

DOCKET NO. D-2007-43 CP-2

DELAWARE RIVER BASIN COMMISSION

**East Brandywine Township Municipal Authority
Hillendale Wastewater Treatment Plant
East Brandywine Township, Chester County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) by Hydraterra Professionals, LLC. on behalf of the East Brandywine Township Municipal Authority (EBTMA or docket holder) on July 2, 2012 (Application), for the renewal of a wastewater treatment plant (WWTP) approval. The project was approved by the Pennsylvania Department of Environmental Protection (PADEP) by issuance of Water Quality Management (Part II) Permit No. 1507406 on August 20, 2008. The WQM Permit expires on August 20, 2013 and the PADEP requires that a renewal application be submitted by April 22, 2013.

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 Chester County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on May 7, 2013.

A. DESCRIPTION

1. Purpose. The purpose of this project is to renew the approval of the EBTMA Hillendale 0.0554 million gallons per day (annual average daily flow) WWTP with drip irrigation disposal of treated effluent. The WWTP was approved via DRBC Docket No. D-2007-043 CP-1 on May 14, 2008; however, the WWTP has not yet been constructed.

2. Location. The project WWTP and drip irrigation fields are to be located at the proposed Hillendale residential housing subdivision on the west side of Creek Road, south of Hopewell Road, and north of Township Road in East Brandywine Township, Chester County, Pennsylvania. The drip irrigation fields are located in the drainage area of East Brandywine Creek.

The project facilities will be located in the Brandywine-Christina Watershed as follows:

FACILITY	LATITUDE (N)	LONGITUDE (W)
WWTP	40° 02' 38"	75° 43' 23"
Drip Area 1 (Zones 1-6)	40° 02' 40"	75° 43' 00"
Drip Area 2 (Zones 7-12)	40° 02' 33"	75° 42' 56"
Drip Area 3 (Zones 13-14)	40° 02' 28"	75° 42' 41"
Drip Area 4 (Zones 15-16)	40° 02' 22"	75° 42' 35"

3. **Area Served.** The docket holder's WWTP will receive wastewater flows from the proposed Hillendale residential subdivision, which will consist of 150 new single family homes, two existing single family homes, and 59 new townhomes. The tract encompasses approximately 140 acres.

For the purpose of defining the Area Served, sections 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 East Brandywine Township Hillendale WWTP is designed to treat an annual daily flow of 0.0554 million gallons per day (mgd). The effluent storage tank and drip dispersal system are hydraulically designed to dispose of 0.061 mgd.

b. **Facilities.** The proposed WWTP will provide tertiary treatment, including biological carbon oxidation, nitrification and denitrification, filtration, and disinfection. The treatment facility will include unit processes constructed in a multi-section, precast, post-tensioned concrete tank, which will utilize common wall construction. The storage and sludge holding tanks will be covered.

Treatment facilities include an influent fine screen and a 44,880-gallon pre- Sequencing Batch Reactor (SBR) equalization basin. The SBR will have an operating range from 66,000 to 94,000 gallons, and will cycle through six controlled phases creating aerobic and anoxic conditions. After settling, treated wastewater will be decanted from the SBR to a 25,568 gallon post-SBR equalization basin and from there to a dual-disk cloth media filter. The filtered effluent will flow by gravity to an ultraviolet disinfection unit specified to produce effluent with a fecal coliform concentration of less than 200 organisms per 100 ml. A covered effluent storage tank with 3-day capacity (185,000 gallons) will receive disinfected effluent before drip irrigation discharge. Sludge will be aerobically digested.

Treated effluent will be piped to four (4) on-site drip irrigation disposal areas with a total wetted area of 9.3 acres and a corresponding disposal capacity of approximately 0.07 mgd..

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

Wasted sludge will be hauled off-site by a licensed hauler for disposal at a (State-approved) facility.

c. **Water withdrawals.** The potable water supply will be provided by Aqua Pennsylvania from an existing distribution system across the creek in Upper Uwchlan Township. A new main will be installed under the Brandywine Creek to convey water to the project. The water supply system is described in DRBC Docket D-90-50 CP RENEWAL, which was approved by the Commission on June 6, 2001.

d. **Water Quality Management Permit / DRBC Docket.** The Water Quality Management Permit No. 1507406, approved by PADEP on August 20, 2008, includes final effluent limitations for the design flow discharge of 0.061 mgd to the drip irrigation disposal facility. The following average monthly effluent limits are among those listed in the WQM permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC Parameters Included in WQM Permit

Sampling port prior to effluent storage tank		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by WQM permit
Total Suspended Solids	10 mg/l	As required by WQM permit
Total Nitrogen**	10 mg/l	As required by WQM permit
CBOD (5-Day at 20° C)	10 mg/l (85% minimum removal*)	As required by WQM permit
Fecal Coliform	200 colonies /100 ml as a geo. avg.	As required by WQM permit

* DRBC Requirement

** DRBC Water Quality Regulations (WQR) include basin-wide ammonia-nitrogen effluent limits. Meeting the total nitrogen limit of 10 mg/l satisfies the DRBC criteria for ammonia nitrogen.

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

Sampled from the Filtrate Tank		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids	Monitor & Report	Quarterly*

* See DECISION Condition II.t.

e. **Cost.** The overall cost of this project is estimated to be \$3,200,000.

f. **Relationship to the Comprehensive Plan.** The DRBC included the EBTMA Hillendale WWTP in the Comprehensive Plan on May 14, 2008 via Docket No. D-2007-043 CP-1.

B. FINDINGS

DRBC Docket No. D-2007-43 CP-1 was approved by the Commission on May 14, 2008 for the construction of the proposed WWTP. This docket required that the docket holder commence operation of the subject project within three (3) years. On November 21, 2011, the DRBC Executive Director approved an extension to the three-year construction expiration date

in consideration of the substantial expenditures for the project. Construction of the facility is anticipated to begin in 2014 with a completion date in fall 2015. This docket renews the approval for the construction of the new facility.

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 Water Quality Management 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 *Water Quality Regulations* of the DRBC.

C. DECISION

I. Effective on the approval date for Docket No. D-2007-043 CP-2 below:

a. The project described in Docket No. D-2007-43 CP-1 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2007-043 CP-2; and

b. Docket No. D-2007-43 CP-1 is terminated and replaced by Docket No. D-2007-043 CP-2; 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. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its Water Quality Management Permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. Commission approval of this docket is contingent on PADEP’s approval of the WQM permit renewal.

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*.

d. The docket holder shall comply with the requirements contained in the Effluent Table(s) in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Project Review Section. 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. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

i. 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.

j. 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; (2) report the project’s final construction cost as such cost is defined by the project review fee schedule in effect at the time the application was made; and (3) indicate the date on which the project was (or is to be) placed in operation. In the event that the final project cost exceeds the estimated cost used by the docket holder to calculate the DRBC project review fee, the statement must also include (4) the amount of any outstanding balance owed for DRBC review. The outstanding balance will equal the difference between the fee paid to the Commission and the fee calculated on the basis of the project’s final cost, using the formula and definition of “project cost” set forth in the DRBC’s project review fee schedule in effect at the time application was made.

k. This docket approval shall expire three years from date below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

l. 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.

m. The docket holder shall make wastewater discharge in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

n. 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).

o. 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.

p. 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.

q. 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.

r. 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.

s. 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.

t. 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.

u. 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: May 8, 2013

EXPIRATION DATE: August 20, 2018