

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
Office of Water Resources

**Rules Establishing Minimum Standards Relating to  
Location, Design, Construction and Maintenance of Onsite Wastewater  
Treatment Systems  
July 2010**

AUTHORITY: These rules are adopted in accordance with Chapter 42-35 pursuant to Chapters 42-17.1, 5-56, 5-56.1, 23-19.5, 23-24.3, 46-13.2, and 23-19.15 of the Rhode Island General Laws of 1956, as amended.

**RULE 36. ALTERNATIVE TOILETS**

36.1 Alternative toilets include composting toilets that comply with the requirements of the National Sanitation Foundation Standard 41 “Non-Liquid Saturated Treatment Systems” and incinerator toilets.

36.1.1 Alternative toilets shall be installed, operated and maintained in accordance with the manufacturer’s specifications; have a positive ventilation system; and must convert toilet contents to an inert, stable, or otherwise harmless condition.

36.1.2 The owner shall hold a valid maintenance contract at all times with an entity or individual that is certified by the alternative toilet vendor to provide maintenance of the alternative toilet. The minimum maintenance contract term shall be two (2) years.

36.1.3 The owner shall record the approved OWTS construction permit application form and associated permit conditions for this alternative toilet and the initially executed maintenance contract for the system in the municipal land evidence records and provide DEM a copy of the recorded document prior to DEM issuing a certificate of conformance.

36.1.4 Two (2) years after the issuance of the Certificate of Conformance, and every two (2) years thereafter, the owner shall submit a report prepared by a System Inspector documenting the condition of all aspects of the OWTS, including, but not limited to, certification that the OWTS has not been modified and the design remains as permitted.

36.1.5 The Department may impose additional conditions on the approval of an alternative toilet to ensure proper operation and protection of public health and the environment.

36.2 Separate OWTS- When an alternative toilet is utilized, a separate OWTS shall be provided for the treatment of any graywater and designed on sixty percent (60%) of the normal daily design flow as determined by Rule 21. If wastewater from any conventional toilets is directed to this leachfield, the leachfield must be designed for one hundred percent (100%) of the daily design flow.

36.3 Residuals - Solids produced by alternative toilets may be buried on site, unless prohibited by Rule 39. Residuals shall not be applied to food crops. Alternative toilets that may generate excess liquids shall either be designed such that the residual liquids are pumped to the graywater septic tank or to a separate holding tank. Liquids shall be removed from this separate holding tank by a DEM permitted septage transporter. This holding tank shall be designed as follows:

36.3.1 Have a capacity of two hundred fifty (250) gallons or one year's projected flow as determined by the manufacturer, whichever is greater;

36.3.2 Be watertight and meet the construction and materials standards for septic tanks in Rule 26.2; and

36.3.3 Be equipped with an audio-visual alarm set to activate when the tank reaches eighty percent (80%) of its capacity.

36.4 Removal and Replacement – The property owner shall submit an OWTS Application for New Building Construction pursuant to Rule 17.5 in order to remove or replace the alternative toilet.

## **RULE 37. ALTERNATIVE OR EXPERIMENTAL TECHNOLOGY APPROVAL**

37.1 No person shall submit an OWTS design application incorporating an alternative or experimental component or technology for wastewater treatment unless such technology has been placed on the Department's approved Alternative or Experimental Technology List.

37.2 Administrative- The Department shall:

37.2.1 Maintain a list of all the approved Alternative or Experimental technologies and all approved guidance documents;

37.2.2 Charge fees to cover the cost of administering the Alternative or Experimental approval procedure, and reviewing, monitoring and tracking the performance of alternative or experimental technologies; and

37.2.3 Have the authority to remove any approved Alternative or Experimental technology from the Department's approved list whenever the applicant fails to submit reports or monitoring data; fails to perform required maintenance; or fails to fulfill any other required tasks stated within these Rules, the approval letter or the approved guidance document.

37.3 Application Procedure- Application shall be on forms approved by the Director, and shall include the proper fee, all required submittals, performance data and a draft guidance document that details all design, installation, operation and maintenance, and other requirements.

37.4 Alternative Technology Evaluation Criteria- The Director may approve an alternative OWTS or technology if it meets the following criteria:

(A) File a copy of the initially executed contract for the OWTS's operation and maintenance, (including all required maintenance procedures and monitoring schedules) with the land evidence records of the municipality in which the OWTS is located; and

(B) Submit to the Department a certified copy of the recorded contract setting forth the date of the recordation and the book and page where the contract is located in the records of the municipal land evidence office.

37.9.2 The Department shall not issue a conformance until the documents in Rule 37.9.1 are recorded with the municipality and a certified copy of the recorded contract is submitted to the Department.

## **RULE 38. CRITICAL RESOURCE AREAS -- GENERAL**

38.1 Areas have been identified as critical resource areas which are deemed to be particularly sensitive to the detrimental effects of nutrients, pathogenic organisms, organic chemicals and other substances that may be present in effluent from OWTSs. These areas are in need of special protection from such effects due to the unique and irreplaceable value of the resource as a public water supply, fisheries habitat or public recreation area.

38.2 Standards for siting and design of OWTSs in these Rules 38, 39, and 40 are established to enhance the treatment capability of OWTSs and thereby reduce the potential for adverse effects to critical resources. In areas designated as critical resources, the standards of Rules 38, 39, and 40 shall supersede minimum standards wherever applicable.

38.3 Designation- Areas designated as critical resource areas are defined below in Rule 38.3.1 – 38.3.3. If the applicant disputes a delineation in Rule 38.3.1 – 38.3.3, the applicant may submit information on groundwater or surface water flow to demonstrate to the Director by a preponderance of clear and scientifically valid evidence that the delineation in question is incorrect.

