

DOCKET NO. D-1990-098 CP-3

DELAWARE RIVER BASIN COMMISSION

**Bristol Township
Croydon Wastewater Treatment Plant
Bristol 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 October 8, 2024 (Application), for renewal of the docket holder’s existing wastewater treatment plant (WWTP) and its discharge. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0026450 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 4, 2026.

A. DESCRIPTION

- Purpose.** The purpose of this docket is to renew approval of the docket holder’s existing 3.75 million gallons per day (mgd) WWTP and its discharge.
- Location.** The docket holder’s WWTP is located between River Road and the Delaware River, approximately one (1) mile upstream of the Delaware River’s confluence with Neshaminy Creek, in Bristol Township, Bucks County, Pennsylvania. The WWTP will continue to discharge treated effluent directly to Water Quality Zone 2 of the Delaware River at River Mile 116.9.

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

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 5’ 0”	74° 53’ 30”

- Area Served.** The docket holder’s Croydon WWTP will continue to serve District 3 located in Bristol Township, Bucks County, Pennsylvania, which is bounded approximately by the Delaware River, the Pennsylvania Turnpike, and Neshaminy Creek. District 3 is composed of five sub-districts: Sub-districts 1 through 4, and the Keystone Industrial Sewer District. 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 docket holder's 3.75 mgd WWTP utilizes a trickling filter treatment system with chlorine contact disinfection. The annual average design flow is 3.75 mgd with a maximum monthly average design flow of 5.0 mgd.

5. **Facilities.** The WWTP facilities consist of a raw sewage wet well / pump station, a bar screen / grit chamber, two (2) primary clarifiers, two (2) trickling filters, three (3) secondary clarifiers, and four (4) chlorine contact tanks. Sludge handling is provided by primary and secondary digesters.

Wasted sludge will continue to be hauled off-site for disposal in accordance with the NPDES Permit No. PA0026450.

6. **Water Withdrawals.** The potable water supply in the project service area is provided by groundwater wells owned and operated by Aqua Pennsylvania. The docket holder's water withdrawal is described in detail in Docket No. D-1978-083 CP-3, approved on March 6, 2024.

7. **NPDES Permit / DRBC Effluent Requirements.** NPDES Permit No. PA0026450 issued by the PADEP includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting migratory fishes (MF) and warm water fishes (WWF). EFFLUENT TABLES C-1 & C-2 included in Section C. DECISION condition C.1. of this docket, contain effluent requirements for DRBC parameters that must be met as a condition of this approval. Effluent requirements for Outfall No. 001 are based on a discharge rate of 3.75 mgd.

8. **Relationship to the Comprehensive Plan.** The Croydon WWTP was included in the Comprehensive Plan by Docket No. D-1964-031 CP-1 on June 24, 1964. The WWTP approval was renewed and/or modified by the following dockets:

Docket No.	Approval Date	Purpose
D-1964-031 CP-1	June 24, 1964	WWTP Construction Approval
D-1969-042 CP-1	December 11, 1969	Re-rate & Upgrades
D-1985-012 CP-1	August 28, 1985	Meet & Maintain Compliance
D-1990-098 CP-1	February 28, 2001	Re-rate & Revise Service Area
D-1990-098 CP-2	March 11, 2020	Re-rate & Upgrades

Issuance of this docket (D-1990-098 CP-3) will continue the WWTP and its discharge in the Comprehensive Plan.

B. FINDINGS

The docket holder applied to renew approval of their existing 3.75 mgd WWTP and its discharge.

1. CBOD₂₀ Wasteload Allocation

The Commission's Water Quality Regulations (WQR) provide for the allocation of the stream assimilative capacity where waste discharges would otherwise result in exceeding such capacity. It was determined in the late 1960's that discharges to the Delaware Estuary be limited to a total of 322,000 lbs/day of carbonaceous biochemical (first stage) oxygen demand (CBOD₂₀). In accordance with the WQRs, the assimilative capacity of each Delaware Estuary zone (minus a reserve) was originally allocated in 1968 among the individual dischargers based upon the concept of uniform reduction of raw waste in a zone (Zones 2, 3, 4 and 5). The totals and percent reduction for each zone are given in Table 1 of the Commission's *Status of CBOD₂₀ Wasteload Allocations (Revised October 1, 2000)*. The docket holder's WWTP is located in Zone 2 at River Mile 116.9. Zone 2 is allocated at 18,600 lbs/day of CBOD₂₀ and has a minimum percent CBOD₂₀ reduction (or removal) requirement of 88.5%. The Commission issued a CBOD₂₀ allocation for the docket holder's Croydon WWTP of 590 lbs/day in June 1968.

