

DOCKET NO. D- 99-28 CP-2

DELAWARE RIVER BASIN COMMISSION

**Mercer County Improvement Authority
Ground and Surface Water Withdrawal
West Windsor Township, Mercer County, New Jersey**

PROCEEDINGS

This docket is issued in response to an Application referred to the Delaware River Basin Commission (DRBC or Commission) pursuant to an Administrative Agreement under Sections 2-3.4 (a) and 2-3.7 of the *Administrative Manual - Part II, Rules of Practice and Procedure* by the New Jersey Department of Environmental Protection (NJDEP) on March 13, 2008 for renewal of an allocation of surface water and review of a ground and surface water withdrawal (Application). The project was originally approved by the DRBC on July 17, 2002 for a surface water withdrawal. The applicant requests that the project withdrawal include a portion of groundwater withdrawal from two wells that have been installed on the golf course property. The proposed project withdrawal including the addition of groundwater withdrawal was approved by the NJDEP on June 9, 2008 (Permit No. 4056PS), subject to approval by the DRBC.

The Application was reviewed for continued approval under Section 3.8 of the *Delaware River Basin Compact*. The Mercer County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on September 24, 2008.

A. DESCRIPTION

- 1. Purpose.** The purpose of this project is to continue to supply up to 15 million gallons per 30 days (mg/30 days) of water for golf course irrigation from new Wells Nos. I-1 and I-2 and existing Intakes Nos. 1 and 2. The docket holder intends to use the groundwater supply wells to augment their existing surface water supply during times of low flow in the Assunpink in order to satisfy the irrigation water demand for the golf course.
- 2. Location.** The project wells and intakes are located in the Assunpink Creek Watershed, in the Lower Potomac-Raritan-Magothy Formation. Specific location information has been withheld for security reasons.

3. **Area Served.** The two wells and two surface water intakes will continue to serve the golf course irrigation system as outlined in the map entitled “Diversion Sources” that accompanied the application. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

4. **Physical features.**

a. **Design criteria.** The docket holder currently operates Intakes Nos. 1 & 2 equipped with pump capacities of 900 gpm and 1300 gpm, respectively. The intakes are located on Mercer Lake. Mercer Lake is a 280-acre impoundment constructed by the docket holder. The impoundment is located on Assunpink Creek and has an estimated “normal” storage capacity of approximately 881 million gallons. The docket holder will continue to divert water from Intake 1 into a new irrigation pond at a rate of 900 gpm, which would be utilized to irrigate the West course. The new irrigation pond has a total storage capacity of 4.09 million gallons and a useable capacity of 2.87 million gallons. The pond is located within a drainage area of less than 1 square miles. Intake 2 will divert water directly from Mercer Lake at a maximum rate of 900 gpm and used to irrigation the East course.

Under low flow conditions when surface water cannot be diverted from Mercer Lake, groundwater from Well Nos. I-1 and I-2 will be pumped into the irrigation pond and both courses will be irrigated from the pond via Intake No. 3 at a maximum rate of 2,000 gpm. In addition, a passby flow of 7.4 cfs (4.8 mgd) is required by the NJDEP to assure the downstream water quality and quantity objectives are met. The bypass flow requirement exceeds the DRBC required Q_{7-10} flow of 3.4 cfs (2.2 mgd) by a factor of 4 cfs (2.6 mgd) or 118%. To assure that the passby flow requirements are met the NJDEP required and the applicant funded an upgrade by the USGS for a new telemetering gage at the Clarksville Station. This device will be used by the applicant to determine when surface water withdrawal can proceed, and should preclude violations in the future.

The screened intake on Mercer Lake is a gravity-feed wet well, which is equipped with two 60 h.p. main pumps and 20 h.p. submersible jockey pump. Golf course irrigation is typically practiced a maximum of 8 evening hours a day during fair to hot weather conditions. Watering may only occur up to a maximum of 80% of monthly allocation under the existing NJDEP drought regulations.

b. **Facilities.** The existing intakes and pump houses serve Mercer Oaks Golf Course, a public golf course adjacent to Mercer Lake on the Assunpink Creek. The irrigation system consists of underground piping with 630 sprinkler heads for spray distribution to the fairways, tees, and greens.

WELL NO.	DEPTH	CASED DEPTH/ CASING DIAMETER	PUMP CAPACITY	YEAR DRILLED
I-1	80	52' / 8"	141 gpm	2005
I-2	80	52' / 8"	120 gpm	2005

INTAKE NO.	PUMP CAPACITY
1	900 gpm
2	1300 gpm
3 (Pond)	2000 gpm

All water service connections are metered.

All wells are metered.

The project facilities are above the 100-year flood elevation.

The irrigation system is not presently interconnected.

c. **Other.** Wastewater is conveyed to the Ewing-Lawrence Sewer Authority treatment facility most recently approved by DRBC Docket No. D-80-82 CP on November 20, 1981. The NJDEP issued its most recent NJPDES Permit No. NJ0024759 on February 1, 2006 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the proposed project.

d. **Cost.** The overall cost of this project is estimated to be \$481,066.00.

e. **Relationship to the Comprehensive Plan.** The existing surface water withdrawal for Mercer Oaks was approved by Docket No. D-88-86 CP on March 28, 1990

Lake Mercer, an impoundment project designed for flood control and recreation, is a facility in the Assunpink Watershed Work Plan, which was included in the Comprehensive Plan by Resolution No. 65-5 on February 24, 1965, and revised by Dockets Nos. D-65-5 CP (Supplement) on September 25, 1968; D-65-5 CP (Supplement No. 3) on December 12, 1972; and D-65-5 CP (Supplement No. 4) on June 26, 1974.

