

**Vermont Department of Environmental Conservation  
Drinking Water and Groundwater Protection Division**

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*Agency of Natural Resources*

**PUBLIC WATER SYSTEM CONSTRUCTION PERMIT  
Public Community Water System**

PROJECT # C-3702-19.0  
WATER SYSTEM: Bennington Water Dept

PIN # RU96-0131  
WSID # VT0005016

PERMITTEE:  
Bennington Town  
Attn: Stuart Hurd  
205 South Street  
Bennington VT 05201

PROJECT NAME: Phase II Distribution main extensions to provide water service to properties with on-site wells contaminated by perfluooctanoic acid (PFOA) and/or perfluorooctane sulfonate acid (PFOS).

TOWN LOCATION: Bennington, Vermont

This permit is issued by the Vermont Department of Environmental Conservation, Drinking Water and Groundwater Protection Division (the Division), on behalf of the Secretary of the Agency of Natural Resources, under the authority of 10 V.S.A., Chapter 56, to be constructed in accordance with the technical standards specified under the Environmental Protection Rules, Chapter 21, Water Supply Rule (Rule), last revised April 12, 2019.

As described in the application, the applicant proposes to modify the Bennington Water Department's (WSID 5016, the Water System's) existing distribution pipe network to make municipal water service available to properties currently served by on-site wells that have been contaminated with PFOA/PFOS. The proposed water system modifications include installation of approximately:

- 7,530 linear feet of 8-inch Class 52 ductile iron distribution system main with fire protection hydrants along Harwood Hill Road, Settlers Lane, and Houghton Lane.
- 675 linear feet of 8-inch Class 52 ductile iron distribution system main with fire protection hydrants along North Bennington Road, Berard Street, and Harwood Hill Road.
- 8,080 linear feet of 8-inch Class 52 ductile iron distribution system main with fire protection hydrants along Houghton Lane, Harwood Hill Road, Michaels Drive, and Apple Hill Road, including a sleeved 200-foot long highway crossing underneath Vermont Route 7 and Houghton Lane.
- 5,106 linear feet of 8-inch Class 52 ductile iron distribution system main with fire protection hydrants along Willow Road from its intersection with East Road to approximately 500 feet past its intersection with Hewitt Drive.
- 300 linear feet of 8-inch Class 52 ductile iron distribution system main with fire protection hydrants along Marion Lane.

- 865 linear feet of 3-inch HDPE distribution system main from the end of Marion Lane to proposed connections on Beck's Drive.
- 820 linear feet of 4-inch Class 52 ductile iron distribution system main with flushing hydrants along McIntosh Lane.
- 720 linear feet of 4-inch Class 52 ductile iron distribution system main with flush hydrants along Russett Drive.
- 345 linear feet of 3-inch HDPE distribution main along Transport Drive.
- 695 linear feet of 3-inch HDPE distribution main along Beaudoin Lane.
- 720 linear feet of 3-inch HDPE distribution main to the distribution connection at Sunset Farm Mobile Home Park.
- 780 linear feet of 3-inch HDPE distribution main along Cortland Lane and Apple Hill Road Extension.
- 1,040 linear feet of 3-inch HDPE distribution main along Squaw Hill Road.
- 725 linear feet of 3-inch HDPE distribution main along Autumn Acres Road.
- 370 linear feet of 3-inch HDPE distribution main along Carpenter Lane.
- Two Pressure Reducing Vaults. One at the intersection of Houghton Lane and Harwood Hill Road and the other near the intersection of Chapel Road and the Vermont Route 279 Overpass.
- Individual private water system connections including removal of existing installed point of entry treatment systems along the proposed route.
- Well Abandonment of existing individual private wells in accordance with the requirements of Appendix A, Part 12 of the Vermont Water Supply Rule.
- Associated distribution piping appurtenances, including distribution main valves, service connections, sample hydrant assemblies, and flushing hydrants.

This project requires a construction permit because it involves expansion of the Water System and modification to the Water System's existing distribution pipe network, including the installation of fire hydrants and pressure reducing valves which alters the existing hydraulic operating condition of the Public Water System. The proposed changes to the Water System constitute a modification requiring a permit as described by Subchapter 21-4, Section 4.01 of the Vermont Water Supply Rule, Chapter 21.

Subject to the conditions included herein, the Permittee (Bennington Town) is authorized to modify the Water System as described in the approved design documents identified in Section A.5 of this Permit.

This permit authorizes construction of the modifications proposed as part of the permit application and described in Section A.5, below, but does not authorize operation of the permitted modifications. Section A.11 of this Permit requires the Permittee to provide a written construction completion certification to the Division once the authorized improvements have been completed. Upon receipt of this construction completion statement, the Division will issue an amended Permit to Operate to the Permittee that formally recognizes the constructed system modifications authorized by this Permit.

This permit is issued based on a review that determined that the proposed project, if built in accordance with the approved plans and specifications, will conform to the Vermont Standards for Water System Design, Construction, and Protection (Design and Construction Standards) contained in Appendix A of the Rule, and will therefore not constitute a public health hazard or a significant public health risk. The review did not, however, include the structural engineering aspects of this project.

