

Policy Number: Policy No. 2021-03

Title: Pre-Drill Well Site Review

Effective Date: September 17, 2021

Authority: SRB Compact, § 3.5 Public Law 91-575, 84 Stat. 1509 *et seq.*, and 18 CFR §§ 806.11, 806.12 and 806.23.

Policy: The Susquehanna River Basin Commission (Commission or SRBC) encourages project sponsors to utilize the pre-drill review assistance for a potential groundwater well site. It shall be the policy of the Commission to promote voluntary utilization of this assistance, with the objective of new groundwater sources being sited in locations that meet the needs of the project while avoiding locations with resource limitations or conflicts that can be identified at a screening level prior to initiating expensive drilling activities.

Purpose: This policy's fundamental objectives are 1) to provide guidance for a project sponsor in evaluating potential well locations through a pre-drill, screening-level site review, 2) to outline the Commission's technical assistance for this process prior to the project sponsor expending resources in drilling, constructing, and testing a potential production well, and 3) identify potential water resources management limitations or conflicts at the well site prior to well drilling. The Pre-Drill Well Site Review is voluntary, but the Commission encourages project sponsors to engage in this process and seek assistance from the Commission early in the development of a new water supply project. There is a fee associated with this review, but part of it may be applied to the fee for an aquifer testing plan submittal.

Applicability: This policy applies to the voluntary utilization of the Commission's pre-drill well site review assistance. The document has been developed to provide guidance to the regulated community and Commission staff regarding a preliminary site review for new groundwater sources that are subject to Commission water withdrawal regulations. It may also be used by the public to gain information and insight on the Commission's approach to providing technical assistance prior to a water withdrawal application submittal.

Disclaimer: The policy outlined in this document is intended to supplement existing requirements. Nothing in this policy shall affect regulatory requirements. The policies and procedures herein are not an adjudication or a regulation. This document establishes the framework within which the Commission will exercise its administrative discretion in the future. The Commission reserves the discretion to deviate from this policy statement if circumstances warrant.

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I. Introduction

This document provides guidance for a Pre-Drill Well Site Review (Pre-drill Review) offered by the Susquehanna River Basin Commission (Commission) to complete preliminary screening of a potential well site. The Pre-drill Review is a voluntary screening process offered by the Commission wherein staff will review a project sponsor's pre-drill information and provide technical assistance to minimize potential water resource management limitations in siting a well that meets the needs of the project. The Pre-drill Review is intended to be completed prior to the drilling and construction of a water supply well subject to Commission review and approval. The Commission encourages project sponsors to plan ahead and develop sources that will allow for resiliency in the face of changing water quantity needs and changing weather patterns and climate conditions. Reliable and redundant sources also offer a degree of water security and affordability to communities.

Because the Commission recognizes that developing a new groundwater supply well requires a project sponsor to commit significant resources to investigating, acquiring, and developing a site, this policy offers guidance for utilization of the Commission's technical assistance. This policy outlines the project sponsor submittal information components and the Commission's review of that information for groundwater availability, competing water users, water quality, and potential impacts to surface water features. Additionally, before a project sponsor invests significant resources into a well site, the project sponsor should consider retaining a hydrogeologist with substantial experience in the siting, drilling, testing, and permitting of water supply wells.¹

The Pre-drill Review is offered by the Commission to assist a project sponsor in completing preliminary screenings of a potential well site to identify high-level concerns prior to drilling a new well. Using information provided by a project sponsor, Commission staff evaluates a proposed well site and offers insight into the quantity of groundwater potentially available for development and the potential for impacts to other users or the environment. The review may also recommend monitoring types, methods, and locations that will produce the most accurate and complete information for the particular setting that the project sponsor should consider in developing an aquifer testing plan. Under certain circumstances, the Pre-drill Review may identify significant water availability issues, potential conflicts with existing users, or potential impacts to sensitive resources earlier in the process, allowing the project sponsor to make informed decisions prior to investing resources into property acquisition, well installation, and testing.

In its submittal for a Pre-drill Review, a project sponsor will need to provide a project description or background, a hydrogeologic description, and a preliminary groundwater availability analysis for the site. The following sections of the policy describe each of these three items.

¹ Note that projects must comply with laws of member jurisdictions, including professional licensing requirements. Currently, projects in Pennsylvania and New York State must use the services of a licensed professional geologist who is legally qualified to practice in that jurisdiction.

II. Pre-drill Review Information Components

The project sponsor's submittal for a Pre-drill Review should include:

- A. Project description;
- B. Hydrogeologic description; and
- C. Groundwater availability analysis.

