

DOCKET NO. D-2001-017 CP-2

DELAWARE RIVER BASIN COMMISSION

**Wernersville Municipal Authority
Groundwater Withdrawal and Subsidiary Allocation
Borough of Wernersville, South Heidelberg Township and Lower Heidelberg Township,
Berks County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted by Great Valley Consultants, Inc. on behalf of Wernersville Municipal Authority (WMA or docket holder) to the Delaware River Basin Commission (DRBC or Commission) on March 26, 2013 for renewal of a subsidiary water allocation and allocation of groundwater and review of a groundwater water withdrawal project (Application). The Pennsylvania Department of Environmental Protection (PADEP) public water supply permits issued for the WMA water supply sources are as follows.

SOURCE ID	PADEP PERMIT NO.	PADEP APPROVAL DATE
Well 3	5996-T1	March 31, 1941
Well 5	8336-W	February 1, 1954
Well 6	8829-W	May 2, 1960
Well 7	668W011	December 30, 1968
Well 8	0677501	May 4, 1977
Well 12	0697504	August 6, 1998
Springs 1-11	WA06-533A	April 3, 2002
Western Berks Water Authority Interconnection	WA06-1016	September 28, 2001

The Application was reviewed for continued inclusion in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on March 11, 2014.

A. DESCRIPTION

1. Purpose. The purpose of this project is to renew the approval of an existing groundwater withdrawal project to supply up to 30.866 million gallons per month (mgm) of groundwater to the docket holder's public water supply system from existing Wells Nos. 3, 4, 5, 6, 7, 8, 12, the Tunnel Well and 11 spring sources. The docket also renews the approval of a transfer of up to 12.679 mgm of water (average of 0.409 million gallons per day) from Western Berks Water

Authority (WBWA). The total system allocation of 30.866 mgm of water from all sources including the wells, springs and the WBWA interconnection approved by this docket is not an increase in total allocation from that contained in its prior approval. The total groundwater allocation approved by this docket is an increase in the previously approved groundwater allocation of 17.6 million gallons per 30 days (18.187 mgm).

2. Location. The project wells and springs are located in South Heidelberg Township, Berks County, Pennsylvania. The exception to this is Well No. 8 which is located in Wernersville Borough, Berks County, Pennsylvania. Wells Nos. 3 and 4 are completed in Hornblende Gneiss, Wells Nos. 5, 6 and 12 are completed in the Richland Formation, Well No. 7 is completed in the Hardyston Formation, Well No. 8 is completed in the Hershey and Myerstown Formations (undivided) and the 11 spring sources and Tunnel Well are located in outcrop area of granitic gneiss. The water sources are located in the drainage area of Manor Creek, which is located in the Spring Creek Watershed, upstream of Blue Marsh Reservoir. Manor Creek near the project site is designated by the Pennsylvania Department of Environmental Protection (PADEP) as a Trout Stocked Fishery (TSF) supporting Migratory Fishes (MF).

Specific location information has been withheld for security reasons.

3. Area Served. The WMA serves water to Wernersville Borough, Lower Heidelberg Township and South Heidelberg Township, Berks County Pennsylvania. Additional areas in each of these municipalities are planned to be served in the future. The current and future service areas are outlined on a map entitled “Water Distribution System Service Area Map”, dated March 4, 2013 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 system currently contains 2,066 domestic, 97 commercial and 12 institutional service connections and records an existing average and maximum water demand of 0.581 million gallons per day (mgd) and 0.780 mgd, respectively. The docket holder projects the 10-year average and maximum water demand to increase to 0.799 mgd and 1.018 mgd, respectively. The allocation of up to 30.866 mgm should be sufficient to meet the future monthly demands of WMA.

