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# ENVIRONMENTAL Fact Sheet

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29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • [www.des.nh.gov](http://www.des.nh.gov)

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## Disposal of Water Treatment Backwash at Single Family or Duplex Residences

### **What is Water Treatment Backwash Water?**

Approximately 40 percent of New Hampshire residences are served by private wells. Minerals, hardness (calcium) and other naturally occurring conditions can impair the quality of the water supplied by those wells, presenting both aesthetic and health concerns. To address those concerns, various methods of treatment are used. Most residential water treatment systems focus on the aesthetic aspects of drinking water, such as water softening, pH adjustment, removal iron and manganese. Treatment for arsenic is also common in some areas of New Hampshire. Examples of treatment methods in use are reverse osmosis, ozonation, aeration and ion exchange. In the process of water treatment, filters and treatment media require regular “backwashing” to clear out solids and regenerate media. The backwash water may contain silt, sand, brine, iron, manganese, arsenic and incidental sludges. This fact sheet focuses **specifically** on single-family and duplex home drinking water treatment systems and the disposal of associated backwash water from the filters and other treatment devices.

### **Why are Backwash Wastewaters a Problem?**

In the past, water treatment system backwash has been directed into the home septic system for disposal. This is still an option provided that the additional volume from the discharge can be accommodated. Unfortunately the majority of treatment systems are installed after the home and septic system are built. The additional water to the septic tank and leaching field may cause problems with septic system operation or may overload the existing leaching area and result in flooding. Additionally, some experts believe that the brine from backwashing may have detrimental effects on bacteria growth and may influence the soil's ability to infiltrate water.

### **What Should Be Done With This Wastewater?**

If a water treatment system is anticipated at the home then the backwash discharge may be incorporated into the design of the septic system. However, if the water treatment system is installed after the septic system is built and the leach field is not large enough to accommodate the backwash discharge then alternate methods of disposal may be used. These alternatives do not require a test pit, plans by a subsurface disposal system designer, fees, formal review, or approval from NHDES. These alternatives may include mini dry wells, small leaching pits, or trenches with perforated piping.

### **Under What Conditions Can Alternative Disposal Be Used?**

The treatment systems recommended are those that backwash based on actual demand, that is, based on the amount of water used. If the backwash is not discharged to an approved septic system and an alternative disposal method is used, then the area must be capable of receiving and infiltrating all wastewater without flooding and the discharge.

- Must infiltrate on site and not cause erosion, siltation; or a discrete runoff.
- Must not discharge to a surface water or wetland.
- Must include water treatment system wastewater ONLY. No discharge of black water, gray water, or laundry water to a separate drywell is permitted without NHDES Subsurface Systems Bureau approval.
- Must be located so as to minimize influence on the water supply well, septic system, and any abutting drinking water well.
- Must not render groundwater undrinkable on any adjacent properties.

### **For Additional Information**

For more information concerning water treatment wastewater discharges contact the [Subsurface Systems Bureau](#) at (603) 271-3501 or contact the NHDES Groundwater Discharge Permitting and Registration Program at (603) 271-2858.

For additional information and fact sheets, please contact the Drinking Water and Groundwater Bureau at (603) 271-2513 or [dwgbinfo@des.nh.gov](mailto:dwgbinfo@des.nh.gov) or visit [http://des.nh.gov/organization/divisions/water/dwgb/dwspp/gw\\_discharge/index.htm](http://des.nh.gov/organization/divisions/water/dwgb/dwspp/gw_discharge/index.htm) .

**Note:** This fact sheet is accurate as of June 2010. Statutory or regulatory changes, or the availability of additional information after this date may render this information inaccurate or incomplete.