

**DOCKET NO. D-2008-002 CP-4**

**DELAWARE RIVER BASIN COMMISSION**

**Discharge to a Tributary of Special Protection Waters**

**Pennsylvania American Water Company  
Water Filtration Plant and Discharge  
Lower Makefield Township, Bucks County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) on June 28, 2022 (Application), for renewal of the docket holder's existing water filtration plant (WFP) and its industrial discharge of water treatment effluent. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0027634 for this discharge.

The application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Bucks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on February 8, 2023.

**A. DESCRIPTION**

- Purpose.** The purpose of this docket is to renew the approval of the docket holder's existing WFP and its related discharge. The WFP can produce a reliable yield of 5.4 million gallons per day (mgd) for public water supply and discharges water treatment effluent at a design rate of 0.402 mgd.
- Location.** The docket holder's WFP is located near the intersection of Edgewood and Mill Roads in Lower Makefield Township, Bucks County, Pennsylvania. The WFP will continue to discharge water treatment effluent to Brock Creek at River Mile 138.0 – 0.54 -1.6 (Delaware River – Buck Creek - Brock Creek) and is located within the drainage area to the Lower Delaware Special Protection Waters (SPW).

The WFP discharge is located in the Delaware River Watershed, as follows:

The location of the outfalls in the Delaware River Watershed is as follows:

<b>OUTFALL NO.</b>	<b>LATITUDE (N)</b>	<b>LONGITUDE (W)</b>
001	40° 13' 25"	74° 50' 49"
002	40° 13' 25"	74° 50' 50"

3. **Area Served.** The Yardley WFP supplies drinking water to the Borough of Yardley, and portions of Falls and Lower Makefield Townships, all located in Bucks County, Pennsylvania.

For the purpose of defining the Area Served, the Type of Discharge and the Service Area sections from the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in Section C. DECISION of this docket.

4. **Design Criteria.** The Yardley Water Filtration Plant is capable of producing a reliable yield of 5.4 mgd. Raw water sourced from the Delaware River flows by gravity through six (6) intake screens into two (2) 24" intake lines, which takes it to a wet well beneath the pump station on the west shore of the river. The raw water pumps consist of three (3) two stage vertical turbine pumps, each of which is capable of pumping 2,100 gpm or 3 mgd. One pump remains in reserve for redundancy. A standby emergency diesel generator is on location in the event of loss of power.

Water is pumped approximately 1.6 miles from the raw water pump station through a 24-inch transmission main to the water treatment plant. Sodium hypochlorite and a polymer are added once the raw water enters the raw water mixing vault. The water then flows through the chemical mixing vaults where other pretreatment chemicals are added. Caustic Soda Solution (25%) can be added to adjust pH for optimum treatment. Liquid ammonium sulfate can also be added if needed. Water then passes through the flocculators, into the plate settlers, and into the dual media filters. While passing upward through the bed, floc is formed and partially retained in the bed. The flow is then collected in troughs and sent to the filters. The filters are a mixed media type. After the water passes through the filters, it is sent through the UV disinfection system before it arrives at the clearwell. Sodium hypochlorite is applied at this stage to provide further disinfection. Corrosion inhibitor is also added to control corrosion in the distribution system. Caustic soda Solution (2%) is added as well to reach an optimum pH before the water is delivered to the distribution system.

Solids removed from the plate settlers is pumped to two belowground wastewater holding tanks, then are pumped to the sludge thickening tank. After a period of settling and accumulation, a submerged collection system gathers the sludge. The wastewater tanks are also equipped with a floating weir, where, at a selected turbidity, water is recycled to the head of the plant at the raw water connection vault. A flow-modulating valve limits the amount of recycled water to be 10% of the raw water flow. The sludge collection system transfers the solids to a 10,000-gallon conditioning tank, where a polymer is added in the thickening process. Polymer is injected at the sludge pump. The liquid sludge is hauled away and land applied. The supernatant from the sludge thickening tank flows to two steel lagoons, where the settled water flows discharges through Outfalls Nos. 001 and 002 into an un-named tributary of Brock Creek. Any residues from these lagoons are land applied by a commercial hauler at a site approved by the PADEP.

**5. Facilities.**

The docket holder's WFP discharges to waters classified as SPW and is required to have available standby power. The existing WFP has a generator installed capable of providing standby power.

The docket holder's WFP is not staffed 24 hours per day and shall have a remote alarm system that continuously monitors plant operations in accordance with the Commission's SPW requirements. The existing WFP has a remote alarm system installed that continuously monitors plant operations.

The docket holder has prepared and implemented an emergency management plan (EMP) for the existing WFP in accordance with Commission SPW requirements.

The project facilities are not located in the 100-year floodplain.

Wasted sludge will continue to be hauled off-site for disposal in accordance with the NPDES Permit No. PA0027634.

**6. Water Withdrawals.** The potable water supply in the project service area is provided by the docket holder's WFP and groundwater wells. The withdrawals are described in DRBC Docket No. D-1995-053 CP-2 approved on December 8, 2021.

**7. NPDES Permit / DRBC Effluent Requirements.** NPDES Permit No. PA0027634 issued by the PADEP includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting warm water fishes (WWF). EFFLUENT TABLE C-1 included in Section C. DECISION condition C.1. of this docket, contains effluent requirements for DRBC parameters that must be met as a condition of this approval. Effluent requirements for Outfall Nos. 001 and 002 are based on effluent discharge rates of 0.402 mgd.

**8. Relationship to the Comprehensive Plan.** The existing WFP was included in the Comprehensive Plan by Docket No. D-2008-002 CP-2 on September 12, 2012. The WFP approval was renewed by Docket No. D-2008-002 CP-3 on September 13, 2017. Issuance of this docket will continue the WFP and its discharge in the Comprehensive Plan.

