

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
DIVISION OF GROUNDWATER AND ISDS

**Amendments to**  
**Rules and Regulations Establishing Minimum Standards Relating To**  
**Location, Design, Construction and Maintenance of**  
**Individual Sewage Disposal Systems**



Amendments of

**April 2001**

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

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

AMENDMENTS TO THE  
RULES AND REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION,  
DESIGN, CONSTRUCTION AND MAINTENANCE OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS  
April 2001

The Department of Environmental Management Rules and Regulations Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Individual Sewage Disposal Systems have been amended, such that changes have been made to the following sections: 2.01, 10.01, 10.07, 15.03, 15.05 and 26.01. These sections are all included herein.

SD 2.01 Applications for the Installation of New Systems or the Alteration or Repair of Existing Individual Sewage Disposal Systems

(b) Application for New System - All applications for new systems shall be made in conformance with all requirements under these regulations. Applications not in conformance with these regulations may be approved only through the variance procedures set forth in SD 20.00 through SD 20.03.

(1) Except as provided for in (A) – (D) below, a site evaluation shall be performed at the proposed site of any new system in accordance with SD 26.00 and SD 26.01. No person shall submit applications, plans and specifications to the Director for a new system without first obtaining the Director's approval of a site evaluation report or field concurrence with the soil evaluation portion of a site evaluation report in accordance with SD 26.00 and SD 26.01. A site evaluation will **not** be required for the following, provided the applicant has valid field data, as defined by SD 2.02(g), for ground water table elevations compiled prior to January 31, 2001 in accordance with SD 17.01 or SD 17.02:

(A) Applications submitted to the Director for lots within a subdivision that have a valid determination of suitability pursuant to a Certification of Subdivision Site Suitability, provided that the field data was compiled on or after July 21, 1987;

(B) Applications submitted to the Director within one year of the effective date of this amendment;

(C) Applications submitted to the Director after the one year period in SD 2.01(b)(1)(B) where the field data is less than five years old; or

(D) Applications submitted to the Director after the one year period in SD 2.01(b)(1)(B) where the field data is more than five years old, provided that the field data is renewed in accordance with SD 2.02(g)(2) and the following criteria are met:

(i) The field data was compiled after January 1, 1993;

(ii) The approved ground water table is at a depth of 4 feet or greater from the original grade; and

(iii) The test hole where the field data was collected is not located in any of the following areas:

(aa) Within 100 feet of any watercourse;

(bb) Within 150 feet of the shoreline of the Narrow River or the shoreline of one of the coastal ponds as specified in SD 19.00(c)(1); or

(cc) Within 200 feet of a surface water drinking water supply.

SD 10.00 Sewage Seepage Systems - General

SD 10.01 Minimum Leaching Area - The minimum leaching area of a disposal system will be dictated by the number of bedrooms in the case of individual dwellings, or the maximum daily sewage flow for places other than individual dwellings, and the results of percolation tests performed in accordance with Section SD 16.00 or a soil evaluation done in accordance with SD 26.01. In the case of individual dwellings all systems shall be designed to serve a minimum of three bedrooms, unless evidence is submitted that a sworn affidavit substantiating less than three bedrooms has been filed with the land evidence office of the municipality.

SD 10.07 Minimum Leaching Area - The minimum leaching area shall be determined from the following table:

Percolation Rate (minutes per inch)	A		B	
	<u>Disposal Trenches and Seepage Pits</u>		<u>Disposal Beds (see SD 10.08 for Restrictions)</u>	
	leaching area max. rate of application Gals/SF/Day (1) (3) (5)	sq ft/ bedroom (1) (3)	leaching area max rate of application Gals/SF/Day (2) (3) (4)	sqft/bedroom (2) (3) (4)
2 to 5	1.20	125	0.59	255
10	0.91	165	0.50	300
15	0.79	190	0.43	350
20	0.68	220	0.38	400
25	0.63	240		
30	0.60	250		
40	0.52	290		

Rates greater than five minutes/inch may be interpolated from this table to reflect actual readings.

- (1) Soil with a percolation rate of over 40 minutes per inch is unsuitable for disposal of sewage by any means of subsurface leaching.
- (2) Soil with a percolation rate of over 20 minutes per inch or where the maximum daily sewage flow is 2,000 gallons or more is unsuitable for these means of subsurface leaching.
- (3) To determine effective leaching area, see Sections SD 11.01, 12.02 and 13.02.
- (4) The use of disposal beds will not be permitted where an alternate type of seepage system can be utilized (i.e. trenches, chambers, pits, etc.) The system designer must demonstrate that the alternates to a bed are not feasible.
- (5) The fastest percolation rate allowed for applications for new systems submitted after the effective date of these regulations shall be 10 minutes per inch.

SD 15.03 Percolation Test – Unless a site evaluation as specified in SD 2.01(b) is required, at least one percolation test, carried out in accordance with the procedure outlined in Section SD 16.00 shall be made. Additional testing may be required if the soil is highly variable or if a large disposal system (greater than 2,000 gallons per day) is required.

