125 million include the work for the construction of CWB 3 and 4 in addition to the construction of several points of connections and temporary, or permanent chambers, bulkheads and flow control/shutoff facilities to allow for the construction of CWB 3 and 4 while maintaining the operation of CWB 1 and 2.

The clear well basin structures are designed for a 100-year service life. Other facilities have a lower useful life and are listed below:

- ? Transmission Piping – 50 years
- ? Gates for shutoff of flow – 40 years
- ? Auxiliary Equipment – Water Quality Monitoring System, security systems, electrical control systems – 10 to 15 years

The use of a green roof was used to serve as a cost-effective method of stormwater management. Based on the options reviewed with PWD, only one viable option was determined for the construction of Clear Well Basins 3 and 4.

Present Worth and Equivalent Annual Cost of the Project is based on the following:

- ? The estimated project cost is \$125 million.
- ? The estimated annual variable costs will increase linearly for the facility and include:
 - o \$30,000 in years 1- 10 and increase linearly.
 - o An additional \$50,000 in years 10- 20 and increase linearly.
 - o An additional \$100,000 in years 20- 50 and increase linearly.
 - o An additional \$100,000 starting in year 50 and increasing linearly.
- A roof replacement (green roof and waterproof membrane) will be required at year 40 and 80 at an anticipate cost of \$5 Million (2022 dollars)
- Every 3 years the tanks will be drained, cleaned and inspected at an anticipated cost of \$50,000.
- At the end of the useful life the facility is anticipated to have \$0 salvage value.
- The discount rate is 2.25%
- The inflation rate is 3.5%

Project Cost: \$125,000,000
Annual Variable Costs: \$45,592,880
Roof Replacement: \$21,346,259
Drain, Clean, and Inspect: \$3,254,356
Present Worth of CWB 3 and 4: \$195,193,495
Uniform Annual Cost: \$4,923,939

COMMENTS

NARRATIVE : DRINKING WATER SUPPORTING PROJECT INFORMATION

DRINKING WATER SUPPORTING PROJECT INFORMATION

Category/Subcategory	Total
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PROBLEM DESCRIPTION

Unfiltered Water Source:

Ground water source under influence of Surface Water:

Insufficient pressure in distribution system:

Inadequate water storage volume in system:

Insufficient yeild of the existing water source:

Additional Capacity required due to service area growth and development:

Antiquated, undersized, or leaky distribution lines:

Contamination of existing wells:

If applicable, surveyed malfunction rate of on-lot septic systems(%):

Treatment plant does not meet current or future treatment standards:

Deterioration or disrepair of existing facilities:

COMMENTS

PROJECT SPECIFIC DATA : LAND USE

LAND USE

Has the area served by this project been covered by an adopted municipal comprehensive plan?	Yes
Is this project located in an area where there is an adopted county comprehensive plan?	Yes
Is there an adopted multi-municipal or multi-county comprehensive plan for the area(s) covered by this project?	No
Is there an adopted county or municipal zoning ordinance or a joint municipal zoning ordinance for the area covered by this project?	Yes
Is the proposed project consistent with these comprehensive plans and/or zoning ordinances?	Yes

Is the project consistent with county agricultural preservation efforts.

No

COMMENTS

PROJECT SPECIFIC DATA : DRINKING WATER SUPPORTING PROJECT INFORMATION

DRINKING WATER COST BREAKDOWN

Planning & Design Only :	\$0.00	0.00%
Source Development Amount:	\$0.00	0.00%
Transmission Amount:	\$0.00	0.00%
Treatment Amount:	\$0.00	0.00%
Finished Water Storage Amount:	\$125,000,000.00	100.00%
Distributed System Amount:	\$0.00	0.00%
Pump Stations Amount:	\$0.00	0.00%
Meters Amount:	\$0.00	0.00%
Safety/Security Amount:	\$0.00	0.00%
Purchase of Systems Amount:	\$0.00	0.00%
Restructing Amount:	\$0.00	0.00%
Land Acquisiton Amount:	\$0.00	0.00%
Total:	\$125,000,000.00	

DRINKING WATER COMPLIANCE

Does the project help to bring the facility back into compliance with existing or future State or Federal regulatory requirements?

