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**DOCKET NO. D-2002-048 CP-4**

**DELAWARE RIVER BASIN COMMISSION**

**Drainage Area to the Special Protection Waters**

**Lower Makefield Township – Makefield Highlands Golf Club  
Groundwater Withdrawal  
Lower Makefield Township, Bucks County, Pennsylvania**

**PROCEEDING**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on, March 26, 2025 for renewal of an allocation of groundwater and review of a groundwater withdrawal project (Application).

The Application was reviewed for continuation of this project in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Bucks County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on November 5, 2025.

**A. DESCRIPTION**

1. **Purpose.** The purpose of this project is to renew the approval of an existing groundwater withdrawal of up to 7.68 million gallons per month (mgm) of groundwater to the docket holder's Makefield Highlands Golf Club golf course irrigation system from Wells PW-1, PW-2 and PW-3.
2. **Location.** The project wells are located in the Delaware River Watershed, within the drainage area to the Lower Delaware Special Protection Waters, in Lower Makefield Township, Bucks County, Pennsylvania. The project wells are completed in the Brunswick Formation.

Specific location information has been withheld for security reasons.

3. **Area Served.** The project wells will only provide irrigation water to the docket holder's Makefield Highlands Golf Club golf course. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in Section C. DECISION of this docket.

4. **Design Criteria.** The docket holder's golf course is an 18-hole golf course located on 180 acres and consists of 40 acres of fairways and tees and 3.2 acres of greens. The allocation of groundwater from the wells herein will only serve the golf course irrigation system. The docket holder's irrigation system has an average and maximum water demand of 0.11 million gallons per day (mgd) and 0.256 mgd, respectively. The docket holder does not project an increase in water use over the next 10 years. The allocation of 7.68 mgm should be sufficient to meet the future demands of the docket holder's golf course.

The irrigation system is sourced from an on-site, off-stream, man-made irrigation pond, which collects stormwater runoff from much of the course. The project wells are pumped into the irrigation pond. The docket holder has a computerized irrigation and control system, which includes fertilizer application through the irrigation system and automatic soil moisture and weather monitoring to manage the application of water.

Potable water at the golf course's clubhouse is provided Pennsylvania American Water (PAW). The PAW interconnection is also used to supplement irrigation when needed.

5. **Facilities.** The existing project wells have the following characteristics:

| WELL NO. | DEPTH<br>(FEET) | CASED DEPTH /<br>CASING<br>DIAMETER | PUMP<br>CAPACITY<br>(GPM) | YEAR<br>DRILLED |
|----------|-----------------|-------------------------------------|---------------------------|-----------------|
| PW-1     | 460             | 56' / 9"                            | 160                       | 2002            |
| PW-2     | 700             | 64' / 10"                           | 70                        | 2002            |
| PW-3     | 700             | 60' / 10"                           | 40                        | 2005            |

All wells are metered.

All water service connections are metered.

The project wellheads are located above the 100-year flood elevation.

The irrigation system is currently interconnected with the PAW public water supply distribution system. The interconnection has a capacity of 0.288 mgd and is used as needed.

The docket holder's storage facilities total 8.4 million gallons (mg), which is approximately 34 days of supply.

6. **Other.** Wastewater is conveyed to the Lower Makefield Township Sewer Department sewage treatment facility. The capacity of this proposed treatment plant is below the Commission's review threshold. The Pennsylvania Department of Environmental Protection (PADEP) issued its most recent WQM Permit No. WQG02091321 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the project.

7. **Relationship to the Comprehensive Plan.** The docket holder's Wells PW-1 and PW-2 were included in the Comprehensive Plan via DRBC Docket No. D-2002-048 CP issued on January 29, 2003. The docket holder's Well PW-3 was included in the Comprehensive Plan via DRBC Docket No. D-2002-048 CP-2 issued on July 20, 2005. The approval was continued in Docket No. D-2002-048 CP-3 approved on March 16, 2016. Issuance of this docket will continue the groundwater withdrawal project in the Comprehensive Plan.

