DOCKET NO. D-2002-006 CP-4

DELAWARE RIVER BASIN COMMISSION

Discharge to a Tributary of Special Protection Waters

Aqua Pennsylvania, Inc.
Lake Harmony Wastewater Treatment Plant
Kidder Township, Carbon County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an updated Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Entech Engineering, Inc. on behalf of Aqua Pennsylvania, Inc. (Aqua PA or docket holder) on June 1, 2018 (Application), for renewal of the docket holder's existing Lake Harmony wastewater treatment plant (WWTP) and its discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0061204 A-1 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on May 5, 2014, effective January 1, 2014.

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 Carbon 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 approve the proposed modification of the docket holder's existing 0.4 million gallons per day (mgd) Lake Harmony WWTP and its discharge. The proposed modifications include construction of a new headworks building, a new screen, grinder, influent pump station, an additional sequencing batch reactor (SBR) unit, and disc cloth filter. The hydraulic design capacity of the plant is proposed to increase from 0.40 mgd to 0.50 mgd, effluent limitations will continue to be based on an average monthly flow of up to 0.40 mgd.

2. Location. The WWTP will continue to discharge treated effluent to Shingle Mill Run at River Mile 183.7 – 83.5 – 4.9 – 0.6 (Delaware River – Lehigh River – Tobyhanna Creek – Shingle Mill Run) via Outfall No. 001, within the drainage area to the Lower Delaware Special Protection Waters (SPW), in the Kidder Township, Carbon County, Pennsylvania as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	41° 4' 37"	75° 36' 49"

3. **Area Served**. The docket holder's WWTP will continue to serve the Lake Harmony Community Area and convey treated effluent to nearby Summit Management and Utilities, Inc. for its irrigation system and golf course, all located in Carbon 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 0.40 mgd Lake Harmony WWTP will continue to utilize an activated sludge treatment process with ultraviolet (UV) disinfection. The proposed construction will include the addition of a new headworks building, a new SBR unit, new post-equalization tank and new disc cloth filter. The design hydraulic capacity of the WWTP is proposed to be re-rated from 0.40 mgd to 0.50 mgd, the average monthly flow is expected to remain at 0.40 mgd. Minor modifications to the incoming gravity sewer and other process systems are proposed to accommodate the new units.

b. **Facilities**. The existing WWTP facilities consist of an influent grinder, an influent retention tank, two SBRs, a chemical feed tank, a sand filter, three aerobic digesters, two post-aeration tanks, and an UV disinfection unit.

The proposed construction improvements will modify the WWTP consist of a new headworks building with a mechanical screen and vortex grit removal system. A bypass channel will be provided around the mechanical screen with a bar screen. Wastewater from the grit removal system will be conveyed to a new Triplex Influent Pump Station. In addition to the existing two SBRs, a new SBR unit will be placed into operation to receive flow from the pump station. Wastewater from the two existing SBRs will continue to be decanted to the existing Inner Ring Decant tank, effluent from the new SBR will be decanted to a new post-equalization tank, the will operate sharing a wall. Effluent from the post-equalization units will be conveyed to a new disc cloth filter replacing the existing sand filtration system. Filtered flow will be treated by the existing UV disinfection system, containing new UV intensity monitoring.

The existing chemical feed units will be updated to accommodate the new process tanks and equipment. The existing sludge holding tank will receive minor operational repairs and remain in operation for storage of waste activated sludge and disposal. The existing post aeration tank and submersible jet pump aerator will be removed and replaced with a new coarse bubble diffused aeration system. Two on-site unused SBRs and an equalization tank will be removed for preparation of the new units.

The docket holder's wastewater treatment facility discharges to waters classified as SPW and is required to have available standby power. The proposed WWTP will include the installation of a new standby emergency diesel generator capable of providing standby power. (See Condition C.II.o)

The docket holder's wastewater treatment facility 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 docket holder has proposed the installation of a remote alarm system to the modified WWTP that will continuously monitor plant operations. (See Condition C.II.o)

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

The docket holder has demonstrated the technical infeasibility of using natural wastewater treatment technologies in accordance with the Commission's SPW requirements. A report was submitted as part of the docket application that included overland flow, constructed wetlands, floating aquatic plant systems, living machines, reed beds, rapid and slow rate irrigation as natural treatment options and concluded that seasonal conditions were not favorable and the required area of land was not available for use.

The docket holder has demonstrated the financial infeasibility of using natural wastewater treatment technologies in accordance with the Commission's SPW requirements. A report was submitted as part of the docket application that included concluded that costs were too significant to include natural treatment as part of the process.

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

Wasted 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 supplied by individual on-lot wells or the Split Rock Lodge Resort system. No system withdrawals more than 100,000 gallons per day as a 30-day average and does not require approval from the Commission.

d. **Effluent Requirements**. EFFLUENT TABLES A-1 and A-2 below contains effluent requirements for DRBC parameters that must be met as a condition of this approval (See DECISION Condition C.II.c.). NPDES Permit No. PA0061204 A-1 was issued by the PADEP on May 5, 2014 (effective January 1, 2014) and includes final effluent limitations for the project discharge of 0.40 mgd to surface waters classified by the PADEP as supporting high quality water (HQ) and cold water fishes (CWF). 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 A-1: DRBC Parameters Included in NPDES Permit

OUTFALL 001 (Discharging to Shingle Mill Run)		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	18 mg/l	As required by NPDES Permit
Dissolved Oxygen	7.0 mg/l (minimum at all times)	As required by NPDES Permit

OUTFALL 001 (Discharging to Shingle Mill Run)		
PARAMETER	**LIMIT**	**MONITORING**
$CBOD_5$ (at 20° C)	10.0 mg/l	As required by NPDES Permit
Ammonia Nitrogen (5-1 to 10-31) (11-1 to 4-30)	2.1 mg/l 6.3 mg/l	As required by NPDES Permit
Fecal Coliform (5-1 to 9-30) (10-1 to 4-30)	200 colonies per 100 ml as a geo. avg. 2000 colonies per 100 ml as a geo. avg.	As required by NPDES Permit

The requirements in EFFLUENT TABLE A-2 are not listed in the NPDES Permit, but are Commission basin-wide parameters that must be met as a condition of this docket approval.