No

If yes, enter what percentage of the project meets that criteria:

Does the project help the facility to maintain current compliance?

No

If yes, enter what percentage of the project meets that criteria:

Does the project help the facility to achieve compliance with upcoming requirements?

No

If yes, enter what percentage of the project meets that criteria

Does the project assist the facility with other non-compliance related activities?

No

If yes, enter what percentage of the project meets that criteria:

DRINKING WATER ENHANCEMENT

Does the project help enhance well capacity? (source development/upgrade)

No

If yes, the impact is:

Does the project enhance treatment plant capacity?

No

If yes, the impact is:

Does the project enhance security measures at the drinking water facility?

Yes

If yes, the impact is:

Direct

Does project enhance public safety? (Fire hydrants and related)

No

If yes, the impact is:

DRINKING WATER BENEFITS

COMMUNITY HEALTH (DRINKING WATER)

Explain any existing environmental condition that will be addressed with the project (example: sludge handling facility).

The deteriorating state of the CWB made the structure susceptible to possible contamination and water quality deterioration. For example:

- A partial roof collapse several years ago prompted PWD to move forward with the plan to replace the nearly 120 year old structure and proceed with construction of CWB 1&2 followed by the current CWB 3&4 project.
- Missing manhole covers which were part of an emergency replacement in the summer of 2021.

How will this project improve the quality of life for the system customers?

Providing CWB's 3 and 4 will allow for additional storage capacity to replace the existing CWB built in 1904. The original CWB was one tank which could not be taken offline for inspection, cleaning or maintenance. With the addition of CWB 3 and 4, the clear well basin storage system provide redundancy and resiliency by providing multiple units that can individually be taken off line for maintenance. Each clear well basin has a nominal capacity of 5 MG, or a total of 20 MG when CWB 1,2,3, and 4 are placed into operation. Each 5 MG basin can be taken out of service for maintenance, cleaning and inspection. Allowing 15 MG to remain online. Similarly major repairs or replacements in the long term can be performed while maintaining at least 10 MG in service should one full CWB unit (CWB 1&2 or CWB 3&4) need to be repaired.

CWB 3 and 4 will improve quality of life by provide a new watertight storage tank to provide protection of the finished water supplied to PWD customers.

SOURCE WATER PROTECTION (DRINKING WATER)

If this project WILL increase the available water, please explain.

If this project promotes water conservation, please explain.

If this project includes or promotes water system consolidation, please explain efforts to consolidate/regionalize.

PUBLIC SAFETY (DRINKING WATER)

Will this project address replacement or major rehabilitation of an unsafe water supply storage tank?	No
Does this project include installation or replacement of fire hydrants?	No
Does this project include work to address workplace safety standards?	No
Will this project address issues related to water source and/or system security?	No
Will this project allow the system to meet fire codes - quantity/pressure for fire protection?	Yes

PUBLIC HEALTH (DRINKING WATER)

Will this project eliminate critical or chronic health hazards?	No
Violation of Primary Maximum Contaminant Level (MCL)? List the contaminant along with the exceedance and frequency of exceedance, if applicable.	
Presence of coliform or fecal coliform?	No
No water available at the tap?	No
Giardia or Cryptosporidium Cysts in the filtered water?	No

DEP COMPLIANCE (DRINKING WATER)

If this project satisfies a compliance order or to address a problem with acute health or safety hazards (example Primary MCL violation), please explain.

If this project satisfies compliance with issues where a compliance order has not been issued or that are not an acute health or safety hazard, please explain.

If this project has components that take proactive steps to maintain compliance and ensure adequate operation and maintenance of the water system, please explain?