The applicant’s existing system is comprised of eight wells and eleven springs with a reported sustainable yield of 1.39 mgd. The design capacity of the interconnection with WBWA is 1.5 mgd, which allows the docket holder the potential to receive its entire water supply from WBWA in the event of an emergency. PADEP Water Allocation Permit No. WA 06-1016 and DRBC Docket No. D-2001-17 CP limited the transfer to up to 0.409 mgd on a monthly average basis. While WBWA has agreed, in concept, to a transfer of up to 1.5 mgd to WMA, both agencies agreed with PADEP’s requirement to apply for an increased subsidiary allocation regarding any future increase of the currently proposed average allocation of 0.409 mgd. The WAP expires on September 21, 2015; however WMA indicated that it would not be requesting

additional allocation at that time. The project interconnection was the preferred alternative source of water supply that would best serve the applicant in a scenario where the largest existing water source (Well No. 12) would be out of service.

The source of the WBWA water supply is the Tulpehocken Creek, and no increase in the WBWA allocation was required to supply the project interconnection. Withdrawals are accommodated by releases of water storage in Blue Marsh Reservoir.

b. Facilities. The existing project wells and springs have the following characteristics:

WELL NO.	DEPTH	CASED DEPTH/ CASING DIAMETER	PUMP CAPACITY	YEAR DRILLED
3	195'	130' / 4"	30 gpm	1941
4	78'	50' / 6"	40 gpm	1953
5	470'	250' / 6"	110 gpm	1954
6	291'	163' / 8"	250 gpm	1960
7	230'	90' / 6"	170 gpm	1968
8	350'	21' / 6"	110 gpm	1977
12	399'	150' / 8"	305 gpm	1997

SPRING NO.	WITHDRAWAL WATER BODY	DEPTH	PUMP CAPACITY	YEAR CONSTRUCTED
Springs Nos. 1- 11	Shallow groundwater	8' to 20'	215 gpm (gravity)	Pre-1960
Tunnel Well	Shallow Groundwater	40'	51 gpm (gravity)	Pre-1960

All water service connections are metered.

All sources are metered. Springs Nos. 1 through 11 are conveyed to a common withdrawal point and share a common meter.

Prior to entering the distribution system, all water is chlorinated and the pH adjusted using soda ash. Water from Well No. 8 is also softened, which restricts the maximum flow to 95 gpm. Backwash from the softener is discharged to the sanitary sewer.

All existing project wells and springs are located outside of the 100-year floodplain as delineated on the FEMA Flood Insurance Rate Map (FIRM), revised July 3, 2012.

Springs and Tunnel Well Sources

Based on a March 4, 2002 PADEP site inspection, the 11 spring sources are shallow hand dug wells ranging from 8 to 20 feet deep and appear to capture water from the shallow water table. None of the springs had an overflow or any kind of drainage depression associated with

them. The discharge pipe and water level of the springs was correspondingly 8 to 20 feet below the ground surface. PADEP Water Allocation Permit No. WA-06-533A, issued on April 3, 2002 grants the right to withdrawal 90,000 gpd on an average day basis from the collection of 11 springs.

Flow from the 11 spring sources is piped to a 0.75 mg capacity, concrete, ground level, covered reservoir (Reservoir No. 2). The withdrawals from Wells Nos. 3 and 4, located in the general vicinity of the spring sources, are also pumped into Reservoir No. 2 through the same pipe that collects water from the spring sources. Water from Reservoir No. 2 overflows through a pipe into a receiving chamber where it then flows into a second 0.25 mg capacity concrete, ground level, covered reservoir (Reservoir No.1). Flows from Reservoir No. 2 are metered prior to entering the receiving chamber.

The Tunnel Well consists of a vertical borehole drilled to a depth of approximately 40 feet. The well is situated on a topographic high area and the land surface slopes steeply away from its location. At the base of the hill side, a horizontal tunnel has been excavated into the hillside and intercepts the vertical borehole at a depth. Groundwater from the vertical borehole drains via gravity through the horizontal tunnel into the receiving chamber where it mixes with water from the spring sources prior to flowing into Reservoir No. 1. Flows from the Tunnel Well are metered prior to entering the receiving chamber.

