



SUSQUEHANNA RIVER BASIN COMMISSION

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Groundwater Withdrawal Application Summary

Source Name: Well#5 A4

SRBC Pending No.: 2019-005

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: Stewartstown Borough Authority
Mailing Address Line 1: 6 North Main Street
Mailing Address Line 2:
City: Stewartstown
State: PA
ZIP Code: 17363

Contact Person:

First Name: Ira
Last Name: Walker, Jr.
Title: Sewer/Water Supervisor
Telephone: 717/993-2963
Fax: 717/993-2131
Mobile:
E-mail: sbplant@stewartstown.org

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:
2034

| Total Project Water Usage | Existing Usage (mgd) | Projected Usage For Design Year (mgd): |
|---------------------------------------|----------------------|--|
| Maximum 30-day Average Water Demand : | 0.242 | 0.29 |
| Maximum Daily Water Demand : | 0.344 | 0.412 |
| System Capacity : | 0.557 | 0.557 |

1.4 Requested Withdrawal Amount:

Estimated Daily Hours of Operation per Day (Ex. = 5): 21
Maximum Instantaneous Withdrawal Rate (gpm): 15
Maximum 24-Hour Day (mgd): 0.019
Maximum 30-Day Average (mgd): 0.019

STEWARTSTOWN BOROUGH AUTHORITY (SBA)

SRBC APPLICATION 2019

PROJECT FACILITY INFORMATION WELLHOUSE #5 (WELL A4, J2 & R2)

The purpose of the groundwater withdrawal applications for the above wells is to renew existing permits but at slightly lower withdrawal quantities than originally permitted. The new withdrawal quantities are those that have been recommended by the SRBC staff. The Stewartstown Borough Authority has accepted the SRBC staff recommended withdrawal quantities of 19,000 gpd for well A4, 33,000 gpd for well J2 and 51,000 gpd for well R2.

Water provided by these three wells will continue to be delivered to the existing distribution system which supplies water for primarily residential (domestic) users. Water from the three individual wells is pumped to wellhouse #5 which contains chemical feed bulk facilities for corrosion control and disinfection. Wellhouse #5 also contains ion exchange filters for nitrate removal which have been removed from service with the approval of PADEP. Use of the ion exchange filters was discontinued because the groundwater nitrate concentrations have substantially reduced since the wells were placed into service. The low groundwater nitrate concentrations continue.

Water from the individual wells is metered before leaving wellhouse #5. The water delivered to the distribution system is used by water customers or supplies two water storage tanks (standpipes) which “float” on the distribution system. Water for the distribution system is also provided by a bulk water connection via a long pipeline connected to the York Water Company system in Shrewsbury Township. Stewartstown provides supplemental disinfection via a chlorine booster station before the water received from the York Water Company enters the distribution system. This water is metered and the chlorine feed at the booster station is controlled automatically according to the rate of flow passing through the meter.

STEWARTSTOWN BOROUGH AUTHORITY (SBA)

SRBC APPLICATION 2019

PROJECT DESCRIPTION WELL A4 (WELLHOUSE #5)

Well A4 is one of three existing wells (R2, J2 & A4) that pump water to wellhouse #5 for treatment before the water is delivered into the public water system. The projected 30-day reliable yield from A4, as calculated by RE Wright (REWAI) is 19,150 gallons per day. The projected yield appears to be the basis for the 30-day average withdrawal limit that was approved by the Commission (along with the withdrawal limits for wells R2 & J2) under the Commission Docket No.19890703. In order to protect the water bearing zones REWAI recommended a low water cutoff at 32 feet below ground surface for well A4.

The water from well A4 is pumped to wellhouse #5 which contains the treatment and metering equipment. Treatment had included nitrate reduction which was discontinued with PADEP approval after the Authority provided data demonstrating that groundwater nitrate concentrations had dropped below the required action level for reduction/removal. Treatment includes pH adjustment and corrosion control. Water is metered before entering the distribution system with the daily amounts produced recorded. The system also includes automatic chlorine residual monitoring. Well A4 is included in the SCADA system for the water system operation with the SCADA system computer-monitored from the Stewartstown Borough office.

The 30-day average withdrawal for well A4 has approached, but never reached the approved withdrawal quantity. The highest 30-day average withdrawal for well A4 which occurred after above precipitation periods, was 18,670 gallons per day in July, 2012. During years of average precipitation 30-day average withdrawals for well A4 ranged from 13,000 gpd to 16,000 gpd. Withdrawals from well A4 ranged between 5,000 and 10,000 gpd during the 1999 drought and were reduced to about 5,000 gpd during the 2002 drought. The Authority operated well A4 to generally maintain the water level between 55 and 60 feet below ground surface during the above drought periods. The SRBC staff has recommended and the Stewartstown Borough Authority has accepted the highest withdrawal quantity of 19,000 gpd for well A4.

Well A4 is an important contribution to the water system for the SBA where the consumption is approximately 138 gallons per domestic dwelling unit. This source is able to provide treated water for over 130 dwelling units. Well A4 is connected to the distribution system via wellhouse #5. The well and wellhouse are debt-free and provide water requiring minimal treatment at a very low per gallon cost. Groundwater from Stewartstown's sources is generally very low in organic material which results in low disinfection byproduct (DBP) creation after chlorination. This low DBP water helps reduce the DBP concentration from water provided by the York Water Company which is also a source for Stewartstown's system.