The project will improve PWD's operational flexibility and process reliability by providing modular basins that can be isolated for maintenance and during emergencies. The CWBs provide finished water storage downstream and function as a wet well for both Torresdale Finished Water Pumping Station (TFWPS) and Lardner's Point Pumping Station (LPPS). The CWBs also provide emergency storage that provide PWD a limited amount of response time to address any interruptions in the supply of water from the finished water storage basins (FWSBs).

Adding CWBs 3 & 4 will increase the amount of emergency storage available to the distribution system in the event the water supply from Baxter WTP is interrupted. The increased basin capacity allows PWD Operations more time to address issues associated with the interruption before TFWPS and LPPS are impacted.

CWBs 3 & 4 provide additional storage units that allow for more active storage to remain in service when a basin is isolated for maintenance. In the case of a single basin out of service, the active volume is 15 MG with the additional tanks, instead of 5 MG with only CWBs 1 & 2.

COMMENTS

BENEFITS : STORMWATER

STORMWATER COMPLIANCE WITH ACT 167 AND MS4

Is there a municipal stormwater ordinance in effect within the project area? Yes

Is the project within a Municipal Separate Storm Sewer System (MS4) designated area? Yes

Is the project designed to meet an MS4 permit requirement or part of an adopted Pollutant Reduction Plan?

No

Is the applicant a MS4 regulated entity? Yes

Upon completion of construction will the ownership, operation and maintenance for the stormwater project be conveyed to a MS4 entity?

SAFETY (STORMWATER)

If the project addresses a critical or on-going safety or health hazard, please explain.

COMMUNITY HEALTH (STORMWATER)

If this project provides a regional approach to stormwater management and facilities, please explain.

If this project addresses problems in multiple locations, please explain.

AQUATIC HEALTH (STORMWATER)

If the project directly corrects a water quality problem, please explain.

If this project provides secondary benefits which improve or prevent water quality problems, please explain.

If this project is located in an area of karst topography and susceptible to sinkhole development, please explain.

If the project is located in areas having no natural watercourse, please explain.

INFRASTRUCTURE HEALTH (STORMWATER)

If the existing stormwater system is at the end of its useful life, please explain.

If the existing system is undersized, please explain

Does the applicant and/or municipality monitor and enforce illegal dumping into the stormwater system?

Does the applicant and/or municipality have an active Asset Management Plan?

COMPLIANCE (STORMWATER)

Has DEP taken enforcement action with an order or issued a Notice of Violation which requires the project? No

Is there an approved Total Maximum Daily Load (TMDL) which requires reductions in the pollutant(s) to be controlled by the project?

COMMENTS

BENEFITS : NON-POINT SOURCE

NPS SUB TYPES

Not Applicable

EXPLANATION FOR OTHER NON-POINT SOURCE SUB TYPE

NPS COMPLIANCE WITH ACT 167 AND MS-4

Is the project in an MS-4 regulated community (with either a draft or final permit? Yes

If Yes, does the MS-4 permit require the work that is proposed in the funding application? No

NPS PLANNING

Is your project addressing a Department of Environmental Protection approved 319 Watershed Implementation Plan (WIP), or contained in an Municipal Separate Storm Sewer System (MS4) Pollutant Reduction Plan (PRP), or Total Maximum Daily Load (TMDL) strategy plan that is submitted for an MS4 Notification of Intent (NOI) permit application.

No

If Yes, please explain:

If No, will your project implement Best Management Practices (BMP) identified as needed to improve water quality in a water quality plan?

No

If Yes, please explain:

URBAN RUNOFF PROJECTS

What is the total area treated by BMP in acres?

What is the impervious area treated by each BMP in acres?

What is the runoff or storage volume in acre-ft for each BMP?

AGRICULTURAL PROJECTS

How many animals are currently at the project site?

Explain what manure management controls or BMPs are currently being implemented and what is the state of their condition?