B. FINDINGS

The project is designed to conform to the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

The drainage area above the existing intakes is approximately 34 square miles, and there are 6 other upstream flood control structures in that drainage area. The Assunpink Creek drainage basin is approximately 91.2 square miles. The Lake Mercer storage capacity is approximately 925 million gallons. The recreational uses of Lake Mercer will not be impaired by this project, as withdrawal will cease if a bypass flow of 7.4 cfs is not met. Directly below the dam, the waterbody is classified by NJDEP as a Category One Fresh Water, Non-Trout stream, and as such, the NJDEP set the passby to protect the waters from any substantial measurable change.

The applicant submitted a Water Conservation and Drought Management Plan to NJDEP in 2007, and is required by NJDEP to update that plan every two years.

The DRBC estimates that the project withdrawals, used for the purpose of golf course irrigation, result in a consumptive use of 90 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

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 docket holder conducted a 72-hour constant-rate pumping test on new Well No. I-1 in June, 2005. The well was pumped at an average rate of 141 gallons per minute (gpm). Drawdown in the well was 19.88 feet after 72-hours of pumping. Immediately following the 72-hour pumping period, pumping began in Well No. I-2 at an additional rate of 120 gpm. This continued for an additional 72-hour period at a combined rate of 261 gpm. Maximum drawdown observed in Well Nos. I-1 and I-2 after the entire pumping period was 20.63 feet and 24.99 feet, respectively. Drawdown observed in observation wells OB-1 and OB-2 after the entire pumping period was 0.53 feet and 1.16 feet, respectively. No discernable drawdown was observed in surface water monitoring points SG-1, SG-2, and PZ-1 after the entire pumping period. No adverse impact is anticipated with the operation of Well Nos. I-1 and I-2.

C. DECISION

- I. Effective on the approval date for Docket No. D-99-28 CP-2 below:
 - a. The projects described in Docket Nos. D-99-28 CP are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-99-28 CP-2
 - b. Docket No. D-99-28-CP is terminated and replaced by Docket No. D-99-28 CP-2.
 - c. The project and the appurtenant facilities described in the Section A “Physical features” shall be added to the Comprehensive Plan.
- II. The project and appurtenant facilities as described in the Section A “Physical features” 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 NJDEP in its Water Allocation Permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s.
 - b. The wells and intake operational records shall be available at all times for inspection by the DRBC.
 - c. The wells and intakes shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.
 - d. During any 30-day period, the withdrawal from the project wells and intakes shall not exceed 15 million gallons, nor shall the total withdrawal exceed 52.5 million gallons annually.
 - e. The wells shall be equipped with readily accessible capped ports and drop pipes so that water levels may be measured under all conditions.
 - f. 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.
 - g. The project withdrawal must not cause the streamflow to be less than 7.4 cfs (4.78 mgd) at the downstream Clarksville Gage Station on the Assunpink Creek as described in the NJDEP water allocation permit (WAP060001) for the project. Whenever the streamflow below the intake is less than this amount, no withdrawal shall be made and the entire natural stream flow must be allowed to pass.

h. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the NJDEP annually and shall be available at any time to the Commission if requested by the Executive Director.

i. Each new water service connection shall include a water meter in accordance with the DRBC's Resolution No. 87-7 (Revised).

j. The docket holder shall implement to the satisfaction of the NJDEP, the continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. The docket holder will report to the NJDEP on the actions taken pursuant to this program and the impact of those actions as requested by the NJDEP.

k. The docket holder shall continue to implement its Water Conservation Plan as approved by NJDEP, and shall report to the NJDEP on actions taken pursuant to this program and the impact of those actions as requested by the NJDEP.

l. The docket holder shall implement to the satisfaction of the NJDEP, a drought or other water supply emergency plan.

m. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

n. No new water service connections shall be made to premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.

o. 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.

p. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.

q. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. 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 this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

r. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

s. If the operation of this project significantly affects or interferes with any domestic or other existing wells or surface water supplies, or if the docket holder receives a complaint by any user of wells or surface water supplies within the zone of influence of the withdrawal, the docket holder shall immediately notify the Executive Director of any complaints by users of wells or surface water supplies within the zone of influence of the withdrawal, and unless excused by the Executive Director, shall investigate such complaints. The docket holder should direct phone call notifications of potential well or surface water interference or complaints of interference to the DRBC Project Review Section at 609-883-9500, extension 216. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the docket holder shall provide written notification to all potentially impacted users of wells or surface water supplies of the docket holder's responsibilities under this condition. Any well or surface water supply which is substantially adversely affected, or rendered dry or otherwise unusable as a result of the docket holder's project withdrawal, shall be repaired, replaced or otherwise mitigated at the expense of the docket holder. A report of investigation and/or mitigation plan prepared by a hydrologist shall be submitted to the Executive Director as soon as practicable. The Executive Director shall make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required. 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.

t. During any water emergency or other non-emergency declaration by the Governor of New Jersey, NJDEP or the Commission, water service or use by the project docket holder pursuant to this docket approval shall be subject to any order or restriction governing those non-essential uses specified by the NJDEP to the extent that they may be applicable, and to any other emergency resolutions or orders adopted by the Commission.

u. The docket holder and any other person aggrieved by a reviewable action or decision taken by the Executive Director or Commission pursuant to this docket may seek an administrative hearing pursuant to Articles 5 and 6 of the Commission's *Rules of Practice and Procedure*, and after exhausting all administrative remedies may seek judicial review pursuant to Article 6, section 2.6.10 of the *Rules of Practice and Procedure* and section 15.1(p) of the Commission's *Compact*.

BY THE COMMISSION

APPROVAL DATE:

EXPIRATION DATE: September 24, 2018

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