

Proposed Wastewater System and Potable Water Supply Rules

Well Drillers

March 1, 2019

Definitions

- **§ 1-201(19) – Confined Surficial Aquifer**

“means an aquifer that is not in bedrock, is overlain by a low permeability layer, and contains groundwater under pressure such that the water level in a well that penetrates the aquifer rises above the top of the aquifer”

Confined Surficial Aquifers have the same horizontal isolation distances as Bedrock Aquifers

- **§ 1-201(23) – Design Flow, replaces Average Day Demand**

- **§ 1-201(24) – Design Rate, replaces Maximum Day Demand**

- **§ 1-201(31) – Failed Supply (expanded list)**

- **Arsenic, E.coli, Fluoride, Lead, Manganese, Nitrate, Nitrite, Total Coliform Bacteria, Uranium, Adjusted Gross Alpha Particle Activity (including radium 226 but excluding radon and uranium)**

Definitions

- **§ 1-201(84) – Replacement Supply**
 - means a potable water system that is proposed to replace a failed supply or to replace an operating potable water supply, provided that, in neither of these scenarios, there is a request or need for an increase in design flow from the potable water supply it would replace. An application involving a request or need for an increase in design flow shall not be construed as seeking approval for a replacement supply.
- **§ 1-201(107) – Water Service Line**
 - Water piping to a water main
- **§ 1-201(108) – Water Service Pipe**
 - Water piping to a potable water source

Use of Failed Supply for One Source Serving One Single-Family Residence

§ 1-301 Permit Required

- **(d) The use or operation of a failed supply or failed system is prohibited except in the following situations:**
 - **(1) The Secretary authorizes the continued use of the failed system or failed supply while the landowner is actively pursuing the cause of, and resolution to, correcting the failed system or failed supply.**
 - **(2) For a failed supply, a water treatment system is installed in compliance with § 1-1113 that achieves an elimination or reduction in the concentration of primary contaminants in the potable water source to below the standard in Table 11-5.**
 - **(3) For a failed supply, the potable water supply serves only one single-family residence.**

Exemption

- **§ 1-304(15) – The construction of a replacement supply serving only one single-family residence on a lot with no other buildings or structures and with no campground, provided:**
 - (A) the replacement supply will not be located in an area classified by the Secretary as a Class IV groundwater area;**
 - (B) the replacement supply does not utilize surface water as the potable water source;**
 - (C) there is not a change in use of the single-family residence to include a child care facility;**
 - (D) if the replacement supply is a water service line and a booster pump will be installed in the single-family residence, the technical standards for the booster pump design in § 1-1111(d) are met (Secretary approval for the installation of the booster pump is not required);**
 - (E) a form provided by the Secretary that corresponds to the type of replacement supply is recorded and indexed in the land records of the municipality where the single-family residence is located, and, if different, where the replacement supply will be located; and**
 - (F) water sampling that complies with § 1-1113(b) and (c) is conducted prior to any consumptive use of the water from the replacement supply.**

Exemption

- **§ 1-304(16) – The development of a potable water source to supplement an existing potable water source serving only one single-family residence on a lot with no other buildings or structures and with no campground, provided:**
 - (A) the supplemental potable water source will not be located in an area classified by the Secretary as a Class IV groundwater area;**
 - (B) the supplemental potable water source is not a surface water source;**
 - (C) there is not a change in use of the single-family residence to also be a child care facility;**
 - (D) the potable water supply presumptive isolation zone for the supplemental potable water source does not extend onto land owned by a person different than the owner of the single-family residence;**
 - (E) a plan, with contours, drawn to scale prepared by a designer, showing the location of the existing and supplemental potable water sources, the location of the potable water supply presumptive isolation zone for the supplemental potable water source, and the boundary lines for the lot on which the single-family residence is located;**
 - (F) a form provided by the Secretary, which includes the plan, is recorded and indexed in the land records of the municipality where the single-family residence is located, and, if different, the existing and supplemental potable water sources will be located; and**
 - (G) water sampling that complies with § 1-1113(b) and (c) is conducted prior to any consumptive use of the water from the additional potable water supply.**

Exemptions

- **§ 1-304(17) – The deepening of an existing potable water source, provided that water sampling that complies with § 1-1113(b) and (c) is conducted prior to any consumptive use of the water from the deepened potable water source.**
- **§ 1-304(18) – The use or operation of a failed supply or failed system that is identified in § 1-301(d).**
- **§ 1-304(19) – Installation of potable water treatment**
 - **Arsenic, fluoride, lead, manganese, nitrate, nitrite, gross alpha, uranium – point of use**
 - **Bacteria, pathogenic organisms, radium, and radon – point of entry**
 - **Water hardness and secondary standards.**

