

DOCKET NO. D-2006-031 CP-2

DELAWARE RIVER BASIN COMMISSION

**Downingtown Municipal Water Authority
Water Filtration Plant Discharge
Downingtown Borough, Chester County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Cardno BCM on behalf of Downingtown Municipal Water Authority (DMWA or docket holder) on May 6, 2013 (Application), for review of an existing Water Filtration Plant (WFP) discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0058556 for the project discharge was issued by the Pennsylvania Department of Environmental Protection (PADEP) on October 1, 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 March 11, 2014.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew approval of the existing average daily flow of 0.26 million gallons per day (mgd) and maximum daily flow of 0.466 mgd of filter backwash, clarifier backwash and sludge drying beds filtrate discharge from the 2.5 mgd DMWA WFP. The discharge rate approved by this docket is an increase in the maximum discharge of 0.10 mgd approved in Docket No. D-2006-31 CP-1. The increase in flow is due to more frequent filter backwash and clarifier flush cycles to produce drinking water with less than 0.1 NTU turbidity.

2. Location. The project is located near the intersection of Wallace Avenue and Parkside Road in Downingtown Borough, Chester County, Pennsylvania. WFP supernatant from the sludge thickening/holding tank will continue to be discharged to an onsite stormwater basin which drains to an unnamed tributary (UNT) to East Branch Brandywine Creek at River Mile 70.73 - 1.5 - 20.0 - 9.0 - 0.4 (Delaware River – Christina River – Brandywine Creek – East Branch Brandywine Creek – UNT to East Branch Brandywine Creek) via Outfall No. 001 as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 00' 41"	75° 42' 47"

3. **Area Served.** The DMWA WFP provides potable water service to the Borough of Downingtown and the adjacent portions of Caln, East Caln, East Brandywine, and West Bradford Townships, all in Chester County, Pennsylvania. The WFP processes up to 2.5 mgd of water, with a resulting filter backwash discharge of up to 0.466 mgd. Water treated by the WFP is withdrawn from East Branch Brandywine Creek in the Borough of Downingtown.

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 existing 2.5 mgd DMWA WFP will continue to discharge an average of up to 0.26 mgd of filter backwash, clarifier backwash and sludge drying beds filtrate discharge to an unnamed tributary to East Branch Brandywine Creek. The average flow in 2012 was 0.225 mgd. PADEP NPDES permit limits the maximum daily flow at Outfall 001 to 0.466 mgd. The maximum daily discharge flow occurs when the raw water turbidity in East Branch Brandywine Creek rises due to rain storms, high snow melts and when Marsh Creek Reservoir releases poorer quality water.

b. **Facilities.** Raw water from the East Branch Brandywine Creek is treated at the DMWA WFP by oxidation, coagulation, flocculation, settling, adsorption, filtration and disinfection processes. Sludge and liquid residues from the flocculator/inclined plate settlers, adsorption clarifiers and filter units are transferred to a sludge thickening/holding tank. Thickened sludge flows to the sludge drying beds. Filtrate from the sludge drying beds is collected and recycled back to the sludge holding tank. Supernatant from the sludge storage tank flows to an onsite stormwater retention basin and is discharged from the basin through an overflow weir (Outfall 001) into an unnamed tributary of East Branch Brandywine Creek.

Sludge from the sludge drying beds will continue to be hauled off-site by a licensed hauler for disposal at a state-approved facility.

The project facilities are located in the 100-year floodplain. The docket holder has elevated the facilities at least one (1) foot above the 100-year flood elevation.

c. **Water withdrawals.** The potable water supply in the project service area is provided by the docket holder as described in DRBC Docket No. D-1989-063 CP-2, approved on March 6, 2013.

d. **NPDES Permit / DRBC Docket.** NPDES Permit No. PA0058556 was most recently approved by the PADEP on October 1, 2013 and includes final effluent limitations for

the project discharge of 0.26 mgd to surface waters classified by the PADEP as supporting Cold Water Fishes (CWF) and migratory fishes (MF). 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		
PARAMETER	LIMIT	MONITORING
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
Total Dissolved Solids**	1,000 mg/l	As required by NPDES Permit

** See DECISION Condition II.o.

e. **Cost.** There are no costs associated with this renewal project.

f. **Relationship to the Comprehensive Plan.** The docket holder's WFP discharge was added to the Comprehensive Plan on February 28, 2007 upon approval of Docket No. D-2006-31 CP. Approval of this docket will continue the WFP discharge in the Comprehensive Plan (See DECISION Condition I.c.).

B. FINDINGS

The purpose of this docket is to renew approval of the existing average daily flow of 0.26 million gallons per day (mgd) and maximum daily flow of 0.466 mgd of filter backwash, clarifier backwash and sludge drying beds filtrate discharge from the 2.5 mgd DMWA WFP. The discharge rate approved by this docket is an increase in the maximum discharge of 0.10 mgd approved in Docket No. D-2006-31 CP-1. The increase in flow is due to more frequent filter backwash and clarifier flush cycles to produce drinking water with less than 0.1 NTU turbidity.

The docket holder's facility is a water filtration backwash water treatment plant and therefore does not have typical influent characteristics associated with wastewater treatment plants. As part of the previous docket application, the docket holder submitted a request for a waiver of the percent removal requirements for TSS and CBOD₅, citing typical values which are substantially lower than the 200 mg/l value which was the basis of the secondary treatment requirements of 85% removal for both TSS and CBOD₅. Commission staff reviewed the information submitted and found that application of percent removal requirements for TSS and CBOD₅ is not appropriate to this facility due to its influent characteristics.

Near the project site, the unnamed tributary to East Branch Brandywine has an estimated seven-day low flow with a recurrence interval of ten years of 0.071 mgd (0.11 cfs). The ratio of this low flow to the average design wastewater discharge of 0.26 mgd from the WFP is 0.3 to 1.

The nearest surface water intake of record for public water supply is located approximately 5 river miles downstream of the project discharge on the East Branch Brandywine Creek and is 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, where applicable.

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-2006-031 CP-2 below:

a. The project described in Docket No. D-2006-31 CP is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2006-031 CP-2; and

b. Docket No. D-2006-31 CP is terminated and replaced by Docket No. D-2006-031 CP-2; and

c. The project and the appurtenant facilities described in Section A "Physical Features" of this docket shall be added to 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 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*.

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. 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 discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F, nor shall such discharge result in stream temperatures exceeding 87°F.

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 or wildlife and shall avoid any injury to public or private property.

j. 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.

k. 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.

l. 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.

m. 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.

n. 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.

o. 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.

p. The docket holder owes a remaining balance of \$2,000 for this docket renewal. The balance shall be paid within sixty (60) days of issuance of this docket (May 12, 2014) or fees may be assessed in accordance with the Commission's Penalty Matrix.

BY THE COMMISSION

DATE APPROVED: March 12, 2014

EXPIRATION DATE: October 1, 2018