## SD 15.05 Persons Qualified to Test

- (a) Percolation tests, ground water table elevation determinations, and the gathering and submission of other essential information shall be carried out by a Department licensed designer, or other persons allowed by statute, at the expense of the owner or developer.
- (b) The Director may require that all soil examinations be performed in the presence of one of his agents.
- (c) Class IV Soil Evaluator – Percolation tests and determination of the depth to the ground water table may be carried out by a licensed Class IV Soil Evaluator. A soil evaluation done as part of a site evaluation, as required by SD 2.01(b) for applications for new systems, shall be carried out by a Class IV Soil Evaluator at the expense of the owner or developer.

## 26.01 Soil Evaluation—For Persons Licensed as a Class IV Soil Evaluator in Accordance with Section 25.00

(a) Soil Observation Pits - A minimum of two soil observation pits shall be excavated within the area of the proposed leachfield, with one pit on the uphill side and one on the down hill side of the proposed leachfield. The Director may waive the requirement for a second soil observation pit where the conditions indicate that such pit is not necessary.

(1) The observation pits shall be excavated to a depth of 5 feet, unless site conditions prevent doing so, in order to allow detailed examination by the soil evaluator. The soil evaluator shall complete the soil evaluation form provided by the Director using the terminology in Appendix 1.

(2) From 5 feet to a minimum of 10 feet, to the extent possible, the soil evaluator shall provide the information requested on the soil evaluation form from material removed from the observation pit without entering the pit. This information shall include at minimum the soil texture, structure and consistence for each soil horizon observed. This can be done in an additional soil observation pit, or in the pit used to complete work for 26.01(a)(1) after such work has been witnessed by the Department, if required.

(3) If impervious material is encountered or the observation pit becomes unstable due to lack of soil cohesion and/or the presence of groundwater, the observation pit may be terminated at a depth of less than 10 feet. Sites with observation pits which have been terminated at less than 10 feet may require additional testing as determined by the Director.

(4) It is recommended that persons performing the soil evaluation not enter into portions of a soil observation pit which have been excavated to depths greater than five feet below the surrounding ground surface. It is the responsibility of persons performing or witnessing the soil evaluation to comply with all applicable federal, state and local laws and regulations governing occupational safety.

(d) Assigned Percolation Rates Using Soil Physical Properties -- For applications with a site evaluation, the percolation rate used to determine the minimum leaching area in SD 10.07 shall be determined from the table below. The percolation rate applied shall be that assigned to the soil category with the slowest percolation rate obtained in the manner described below:

(1) If the bottom of the stone in the system is above the original grade, use the horizon with the slowest percolation rate within 3 feet of the original ground surface;

(2) If the bottom of the stone in the system is below the original grade, use the horizon with the slowest percolation rate within 3 feet below the bottom of the stone; or

(3) If no natural soil will remain within the 3 feet referenced in 26.01(d)(1) and (2) above, use the percolation rate of the first naturally occurring soil horizon below that depth.

<b>Soil Category</b>	<b>Soil Texture*</b>	<b>Soil Structure</b>	<b>Soil Consistence</b>	<b>Relative Occurrence in RI **</b>	<b>Assigned Percolation Rate (min/inch)</b>
1	cos, s, lcos, ls, cosl	structureless- single grain	loose	very common	10
2	vfs, fs	structureless- single grain structureless- massive	loose very friable	not common	10
3	lfs, ls, fsl, sl, l	granular, subangular blocky	very friable to friable	common	10
4	lvfs, vfsl, sil	granular, subangular blocky	very friable to friable	fairly common	15
5	lcos, ls, cosl	subangular blocky	friable	rare	10
6	lfs, ls, sl, l	structureless-massive	friable	common	10
7	fsl, vfsl, sil, si	structureless- massive	very friable or friable	common in southern RI	20
8	lcos, ls, cosl	structureless-massive	firm to very firm	quite rare	30
9	fs, sl, l, fsl, vfsl, sil, sicil	platy, structureless-massive	firm to very firm	very common	40
10	all textures	structureless- massive	extremely firm	fairly common	not allowed (impervious)

\* Soil texture shall be determined with no consideration of coarse fragment modifiers.

\*\* "Relative Occurrence in RI" is a general indicator of abundance, and it may not apply equally to every soil texture in a particular soil category.

## **EFFECTIVE DATE**

The foregoing amendments to the “Rules and Regulations Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Individual Sewage Disposal Systems,” after due notice, are hereby adopted and filed with the Secretary of State this 20<sup>th</sup> day of April 2001, to become effective twenty (20) days thereafter, in accordance with the provisions of Chapters 5-56.1, 23-19.5, 42-35, 42-17.1, 42-17.6 of the General Laws of Rhode Island of 1956, as amended.

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Jan H. Reitsma, Director  
Department of Environmental Management

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