

DOCKET NO. D-2001-013 CP-3

DELAWARE RIVER BASIN COMMISSION

**Southeastern Pennsylvania
Ground Water Protected Area**

**Northampton Bucks County Municipal Authority
Groundwater Withdrawal
Northampton Township, Bucks County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted by Pennoni and Associates, Inc. on behalf of Northampton Bucks County Municipal Authority (NBCMA) to the Delaware River Basin Commission (DRBC or Commission) on May 19, 2014 (Application), for a renewal and approval of an allocation of groundwater and review of a groundwater withdrawal project in the Ground Water Protected Area of Southeastern Pennsylvania. The prior docket was approved by the Commission on May 18, 2005. The project wells were reviewed under the Pennsylvania Safe Drinking Water Act for public water supply permits and approved by the Pennsylvania Department of Environmental Protection (PADEP) as follows:

| WELL NO. | PADEP PERMIT NO. | PADEP APPROVAL DATE |
|-----------------|-------------------------|----------------------------|
| 1 | 764W2 | August 30, 1966 |
| 2 and 4 | 766W015 | September 27, 1966 |
| 3 | 766W013 | August 30, 1966 |
| 5 | 0993502 | May 11, 1993 |
| 6 | 0993507 | July 1, 1993 |
| 7 | 0971502 | June 18, 1971 |
| 8 | 0979506 | March 20, 1980 |
| 9 | 0981501 | May 14, 1981 |
| 10 | 0987509 | September 21, 1987 |
| 11 | 0980508 | March 18, 1981 |
| 12 | 0991501 | January 3, 1991 |
| 13 | 0993504 | May 18, 1993 |
| 16 | 0999510 | December 7, 1999 |
| 17 | 0901506 | August 10, 2001 |

The Application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 and for a withdrawal permit under Section 10.3 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 December 9, 2014.

A. DESCRIPTION

1. **Purpose.** The purpose of this project is to renew the approval of up to 68.2 million gallons per month (mgm) of water to the docket holder's public water supply distribution system from existing Wells Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16 and 17. NBCMA is not requesting an increase in groundwater withdrawal allocation.

2. **Location.** The NBCMA wells are located in the Neshaminy Creek Watershed and Ironworks Creek Watershed, in Northampton Township, Bucks County, Pennsylvania. The Neshaminy Creek near the project site is designated by the PADEP as supporting Warm Water Fishes (WWF) and Migratory Fishes (MF). The Ironworks Creek near the project site is designated by the PADEP as supporting Warm Water Fishes (WWF) and Migratory Fishes (MF). The wells are completed in the Stockton Formation.

Specific location information has been withheld for security reasons.

3. **Area Served.** The docket holder's distribution system supplies water to portions of Northampton Township, Bucks County, Pennsylvania, as shown on the map entitled "Map of Existing Facilities, Water Distribution System" submitted with 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 NBCMA system currently serves an estimated population of 34,112 through 11,004 domestic service connections and an additional 271 commercial, 80 industrial and 55 institutional connections with an average and maximum water demand from their wells of 0.477 million gallons per day (mgd) and 0.818 mgd, respectively. The docket holder projects an average and maximum water demand from their wells of 0.501 mgd and 0.858 mgd, respectively, by the year 2024. The allocation of 68.2 mgm should be sufficient to supply the docket holder's public water supply system in case the Authority cannot purchase water from their interconnections.

The NBCMA wells supply between 20-40 percent of their distribution system demands. NBCMA has two interconnections with Bucks County Water and Sewer Authority (BCWSA) (Antler Drive and Bristol Road) which supply the additional water demand. NBCMA currently purchases approximately 1.695 mgd and projects to purchase 1.780 mgd in the next 10 years.