A separate submittal should be provided for each potential well site, unless the well sites are located in the same hydrogeologic setting and contributing groundwater basin. The information to be submitted for each component is summarized below.

A. Project Description

The description of the project should include:

1. Anticipated long-term owner and operator, if different;
2. Purpose for the well and use of the water to be withdrawn;
3. Current facility water demand (million gallons per day [mgd]);
4. Anticipated future facility water demand (mgd);
5. Expected or desired withdrawal quantity from the proposed well(s).

The project description should provide context for the proposed withdrawal so Commission staff can provide appropriate guidance for developing the new source.

B. Hydrogeologic Description

A thorough understanding of the hydrogeologic setting prior to drilling is critical to the selection of a productive and sustainable well site. The hydrogeologic setting description should include:

- The topographic setting;
- Geologic structure(s);
- Identification of recharge and discharge areas;
- Dominant flow paths;
- A description of texture, mineralogic composition, and competence of the aquifer(s);
- The dominant permeability types; and
- Potential hydrogeologic boundary conditions.

A topographic map should be submitted that illustrates contributing geology and the estimated area of influence. Cross-sections may need to be developed if the proposed site is complex. Please refer to the Commission's Aquifer Testing Guidance (Policy No. 2021-02) for more information regarding the hydrogeologic description, topographic map, or cross-sections.

Although it is not expected that the hydrogeologic setting description would be as developed or complete as would be expected for an aquifer testing plan or alternate hydrogeologic evaluation, some understanding of the hydrogeology and potential impacts should

be developed prior to drilling wells. Some figures, data, and groundwater availability information submitted for the Pre-drill Review may also be applicable for use in a subsequent aquifer test for the well, if developed.

C. Groundwater Availability

The project hydrogeologist should perform the groundwater availability analysis prior to any well siting and drilling to ensure that sufficient water resources are likely available for development. The project hydrogeologist should follow the guidance for the Phase I groundwater availability analysis described in the Commission's Aquifer Testing Guidance (Policy No. 2021-02).

A Phase I groundwater availability analysis includes an evaluation of the contributing groundwater basin, groundwater recharge rates, and other users within the groundwater basin. If estimated use (proposed and existing withdrawals) in the recharge area exceeds 50 percent of the 1-in-10 year drought availability, then a Phase II groundwater availability analysis should be completed. Calculations should be based on the best available recharge rate information.² The groundwater availability analysis should be used to estimate the groundwater resource that may be available for development and establish realistic expectations for a groundwater withdrawal from the proposed well site.

A groundwater basin map and tables summarizing the groundwater availability analysis should be provided. The rationale and reference(s) for the selected recharge rate(s) should also be provided.

III. Commission Review and Response to Pre-drill Review

After Commission staff completes the initial evaluation of the project sponsor's submitted Pre-drill Review, staff conducts a field meeting with the project sponsor to appraise site conditions and discuss the preliminary findings. Following the field meeting, a Pre-drill Review Letter of Preliminary Findings (Letter) will be issued that identifies any potential issues and provides findings and guidance for the project which may include but not be limited to:

- Groundwater availability limitations, including assumptions regarding recharge rates and areas;
- Reasonable expectations for the geologic formation(s) (aquifer) to provide the desired quantity;
- Conflicts with existing groundwater users;
- Ecological impact considerations, including to rare, threatened, or endangered species;
- Surface water features and quality, including streams, springs, and wetlands, that may need to be considered or monitored during aquifer testing;

² Commission staff is available to provide guidance on recharge rates and other groundwater availability related issues, such as how to account for changing rainfall patterns and climate conditions.

- The potential applicability of the Commission's Low-Flow Protection Policy (Policy No. 2012-01);
- Potential monitoring locations and methodologies for specifically identified features; and
- The regulatory process for developing the new source.

The Letter should help inform project sponsors in developing sources that meet their needs without causing significant adverse impacts to other users or the environment.

IV. Incentive

To encourage project sponsors to partake in the Pre-drill Review process and recognize those efforts to pre-screen a well site, up to fifty percent (50%) of the Pre-drill Review fee may be applied to a subsequent aquifer testing plan for the well site for a well that was completed at the same borehole location identified and evaluated with the pre-drilling site review. Fee incentives will be incorporated into the Commission's Fee Schedule. Furthermore, as additional incentive, the information submitted for a specific source can be used to develop the project background, hydrogeologic description, and groundwater availability analysis portions of an aquifer testing plan.