When Notification for Presumptive Zones Not Required

- **§ 1-308(e) Notwithstanding Subsections (a) through (c), the notifications identified in this Section are not required for wastewater system presumptive isolation zones or potable water supply presumptive isolation zones that fall under one of the following descriptions:**
 - **(e)(4) the potable water supply presumptive isolation zone is for a replacement supply;**
 - **(e)(6) the potable water supply presumptive isolation zone exists only in a municipality that prohibits the installation of a soil-based wastewater system;**

Water Quality Testing

- **§ 1-1113 – Water Quality**

(a) When a permit authorizes the construction of a groundwater potable water source, the physical modification of an existing groundwater potable water source, or an action that increases the design flow of, or modifies other operational requirements of, a groundwater potable water source, **the potable water source shall be sampled for the following substances, and any water treatment system required pursuant to Subsection (d) installed, prior to any water use authorized in the permit:**

- (1) each **primary and secondary contaminant listed in Tables 11-5 and 11-6**; and**
- (2) any substance with a groundwater enforcement standard in the Groundwater Protection Rule and Strategy that the Secretary determines may be present in the source.**

Water Quality Testing

- **§ 1-1113 – Water Quality**

(b) Water sampling required pursuant to Subsection (a) in association with the construction of a groundwater potable water source shall be conducted a minimum of 2 days following flushing the permitted water source for a duration sufficient to:

(1) remove all chlorine odor from the water supply; and

(2) ensure all additives, source development fluids, native silts and clays, drilling mud, and finer fraction of the gravel pack or rock fracture in the casing or bore hole are removed, to the extent practicable, and at least achieving no visible evidence of the materials, prior to sampling the potable water supply.

- **§ 1-1113 – Water Quality**

(c) Water sampling required pursuant to Subsection (a) shall comply with the following requirements:

(1) Waters samples shall be taken by the person who owns the lot on which is located the building or structure or campground that is served by the potable water supply, a well driller, a designer, a hydrogeologist, a certified water specialist, a Town health officer, a master plumber, a public water system certified operator, a Vermont State employee responsible for taking water samples prior to licensing a facility or activity, or another person deemed qualified by the Secretary.

(2) Water samples shall be collected from the cold water tap for a sink or, if the sink is preceded by a water treatment system, at a cold water tap before the treatment system. Water samples taken for lead shall be first draw.

(3) Water samples shall be submitted to the Vermont Department of Health Laboratory or a certified laboratory for analysis.

(4) The results of the analysis shall be submitted to the Vermont Department of Health Laboratory and, when required pursuant to the permit, submitted to the Secretary. Submission of results by a certified laboratory to the respective Agency satisfies this requirement.

- **§ 1-1113 – Water Quality**

Note: The presence of a primary contaminant in a potable water supply at a concentration that exceeds the standard for the contaminant identified in Table 11-5, or the presence of a substance at a level exceeding the groundwater enforcement standards in the Groundwater Protection Rule and Strategy, is a health concern for those drinking or otherwise consuming the water. While the Secretary does not require a landowner with a groundwater potable water source serving only one single-family residence to install a water treatment system or to seek a new potable water source when contamination is identified, the Secretary recommends the landowner do so.

The above note does not require water treatment for the source in yellow. If treatment is proposed for any contaminant not exempt per § 1-304(19), a permit is needed.

§ 1-1113 – Water Quality

Table 11-5
Primary Contaminant Standards for Potable Water Supplies

Primary Contaminants	Standards
Arsenic	0.010 mg/L
Escherichia coli (E.coli)	0 (absent or less than 1)
Fluoride	4 mg/L
Lead	0.015 mg/L
Manganese	0.3 mg/L
Nitrate as N	10 mg/L
Nitrite as N	1.0 mg/L
Total Coliform Bacteria	0 (absent or less than 1)
Uranium	0.020 ug/L
Adjusted Gross Alpha Particle Activity (including radium 226 but excluding radon and uranium)	15 pCi/L

§ 1-1113 – Water Quality

Table 11-6
Secondary Contaminant Standards for Potable Water Supplies

Secondary Contaminants	Standards
Chloride	250 mg/L
Sodium	250 mg/L
Iron	0.3 mg/L
Odor	3 threshold odor number
pH	6.5 to 8.5