What is the name of the receiving stream and how far is the receiving stream from the project site?

Is the receiving stream impaired due to agriculture and/or sediment?

What is the estimated annual nitrogen reduction to the stream as a result of the project?

What is the estimated annual phosphorus reduction to the stream as a result of the project?

What is the estimated annual sediment reduction to the stream as a result of the project?

NPS SAFETY

If the project addresses a critical or on-going safety or health hazard, please explain.

BROWNFIELDS SYSTEM INFORMATION

Who owns the property to be remediated?

Does the project site have ACT 2 Clearance, or will the project site obtain ACT 2 Clearance as a result of project?

Will the owner's company be completing any of the construction (force account)?

Can you provide evidence that all federal supercrosscutters have been met? If so, please upload any evidence of federal supercrosscutters compliance.

Is the cost of acquiring the land to be remediated as part of this project?

Do you have a survey and title search of the real estate to be used for collateral; including title insurance policies and endorsements?

Do you have 'as is', 'as remediated' or 'as developed' appraisals of any real estate to be used for collateral?

NPS WATER QUALITY IMPACTS

Identify the receiving water(s) impacted by this project.

Describe the length stream or acres of lake that will show water quality improvement as a result of your project.

Is the receiving water(s) listed as impaired on the PA Integrated Water Quality and Assessment Report?

If Yes, list the causes of impairment.

If Yes, identify the benefits of the project on water quality.

If Yes, how are the benefits of the project linked to the impairment?

Is the receiving water(s) listed as high quality (HQ) or exceptional value (EV) by DEP?

If Yes, list the pollutant(s) to be a threat to the HQ/EV existing use.

If Yes, list the source of water quality data/report that documents the threat to HQ/EV.

If Yes, explain how the benefits of the project will remove the threat to HQ/EV.

The receiving water(s) or groundwater is not listed as impaired or HQ/EV by the DEP, but has identified water quality problems:

If Yes, list the source of water quality data, assessment report, or watershed plan that documents the water quality problems.

If Yes, explain how the project will have a direct and substantial benefit in addressing the documented water quality problems.

If Yes, will this project have direct pollutant benefits to waters beyond the immediate receiving waters (e.g. Chesapeake Bay Estuary, Gulf of Mexico, Lake Erie, or Delaware Estuary)? Please explain.

NPS COMPLIANCE

Has DEP taken enforcement action(order or consent order and agreement) or issued a Notice of Violation which requires the project?

Is there an approved Total Maximum Daily Load(TMDL) which requires reductions in the pollutants(s) to be controlled by the project?

COMMENTS

KEYSTONE BENEFITS

KEYSTONE BENEFITS

If any of the communities served by this project have been granted special economic designation by the Department of Community and Economic Development or by the Governor's Action Team, please identify the program and the municipality(ies) and county(ies).

Not applicable to the City of Philadelphia.

If any of the communities served by this project have been designated as distressed under the Municipalities Financial Recovery Act 47 of 1987, please identify the municipality(ies) and county(ies).

Not applicable to the City of Philadelphia.

If this project directly serves a Brownfield site as designated by the PA Department of Environmental Protection, please identify the site.

Not applicable to the City of Philadelphia.

If this project serves a City, Borough or 1st Class Township, please identify.

Yes. The City of Philadelphia, Pennsylvania, a corporation, body politic and City of the first class existing under the laws of the Commonwealth of Pennsylvania.

COMMENTS

GREEN INFRASTRUCTURE COMPONENTS

GREEN INFRASTRUCTURE

If the project results in reduced (minimum 20%) water use, please explain.

Not applicable.

If the project recycles water, please explain.

Not applicable.

If the project reduces (minimum 20%) infiltration of water into sewer pipes being repaired/replaced, please explain.

Not applicable.

If the project reduces (minimum 20%) leakage from the water pipes being repaired/replaced, please explain.

Not applicable.