b. **Facilities.** The docket holder's existing wells have the following characteristics:

| WELL NO. | DEPTH (FEET) | CASED DEPTH/ CASING DIAMETER | PUMP CAPACITY (GPM) | YEAR DRILLED |
|----------|--------------|------------------------------------|---------------------------|-----------------|
| 1 | 608 | 65' / 8" | 80 | 1964 |
| 2 | 300 | 70' / 12" | 200 | 1966 |
| 3 | 500 | 70' / 10" | 50 | 1966 |
| 4 | 300 | 70' / 12" | 200 | 1966 |
| 5 | 298 | 75' / 12" | 160 | 1967 |
| 6 | 600 | 83' / 10" | 180 | 1991 |
| 7 | 517 | 33' / 11" | 200 | 1971 |
| 8 | 400 | 40' / 10" | 111 | 1973 |
| 9 | 500 | 53' / 12" | 200 | 1979 |
| 10 | 400 | 63' / 10" | 130 | 1977 |
| 11 | 550 | 62' / 10" | 139 | 1978 |
| 12 | 425 | 80' / 10" | 300 | 1989 |
| 13 | 600 | 84' / 10" | 200 | 1989 |
| 16 | 404 | 102' / 10" | 167 | 1998 |
| 17 | 451 | 102' / 10" | 165 | 2000 |

The wells and all water service connections are metered.

Prior to entering the distribution system, the groundwater is treated by chlorination and Well No. 16 has a green sand filter.

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

The water system is presently interconnected with the following:

| WATER COMPANY | INTERCONNECTION CAPACITY (MGD) | STATUS |
|--------------------------------|--------------------------------------|-----------|
| BCWSA – Antler Drive | 6.48 | Regular |
| BCWSA – Bristol Road | 5.4 | Regular |
| Warminster Municipal Authority | 0.36 | Emergency |

System storage facilities are 13 mg, which is approximately 6 days' supply for the NBCMA system.

c. **Other.** Wastewater is conveyed to the BCWSA's Neshaminy Interceptor which in turn is conveyed to the City of Philadelphia Northeast sewage treatment facility which

received approval most by DRBC Docket No. D-1970-052 CP on July 26, 1972. An application was submitted to the PADEP to renew NPDES Permit No. PA0026689 on June 10, 2013, they are currently awaiting approval of the permit for this treatment facility.

d. **Relationship to the Comprehensive Plan.** NBCMA wells were previously included in the Comprehensive Plan by Dockets Nos. D-1965-036 CP Part I approved on October 7, 1965, D-1965-165 CP approved on January 26, 1966, D-1966-049 CP approved on April 27, 1966, D-1966-210 CP approved on October 26, 1966, D-1971-066 CP approved on May 27, 1971, D-1980-091 CP approved on November 23, 1982, D-1981-025 CP approved on October 24, 1984, D-1987-021 CP approved on February 24, 1988, D-1987-048 CP approved on February 24, 1988, D-1991-003 CP approved on December 11, 1991, D-1993-005 CP approved on October 27, 1993, D-1999-001 CP approved on November 15, 2000, D-2001-013 CP approved on October 31, 2001 and D-2001-013 CP-2 approved on May 18, 2005. Issuance of this docket will continue the public water supply distribution system in the Comprehensive Plan.

B. FINDINGS

The project is located within the Southeastern Pennsylvania Ground Water Protected Area delineated by the DRBC pursuant to *Compact* Section 10.2. The project is designed to conform to the requirements of the *Water Code*, *Water Quality Regulations* and *Ground Water Protected Area Regulations (GWPAR)* of the DRBC.

Review and analysis of the application pursuant to Section 6.D. of the *GWPAR* result in the following:

1. The withdrawal is consistent with the Commission's Comprehensive Plan and the policies and purposes of these regulations.
2. Opportunities to satisfy water requirements on a timely basis from existing available supplies and facilities have been explored and found infeasible.
3. The withdrawal, in conjunction with other withdrawals in the applicable ground water basin, should not exceed withdrawal limits of the ground water basin, aquifer or aquifer system.
4. The withdrawal should not significantly impair or reduce the flow of perennial streams in the area.
5. Existing ground and surface water withdrawals should not be adversely impacted, or will be otherwise assured of adequate supplies in accordance with the requirements of Section 10 of the *GWPAR*.
6. The withdrawal should not cause substantial, permanent adverse impact to the overlying environment.

7. The docket holder adopted and will implement conservation and management programs as required by Section 7 of the *GWPAR*.

Water Quality Sampling

In accordance with the monitoring plan dated April 7, 2005, NBCMA has sampled Well No. 17 and Monitoring Wells 17A and 17C quarterly for volatile organic compounds (VOCs) via drinking water standard Method 524.2, including MTBE. The samples are analyzed by QC Laboratories, a Pennsylvania – certified laboratory. NBCMA has submitted the water quality data to the Commission quarterly since Docket No. D-2001-013 CP-2 was approved on May 18, 2005. No exceedances have been observed in the VOCs samples since NBCMA started sampling over 9 years ago.