The amount of water available from the 11 springs and Tunnel Well is dependent on local hydrologic conditions. WMA estimates that the maximum output of the springs is 215 gpm, but this rate decreases to approximately 14 gpm during extremely dry periods. WMA's system utilizes all of the water collected from the 11 springs and Tunnel well and supplements the additional water necessary to meet system demands from its 8 bedrock wells. In 2012, the withdrawals from the 11 springs and Tunnel Well sources accounted for approximately 20 percent of WMA's total water withdrawal. During wetter years, the spring and tunnel well sources produce up to about half of WMA's current needs.

c. Other. The majority of wastewater generated from the use of water supplied by the docket holder is conveyed to the Robeson-Wernersville Municipal Authority sewage treatment facility most recently approved by DRBC Docket No. D-1988-023 CP-2 on May 8, 2013. The PADEP issued its most recent NPDES Permit No. PA0031062 on January 31, 2009 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the proposed project. The remainder of the wastewater generated in the service area is disposed via on-lot septic systems.

d. Cost. There are no project costs associated with this docket renewal.

e. Relationship to the Comprehensive Plan. Wells Nos. 3, 4, 5, 6, 7, 8 and 12 were previously included in the Comprehensive Plan by the Commission in Docket Nos. D-68-112 CP, D-77-21 CP and D-98-10 CP on September 25, 1968, May 25, 1977 and October 7, 1998, respectively. The interconnection with WBWA was included in the Comprehensive Plan by the Commission in Docket No. D-2001-17 CP on September 13, 2001.

B. FINDINGS

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

DRBC Docket No. D-98-10 CP, issued October 7, 1998, approved Wells Nos. 9 and 12 as two additional groundwater sources and increased the total water allocation from 9.0 mg/30 days to 17.6 mg/30 day of water from Wells Nos. 3, 4, 5, 6, 7, 8, 9 and 12. The allocation amount was requested by the docket holder in order to meet the 10-year projected demands. The docket did not include WMA's springs or Tunnel Well sources.

Docket D-2001-17 CP, issued on September 13, 2001, approved the transfer of up to 12.27 mg/30 days (monthly average of 0.409 mgd) of water from WBWA. The transfer enabled conjunctive use of surface water from WBWA and groundwater from WMA sources to meet increased water demand in the docket holder's service area. The interconnection was also WMA's preferred alternative water supply if the largest capacity source (Well No. 12) was ever out of service. Docket No. D-2001-17 CP also limited the total withdrawal from all sources (wells, springs and interconnection) to 29.87 mg/30 days. The total withdrawal allocation was the sum of the new interconnection allocation (12.27 mg/30 days) and the total allocation of 17.6 mg/30 days of water from the docket holder's sources as previously approved in Docket No. D-98-10 CP. Well No. 9 was drilled, but never developed and was not included in Docket D-2001-17 CP.

System demands continue to be met almost entirely by WMA's sources. Water withdrawal records show that the monthly withdrawals from the WMA well and spring sources have increased and in recent years the total monthly withdrawals have exceeded the previous groundwater allocation of 17.6 mg/30 days (18.187 mgm). Transfers of water from WBWA to WMA remain minimal as the peak monthly use of the interconnection is reported to be 0.016 mgd or approximately 0.5 mgm.

The docket holder requested approval to increase the total groundwater allocation from 18.187 mgm to the total system allocation of 30.866 mgm. The interconnection with WBWA would continue to be retained primarily for emergency usage purposes. The requested groundwater allocation of 30.866 is less than the combined PADEP permitted individual well pumping rates and the reported combined sustainable yield (1.39 mgd) of the docket holder's groundwater sources.