## **B. FINDINGS**

The docket holder submitted an Application to renew approval of the Yardley WFP's discharge of water filtration effluent consisting of settling lagoon supernatant and filter backwash.

### **1. Special Protection Waters**

In 1992, the DRBC adopted SPW requirements, as part of the DRBC *Water Quality Regulations (WQR)*, designed to protect existing water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap has been classified by the DRBC as SPW. This stretch includes the sections of the river federally designated as "Wild and Scenic" in 1978 -- the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area -- as well as an eight-mile reach between Milrift and Milford, Pennsylvania which is not federally designated. The SPW regulations apply to this 120-mile stretch of the river and its drainage area. (Upper/Middle SPW)

On July 16, 2008, the DRBC approved amendments to its *Water Quality Regulations (WQR)* that provide increased protection for waters that the Commission classifies as SPW. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for SPW designation. (Lower SPW)

The docket holder's WWTP discharges to the drainage area to the Lower Delaware SPW. The docket holder's WWTP discharge is required to comply with the SPW requirements, as outlined in Article 3.10.3A.2. of the *WQR*.

Article 3.10.3A.2.e.1). and 2). of the Commission's *WQR* states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of SPW must submit for approval a Non-Point Source Pollution Control Plan (NPSPCP) that controls the new or increased non-point source loads generated within the portion of the docket holder's service area which is also located within the drainage area of SPW. The service area of the docket holder is located in the drainage area to the SPW. The docket holder has recently completed upgrades to the WFP that did not result in increases in treatment capacity or expansion of service area. Stormwater infiltration basins constructed as part of the upgrade project controlled non-point source pollution from the upgrade project. Since there are no new or increased non-point source loads associated with this approval, the NPSPCP requirement is not applicable at this time. Accordingly, Section C. DECISION condition C.2. has been included in this docket.

### **2. Other**

At the WWTP discharge location, Brock Creek has an estimated seven-day low flow with a recurrence interval of ten years ( $Q_{7-10}$ ) of less than 0.1 cubic feet per second (cfs) and therefore is classified by the Commission as an intermittent stream.

The nearest surface water intake of record for public water supply is located on the Delaware River approximately 2.5 River Miles downstream of the project discharge and is operated by Pennsylvania American Water Company.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit conform with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge that meets the effluent requirements as set forth in the Commission's *Water Quality Regulations (WQR)*.

### C. DECISION

Effective on the approval date for Docket No. D-2008-002 CP-4 below, the project described in Docket No. D-2008-002 CP-3 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2008-002 CP-4; Docket No. D-2008-002 CP-3 is terminated and replaced by Docket No. D-2008-002 CP-4 and the project and the appurtenant facilities described in Section A "DESCRIPTION" of this docket shall be included in the Comprehensive Plan. The project and appurtenant facilities as described in Section A of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

#### Monitoring and Reporting

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email [aemr@drbc.gov](mailto:aemr@drbc.gov) on the **Annual Effluent Monitoring Report Form** located at this web address: <https://www.nj.gov/drbc/programs/project/docket-app-info.html#3>. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations. The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

**EFFLUENT TABLE C-1: DRBC Parameters Included in NPDES Permit**

<b>OUTFALLS 001 and 002 (Water Treatment Effluent)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	20 mg/l	As required by NPDES Permit

**Other Conditions**

2. Prior to allowing connections from any new service areas or any new developments, the docket holder shall either submit and have approved by the Executive Director of the DRBC a NPSPCP in accordance with Section 3.10.3.A.2.e, or receive written confirmation from the Executive Director of the DRBC that the new service area complies with a DRBC-approved NPSPCP.
3. Prior to the docket holder initiating any substantial alterations or additions to the existing WWTP as defined in Section 3.10.3A2.a.16) of the Commission's *WQR*, an application must be submitted and approved by the Commission. Such an application shall be submitted prior to final design to ensure that the Commission can provide the docket holder with draft effluent limitations for SPW specific parameters as guidance for design as to not require duplication of work or cause a substantial expenditure of public funds without Commission approval. The docket holder is encouraged to contact the Commission staff during the planning stages to identify the potential effluent limitations required to meet the no measurable change parameters under SPW.
4. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.
5. Section 2.3.10 of the Commission's *Rules of Practice and Procedure (RPP)* (18 C.F.R. 401.41), limiting the Commission's approval to three years in the absence of an expenditure of substantial funds by the project sponsor in reliance on the approval, is hereby waived for good cause shown in accordance with Section 2.9.3 (18 C.F.R. 401.123) of the same regulations. This approval shall expire on the expiration date set forth below unless prior thereto the docket holder has applied to the Commission to renew or extend this approval.
6. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 C.F.R. 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. If a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable pending the grant or denial of the application for docket approval.
7. The docket holder is permitted to treat and discharge wastewater as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of Section C. DECISION.

- 8.** The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.
- 9.** The facility and operational records shall be available at all times for inspection by the DRBC.
- 10.** The facility shall be operated at all times to comply with the requirements of the Commission's *WQR*.
- 11.** If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.
- 12.** Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.
- 13.** The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.
- 14.** No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).
- 15.** The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, to ensure proper control, use and management of the water resources of the Basin.
- 16.** The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 C.F.R. 401.43).
- 17.** This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 C.F.R. 401.43).
- 18.** The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 C.F.R. 401.43).

**19.** The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

**20.** Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the *Rules of Practice and Procedure (RPP)*. In accordance with Section 15.1(p) of the *Delaware River Basin Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

**BY THE COMMISSION**

**APPROVAL DATE: March 8, 2023**

**EXPIRATION DATE: January 31, 2028**