A. Conditions:

1. All excess excavation materials generated during this project must be managed in accordance with a plan approved by the Vermont Department of Environmental Conservation, Waste Management and Prevention Division.
2. All wells at properties connected to the Public Water System must be closed in accordance with Appendix A, Part 12 of the Vermont Water Supply Rule, except for wells designated by the Vermont Department of Environmental Conservation to be retained for long-term monitoring.
3. If petroleum hydrocarbon and/or chlorinated solvent contaminated soils are encountered during any phase of construction, distribution main pipe materials must be ductile iron pipe with fluorocarbon elastomer gaskets, water service piping must be copper pipe, and all other appurtenances shall be of material resistant to contamination.
4. Water service connections from the valve, curb stop, corporation stop at the water mains to individual buildings or structures, shall not be constructed prior to the issuance of a Wastewater System and Potable Water Supply Permit by the Department, if a permit is required. The location of water service connections, including the entire service line; valves, including the curb stop; and the corporation stop / connection to the water main shall be recorded on the Engineer's Record Drawings pursuant to Condition #9, below, which shall provide for horizontal and vertical locations of the valves, curb stop, and/or corporation stop location referenced to permanent surface improvements.
5. The project shall be constructed, tested, and inspected in accordance with this permit and the approved design documents provided by MSK Engineering and Design Inc. to support the permit application, identified in the following table:

| Design Drawings Reviewed as part of Permit Application                                  |                   |   |
|---|-------------------|---|
| Drawing No.   | Drawing           | Latest Revision Date                                      |
| Approved 100% Design Drawing Set  | May 2019          | Received May 14, 2019                                     |
| Design Documents Provided to Support Permit Application                                 |                   |   |
| Document Name   | Date              | Comments  |
| Technical Specifications, submitted as part of 100% design package                      | May 2019          | Included in 100% Design Drawing Set received May 14, 2019 |
| Startup Plan Memorandum – Bennington Water Distribution System Phase II                 | May 7, 2019       | Approved May 7, 2019                                      |
| Memorandum – Town of Bennington – Districts C, D, E and F – Qualitative Analysis Update | December 14, 2018 | Not Applicable  |
| Memorandum – Town of Bennington Chapel Road Tank Pressure Zone Qualitative Analysis     | March 13, 2019    | Not Applicable  |
| Preliminary Engineering Report  | July 5, 2016      | Not Applicable  |
| Preliminary Engineering Report Addendum   | February 27, 2017 | Not Applicable  |

The total number of engineering drawings reviewed by the Division for this project is **one hundred twenty (120)**.

This design is permitted based upon certification by the design engineer that the plans conform to the Design and Construction Standards of the Rule. Issuance of this permit does not relieve the Permittee of their responsibility to ensure that the Water System’s infrastructure meets the requirements of the Rule. The Permittee shall be responsible for performing any necessary actions required to resolve any sanitary deficiencies or defects identified related to the infrastructure modifications authorized by this Permit.

- The Division issued a variance, dated July 12, 2017, authorizing installation of in-home booster pumps, testable double-check valves and a low water pressure cut-off switch for residential service connections. The proposed connections associated with this project that are subject to this variance are identified on Sheet C606 in the 100% Drawing Set identified in Section A.5 of this Permit. In-home booster pumps installed as part of this project must meet all of the requirements established in the July 12, 2017 Variance Approval and all conditions established in this Permit.

7. **Permit Expiration: May 31, 2021.** If construction has not been completed by the Permit Expiration date, the Permittee shall notify the Division of construction status and a new permit shall be obtained before construction can continue.
8. Field inspection of the project shall be performed under the responsible charge of a Vermont licensed professional engineer.
9. Prior to being placed in operation, the newly constructed portions of the Water System shall be flushed, pressure tested, disinfected, and flushed again. Pressure tests shall be performed in accordance with Section 331416 of the Technical Specifications identified in Section A.5 of this Permit. After this procedure, samples must be collected for the analysis of total coliform bacteria. At least two samples must be collected for every 1,200 linear feet of installed distribution main, these samples must be collected at intervals spaced at least six hours apart. These samples must be submitted to the Vermont Department of Health Laboratory at 359 South Park Dr., Colchester, VT 05446 (or any other Vermont Department of Health certified laboratory) for Bacteriological Examination of a Public Water Supply. The Permittee shall include the Water System's identification number (WSID) on the laboratory form, and shall indicate on the laboratory form that the samples collected are 'special' samples collected for Construction Permit compliance. Coliform Absent sample results are required before the system may be placed "on line" for potable water use. The pressure/leakage and bacteriological test results shall be submitted to the Division along with the Record Drawings.
10. Record Drawings shall be prepared by the professional engineering firm responsible for observation of construction and shall depict the system as it was constructed, including any field modifications. Record Drawings shall be dated; contain the engineer's Construction Certification; shall include the professional engineer's seal and signature; and shall be submitted to the Division and The Permittee within 90 days of final field inspection and approval by the responsible professional engineer. Record Drawings shall depict the location and alignment of all service lines extending from the foundation wall of the building to connection with the valve, curb stop or corporation stop located at the water distribution main.
11. The following Construction Certification shall be prepared by the professional engineering firm responsible for observation of construction:
  - i. "I hereby certify that in the exercise of my reasonable professional judgment the construction-related information submitted is true and correct and that the components of the public water system authorized by the Public Water Supply Construction permit #C-3702-19.0:
    1. Were installed in accordance with:
      - a. The permitted design and all permit conditions; or
      - b. Record Drawings and such Record Drawings are in compliance with the applicable Rule, were filed with the Secretary, and are in accordance with all other permit conditions;
    2. Were inspected;
    3. Were properly tested; and