This project consists of an existing withdrawal of groundwater from Well Nos. 3, 4, 5, 6, 7, 8 and 12, the Tunnel Well and Springs Nos. 1 through 11. The docket holder requested individual monthly allocations for the existing wells based on the installed pump capacity or PADEP permitted rate. With the exception of Wells Nos. 5, 6 and 7, the requested rate was less than or equal to the reported sustainable rates specified in the April 3, 2002 PADEP Report on the Application for Water Allocation Permit by WMA. The monthly allocations approved by this docket for Wells Nos. 5, 6, and 7 were limited to the listed reported sustainable rates. Additionally, the monthly allocations for Wells Nos. 3, 4 and 8 were limited by the installed

pumping capacity. The instantaneous well allocations approved by this docket are based on the instantaneous maximum limits included in PADEP's Public Water Supply Permit No. 0610522 issued to WMA for 4-log treatment of viruses or the installed pump capacity, whichever was less. Instantaneous and monthly allocations are provided in Condition C.II.d. in the Decision Section of this docket.

Because WMA cannot control the natural discharge rate of the springs and Tunnel well, this docket does not specify individual source allocations for these sources. PADEP Public Water Supply Permit No. 0610522 allows a maximum instantaneous flow of 345 gpm at Entry Point No. 101, which includes the flows from the 11 springs, Tunnel Well and Wells Nos. 3 and 4. The docket includes an instantaneous allocation of 345 gpm and a maximum monthly allocation of 15.4 mg for these combined sources in accordance with PADEP's Public Water Supply Permit. Additionally, withdrawals from these sources are accounted for in the total system allocation provided by this docket.

As the existing water withdrawals have already been realized by the local hydrologic system, there should be no significant impacts from continued withdrawals from the existing system wells.

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. Voluntary Water Audits were encouraged for public water supply systems through December 31, 2011 (Section 2.1.8.B.). 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 every year. WMA has not submitted water audits to date. Condition C.II.i in the Decision section of this docket requires that WMA submit the water audit for calendar year 2012 before March 31, 2014.

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*.

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

I. Effective on the approval date for Docket No. D-2001-017 CP-2 below:

a. The projects described in Dockets Nos. D-68-112 CP, D-77-21 CP, D-98-10 CP and D-2001-17 CP are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2001-017 CP-2; and

b. Docket Nos. D-68-112 CP, D-77-21 CP, D-98-10 CP and D-2001-17 CP are terminated and replaced by Docket No. D-2001-017 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 PADEP in its Water Allocation Permits and Public Water Supply Permits, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. The docket holder shall register with and report to the PADEP all surface water, groundwater and interconnection sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

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

c. The wells 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 month, the combined withdrawal from all well, spring and interconnection sources shall not exceed 30.866 million gallons, the combined withdrawal from all well and spring sources shall not exceed 30.866 million gallons and the withdrawal from the WBWA interconnection shall not exceed 12.679 million gallons. No source shall be pumped above the maximum instantaneous rate and monthly allocation as indicated below:

WELL NO.	MAXIMUM INSTANTANEOUS RATE	MONTHLY ALLOCATION
Well 3	30 gpm	1.34 mgm
Well 4	40 gpm	1.79 mgm
Well 5	110 gpm	2.68 mgm
Well 6	250 gpm	7.59 mgm
Well 7	170 gpm	7.14 mgm
Well 8	95 gpm	4.24 mgm
Well 12	305 gpm	13.61 mgm

In addition, the combined flows from the 11 spring sources, tunnel well and Wells Nos. 3 and 4 shall not exceed 345 gpm (15.4 mgm).

e. 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.

f. 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 PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.

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

h. 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.

i. 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 every year. The docket holder shall also submit the 2012 calendar year water audit by March 31, 2014.

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

k. 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).

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

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

n. Sound practices of excavation, backfill and reseeding shall be followed to minimize erosion and deposition of sediment in streams from any new facilities or repair related construction.

o. 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.

p. 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.

q. 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*.

r. 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.

s. 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.

t. 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 uses of ground or surface water, or if the docket holder receives a complaint by any existing ground or surface water users within the zone of influence of the withdrawal, the docket holder shall immediately notify the Executive Director of any complaints by any ground or surface users 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 ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished 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.

u. 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.

v. 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.

w. 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: March 12, 2014

EXPIRATION DATE: March 12, 2024