2. CBOD Cold Weather Allowance

Section 4.30.3.B.2. of the Commission's WQR provides for reduced efficiency of certain treatment systems for the removal of BOD during cold weather, as follows:

"It is recognized that optimum efficiency may not be achieved with certain secondary treatment facilities during the colder months. A slight deviation may be permitted by the Commission when it results from reduced plant efficiency caused by temperatures below 59°F (15°C)."

Section 4.30.7.B.1.c.2) of the Commission's WQR provides for increased CBOD allocations for these treatment systems during cold weather, as follows:

"It is recognized that optimum efficiency may not be achieved with certain secondary treatment facilities during the colder months. A discharge exceeding the allocation may be permitted by the Commission when it results from reduced plant efficiency caused by temperatures below 59°F (15°C), provided that the pounds discharged by any individual discharger shall not exceed its allocation by more than an average of two-thirds over any consecutive ten days."

The Croydon WWTP utilizes a trickling filter treatment process. The trickling filter treatment process may exhibit reduced treatment efficiency during cold weather due to slower biological reaction rates. Effluent data from the Croydon WWTP from 2017 through 2018 indicate that the WWTP exceeded their CBOD load allocation, with most of the exceedances occurring in the typically colder months of the year (November through April). The data also indicate that the WWTP had difficulty meeting the Zone 2 CBOD removal requirement of 88.5% during the time period of November through April. The effluent data also indicate that the reduced removal efficiency may be a result of high wet weather flows at the WWTP, since influent sampling indicates lower influent CBOD during the time periods that the WWTP did not meet 88.5% removal. The sampling data is not conclusive as to whether cold weather is the cause of reduced removal efficiencies at the WWTP. Rather, cold weather may exacerbate the CBOD removal issues caused by wet weather flows. An

upgrade was completed to allow the WWTP to treat higher wet weather flows. The docket holder also continues to implement a program to reduce inflow and infiltration into the sanitary sewer system to reduce wet weather flows, which may help to address the above CBOD removal issues at the WWTP.

To account for the reduced CBOD removal efficiencies from trickling filters during cold weather, previous Docket No. D-1990-098 CP-2 approved a cold weather increase to the docket holder's CBOD₂₀ allocation, and a cold weather decrease to the docket holder's CBOD percent removal requirement. The docket approved a cold weather CBOD₂₀ allocation of 984 lbs/day for the Croydon WWTP, and a cold weather CBOD removal requirement of 85%.

3. Ambient Air Temperature Gage Installation Requirement and Annual Report

The docket holder was required to and has installed an air temperature gauge outdoors at the WWTP that continuously monitors and records ambient air temperature. The docket holder is responsible for recording the data at a minimum of one-hour intervals, documenting the daily 24-hour average air temperatures, and reporting the monthly average air temperature for each month. The monthly average air temperature is the average of all daily 24-hour average temperatures for a given calendar month. The docket holder is responsible for submitting an annual report documenting daily minimum, daily maximum, average 24-hour air temperature, and corresponding biweekly CBOD₅ influent and effluent data (see below). The annual report shall be submitted by January 31 of each year (See DECISION Condition C.2.).

4. CBOD Allocation Compliance and Monitoring

Compliance with the 85% and 88.5% CBOD₂₀ removal requirements can be demonstrated by meeting 85% and 88.5% CBOD₅ removal, respectively, as required in the EFFLUENT TABLES in DECISION Condition C.1. Compliance with the CBOD₂₀ allocations of 590 lbs/day and 984 lbs/day can be demonstrated by meeting CBOD₅ effluent load limits of 357 lbs/day and 595 lbs/day, respectively, also as included in the DECISION section EFFLUENT TABLES.

The docket holder is required to meet: 1) the CBOD₅ effluent limit of 595 lbs/day and minimum CBOD₅ removal requirement of 85% in months when the air temperature gage indicates that the monthly average ambient air temperature is less than 59°F (15°C); and 2) the CBOD₅ effluent limit of 357 lbs/day and minimum CBOD₅ removal requirement of 88.5% in months when the air temperature gage indicates that the monthly average ambient air temperature is greater than or equal to 59°F (15°C). The docket holder is required to submit CBOD₅ influent and effluent data with the corresponding ambient air temperature data in the annual report mentioned above (See DECISION Condition C.2. of this docket).

3. Other

The nearest surface water intake of record for public water supply is located on the Delaware River stream approximately 6 River Miles downstream of the docket holder's WWTP and is operated by the City of Philadelphia's Baxter Intake.