4. Have successfully met those performance tests.”
12. Until the construction authorized by this permit has been completed and the Record Drawings have been submitted, this permit is not transferable or assignable and it shall automatically become invalid upon a change of ownership or upon suspension or revocation.
13. Lead Monitoring is to be conducted in accordance with the Startup Plan Memorandum identified in Condition A.5.
14. Disinfection by-products (total trihalomethanes and haloacetic acids) shall be monitored according to the Startup Plan Memorandum identified in Condition A.5 of this Permit.
15. The Permittee shall submit a memorandum summarizing the data obtained from execution of the Startup Plan Memorandum identified in Section A.5 of this Permit. This memorandum must include:
  - i. Distribution system map identifying proposed locations to install sample hydrant assemblies.
  - ii. Description of the methodology used to determine these proposed locations.
  - iii. A Lead and Copper Sampling Plan for the Water System that includes the modifications authorized by this Permit.
  - iv. A Total Coliform Sampling Plan that includes the modifications authorized by this Permit.
  - v. A Stage 2 Disinfection Byproducts Sampling Plan that includes the modifications authorized by this Permit.
16. An Operation and Maintenance (O&M) Manual Update shall be prepared in accordance with Subchapter 21-7 and Appendix D of the Water Supply Rule, Chapter 21, for the Water System modifications authorized by this Permit. The Completed O&M Manual Update shall be submitted to the Division for approval **within 60 days of final field inspection**. Once approved, a copy of the O&M Manual Update shall be provided to the Permittee, the Permittee shall ensure that this approved O&M Manual Update is incorporated into the Water System’s approved O&M Manual.
17. No changes shall be made to the permitted project without the written approval of the Division. A new or amended Construction Permit is required for all significant system improvements, or modifications to the Water System pursuant to Subchapter 21-4, Section 4.0.1 of the Rule and shall conform to the Design and Construction Standards.
18. By acceptance of this permit, the Permittee agrees to allow representatives of the Department access to the project, at reasonable times, for the purpose of ascertaining compliance with Vermont environmental laws and this permit.

19. Pursuant to 10 V.S.A. Chapters 56, 201 and 211, any violation of the terms and conditions of this permit, including any compliance schedule, is grounds for the initiation of an enforcement action by the State against the Permittee
20. Issuance of this Public Water System Construction Permit does not relieve the Permittee from obtaining other permits or approvals that may be necessary for the Project.
21. This permit may be appealed to the Environmental Division of the Superior Court within 30 days of the date the final decision is posted to the Environmental Notice Bulletin in accordance with 10 V.S.A., Chapter 220.
22. This permit is issued and becomes effective on the date of signing.

Signed at Montpelier, VT this 31st day of May, 2019

Emily Boedecker, Commissioner  
Department of Environmental Conservation

By Bryan J. Redmond  
Bryan J. Redmond, Division Director  
Drinking Water and Groundwater Protection Division

PCS

cc: Larry Gates, Designated Operator, WSID 5016  
Jason Dolmetsch, MSK Engineering and Design, Inc.<jdolmetsch@mskeng.com>  
David Swift, Regional Engineer, Rutland Office  
Rick Oberkirch, Permit Specialist, EAO  
Tim Raymond, Operations and Engineering Section Chief  
Ellen ParrDoering, Assistant Director  
Patrick Smart, Operations Section Supervisor  
John Schmeltzer, WMPD  
Richard Spiese, WMPD WSID  
5016

# Public Water System Construction Permit Public Comment Response

For: Attachment to C-3702-19.0, Phase II Distribution main extensions to provide water service to properties with on- site wells contaminated by perfluooctanoic acid (PFOA) and/or perfluorooctane sulfonate acid (PFOS).

From: Drinking Water Groundwater Protection Division

Date: May 31, 2019

Subject: No Comments Received

The Environmental Notice Bulletin Version 2 (ENB) public comment period for the following Public Water System Construction Permit ended on May 30, 2019.

**PID#: C-3702-19.0**

**Project Name: Phase II Distribution main extensions to provide water service to properties with on- site wells contaminated by perfluooctanoic acid (PFOA) and/or perfluorooctane sulfonate acid (PFOS).**

**Water System Name: Bennington Water Dept**

**WSID #: VT0005016**

No comments were received.