



SUSQUEHANNA RIVER BASIN COMMISSION

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Groundwater Withdrawal Application Summary

Source Name: Well 1 Alternative Hydrogeologic
Evaluation

SRBC Pending No.: 2023-152

This summary is only a portion of the application materials and is meant to provide general information about the proposed project.

1.1 Project Sponsor

Company Name: Newport Borough Water Authority

Mailing Address Line 1: 497 North Front Street

Mailing Address Line 2:

City: Newport

State: PA

ZIP Code: 17074

Contact Person:

First Name: Dean

Last Name: Miller

Title: Operations Manager

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1.3 Existing and Projected Facility Water Use

The usage should be entered in million gallons per day (mgd) and rounded off to the nearest one thousand gallons (three decimal places).

Projected Design Year:

2023

Total Project Water Usage	Existing Usage (mgd)	Projected Usage For Design Year (mgd):
Maximum 30-day Average Water Demand :	0.065	0.096
Maximum Daily Water Demand :	0.36	0.288
System Capacity :	0.36	0.288

1.4 Requested Withdrawal Amount:

Estimated Daily Hours of Operation per Day (Ex. = 5): 8

Maximum Instantaneous Withdrawal Rate (gpm): 200

Maximum 24-Hour Day (mgd): 0.288

Maximum 30-Day Average (mgd): 0.096

Well 1 Alternative Hydrogeologic Evaluation – Groundwater Withdrawal

2.1 Project Facility Description

Site/Facility/Owner Information

The Well #1 Treatment Plant is owned and operated by the Newport Borough Water Authority (NBWA). The facility consists of one groundwater well (Well #1), and treatment systems for iron, manganese, and disinfection (see Note 1). Well #1 is part of the NBWA public water supply system, which services customers in Newport Borough, Oliver Township, and Howe Township.

Note 1: The current treatment includes GAC for VOC removal. Eleven months of source water testing in 2023 have had non-detects for any VOCs in the source water.

Type of Facility/Purpose of Withdrawal

The facility is currently permitted as a reserve source. This permit allows occasional withdrawal and treatment of groundwater from Well #1 at a rate of 250 gpm. However, the well has been off-line since 2016 due to an oversized pump that withdraws water above the permitted rate. In 2022, the oversized pump was replaced with a pump capable of maintaining a reduced withdrawal of 200 gpm. During 2021 aquifer testing, the specific capacity of Well#1 was approximately 4 gpm/ft of drawdown. NBWA seeks to resume withdrawals from Well #1. The plan is to operate Well 1 as a NBWA primary supply for two to three days per week, generally weekends. The purpose of the withdrawal is to supplement and add redundancy to the capacity of the existing Public Water System.

Description of Site Activities/Requested Quantity of Water to be Withdrawn

The existing system operates as follows: the water is extracted from the groundwater well and pretreated with chlorine gas and potassium permanganate (iron and manganese control) prior to entering a greensand filter, followed by a granular activated carbon (GAC) filter for VOC removal. After filtration, water received polyphosphate and was chlorinated again and pumped through a 24-inch pipe loop to allow for sufficient chlorine contact time, prior to distribution into the system, via Entry Point 101.

A Public Water Supply (PWS) permit application submitted to the PADEP in 2023 includes some planned modifications to the Well #1 facility to return it to service. The following equipment changes are proposed:

1. Replacement of the existing well pump with a submersible pump capable of maintaining a withdrawal rate of 200 gpm;
2. Replacement of the existing chlorine gas disinfection system with an in-kind system;
3. Replacement of the flow meter and backflow device;
4. Addition of pH adjustment via caustic addition;
5. Replacement of the existing corrosion control with addition of zinc orthophosphate;
6. Replacement of existing potassium permanganate chemical feed system;
7. Leaving the existing greensand filter;

8. Leaving the existing granular activated carbon (GAC) filter. After demonstration that VOCs are not present in the source water, this GAC filter will be converted to a greensand filter to achieve redundancy for manganese removal;
9. Replacement of the backwash piping on the Calgon treatment skid containing the treatment vessels having the greensand and the activated carbon. Additionally, the piping will allow for either series or parallel flow between the tanks;
10. Replacement and addition of in-line chemical analyzers; and
11. Other administrative permit requirements associated with replacement of existing equipment

Upon approval of the PWS permit and issuance of the operation permit, the new treatment train for the Well #1 facility will be as follows: water withdrawal from the Well #1, chlorine injection, caustic injection, and orthophosphate injection, greensand filtration, orthophosphate injection, chlorine injection, and then contact time through the pipe loop prior to distribution into the system via Entry Point 101.

Site activities at Well #1 will include routine maintenance and troubleshooting.

The requested withdrawal rate for Well #1 is 200 gpm. The plan is for Well #1 to operate two to three days per week, over weekends. The projected maximum 30-day average is 96,000 gpd and the projected maximum daily demand is 288,000 gpd.

The operations will begin once the PSW permit is approved and issued.