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-1990-098 CP-3 below, the project described in Docket No. D-1990-098 CP-2 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1990-098 CP-3; Docket No. D-1990-098 CP-2 is terminated and replaced by Docket No. 1990-098 CP-3; 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 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: When monthly average ambient air temperature $\geq 59^{\circ}\text{F}$

OUTFALL NO. 001 (Discharging to Delaware River Water Quality Zone 2)		
PARAMETER	LIMIT	MONITORING
Dissolved Oxygen	5.0 mg/l minimum	As required by NPDES Permit
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit
CBOD ₅ (5-Day at 20° C)	357 lbs/day	As required by NPDES

OUTFALL NO. 001 (Discharging to Delaware River Water Quality Zone 2)		
PARAMETER	LIMIT	MONITORING
Monthly Avg. Air Temp. \geq 59°F (15°C)	88.5% minimum removal	Permit
CBOD ₅ (at 20° C) Influent	Monitor & Report	As required by NPDES Permit
Fecal Coliform	200 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
PCBs (Dry and Wet)	Monitor & Report	As required by NPDES Permit
Total Dissolved Solids**	1,000 mg/l**	As required by NPDES Permit
Ammonia Nitrogen	22 mg/l	As required by NPDES Permit
Temperature*	Monitor & Report*	Continuous

*See DECISION Condition C.2.

**See DECISION Condition C.6.

EFFLUENT TABLE C-2: When monthly average ambient air temperature <59°F

OUTFALL NO. 001 (Discharging to Delaware River Water Quality Zone 2)		
PARAMETER	LIMIT	MONITORING
Dissolved Oxygen	5.0 mg/l minimum	As required by NPDES Permit
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit
CBOD ₅ (5-Day at 20° C) Monthly Avg. Air Temp < 59°F (15°C)	595 lbs/day 85% minimum removal	As required by NPDES Permit
CBOD ₅ (at 20° C) Influent	Monitor & Report	As required by NPDES Permit
Fecal Coliform	200 colonies per 100 ml as a geo. mean	As required by NPDES Permit
PCBs (Dry and Wet)	Monitor & Report	As required by NPDES Permit
Total Dissolved Solids**	1,000 mg/l**	As required by NPDES Permit
Ammonia Nitrogen	22 mg/l	As required by NPDES Permit
Temperature*	Monitor & Report*	Continuous

*See DECISION Condition C.2.

**See DECISION Condition C.6.

2. The docket holder is responsible for maintaining the ambient air temperature monitoring gauge outdoors at the WWTP that continuously monitors and records ambient air temperature. The docket holder shall continue to record the data at a minimum of one-hour intervals, document the daily 24-hour average air temperatures, and report the monthly average air temperature for each month. The monthly average air temperature is the average of all daily 24-hour average temperatures for a given calendar month. The docket holder shall also submit an annual report documenting daily minimum, daily maximum, average 24-hour air temperature, monthly average air temperature, and corresponding biweekly CBOD₅ influent and effluent data by January 31 of each year.

3. The docket holder is required to perform quarterly effluent monitoring for True Color. After completing 8 quarterly tests, the docket holder may request in writing to the Executive Director that testing for this parameter be reduced or eliminated based on the test results.

Other Conditions

4. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F above the average 24-hour temperature gradient displayed during the 1961-1966 period, nor shall such discharge result in stream temperatures exceeding 86°F.

5. 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*.

6. The docket holder may request permission from the Executive Director to perform specific conductance monitoring in lieu of TDS monitoring. The request shall be made in writing and shall include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow specific conductance monitoring in lieu of TDS monitoring.

7. In accordance with 18 C.F.R. 401.8. of the Commission's Rules of Practice and Procedure (RPP), if at any future time the Project is changed materially from the Project as described in this docket, it will be deemed to constitute a new and different project for the purposes of Article 11 of the Delaware River Basin Compact and will require Commission amendment of the Comprehensive Plan. In accordance with the same section of the RPP, whenever a change to the Project is made, the sponsor must advise the Executive Director, who will determine whether the change is deemed materially for purposes of this provision.

8. 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.

9. 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 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.

10. 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 the Type of Discharge and Service Area sections of the docket holder's Application to the extent consistent with all other conditions of this section. Any expansion beyond that included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the Compact.

11. In accordance with the Commission's regulations at 18 C.F.R. Part 440, the docket holder is prohibited from discharging wastewater from high volume hydraulic fracturing ("HVHF") or HVHF-related activities to waters or land within the Basin. The docket holder is further prohibited from discharging hydraulic fracturing wastewater, whether treated or untreated, from sources within or outside the Basin, without obtaining the Commission's prior review and express approval in the form of a revised docket. Violation of this or any condition of this docket approval may result in enforcement, including the risk of financial penalties, pursuant to Section 14.17 of the Delaware River Basin Compact and Section 2.7.8 (18 CFR 401.98) of the Commission's Rules of Practice and Procedure.

12. The facility and operational records shall be available at all times for inspection by the DRBC.

13. The facility shall be operated at all times to comply with the requirements of the Commission's *WQR*.

14. 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.

15. 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.

16. 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.

17. 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).

18. 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.
19. 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).
20. 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).
21. 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).
22. 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.
23. 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 4, 2026

EXPIRATION DATE: March 4, 2031