## **B. FINDINGS**

### **1. Special Protection Waters**

In 1992, the DRBC amended its *Water Quality Regulations (WQR)* by the addition of regulations for the protection of Special Protection Waters (SPW), designed to maintain the quality of interstate waters where existing quality is better than the established stream quality objectives. As the result of its initial classifications and subsequent amendments, the Commission has designated the entire non-tidal main stem Delaware River from Hancock, New York to Trenton, New Jersey as SPW. DRBC's SPW regulations apply within the designated reaches and their drainage area.

The wells providing water supply to the docket holder are located within the drainage area to SPW. Sections 3.10.3A.2.e.1) and 2) of the *WQR* state that projects subject to review under Section 3.8 of the *Compact* that are located within 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.

Since this project involves the renewal of an approval for existing activities and does not entail additional construction or expansion of facilities or create new or increased non-point source loads, the NPSPCP requirement is not applicable at this time. Condition C.23. of this docket provides that at such time, if ever, as additions to the area served by the docket holder's withdrawals are proposed, the docket holder will be required to demonstrate compliance with an approved NPSPCP in accordance with DRBC's SPW regulations.

### **2. Other Findings**

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 is designed to conform to the requirements of the *Water Code (WC)* and *Water Quality Regulations* of the DRBC.

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.

### C. DECISION

Effective on the approval date for Docket No. D-2002-048 CP-4 below, the project described in Docket No. D-2002-048 CP-3 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2002-048 CP-4; Docket No. D-2002-048 CP-3 is terminated and replaced by Docket No. D-2002-048 CP-4; and the project and the appurtenant facilities described in in Section A.4. (Design Criteria) and A.5. (Facilities) shall be continued in the Comprehensive Plan. The project and appurtenant facilities as described in Section A.4. (Design Criteria) and A.5. (Facilities) are approved subject to the following conditions, pursuant to Section 3.8 of the *Compact*:

#### **Monitoring and Reporting**

1. The docket holder shall continue to report to the PADEP all surface and groundwater sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

2. The project withdrawals shall be metered by means of an automatic continuous recording device, flow meter, or other method, and shall be measured to within 5 percent of actual flow. Meters or other methods of measurement shall be subject to approval and inspection by the PADEP as to the type, method, installation, maintenance, calibration, reading and accuracy. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.

3. A long-term monitoring program is required to obtain data on ground water and surface water hydrologic conditions in the project area. The docket holder shall continue to implement the long-term monitoring program as submitted by the docket holder in a report dated November 1, 2002. This program will include the following:

1. **Groundwater Level Monitoring** – The docket holder shall monitor thirteen (13) wells identified in the above referenced letter to estimate annual ground water fluctuations caused by seasonal changes and/or production well pumping and detect water level declines that may adversely affect groundwater levels in the project area.
2. **Reports** - All monitoring data, including records required in Conditions 2 and 3. herein, shall be submitted to the Commission annually, due by April 1. The docket holder is encouraged to submit

the annual report electronically. The report shall be prepared by a hydrogeologist and shall assess the effects of well withdrawals on hydrologic conditions in the area. This report shall include an evaluation of the monitoring data required by this docket approval and such information as deemed appropriate by the hydrogeologist or required by the Executive Director.

3. The Executive Director may modify the monitoring program or temporarily suspend or modify this docket at any time if review of the hydrologic data and/or any other information indicates such action is necessary or appropriate.