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

OUTFALL 001 (Discharging to Shingle Mill Run)		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids*	1,000 mg/l *	Quarterly
$CBOD_5$ (at 20° C) Influent	Monitor & Report	Monthly, paired with $CBOD_5$ effluent monitoring sample
$CBOD_5$ (at 20° C)	Report Percent Removal	Monthly

* See DECISION Condition C.II. v

e. <u>Relationship to the Comprehensive Plan</u>. The existing 0.40 mgd Lake Harmony WWTP was added to the comprehensive Plan upon approval of Docket No. D-2002-006 CP on May 31, 2002. The approval for the docket holder's WWTP was renewed via Docket No. D-2002-006 CP-2 on September 12, 2013, D-2002-006 CP-2 was issued a modification with revised effluent monitoring requirements, via the approval of Docket No. D-2002-006 CP-3 on April 15, 2015. Issuance of this docket continues approval of the WWTP in the Comprehensive Plan (See DECISION Condition I.c.).

B. <u>FINDINGS</u>

The purpose of this docket is to renew the approval for the docket holder's existing 0.40 mgd Lake Harmony WWTP and its proposed construction for improvements to its facilities. The docket holder's proposed construction will modify the design hydraulic capacity of the WWTP from 0.40 mgd to 0.50 mgd. The effluent limitations will continue to be based an average annual flow of 0.40 mgd. Improvements to the existing WWTP are expected to increase the facility's performance at its current design hydraulic design capacity. Modifications will include the construction of a new headworks building and operations, SBR unit, post-equalization tank, and disc cloth filter.

The WWTP discharges within the drainage area to a major impoundment (F.E. Walter Reservoir). In accordance with Section 3.10.3A.2.f. of the Commission's *Water Quality*

Regulations (*WQR*), effluent requirements have been determined with consideration to the presence of the large water storage impoundment.

On July 16, 2008, the DRBC approved amendments to its *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.

Article 3.10.3A.3.c of the Commission's *WQR* that SPW projects evaluate Natural Treatment Alternatives (NTA). A report including the NTA analyses of overland flow, constructed wetlands, floating aquatic plant systems, living machines, reed beds, rapid and slow rate irrigation as natural treatment options concluded that either seasonal conditions were either too harsh for the option or that the land required to properly execute the natural treatment alternative was unavailable for use. Additionally, the costs for implementation of the natural treatment options was concluded to be too significant for the docket holder.

The docket holder's WWTP discharges to the drainage area to the Lower Delaware River 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. Since this project is located within the drainage of a large impoundment (F.E. Walter Reservoir) downstream of it's the WWTP's discharge, the NPSPCP requirement is not applicable to this project.

At the docket holder's WWTP discharge, Shingle Mill Run has an estimated seven-day low flow with a recurrence interval of ten years ($Q_{7\text{-}10}$) of 0.11 mgd (0.16 cfs). The ratio of this low flow to the hydraulic design wastewater discharge from the 0.50 mgd WWTP is 0.22 to 1.

The nearest surface water intake of record for public water supply is located on the Lehigh River approximately 45 River Miles downstream of the docket holder's WWTP, and is operated by the Lehighton Water Authority.

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 are in compliance with Commission effluent quality requirements, where applicable.

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

C. DECISION

I. Effective on the approval date for Docket No. D-2002-006 CP-4 below:

a. The project described in Docket No. D-2002-006 CP-3 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2002-006 CP-4; and

b. Docket No. D-2002-006 CP-3 is terminated and replaced by Docket No. D-2002-006 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. Sound practices of excavation, backfill and reseeding shall be followed to minimize erosion and deposition of sediment in streams.

h. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date. Within 30 days of the date of project completion, the docket holder shall notify the DRBC of the project completion date.

i. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement ("Statement") signed by the docket holder's professional engineer for the project. The Statement must (1) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; and (2) indicate the date on which the project was (or is to be) placed in operation.

j. The WWTP modifications shall be completed prior to the date of docket expiration (December 31, 2023) or the docket holder shall demonstrate to the Executive Director that it has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval. If the modifications have not been completed prior to docket expiration and the docket holder does not submit a cost analysis demonstrating substantial funds have been expended, Commission approval of the modifications to the existing WWTP shall expire. If the docket expires under this condition, the docket holder shall file a new application with the Commission and receive Commission approval prior to initiating construction of any modifications.

k. 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.

l. 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.

m. 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).

n. 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.

o. The docket holder shall provide for emergency power and install new remote alarm controls within 6 months upon completion of the reconstructed WWTP, whichever occurs first. The docket holder shall certify in writing to the Commission that it has complied with this condition by March 15, 2022.

p. 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.

q. 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).

r. 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).

s. 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).

t. 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.

u. 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.

v. 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.

w. 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.

x. 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.

BY THE COMMISSION

APPROVAL DATE: **September 13, 2018**

EXPIRATION DATE: **December 31, 2023**