DOCKET NO. D-1999-040 CP-4

DELAWARE RIVER BASIN COMMISSION

New Hanover Township Authority
Wastewater Treatment Plant
New Hanover Township, Montgomery County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Entech Engineering Inc., on behalf of the New Hanover Township Authority (NHTA or docket holder) on January 10, 2017 (Application), for a modification of the DRBC approval of a wastewater treatment plant (WWTP) and its discharge. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0057819 for the facility on October 21, 2015.

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 Montgomery County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on August 15, 2018.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew approval of the docket holder's existing 1.925 million gallon per day (mgd) WWTP and its discharge, and to increase the average monthly total dissolved solids (TDS) effluent limits for the WWTP discharge from 1,000 mg/l to 1,200 mg/l. No modifications to the existing WWTP facilities are proposed.

2. Location. The docket holder's WWTP is located on Fagleysville Road, just north of Swamp Creek, in New Hanover Township, Montgomery County, Pennsylvania. The WWTP will continue to discharge treated effluent to Swamp Creek, which is tributary to Perkiomen Creek, which is tributary to the Schuylkill River, at River Mile 92.5 – 31.2 – 12.9 – 4.8 (Delaware River – Schuylkill River – Perkiomen Creek – Swamp Creek).

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

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 16’ 45”	75° 32’ 50”

3. **Area Served**. The docket holder’s WWTP will continue to serve New Hanover Township in Montgomery County, Pennsylvania. 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 will continue to utilize an oxidation ditch treatment system, with alum addition for phosphorous removal, and ultraviolet light (UV) disinfection. The WWTP is designed to treat an average annual flow of up to 1.925 mgd and has a maximum monthly design capacity of 3.08 mgd.

b. **Facilities**. The existing WWTP facilities consist of a mechanical bar screen and grit removal system, 3 distribution chambers, 4 Kruger oxidation ditches, 4 clarifiers, UV disinfection, a post-aeration tank, and cascade aeration to increase dissolved oxygen. Sludge handling consists of 2 aerobic digesters, 2 sludge holding tanks, sludge thickening and dewatering.

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

Waste sludge will continue to be hauled off-site by a licensed hauler for disposal at a state approved facility.

c. **Water Withdrawals**. The potable water supply in the project service area is provided by groundwater wells owned and operated by Aqua, Pennsylvania (d/b/a Superior Water Company). The groundwater withdrawal is described in detail in Docket No. 2001-015 CP-6, which was approved by the DRBC on December 14, 2016.

d. **Effluent Requirements**. EFFLUENT TABLES A-1 & A-2 below contain effluent requirements for DRBC parameters that must be met as a condition of this approval (See DECISION Condition C.II.c.). PADEP issued NPDES Permit No. PA0057819 for the project discharge on October 21, 2015, which includes final effluent limitations for the project discharge of 0.1925 mgd to surface waters classified by the PADEP as supporting trout stocking fishes (TSF). The following average monthly effluent limits and monitoring requirements listed in EFFLUENT TABLE A-1 are for DRBC parameters listed in the NPDES permit that meet or are more stringent than the effluent requirements of the DRBC.

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

OUTFALL 001 (Swamp Creek)		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	10 mg/l	As required by NPDES permit
CBOD (5-Day at 20° C) 5/01-10/31 11/01-4/30	 10.0 mg/l (85 % minimum removal) 15.0 mg/l (85 % minimum removal)	As required by NPDES permit
Ammonia-Nitrogen 5/01-10/31 11/01-4/30	 1.5 mg/l 3.0 mg/l	As required by NPDES permit
Fecal Coliform	200 colonies per 100 ml as a geo. avg.	As required by NPDES permit
Total Dissolved Solids	See EFFUENT TABLE A-2 below	As required by NPDES permit

The following average monthly effluent limits and monitoring requirements are for DRBC parameters not included in the NPDES permit.

EFFLUENT TABLE A-2: DRBC parameters not included in NPDES permit

Outfall No. 001 (Swamp Creek)		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids*	1,200 mg/l*	Weekly
Total Dissolved Solids Influent	Monitor and report	Monthly

* The NPDES Permit contains an average monthly TDS effluent limit of 1,000 mg/l. This docket approval (D-1999-040 CP-4) approves an increase in the average monthly TDS effluent limit to 1,200 mg/l. See FINDINGS section and Condition C.II.q. in DECISION section

e. <u>Relationship to the Comprehensive Plan</u>. The NHTA WWTP was added to the Comprehensive Plan on January 24, 1979 via Docket No. D-1973-026 CP (REV), and renewed/modified via Docket No. D-1999-030-CP-1 on March 7, 2000; Docket No. D-1999-040 CP-2 on December 12, 2006; and Docket No. D-1999-040 CP-3 on September 10, 2014. This docket (D-1999-040 CP-4) approves a modification to the DRBC approval of the WWTP and its discharge, and continues the project in the Comprehensive Plan.