Will this project reduce facility and/or better manage energy consumption?

If the project saves energy (minimum 20%), please explain.

Not applicable.

If this project generates energy, what percent?

Not applicable.

If the project infiltrates evapo-transpires or controls stormwater, please explain.

A green roof will be installed over the basins as a stormwater best management practice.

If the project implements Ag BMP's, Low-Impact Development, wetland restoration or construction, greenhouse gas reduction, or applies differential uses of water treated to varying levels, please explain.

Not applicable.

COMMENTS

INCOME

COUNTY MUNICIPALITY & APPLICATION LEGISLATIVE

Primary	County	Municipality	System Served	Project Served	Households Served	Bulk
<input checked="" type="checkbox"/>	Philadelphia	Philadelphia City	<input type="checkbox"/>	<input type="checkbox"/>	490,000	<input type="checkbox"/>
					Total: 490000	
Primary	District	Congress Name	District	House Name	District	Senate Name
<input type="checkbox"/>	2	Boyle, Brendan	173	Gallagher, Patrick	5	Picozzi, Joe

BILLING

	Last Completed Audited Year	First Full Year After Project is Completed
	2020	2029
Estimate Population	1,584,064	1,584,064
Households served by System	490,000	490,000
Total EDUs served by system	0	0
Residential EDUs served by system	0	0
Average annual Residential bill	\$801.00	\$801.00
Total residential bills levied	\$0.00	\$0.00
Total residential bills collected	\$676,498,000.00	\$676,498,000.00
Total Commercial/Industrial bills levied	\$0.00	\$0.00
Total Commercial/Industrial bills collected	\$43,164,000.00	\$43,164,000.00

INCOME FOR GOVERNMENT ENTITY

	Last Completed Fiscal Year	First Full Year After Project Completed
	2020	2029
Total Bills Collected	\$719,662,000.00	\$719,662,000.00
Other Charges Collected	\$13,656,000.00	\$13,656,000.00
Total Operating Revenues	\$733,318,000.00	\$733,318,000.00
Non-Operating Revenues	\$23,717,000.00	\$23,717,000.00
Total Income	\$757,035,000.00	\$757,035,000.00

INCOME FOR PROFIT ENTITY

	Last Completed Fiscal Year	First Full Year After Project Completed
	2020	2029
Sales of Products	\$0.00	\$0.00
Investment Income	\$0.00	\$0.00
Rental Income	\$0.00	\$0.00
Other Income	\$0.00	\$0.00
Total Income	\$0.00	\$0.00

INCOME FOR NON-PROFIT ENTITY

	Last Completed Fiscal Year	First Full Year After Project Completed
	2020	2029
Provisions of Services	\$0.00	\$0.00
Government Grants Subsidies	\$0.00	\$0.00
Program Services	\$0.00	\$0.00
Investment Income	\$0.00	\$0.00
Contribution from Donors	\$0.00	\$0.00
Rental Income	\$0.00	\$0.00
Other Income	\$0.00	\$0.00
Total Income	\$0.00	\$0.00

OPERATING EXPENSES

	Last Completed Fiscal Year	First Full Year After Project Completed
	2020	2029
Labor Salaries Benefits	\$299,356,999.00	\$299,356,000.00
Utilities	\$0.00	\$0.00
Rent	\$0.00	\$0.00
Materials/Supplies	\$38,465,000.00	\$38,465,000.00
Cost of Goods Sold	\$0.00	\$0.00
Program Expenses	\$0.00	\$0.00
Administration Expenses	\$3,189,000.00	\$3,189,000.00
Professional Fees	\$125,163,000.00	\$125,163,000.00
Depreciation Expense	\$125,834,000.00	\$125,834,000.00
Other Expenses	\$0.00	\$0.00
Outside Services	\$0.00	\$0.00
Total (Minus Depreciation Expense)	\$466,173,999.00	\$466,173,000.00