38.3.1 Salt Pond Critical Resource Area: The watersheds, or portion thereof, to the salt ponds of Charlestown, Narragansett, South Kingstown, and Westerly as determined by the Rhode Island Coastal Resources Management Council's Salt Ponds Region Special Area Management Plan (see Figure 11), unless a determination of the groundwater recharge area to the salt ponds has been adopted by the Department and the Coastal Resources Management Council. The Salt Pond critical resource area includes the watersheds, or portion thereof, to the following: Maschaug Pond, Winnapaug Pond, Quonochontaug Pond, Ninigret Pond, Green Hill Pond, Trustom Pond, Cards Pond, Potter Pond, and Pt. Judith Pond.

38.3.2 Narrow River Critical Resource Area: The Narrow River watershed, or portion thereof, as determined by the Rhode Island Coastal Resources Management Council's Narrow River Special Area Management Plan (see Figure 12), unless a determination of the groundwater recharge area to the Narrow River has been adopted by the Department and the Coastal Resources Management Council.

38.3.3 Drinking Water Supply Watersheds: Watersheds of public water system drinking water supply reservoirs, unless a determination of the groundwater recharge area to the reservoir has been adopted by the Department. The public water systems include the following and any other public water system with a drinking water supply reservoir approved by the Rhode Island Department of Health (see Figures 13-16): Bristol County Water Authority, Cumberland (town of), Eleanor Slater Hospital/Zambarano Unit, Jamestown (town of), New Shoreham (town of),

Newport (city of), Pawtucket Water Supply Board, Providence Water Supply Board, Stone Bridge Fire District, Woonsocket (city of), and Yawgoog Scout Reservation.

38.4 OWTS Location- The applicant shall be required to certify the location of a disposal area with respect to any critical resource area. If the Department determines that an OWTS may be wholly or partially located within a critical resource area, the applicant shall be required to provide evidence of the location with respect to the critical resource.

38.5 OWTS Applications for Alteration to a Structure in Critical Resource Areas- An OWTS Application for Alteration to a Structure which will result in an increase in the flow or change in the type of wastewater within a Critical Resource Area may not be approved unless the OWTS meets all design and siting requirements of the Rules in effect at the time of permit application. The Department may grant an exemption to this provision through the variance process pursuant to Rule 48 if it is demonstrated that the deviation from the standard is minor.

## **RULE 39. REQUIREMENTS IN THE SALT POND AND NARROW RIVER CRITICAL RESOURCE AREAS**

39.1 For OWTSs located in the Salt Pond and Narrow River critical resource areas as defined in Rule 38.3.1 and Rule 38.3.2, respectively, the standards established in Rule 38 and in this Rule 39 shall supersede minimum standards established elsewhere in these Rules.

### 39.2 Nitrogen Reducing Technology

39.2.1 Nitrogen reducing technology shall be required for all OWTS Applications for New Building Construction, all OWTS Applications for Alteration to a Structure, and OWTS Applications for Repair in the Salt Pond and Narrow River critical resource areas. DEM may waive this requirement for Applications for Repair involving only the replacement of the septic tank if the applicant demonstrates that the leachfield is not failed based on the criteria in Rule 7, met the Rules in effect when the leachfield was installed, and is located more than two hundred (200) feet from a coastal shoreline feature. Applicants must still meet all CRMC established density and other requirements where applicable.

39.2.2 Use of composting toilets- Composting toilets meeting the criteria of Rule 36 may be approved for use as a nitrogen reducing technology provided that:

- (A) Solid and liquid residuals produced by the composting toilet are removed from the site and properly disposed of at an approved facility beyond the boundary of the Salt Pond and Narrow River Critical Resource Area;
- (B) All blackwater from the structure must receive treatment via the composting toilet; and
- (C) All liquid residuals are directed to a holding tank consistent with Rule 36.3.

39.2.3 Exemptions for Applications for Repair- The provisions of Rule 39.2.1 may not apply to an OWTS Application for Repair if the Municipality where the OWTS is located:

- (A) Adopts an ordinance that the Department determines reduces the long-term nitrogen load to the Salt Ponds or Narrow River equivalent to or more than the provisions of Rule 39.2.1; and

(B) Enters into a legally binding agreement with the Department and petitions the Department for prior review of pertinent applications pursuant to Rule 17.3.

39.3 Location- The horizontal distances between the parts of any OWTS and the feature requiring a setback shall not be less than those shown in Table 22.1 and 22.3.

39.4 Site Suitability- OWTS shall not be located where the seasonal high groundwater table is within five (5) feet of the original ground surface, or where a restrictive layer or bedrock is within seven (7) feet of the original ground surface, except in areas where the seasonal high groundwater table is within two (2) to five (5) feet of the original ground surface, or where a restrictive layer or bedrock is within four (4) to seven (7) feet of the original ground surface and either of the following in 39.4.1 or 39.4.2 occur. Twenty-five (25) feet shall be maintained from the leachfield to any area where the groundwater table is less than two (2) feet to the original ground surface, or where bedrock is less than four (4) feet to the original ground surface.

39.4.1 Application is for an Alternative or Experimental OWTS approved pursuant to Rule 37 for use under these conditions; or

39.4.2 Application is for a dispersal trench OWTS that meets the following conditions:

(A) The maximum depth of stone below the distribution pipe invert is one-half (0.5) feet; and

(B) The minimum distance between walls of adjacent dispersal trenches is ten (10) feet.

39.5 OWTS Vertical Separation Distance to Groundwater- The bottom of the stone underlying the leachfield (or surface upon which the biomat develops) shall be at least four (4) feet above the seasonal high groundwater table when either soil category 1, 2, 3, 4, or 6 are encountered in determining the maximum leachfield loading rate in accordance with Rule 32.2.2.