4. The docket holder shall implement to the satisfaction of the Bureau of Watershed Management, PADEP, a 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 Bureau of Watershed Management, PADEP, on the actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

#### **Other Conditions**

5. During any month, the combined withdrawal from all well sources shall not exceed 7.68 mgm or 46.08 million gallons per year (mgy) (7.68 mgm times 6 months). No well shall be pumped above the maximum rate and monthly allocation as indicated below:

| <b>WELL NO.</b> | <b>MAXIMUM RATE<br/>(GPM)*</b> | <b>MONTHLY<br/>ALLOCATION<br/>(MGM)</b> |
|-----------------|--------------------------------|-----------------------------------------|
| PW-1            | 125                            | 5.357                                   |
| PW-2            | 70                             | 3.125                                   |
| PW-3            | 40                             | 1.786                                   |

\*Based on a 24-Hour Average

6. In accordance with 18 C.F.R. 401.8. of the Commission's *Rules of Practice and Procedure (RPP)*, if at any future time the Project is changed materially from the Project as described in this docket, it will be deemed to constitute a new and different project for the purposes of Article 11 of the *Delaware River Basin Compact* and will require Commission amendment of the Comprehensive Plan. In accordance with the same section of the *RPP*, whenever a change to the Project is made, the sponsor must advise the Executive Director, who will determine whether the change is deemed materially for purposes of this provision.

7. This approval shall expire on the expiration date set forth below unless prior thereto the docket holder has applied to the Commission to renew or extend this approval.

8. 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. If the docket holder has not applied to renew the docket or the DRBC is unable to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable pending the renewal of the docket.

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

10. The wells shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

11. The wells shall be equipped with readily accessible capped ports and minimum ½ inch inner diameter (ID) drop pipes so that water levels may be measured under all conditions. Existing wells are to be similarly equipped, where possible, with readily accessible ports and ½ inch ID drop pipes as repairs or modifications are made at each existing well.

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

13. No water 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).

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

15. 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.

16. 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*.

17. 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).

18. 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).

19. 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).

20. 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 ensure the proper control, use and management of the water resources of the Basin.

21. If the monitoring required herein or any other relevant data or information demonstrates that the operation of this project is interfering with or otherwise impairing existing uses of ground or surface water, or if the docket holder receives a complaint from an existing ground or surface water user within the zone of influence of the withdrawal alleging such interference or impairment, the permit holder shall immediately notify the Executive Director, and unless excused by the Executive Director, shall investigate the demonstrated or alleged impacts. For purposes of this condition, notification shall mean either (a) electronic transmittal of written notice to the Executive Director via email (using addresses posted on the DRBC website); or (b) written notice to the Executive Director and a telephone call to the Project Review Section at 609-883-9500, ext. 216. (Oral notification must always be accompanied by immediate written notification directed to the Executive Director.) In addition, the docket holder shall provide written notice to all potentially affected water users of the docket holder's responsibilities under this condition. **Any well or surface water supply that is impaired as a result of the docket holder's project withdrawal shall be repaired, replaced or mitigated at the docket holder's expense.** The scope of the options to consider for repair, replacement and/or mitigation shall not be limited solely to those that are owned, operated, or controlled by the project sponsor. An investigation report and/or mitigation plan prepared and certified by a licensed professional engineer and/or a licensed professional geologist shall be submitted to the Executive Director as soon as practicable following notice of the demonstrated or alleged impairment consistent with this paragraph. The Executive Director shall make the final determination regarding the scope and sufficiency of the investigation and the extent of any mitigation measures that may be required. Where ground and surface waters are rendered unavailable, unusable, or unsuitable for the pre-existing use, the Executive Director may direct the docket holder to take interim actions to mitigate such impacts, pending completion of the investigative report and any long-term repair, replacement or mitigation.

22. 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.

23. Prior to allowing connections from any new service areas or any new developments, the docket holder shall either submit and have approved by the Executive Director of the DRBC a Non-Point Source Pollution Control Plan (NPSPCP) in accordance with Section

3.10.3.A.2.e or receive written confirmation from the Executive Director of the DRBC that the new service area is in compliance with a DRBC approved NPSPCP.

**24.** 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.

**BY THE COMMISSION**

**APPROVAL DATE:**

**EXPIRATION DATE: December 10, 2035**