

PA DEP Small Drinking Water Systems Engineering Services Program (ESP) Case Study

Client Name: Wells Tannery Water Supply
Location: Wells Township, Fulton County
Project: GUDI Feasibility Study



Sprowl Spring

Background:

The Wells Tannery Water Supply (WTWS) Public Water System serves approximately 88 people through 42 service connections with an average demand of 8,000 gallons per day (gpd) through a spring source. Treatment of the spring water consists of chlorination. Treated water is stored in a 96,000 gallon underground concrete reservoir from which it flows to the distribution via gravity.

Public Health Challenges:

The primary source, Sprowl Spring, has been determined to be groundwater under the direct influence of surface water (GUDI) by the Pennsylvania Department of Environmental Protection (DEP) based on Surface Water Identification Protocol (SWIP) testing.

Capacity Issues:

Technical – The source is not providing sufficient yield at times and has been deemed a GUDI, therefore, does not meet current regulations without providing further treatment.

Managerial – WTWS could not effectively operate and maintain the system due to the increased regulatory requirements.

Financial – Due to the small customer base, WTWS had limited financial capabilities to raise capital funds for additional treatment or new source development. Each member pays a flat rate to cover the water system expenses, and operation and maintenance costs are eliminated through volunteerism of its members.



Treatment Building

Actions:

A Feasibility Study was completed to determine the most viable alternative to treat the spring water source or develop a new groundwater source to provide safe drinking water. Options evaluated included interconnection with a neighboring system, development of ground water sources, and various filtration methods of the spring water source. WTWS utilized this document as an important tool for making decisions concerning the long term viability of the Public Water System.

Outcomes:

The Feasibility Study provided an assessment of the existing water system, evaluated technical, managerial, and financial capabilities, projected future consumption and demands, and identified and evaluated alternatives to meet compliance requirements. Based on the study WTWS identified development of a new groundwater source as the most viable alternative. Hydrogeologic and engineering design services have been initiated to implement the alternative to provide an abundant and safe drinking water source to meet current and future customer needs 365 days a year.



Underground Reservoir



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