Water Audits for Public Water Supply Systems Serving Greater than 100,000 gpd

Section 2.1.8 of the Water Code states that it is the policy of the Commission to establish a standardized water audit methodology for owners of water supply systems serving the public to ensure accountability in the management of water resources. Effective January 1, 2012, the owners of each public water supply system are required to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance (Section 2.1.8.C). Water audits shall be submitted annually to the Commission by March 31. Aqua PA submitted their most recent Water Audit on April 21, 2014.

The NBCMA Wells Nos. 11 and 12 are located in the Warminster Little Neshaminy Creek subbasin, where the total net annual groundwater withdrawal (1,244.7 mgy) is slightly less than the withdrawal limit set in Section 6.I of the *GWPAR* (1,355 mgy). The docket holder currently withdraws approximately 50 mgy from these wells, a fraction of which will be returned to groundwater. Therefore, the withdrawals from the NBCMA wells, in conjunction with other withdrawals in the subbasin, are in accordance with the requirements of Section 6.I of the *GWPAR*.

Groundwater usage in the Warminster Little Neshaminy Creek Subbasin is approaching 100 percent of the total subbasin withdrawal limit at which time would be considered stressed. The *GWPAR* specifies in Section 6.K that “applications for new or expanded groundwater withdrawals must include one or more programs to mitigate the adverse impacts of the new or expanded ground water withdrawal”. The eligible programs are explained in Sections 6.K.1 through K.5 of the *GWPAR*. The docket holder should be aware that if additional withdrawals are necessary in the future, and the proposed withdrawals in conjunction with other withdrawals in the subbasin exceed the subbasin’s stressed limit, the docket holder would need to successfully implement one or more of these programs for any future increase of groundwater allocations in the Warminster Little Neshaminy Creek subbasin. NBCMA continues to purchase between 60-80 percent of the Authority’s daily needs to reduce the groundwater withdrawals from Wells Nos. 11 and 12 in the potentially stressed Warminster Little Neshaminy Creek subbasin.

NBCMA Wells Nos. 3, 7, 8, 9, 16 and 17 are located in the Ironworks Creek subbasin, where total net annual groundwater withdrawal (71 mgd) is less than the withdrawal limit set in Section 6.I of the *GWPAR* (434 mgd). The highest annual groundwater use from these wells in the last 10 years was approximately 180 mgd, a fraction of which will be returned to groundwater. However, even if no water from this project were returned to groundwater, the total net annual groundwater withdrawal from this subbasin would remain below the withdrawal limits set in Section 6.I of the *GWPAR*. Therefore, the withdrawals from the NBCMA wells, in conjunction with other withdrawals in the subbasin, are in accordance with the requirements of Section 6.I of the *GWPAR*.

NBCMA Wells Nos. 2 and 5 is located in the Northampton Neshaminy Creek subbasin, where total net annual groundwater withdrawal (26 mgd) is less than the withdrawal limit set in Section 6.I of the *GWPAR* (793 mgd). The highest annual groundwater use from these wells in the last 10 years was approximately 105 mgd, a fraction of which will be returned to groundwater. However, even if no water from this project were returned to groundwater, the total net annual groundwater withdrawal from this subbasin would remain below the withdrawal limits set in Section 6.I of the *GWPAR*. Therefore, the withdrawals from the NBCMA Wells Nos. 2 and 5, in conjunction with other withdrawals in the subbasin, are in accordance with the requirements of Section 6.I of the *GWPAR*.

NBCMA Wells Nos. 1, 4, 6, 10 and 13 is located in the Lower Section Neshaminy Creek subbasin, where total net annual groundwater withdrawal (108.9 mgd) is less than the withdrawal limit set in Section 6.I of the *GWPAR* (4,034 mgd). The highest annual groundwater use from these wells in the last 10 years was approximately 210 mgd, a fraction of which will be returned to groundwater. However, even if no water from this project were returned to groundwater, the total net annual groundwater withdrawal from this subbasin would remain below the withdrawal limits set in Section 6.I of the *GWPAR*. Therefore, the withdrawals from the NBCMA wells, in conjunction with other withdrawals in the subbasin, are in accordance with the requirements of Section 6.I of the *GWPAR*.