B. <u>FINDINGS</u>

The docket holder submitted an Application to renew and to modify the DRBC approval of the existing NHTA WWTP, consisting of an increase in the average monthly TDS effluent limits for Outfall No. 001 from 1,000 mg/l to 1,200 mg/l. No modifications to the existing WWTP facilities are proposed.

<u>Total Dissolved Solids (TDS) Determination</u>

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

"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 1,000 mg/l effluent limit was included in Docket No. D-1999-040 CP-2, approved on December 12, 2006. Prior to the approval of renewal Docket No. D-1999-040 CP-3 on September 10, 2014, DRBC staff notified the docket holder that the WWTP's effluent TDS was approaching 1,000 mg/l, and that this limit would be continued in the renewal docket (D-1999-040 CP-3). DRBC staff also indicated that a TDS determination may be required if the WWTP effluent exceeded the 1,000 mg/l limit and advised to perform TDS influent sampling at the WWTP in order to determine if the elevated TDS in the effluent was occurring as a result of WWTP operations or processes.

Effluent monitoring performed by the docket holder from 2015-2016 indicated that the WWTP effluent exceeded 1,000 mg/l for 3 out of 12 months in 2015 and did not exceed 1,000 mg/l in 2016. On January 12, 2017, the docket holder submitted a TDS determination questionnaire and discharge application for a DRBC variance from the 1,000 mg/l limit. The TDS questionnaire indicated that the source of the high TDS was believed to be individual users' water softener backwash generated from the treatment of hardness in the public water supply.

The conclusions of the TDS determination questionnaire and the results of other monitoring performed by the docket holder, in support of its request for a TDS variance from the 1,000 mg/l effluent limit, is as follows:

1. TDS influent and effluent monitoring performed weekly from 2015 to 2017 did not consistently indicate higher effluent TDS than influent TDS. On the contrary, there were many instances when the influent TDS exceeded the effluent TDS. For several of these instances, TDS effluent did not exceed 1,000 mg/l, and the TDS influent exceeded 1,000 mg/l.

2. Aluminum sulfate (alum) is added to the WWTP treatment process to reduce Phosphorous in the effluent. Although alum addition may cause a small increase in TDS in the effluent, the docket holder indicated that alum addition is limited to reduce effluent TDS.

3. The docket holder sampled manholes and points along the sewer collection system to determine if TDS was elevated in different sections of the service area throughout the collection system types. Although data from a combined commercial and residential section of the service area was elevated at times, the results were not consistent enough to identify this section as being the only area of elevated TDS.

4. The docket holder sampled the receiving stream (Swamp Creek) for background TDS concentration, at locations upstream and downstream of the WWTP discharge, and the results ranged from 155 mg/l to 445 mg/l. The results did not indicate that the

downstream background TDS was greater than upstream background TDS. Results were highly variable.

5. The docket holder obtained well sampling reports from the water supply provider in the WWTP service area (Aqua, Pennsylvania d/b/a Superior Water Company) and the TDS concentration ranged from 417 mg/l to 648 mg/l, with individual components of chlorides and sulfates varying considerably.

The docket holder's 2017 annual effluent monitoring report (AEMR) did not indicate an exceedance of the 1,000 mg/l average monthly TDS effluent limit. The docket holder requested a TDS variance consisting of an average monthly effluent limit of 1,200 mg/l. DRBC staff determined that the monitoring/sampling and other information provided by the docket holder support the docket holder's claim that the elevated WWTP effluent TDS levels are not caused by the WWTP operations/processes and may be exacerbated by the elevated hardness in the public water supply. Therefore, this docket grants the request for the TDS variance of 1,200 mg/l. Additionally, the docket holder is required to monitor WWTP influent for TDS on a monthly basis (See EFFLUENT TABLE A-2 in Section A.4.d. of this docket).

At the project site, the Swamp Creek has an estimated seven-day low flow with a recurrence interval of ten years ($Q_{7\text{-}10}$) of 1.6 mgd (2.42 cfs). The ratio of this low flow to the maximum monthly hydraulic design capacity of the WWTP (3.08 mgd) is approximately 0.5 to 1.

The nearest downstream surface water intake of record for public water supply is located approximately 18 miles downstream of the docket holder's WWTP on Perkiomen Creek, and is owned and operated by Aqua Pennsylvania.

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 limits in the NPDES Permit are in compliance with Commission effluent quality requirements.

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-1999-040 CP-4 below:

a. The project described in Docket No. 1999-040 CP-3 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. 1999-040 CP-4; and

b. Docket No. 1999-040 CP-3 is terminated and replaced by Docket No. 1999-040 CP-4; and

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 Section A "Physical Features" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

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

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

c. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES 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.

d. 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*.

e. 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.

f. 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.

g. 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.

h. 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.

i. 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).

j. 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.

k. 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 CFR 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. 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, 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.

l. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 CFR 401.43).

m. 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 CFR 401.43).

n. 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 CFR 401.43).

o. 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.

p. 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.

q. 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.

r. 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:

EXPIRATION DATE: October 31, 2020