NON-OPERATING EXPENSES

	Last Completed Fiscal Year	First Full Year After Project Completed
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	2020	2029
Annual Debt Service Excluding This Project	\$87,106,000.00	\$87,106,000.00
Other Non-Operating Expenses	\$32,237,000.00	\$32,237,000.00
Total	\$119,343,000.00	\$119,343,000.00

NET CASH

	Last Completed Fiscal Year	First Full Year After Project Completed
	2020	2029
Total Cash	\$757,035,000.00	\$757,035,000.00
Total Cash Expenses	\$585,516,999.00	\$585,516,000.00
Total Cash (Minus Total Cash Expenses)	\$171,518,001.00	\$171,519,000.00

COMMENTS

As of 9.1.21 (FY2022) the typical residential monthly bill for water and sewer charges is \$69.15.

Fiscal Year 2023

The Philadelphia Water, Sewer and Storm Water Rate Board ("Rate Board"), in the 2021 Rate Determination¹ ("2021 Rate Determination"), approved a rate increase effective on September 1, 2022 (for FY 2023). That increase includes incremental additional revenues of \$34.110 million for FY 2023 ("FY 2023 Base Rate Incremental Increase" or "FY 2023 approved rate increase"). The 2021 Settlement in the 2021 General Rate Proceeding ("2021 Settlement") and the 2021 Rate Determination, provide that the Department will initiate a special rate proceeding to propose a reconciliation of (or adjustment to) approved rates and charges to become effective in Fiscal Year 2023 ("FY 2023") under certain limited circumstances, based on two potential adjustments. The first potential adjustment is related to PWD's direct receipt of certain Federal Stimulus Funding during the period July 1, 2021 through December 31, 2021 (the "Federal Stimulus Adjustment"). The second potential adjustment is related to the Department's FY 2021 financial performance, i.e., outperformance of projections in the 2021 General Rate Proceeding measured against a "minimum threshold" that was not defined in Settlement negotiations (the "FY 2021 Financial Performance Adjustment"). The Department requests that the Rate Board make no adjustment to the FY 2023 Base Rate Incremental Increase, based on the Department's analysis. The Department's proposed reconciliation (of zero dollars) means that the increase effective on September 1, 2022 (for FY 2023) will be the same as the \$34.110 million approved by the Board in its 2021 Rate Determination, assuming that the Department's proposal is adopted by the Rate Board. The Board's ruling on the rate proceeding is expected in June 2022.

Explain other charges, non-operating revenues and identify sources of the above information:

Bulk Agreements with FY20= Revenues totaling \$43.164.000 million and is listed as total commercial.

Other Operating Revenue FY20 = interest income + small grant

Other Non-Operating Expense FY20 = items removed from fixed assets of the system.

All Water and Wastewater Revenue Bonds (other than Subordinated Bonds) are equally and ratably secured under the General Ordinance. No Subordinated Bonds are Outstanding under the General Ordinance.

Pursuant to the General Ordinance, the City pledges and assigns to the Fiscal Agent, in trust, for the security and payment of all Water and Wastewater Revenue Bonds (other than Subordinated Bonds) issued under or subject to the General Ordinance, and grants to the Fiscal Agent, in trust, a lien on and security interest in all Project Revenues and amounts on deposit in or standing to the credit of the Water and Wastewater Funds (other than the Rebate Fund).

The Fiscal Agent must hold and apply the security interest in and lien on Project Revenues and funds and accounts, in trust, for the equal and ratable benefit and security of all present and future holders of Water and Wastewater Revenue Bonds (other than Subordinated Bonds). The General Ordinance provides that such pledge also may be for the benefit of the provider of a Credit Facility or a Qualified Swap (as defined therein), or any other person who undertakes to provide monies for the account of the City for the payment of principal or redemption price of and interest on any series of Water and Wastewater Revenue Bonds (other than Subordinated Bonds), on an equal and ratable basis with the holders of Water and Wastewater Revenue Bonds (other than Subordinated Bonds).

