DOCKET NO. D-1992-003 CP-2

DELAWARE RIVER BASIN COMMISSION

Exeter Township
Wastewater Treatment Plant
Exeter Township, Berks County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Exeter Township (docket holder) on January 20, 2015 (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. PA0026972 for this project on February 21, 2008.

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 (Compact)*. The Berks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on May 11, 2016.

A. DESCRIPTION

1. **Purpose**. The purpose of this docket is to renew approval of the docket holder's existing 7.1 million gallons per day (mgd) WWTP and its discharge. This docket also approves a total dissolved solids (TDS) determination consisting of an average monthly concentration effluent limit of 1,500 mg/l for the WWTP discharge.

2. **Location**. The docket holder's WWTP is located on the west bank of the Schuylkill River, just off of Hanover Road, in Exeter Township, Berks County, Pennsylvania. The WWTP will continue to discharge to the Schuylkill River, at River Mile 92.5 – 65.3 (Delaware River – Schuylkill River) via Outfall No. 002.

The WWTP outfall is located in the Schuylkill River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
002	40° 16' 40"	75° 50' 30"

3. **Area Served**. The docket holder's WWTP will continue to serve Exeter, Alsace, and Lower Alsace Townships and Saint Lawrence Borough in Berks County, Pennsylvania. Approximately 25,000 gallons per day (gpd) of high strength industrial wastewater, mostly landfill leachate, is hauled in from outside the WWTP's service area for treatment at the WWTP.

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

4. **Physical Features**.

a. **Design Criteria**. The docket holder's WWTP consists of two (2) treatment trains (the West Plant and the East Plant), which operate in parallel and utilize a two-stage activated sludge treatment process. The West Plant is designed to treat an average annual design flow of 7.1 mgd and has a hydraulic design capacity of 8.43 mgd, and discharges via Outfall No. 002. The East Plant is designed to treat an average annual design flow of 1.2 mgd; however, the East Plant tankage is currently used only for storage and equalization of industrial wastewater and discharges to the headworks of the West Plant. When the East Plant is used for treatment, the plant discharges via Outfall No. 001.

b. **Facilities**. The WWTP facilities consist of a main pumping station, a headworks building (containing mechanical bar screen and a grit chamber), four (3) primary clarifiers, two (2) first stage aeration tanks, three (3) second stage aeration tanks, four (4) final clarifiers, and two (2) chlorine contact tanks. Treated wastewater effluent is discharged via existing Outfall No. 002, which features a multi-port diffuser and discharges at approximately to the middle of the Schuylkill River channel. Sludge handling facilities consist of a sludge gravity thickener, two (2) anaerobic digesters, an aerated sludge holding tank, two (2) centrifuges, two (2) sludge drying beds, and a non-contact thermal dryer.

Currently, the East Plant receives high strength industrial wastewater (mostly landfill leachate) for storage and equalization prior to being introduced to the headworks of the West Plant on a controlled basis. The West Plant receives this equalized industrial wastewater from the East plant, along with residential, commercial, and industrial wastewater from the WWTP sewer service area. There is no current plan to use the East Plant for treatment and discharge via Outfall No. 001.

Biosolids are produced on site and stored in a silo. The biosolids are either taken by local farmers for the use of land application, or hauled off-site by a licensed hauler for disposal at a state approved facility.

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

Prior facilities and processes for the project WWTP have been described in the following DRBC Dockets:

DOCKET NO.	DATE APPROVED BY DRBC
D-1964-029-1	June 24, 1964

D-1975-102 CP-1	June 23, 1976
D-1985-046 CP-1	July 24, 1985
D-1991-037 CP-1	August 14, 1991
D-1992-003 CP-1	December 9, 1992

c. Water Withdrawals. The potable water supply in the project service area is provided by groundwater wells operated by the Pennsylvania American Water Company. The groundwater withdrawal is described in detail in Docket No. D-1999-030 CP-5, which was approved on December 9, 2015.

d. NPDES Permit / DRBC Docket. NPDES Permit No. PA0026972 was issued by the PADEP on February 21, 2008 and includes final effluent limitations for the project discharge of 7.1 mgd to surface waters classified by the PADEP as warm water fishery (WWF) and migratory fishery (MF). The following average monthly effluent limits and monitoring requirements are for DRBC parameters.

EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES permit

OUTFALL Nos. 001 & 002 (Schuylkill River)			
PARAMETER		**LIMIT**	**MONITORING**
pH (Standard Units)		6.0 to 9.0	As required by NPDES permit
Total Suspended Solids		30 mg/l	As required by NPDES permit
CBOD (5-Day at 20° C)		25 mg/l	As required by NPDES permit
Ammonia-Nitrogen		20 mg/l	As required by NPDES permit
Fecal Coliform	5/01 – 9/30	200 colonies per 100 ml	As required by NPDES permit
	10/01- 4/30	2,000 colonies per 100 ml	

The following average monthly effluent limits and monitoring requirements in EFFLUENT TABLE A-2 are not listed in the NPDES Permit, but are Commission requirements that must be met as a condition of this docket approval.

EFFLUENT TABLE A-2: DRBC Parameters Not Included in NPDES permit

OUTFALL Nos. 001 & 002 (Schuylkill River)		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids *	1,500 mg/l	Monthly
CBOD (5-Day at 20° C)	Monitor & Report Influent	Weekly
Color (Platinum-Cobalt Scale)	Monitor & Report	Monthly

*See FINDINGS section and DECISION Conditions II.p.

e. Relationship to the Comprehensive Plan. The project WWTP was added to the Comprehensive Plan via DRBC Resolution No. R-64-10 and modified via Docket Nos. D-1975-102 CP-1, D-1985-046 CP-1, D-1991-037 CP-1, and D-1992-003 CP-1 on June 23, 1976, July 24, 1985, August 14, 1991, and December 9, 1992, respectively.

This docket (D-1992-003 CP-2) renews approval of the WWTP, approves a TDS determination for the WWTP discharge, and continues the project in the Comprehensive Plan.

B. FINDINGS

This docket renews approval of the docket holder's existing 7.1 mgd WWTP. No modifications to the WWTP are proposed. The docket holder's Application included a request for a TDS variance from the Commission's basin-wide 1,000 mg/l TDS effluent limit.

TDS Effluent Limit Determination

Section 3.10.4.D.2 of the DRBC's *Water Quality Regulations (WQR)* states:

> *"Total dissolved solids shall not exceed 1000 mg/l, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers."*

The Commission's basin-wide in-stream TDS criteria is that the receiving stream's resultant TDS concentration be less than 133% of the background (WQR Section 3.10.3.B.1.b.) and the receiving stream's resultant TDS concentration be less than 500 mg/l (WQR Section 3.10.3.B. 2.). The discharge is required to comply with the more stringent of the above in-stream criteria. The 133% of the background TDS requirement is for the protection of aquatic life. The 500 mg/l TDS requirement is to protect the use of the receiving stream as a drinking water source. The EPA's Safe Drinking Water Act secondary standard for TDS is 500 mg/l.

High TDS in the WWTP effluent is the result of the WWTP receiving high TDS industrial process wastewater from its service area and approximately 25,000 gpd of high strength industrial wastewater hauled in from outside the docket holder's service area, the majority of which is landfill leachate. WWTP effluent data from 2014 indicates the average TDS concentration from January, 2014 to November, 2014 of 871 mg/l, with a maximum daily TDS of 1,410 mg/l. Based on a review of the data, the WWTP effluent potentially exceeds 1,000 mg/l on an average monthly basis, but does not exceed 1,500 mg/l on an average monthly basis. DRBC staff performed an evaluation of the WWTP discharging at an annual monthly effluent limit of 1,500 mg/l and its hydraulic design capacity of 8.43 mgd for compliance with the Commission's basin-wide in-stream TDS criteria.