The project does not conflict with the Comprehensive Plan, and is designed to prevent substantial adverse impact to the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The DRBC estimates that the project withdrawals, used for the purpose of public water supply, result in a consumptive use of 10 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*.

C. DECISION

- I. Effective on the approval date for Docket No. D-2001-013 CP-3 below:

a. The project described in Docket No. D-2001-013 CP-2 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2001-013 CP-3 ; and

b. Docket No. D-2001-013 CP-2 is rescinded and replaced by Docket No. D-2001-013 CP-3 ; and

c. The project and the appurtenant facilities described in the Section A “Physical Features” of this docket shall be added to the Comprehensive Plan.

II. The project as described in the Section A “Physical features” is approved pursuant to Section 3.8 of the *Compact* and is granted this withdrawal permit pursuant to Section 10.3 of the *Compact* and *GWPAR*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. The wells and operational records shall be available at all times for inspection by the DRBC.

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

c. During any month, the combined withdrawal from all well sources shall not exceed 68.2 mgm or 818.4 mgy. No well shall be pumped above the maximum instantaneous rate and monthly allocation as indicated below:

| WELL NO. | INSTANTANEOUS RATE (GPM) | MONTHLY ALLOCATION (MILLION GALLONS) |
|----------|--------------------------|--------------------------------------|
| 1 | 80 | 1.535 |
| 2 | 200 | 3.887 |
| 3 | 50 | 0.959 |
| 4 | 200 | 3.837 |
| 5 | 160 | 3.069 |
| 6 | 180 | 3.453 |
| 7 | 200 | 3.837 |
| 8 | 111 | 2.129 |
| 9 | 200 | 3.837 |
| 10 | 130 | 2.493 |
| 11 | 139 | 2.666 |
| 12 | 300 | 13.392 |
| 13 | 200 | 5.756 |

| | | |
|----|-----|-------|
| 16 | 167 | 7.44 |
| 17 | 165 | 7.366 |

d. The wells shall be equipped with readily accessible capped ports and 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 drop pipes as repairs or modifications are made at each existing well.

e. 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 annually by March 31, to the PADEP. Withdrawal records shall be available at any time to the Commission if requested by the Executive Director.

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

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

h. 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).

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

j. In accordance with DRBC Resolutions No. 87-6 (Revised) and No. 2009-1, the docket holder shall continue to implement to the satisfaction of the PADEP, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate non-revenue water and determine the current status of system infrastructure; recommendations to monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.

k. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8 of the Water Code, the docket holder shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding guidance. Water audits shall be submitted annually to the Commission by March 31.

1. 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 in a letter dated April 8, 2005, with the exception that water quality monitoring will be conducted annually instead of quarterly, as required in the PADEP permit. This program will include the following:

1. **Ground Water Level Monitoring** – Twenty-six (26) monitoring wells shall be measured to estimate annual ground water fluctuations caused by seasonal changes and/or production well pumping, and detect water level declines that may affect the performance of public and private wells in the respective areas surrounding the NBCMA production wells.

2. **Water Quality Monitoring** – Production Well No. 17 and Monitoring Wells Nos. 17A and 17C shall continue to be sampled annually for drinking water VOCs (Method 524.2) including MTBE by a Pennsylvania certified laboratory.

3. **Reports** - All monitoring data, including records required in Conditions “e.” and “l.” 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.

4. 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.

m. 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.

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

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 area served by this project is limited to the service area as described above. Any expansion beyond this area is subject to review in accordance with Section 3.8 of the *Compact* and the *GWPAR*.

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 issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the right 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 monitoring required herein, or any other data or information demonstrates that 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. 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 in accordance with Section 10B of the *GWPAR*. 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 docket approval, or require mitigating measures, pending additional review.

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. For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the docket holder pursuant to this

approval shall be subject to the prohibition of those nonessential uses specified by the Governor of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator, to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

v. 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.

w. NBCMA shall send the records of the monitoring data, as required in Condition “1.2.” herein, to Mr. Gary Eckenrode at the same time as the information is made available to the Commission and PADEP. The Executive Director may modify or suspend this requirement at any time if the information indicates such condition is no longer warranted or necessary.

BY THE COMMISSION

APPROVAL DATE: December 10, 2014

EXPIRATION DATE: December 10, 2024