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DEBT

DEBT

Note Holder	Date of Loan / Issued	Original Principal	Interest Rate	Term Months
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\$

COMMENTS

As of June 30, 2021 the aggregate principal amount of Water & Wastewater Revenue Bonds outstanding totaled \$2,279,749,157.

BUDGET INFORMATION

PROJECT BUDGET

Administrative Cost:	\$0.00
Legal Fees:	\$0.00
Financial/Accounting Charges:	\$0.00
Interest During Construction:	\$0.00
Engineering/Architecture Fees:	\$0.00
Permits:	\$0.00
Land	\$0.00
Construction	\$118,750,000.00
Contingency	\$6,250,000.00
Other Costs:	\$0.00
Total:	\$125,000,000.00

COMMENTS

RATES

RATES

Metered:	Monthly
Flat:	Not Selected Yet
Other:	Not Selected Yet

Explain special rate structure or agreement. Indicate if no rates apply for this project.

General Rates, Special Rates and the TAP Program

Water rates for general service customers of the Water Department consist of a service charge related to the size of the meter, plus a schedule of quantity charges for water use. Sewer rates for general service customers are similar. To more fairly reflect the burden on the System, stormwater charges are calculated based on a customer's property size and its relative imperviousness. A uniform stormwater charge based on the average size and imperviousness of residential properties is billed to residential customers. Charges to non-residential and condominium customers are based on each property's specific size and impervious area. Special rates with partial discounts are established pursuant to the Water Department's Rates and Charges for the following customers: (1) public and private schools which provide instruction up to or below the twelfth grade; (2) institutions of "purely public charity;" (3) places used for religious worship; (4) residences of eligible senior citizens; (5) universities and colleges; and (6) public housing properties of the Philadelphia Housing Authority. In addition, the Rate Board approved discounts of 100% on stormwater rates for eligible community gardens in 2016 and an exemption from water, sewer and stormwater rates for unoccupied properties of the Philadelphia Land Bank in 2018. Some real estate also is exempt from stormwater charges, including, cemeteries, residential sideyards, City-owned or City-controlled vacant lots or improvements, portions of Fairmount Park, streets, medians, sidewalks, and rights-of-way. Water and sewer charges, including stormwater charges, terminate when any vacant or unoccupied premises are acquired by the City and when property is acquired by the Philadelphia Housing Development Corporation or the Philadelphia Redevelopment Authority under provisions of the Philadelphia Code pertaining to vacant properties.

In addition to the special rates referenced above, the Water Department offers additional assistance and incentive programs to customers, which constitute either an Operating Expense of the Water Department or contra-revenue in the form of credits or reductions to customers' bills.

The Tiered Assistance Program ("TAP") program was launched on July 1, 2017 and assists low-income households at or below 150% of the federal poverty level ("FPL") and those experiencing a special hardship, as discussed herein. Under the TAP program bills are tied to household income and do not fluctuate based on actual consumption. Under the TAP program, monthly bills for water, sewer, and stormwater usage and service charges are as follows:

Income	Fixed Charge %*
50% of FPL or lower	at 2% of the household income \$12.00 minimum bill
Above 50% and at or below 100%	At 2.5% of the household income
Above 100% and at or below 150% FPL	3% of the household income
Above 150% FPL, with proof of hardship	4% of the household income A special hardship can be increase in household size, loss of a job lasting more than 4 months, serious illness lasting more than 9 months, death of primary wage earner, domestic violence, other circumstances that threaten household's access to necessities of life.

Residential Monthly Water and Sewer Rate Charges

he table below shows monthly water and sewer rate charges for Fiscal Years 2018 through 2022 and is based, in each case, on a typical residential customer with a 5/8-inch meter using 500 cubic feet per month.

COMMENTS

The Rates and Charges of the System are located as follows: <https://water.phila.gov/rates/>.