According to the PADEP, the estimated seven-day low flow with a recurrence interval of ten years ($Q_{7\text{-}10}$ flow) of the Schuylkill River at USGS Gage No. 01471510 (Schuylkill River at Reading, which is upstream of the WWTO outfall) is 244 cfs (157 mgd). DRBC estimates Schuylkill River in-stream TDS concentration based on available data compiled from two (2) sources: 1) the United States Geological Survey (USGS) National Water Information System (NWIS) and 2) the US EPA's STORET database. Based on the available data, the estimated background TDS concentration in the Schuylkill River upstream of the WWTO outfall is 370

mg/l. 133% of 370 mg/l is 492 mg/l; therefore the DRBC in-stream requirement of 133% of background remains the more stringent of the two (2) Commission in-stream requirements.

Based on the estimated background TDS concentration in the Schuylkill River of 370 mg/l, the Q_{7-10} flow of the Schuylkill River of 157 mgd, the WWTP hydraulic design capacity of 8.43 mgd with an effluent TDS concentration of 1,500 mg/l, the TDS in the Schuylkill River would be raised to 427 mg/l during Q_{7-10} flows. If there was a discharge from the WWTP under these conditions, the WWTP flow would raise background TDS to 116 %.

Although the discharge exceeds DRBC's basin-wide TDS effluent limit of 1,000 mg/l, DRBC staff determined the discharge to be compatible with the Commission's designated water uses and water quality objectives in conformance with DRBC Water Quality Regulations since the in-stream concentrations in the Schuylkill River are not expected to exceed the US EPA's Safe Drinking Water Act's secondary standard for TDS is 500 mg/l nor exceed the Commission's criteria of 133% of background as a result of the facility discharge. Therefore, the 1,500 mg/l effluent limit effluent limit for Outfall 002 is approved via this docket.

At the project site, the Schuylkill River has a seven-day low flow with a recurrence interval of ten years of 157 mgd (244 cfs). The ratio of this low flow to the hydraulic design capacity of the WWTP (8.43 mgd) is approximately 19 to 1.

The nearest downstream public water supply intake of record is operated by the Pottstown Water Authority, located on the Schuylkill River approximately 9 river miles downstream from the WWTP.

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 project is designed to produce a discharge meeting the effluent requirements as set forth in the Commission's *WQR.*

C. DECISION

I. Effective on the approval date for Docket No. D-1992-003 CP-2 below:

a. The projects described in Docket Nos. D-1975-102 CP-1, D-1985-046 CP-1, D-1991-037 CP-1, and D-1992-003 CP-1 are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1992-003 CP-2; and

b. Docket Nos. Docket D-1969-024-1, D-1975-102 CP-1, D-1985-046 CP-1, D-1991-037 CP-1, and D-1992-003 CP-1 are terminated and replaced by Docket D-1992-003 CP-2.

c. The project and the appurtenant facilities described in Section A "Physical Features" of this docket shall be continued in the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section A "Physical features" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its NPDES permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

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

c. The facility shall be operated at all times to comply with the requirements of the Commission's *WQR* and Flood Plain Regulations (*FPR).*

d. The docket holder shall comply with the requirements contained in the EFFLUENT TABLE in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email **aemr@drbc.state.nj.us** on the **Annual Effluent Monitoring Report Form** located at this web address: http://www.state.nj.us/drbc/programs/project/pr/info.html. 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.

e. 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*.

f. 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.

g. 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.

h. The docket holder is permitted to treat and discharge wastewaters 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 this DECISION Section.

i. The docket holder shall make wastewater discharge in such a manner as to avoid injury or damage to fish, wildlife, and/or other aquatic life and shall avoid any injury to public or private property.

j. 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).

k. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

l. 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, in order to ensure proper control, use and management of the water resources of the Basin.

m. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form at least 12 months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges 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. In the event that 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 (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

n. 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.

o. 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. 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.

p. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

q. 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.

BY THE COMMISSION

DATE APPROVED: June 15, 2016

EXPIRATION DATE: June 15, 2021