



**RHODE ISLAND**  
**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
235 Promenade Street, Providence, RI 02908-5767  
Office of Water Resources

**ADDED OWTS TREATMENT REQUIREMENTS ON LOTS WHERE REQUIRED  
DRINKING WATER WELL SETBACKS ARE NOT ATTAINABLE AND  
ELEVATED NITROGEN CONCERNS EXIST**

**Effective Date:** July 11, 2013

**Program Regulation:** Rules Establishing Minimum Standards relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems

**Supersedes:** None

**Approved By:** R. Chateauneuf, Chief of Groundwater & Wetlands Protection, OWR

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**Purpose:** This policy provides information on treatment technology mitigation that the DEM will require in areas where nitrogen concentrations in groundwater are elevated or may become elevated due to high density of onsite wastewater treatment systems (OWTS). This policy helps ensure that groundwater quality is maintained for current and future use as a source of drinking water.

**Applicability:** This policy applies to parcels in specific geographic areas based on available information. These are (see maps for detail):

- Jamestown Shores, Jamestown for lots fronting on or bounded by the Watson Farm to the south, North Main to the east (excluding dead end streets and land shown on map), Capstan Street to the north, and Narragansett Bay to the west.
- Touisset Highlands, Warren for lots including or bounded by Pleasant View Avenue on the south, Summit Drive on the east, Prospect Avenue on the north, and the Kickemuit River on the west.
- Touisset Point, Warren for lots including or bounded by Mount Hope Bay to the south, Shell Road to the east, Touisset Road to the north (east to Shell Road), and Bristol Narrows to the west.

**Regulatory Authority:** Table 22.4 in the Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems (OWTS Rules) contains the Minimum Setback Distances from Drinking Water Wells. The most common minimum setback applied is the requirement to maintain at least 100 feet between a leachfield and a private drinking water well serving a single family home. A variance may be requested when the minimum setbacks are not attainable and may be granted under favorable conditions when criteria in regulations are met. In the case of repair or replacement of an OWTS, Rule 17.7.2 allows the department to approve a lesser setback without the filing of a separate variance application.

**Policy:** Based on available information including studies performed by or on behalf of local communities, DEM has reason to believe nitrogen levels in drinking water wells in the applicable areas noted above are or may become elevated as a result of OWTS usage. In order to mitigate current and future impacts on the groundwater resource, DEM will require that the minimum setbacks contained in Table 22.4 of the OWTS regulations (July, 2012) be adhered to strictly. Compliance may be obtained in some cases by relocating the OWTS and/or the drinking water well. Where compliance cannot be attained for a repair or replacement OWTS, DEM will require that the OWTS design incorporate the use of an approved Nitrogen Reducing Technology. (See <http://www.dem.ri.gov/programs/benviron/water/permits/isds/pdfs/ialist.pdf> for listing.)

**Table 22.4 Minimum Setback Distances from Drinking Water Wells**

OWTS Design Flow (gpd)	Distance in Feet from Leachfield/Septic Tank Effluent Pipe, Tanks/Building Sewer(Notes 1,5)		Distance in Feet From All OWTS Components (Notes 1,5)
Private Drinking Water Well (Note 2)	Public Well – Drilled (rock), Driven, or Dug		Public Well- Gravel Packed, Gravel Developed
<1000	100/75/50 (Note 3,4)	200	400
1000-<2000	150/75/50	200	400
2000 - <5000	200/75/50	200	400
5000- <10000	300/75/50	300	400
≥10000	400/75/50	400	400

Notes:

- (1) Large Systems- These distances are minimum distances for large systems as defined in Rule 35.1.1. Greater distances may be required based on the Impact Analysis in Rule 35.3.
- (2) Distance from the building sewer may be reduced when the building sewer is constructed of Schedule 40 PVC or equivalent.
- (3) The minimum setback distances to wells on the subject property may be reduced to 80/60/40 (leachfield/tank/building sewer) feet for residential OWTSs on lots ten-thousand (10,000) square feet and larger under the following conditions:
  - (A) The design flow is less than five hundred (500) gallons per day;

- (B) The OWTS utilizes a Department-approved nitrogen reducing technology;
- (C) The OWTS discharges to a pressurized shallow narrow drainfield designed in accordance with DEM guidelines; and
- (D) The OWTS separation distance between the infiltration surface and groundwater is three (3) feet or greater.
- (4) The minimum setback distances shall be increased to 150/75/50(leachfield/tank/building sewer) for OWTSs with a design flow of less than one thousand (1000) gallons per day if the OWTS is designed for Category 1 soils per Rule 32. For such OWTSs utilizing a Department approved nitrogen reducing technology discharging to a bottomless sand filter or pressurized shallow narrow drainfield constructed in accordance with DEM guidelines, the minimum setback distances may be 100/75/50 (leachfield/tank/building sewer).
- (5) In addition to the required setbacks between wells and the proposed OWTS, well setbacks shall also apply between any existing well serving the building for which the OWTS is proposed and any other existing OWTS. Such existing OWTS may require upgrade to meet these Rules.

**References:**

Town of Warren Wastewater Facilities Plan Update Report (DEM file #08-D), 2008

Town of Warren Onsite Wastewater Management Plan, 2009

Veeger, A.I., Abrahams-Dematte, W., Michaud, S., and Sandorf, J., 1997, Ground-water quality and hydrogeology of Northern Conanicut Island, Jamestown, Rhode Island: RI Geological Survey Report 97-01, 40 p.





