
ENVIRONMENTAL Fact Sheet



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Large Groundwater Withdrawal Permitting Process

In 1998, the Groundwater Protection Act ([RSA 485-C](#)) was amended to ensure that adverse impacts to water resources from new large groundwater withdrawals are properly identified and mitigated within the state of New Hampshire. As a result, any new groundwater withdrawal from wells installed after August 1998 and greater than 57,600 gallons over any 24-hour period (equivalent to an average of 40 gallons per minute) is considered to be a large groundwater withdrawal and must obtain a permit from the New Hampshire Department of Environmental Services (NHDES). Withdrawals from wells installed prior to August 1998 are exempt and do not have to comply with these requirements in accordance with [RSA 485-C:22](#).

In order to obtain a large groundwater withdrawal permit, the well owner or applicant, typically a public water supplier, bottled water manufacturer, or golf course, must complete an extensive testing and review process that often takes over a year to complete. The details of the permitting process and requirements can be found in RSA 485-C:21-25 and NHDES administrative rules [Env-Wq 403](#), Large Groundwater Withdrawals. This process is summarized below:

1) Preliminary Permit Application

The applicant must submit to NHDES a preliminary large groundwater withdrawal permit application that is signed and stamped by a professional geologist or engineer and includes the following:

- Large Groundwater Withdrawal Permit Application Notification Form.
- Description of intended groundwater use and proposed withdrawal volume.
- Preliminary delineation of potential impact area including the maximum extent of the withdrawal's zone of influence, recharge area and down-gradient area.
- Preliminary list of water users, potential and known contamination sources and a water resources inventory in the vicinity of the potential impact area.
- Conceptual hydrologic model and identification of data gaps in the conceptual hydrologic model.
- Proposed withdrawal testing program that includes at least a 5-day pumping test, monitoring of surrounding wells (as available), and water quality testing.

2) Preliminary Application Public Notification and Administrative Review

The applicant must send by certified mail a copy of the preliminary permit application and any subsequent application materials, to all municipalities and community water suppliers located in the potential impact area of a proposed withdrawal. Upon receiving the application, NHDES must review the applica-

tion to determine if it is administratively complete and notify the applicant if any additional information is needed to complete the application.

3) Preliminary Application Public Hearing

Pursuant to [RSA 485-C:21](#), a municipality or water supplier located in the potential impact area has 15 days after the receipt of the preliminary permit application to request NHDES conduct a public hearing on the application. NHDES must conduct the public hearing within 30 days of the request and the hearing is typically held within the municipality that requested the hearing. The public hearing is an opportunity for NHDES and the applicant to discuss the project and for the public to submit oral testimony for the project record.

4) Preliminary Application 45-Day Public Comment Period

A 45-day public comment period follows the public hearing or if a hearing is not requested, the 45-day public comment period follows the date the preliminary permit application was received by the municipality or water supplier. NHDES considers all relevant recommendations and comments received during the 45-day comment period or at the public hearing. Comments should be submitted directly to the NHDES large groundwater withdrawal program (see contact information below).

5) Approval of the Preliminary Application

Following the comment period, NHDES must approve or deny the preliminary application in accordance with the rules. NHDES may also request that the applicant provide supplemental information in accordance with the requirements of the rules and establish deadlines for the submission of this information.

6) Withdrawal Testing

The applicant must establish a monitoring network that may include, depending on the site and well, monitoring of other public water supply wells, private water supply wells, other test wells, surface waters and wetlands. If private wells are included in the monitoring network, the applicant must mail out “offer to monitor” letters to surrounding well owners to request access to their wells. Once the monitoring network has been approved by NHDES, the applicant can conduct the withdrawal testing program that includes three phases:

- Initial background or ambient period that includes measuring water levels at the production well (with the pump off) and the surrounding monitoring network.
- 5-day (or more) pumping period of the production well at the proposed withdrawal rate. NHDES typically conducts a site visiting during this portion of the testing process.
- Recovery period after the pumping has ceased in the production well.

7) Final Report

After completing withdrawal test, the applicant must submit a final report to NHDES that contains the following items:

- Revised withdrawal permit volume: A revised permit volume may be requested provided the revised volume is less than or equal to the withdrawal volume demonstrated during withdrawal testing.
- Revised delineation of the potential impact area.
- Updated inventory of water users and water resources in the potential impact area.
- Revised conceptual hydrologic model based on data collected during withdrawal testing.
- Detailed description of the withdrawal testing program.
- Analysis of the data collected that fully summarizes the withdrawal testing results.

- Assessment of impacts or potential impacts from the proposed withdrawal to existing water users or natural resources.
- Proposed monitoring and reporting program designed to ensure that adverse impacts will not occur as a result of the proposed withdrawal.
- Proposed plan, if necessary, to mitigate any potential adverse impacts should they occur.

8) Final Report Public Hearing

A municipality or water supplier located in the potential impact area has 15 days after the receipt of the final report to request NHDES conduct a public hearing on the report. NHDES must conduct the public hearing within 30 days of the request and the hearing is typically held within the municipality that requested the hearing. The public hearing is an opportunity for NHDES and the applicant to discuss the final report and for the public to submit oral testimony for the project record.

9) Final Report 45-Day Public Comment Period

A 45-day public comment period follows the public hearing. If a hearing is not requested, the 45-day public comment period follows the date the final report was received by the municipality or water supplier. NHDES considers all relevant recommendations and comments received during the 45-day comment period or at the public hearing.

10) Technical Review

NHDES completes a technical review for a proposed large groundwater withdrawal within 45 days of a public hearing as described above or, if no hearing is requested, within 45 days of receipt of the final report. Using the adverse impact criteria in [RSA 485-C](#), NHDES evaluates the permit application to verify that adverse impacts will not occur as a result of the proposed withdrawal. Adverse impacts are defined in [RSA 485-C:21](#) as the following:

- (a) Reducing the withdrawal capacity of a private water supply well of a single residence as a result of the reduction of available water that is directly associated with the withdrawal as determined by the following:
 - (1) Any reduction in capacity for wells with a capacity less than Water Well Board recommended optimum minimum flow capacity of 4 gallons per minute for 4 hours before the withdrawal;
 - (2) Any reduction in capacity below 4 gallons per minute for 4 hours, for wells that had a capacity greater than 4 gallons per minute for 4 hours, before the withdrawal; or
 - (3) A reduction in capacity where the well still has a capacity between 4 gallons and 10 gallons per minute for 4 hours and the user provides information indicating that the reduction in flow has resulted in the inability to meet his or her water needs.
- (b) Reducing the capacity of a public drinking water supply below the minimum withdrawal rates required per consumer determined by the following:
 - (1) Minimum daily amounts of drinking water shall be determined per use based on the design flow criteria established for public water supply systems established in rules adopted by the department; or
 - (2) Where it is verified that such wells were unable to produce the design flow before the withdrawal began, the adverse impact shall be any reduction in the ability to produce water;
- (c) Reducing the capacity of a water supply that is used for a multiple-unit dwelling, but that is not a public water supply, that results in the inability to continue established activities or maintain existing water capacity requirements;

- (d) Reducing the capacity of a private, non-residential, non-drinking water supply that results in the inability of a commercial, industrial, agricultural, or retail facility to continue established services or production volumes;
- (e) Reducing the ability of a registered water user to produce volumes equivalent to the average daily withdrawal for a specific calendar month as determined by discharge measurements and reports made to the department in accordance with the water use reporting requirements under [RSA 488](#) or other previous water use reporting requirements of the department;
- (f) Reducing surface water levels or flows that will, or do, cause a violation of surface water quality rules adopted by the department;
- (g) Causing a net loss of values for submerged lands under tidal and fresh waters and its wetlands as set forth in [RSA 482-A](#);
- (h) Causing the inability of permitted surface water or groundwater discharges to meet permit conditions;
- (i) Reducing river flows below acceptable levels established pursuant to [RSA 483](#);
- (j) Causing the contamination of groundwater obtained from wells or surface waters from contaminated groundwater whose flow has been altered by the withdrawal, or causing the contamination of an aquifer or contributing to the spread of any existing contamination; and
- (k) Causing the long-term predictable rate of replenishment of the aquifer that is the source of the withdrawal to be exceeded.

11) Final Decision

If the permit application information demonstrates the withdrawal will not produce adverse impacts, NHDES will issue a large groundwater withdrawal permit. If the permit application information indicates that an adverse impact may occur, but can be mitigated, a withdrawal permit shall be granted under the following conditions:

- Sufficient information is provided verifying that any adverse impact will not be immediate or irreversible.
- Adverse impacts can be prevented by mitigation.
- A monitoring and reporting program is implemented as approved by NHDES.

If the permit application information is insufficient for NHDES to complete a technical evaluation, NHDES will either issue a conditional approval contingent upon the results of monitoring and reporting requirements, or require that additional analysis or hydrogeologic testing be completed for the withdrawal prior to issuing a permit.

Public Involvement

NHDES recognizes that numerous stakeholders are often interested in the large groundwater withdrawal permitting process after the public hearing(s) and comment period portions have been completed. Therefore, NHDES is always available to meet and discuss technical issues relating to the proposed withdrawal permitting process. Furthermore, all documents, reports and data submitted to NHDES regarding the withdrawal are available for review, by appointment, at our offices at 29 Hazen Drive, Concord, NH. Other public records, including large groundwater withdrawal permits, project narratives and ongoing water level monitoring data for active permits, are available on the NHDES large groundwater withdrawal website, or by contacting the program staff directly.

Expiration of Approvals

- An approved Preliminary Application expires within four years of issuance if the applicant does not submit the final report.
- A large groundwater withdrawal permit expires within five years of issuance if the withdrawal is not activated.
- A large groundwater withdrawal permit must be renewed ten years from the date of issuance for active large groundwater withdrawals.

For More Information

Please contact Andrew Koff at [\(603\) 271-8866](tel:6032718866) or Stephen Roy at [\(603\) 271-3918](tel:6032713918).

The Drinking Water and Groundwater Bureau can be contacted at [\(603\) 271-2513](tel:6032712513) or by email at LargeGW@des.nh.gov.

Note: This fact sheet is accurate as of July 2019. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.